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Theme:
"REGENERATIVE ECONOMY, BUSINESS & TOURISM: THROUGH INNOVATION & SUSTAINABILITY"

TANGERANG, NOVEMBER 17th 2022

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Opening Speech



Greeting from Indonesia,
Shalom, Assalamu'alaikum Warahmatullahi Wabarakatuh, Namo Buddhaya ,Greetings of Virtue, blessings to all of us.

Dear,

- Chancellor of Universitas Pelita Harapan, Dr. (Hon.) Jonathan L. Parapak, M.Eng.Sc;
- Chancellor of Universitas Multimedia Nusantara Dr. Ninok Leksono M.A.;
- Chancellor of Swiss German University Dr. rer. Nat. Filiana Santoso.
- Chairman of LPPM UPH, Dr.Ing. Ihan Martoyo S.T., M.Sc., M.T.S.; Chairman of LPPM UMN Dr. Ir. P.M. Winarno M.Kom.; Chairman of LPPM SGU Dr. Kholis Abdurachim Audah, M.Sc., Ph.D.
- Chairman of The 2nd Hospitour international c onference Prof. Dr. Diena Mutiara Lemy, A.Par., M.M., CHE.
- Dean of the Faculty of Economics and Business Dra. Gracia Shinta S. Ugut M.B.A. Ph.D.
- The Keynote Speakers:
  - Mrs. Dr. Joanne Pyke, Director, School for The Visitor Economy, Victoria University, Melbourne Australia; as well as
  - Dr. Ir. Wayan Koster M.M., Governor of Bali Province;
  - Mr. Andy Budiman, CEO of Kompas Gramedia (KG) Media.
  - And All International Conference participants.

Give thanks to our God Almighty, because of His Grace and Mercy, The 4th International Conference On Global Innovation And Trend In Economics 2022, and The 2nd Hospitality and Tourism can be held in collaboration with three universities, namely, Universitas Pelita Harapan, Universitas Multimedia Nusantara, and Swiss-German University.

My highest appreciation goes to all the committee who have worked day and night to make this international conference on Global Innovation and Economic Trends, with the theme "REGENERATIVE ECONOMY, BUSINESS & TOURISM: THROUGH INNOVATION & SUSTAINABILITY" can be held well during the COVID-19 pandemic.

All participants,
As called for by Indonesia as the presidency at the G20 recover together, recover stronger, the theme we adopt is REGENERATIVE ECONOMY, BUSINESS & TOURISM: THROUGH INNOVATION & SUSTAINABILITY is very relevant. Regenerative is a matter of perspective, way of life, and spirit that are more integrated in the whole system of life. Because of that, regenerative is a new culture in the social realm, public management, economy, politics, and so on. With a regenerative culture, competition will turn into collaboration and coordination, the ego system will turn into an ecosystem. At a more optimal point, the balance of the ecosystem is just a logical consequence. Humans are once again part of a living system, with resilience integrated with the resilience of the universe.

Through Innovation and a sustainable economy, what this means is that we have to invent something new or make various updates that are formed in a product, idea, design, etc., must be managed by protecting natural resources and with full respect for human dignity.
Finally, I wish you to enjoy this international seminar, may we all be empowered, equipped in terms of knowledge and research, get great benefits from the keynote speakers, and researchers, may our Lord Jesus Christ bless us all.

Dr. Oscar Jayanagara S.Sos., M.M., M.A.P., M.Th.
Chairman of Steering Committee of The 4th Incogite & The 2nd Hospitour

In collaboration with :

Opening Remarks



"Recover together, recover stronger!"

This theme colors the invitation of Indonesia to all the G20 countries convening in Bali, Indonesia, in November 2022. In tune with this theme, the InCoGITE & Hospitour 2022 in Universitas Pelita Harapan, Indonesia, highlights the theme of "Regenerative Economy, Business & Tourism: Through Innovation & Sustainability," underlining the efforts to regenerate our economy coming out of the pandemic.

The Covid19 pandemic has tested the limits of the economic sustainability of many countries. We have witnessed rampant inflation in many European countries, the US, and the UK this year. Although the US economy shows a surprising growth of 2.6% this third quarter of 2022, the UK economy registered a contraction of -0.2%. Meanwhile, Indonesia is showing an economic growth of 1.81% in the third quarter (5.72% year-on-year). We have also witnessed layoffs by Big Tech companies, and the crash of cryptocurrencies. Thus, harnessing technology to create innovations and boost the economy might be a little more complicated than we thought before the pandemic.

The Covid19 pandemic has tested the limits of the economic sustainability of many countries. We have witnessed rampant inflation in many European countries, the US, and the UK this year. Although the US economy shows a surprising growth of 2.6% this third quarter of 2022, the UK economy registered a contraction of -0.2%. Meanwhile, Indonesia is showing an economic growth of 1.81% in the third quarter (5.72% year-on-year). We have also witnessed layoffs by Big Tech companies, and the crash of cryptocurrencies. Thus, harnessing technology to create innovations and boost the economy might be a little more complicated than we thought before the pandemic.

In the context of InCoGITE & Hospitour 2022, academics and various stakeholders have once-again the opportunity to share research results to help accelerate economic recovery. We hope that the many discussions and collaborations that arise in the conference can strengthen the bonds of cooperation and inspire various concrete activities to recover from the impact of the pandemic. Many predict that there will be a recession in 2023. We pray that InCoGITE 2022 will facilitate the birth of many creative and innovative solutions to jump-start our economies in the coming years.
I personally thank the organizing committee from Universitas Pelita Harapan, our friends from Swiss German University and Universitas Multimedia Nusantara for our close cooperations and hard work in making this conference possible. May God bless our efforts!

Dr.-Ing. Ihan Martoyo, S.T, M.Sc., M.T.S
Director of Center for Research and Community Development
Universitas Pelita Harapan

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Proceeding of
The 4th International Conference on Global Innovation and Trends in Economy 2022

TABLE OF CONTENT

No	Title	Author(s)	Pages
1	WOM and SENTIMENT Analysis Has Positive Influence to Positive or Negative Emotion from Class 11 or 12 in Jakarta and Surrounding Area	Hendra Achmadi	1–8
2	The Influence of Promotion and Brand Image on Customer Purchase Decision at PT Isuindomas Putra, Medan	Alfonsius, Crystal	9–19
3	Implementation of Sustainable Growth Rate in Indonesia's Stock Market	Valentino Budhidharma	20–28
4	Analysis of Pasar Rakyat Micro Enterprises using Business Intelligent and Data Mining in Jakarta During the Covid-19 Pandemic	Hendra Achmadi	29–41
5	Influencing Factors of Repurchase Intention on Online Food Delivery Service in Indonesia	Kezia Christine, Margaretha Pink Berlianto	42–48
6	The Impact of Functional Brand Qualities and Intangible Brand Qualities Towards Perceived Value for Millennials in Indonesia	Juniarty Siahaan, Yokie Radnan Kristiyono, Chelsie Gytha Lin	49–65
7	The Role of Marketing 4P Towards Brand Decision of Cigarette Products in Millennial & Z Generations in Jambi City Mediated by Perception	Christoforus Chandra Dewanto, Prio Utomo	66–86
8	Analysis of Factors Influence Micro Enterprises Online Purchase Intention on Social Media Agency Services with Mediation of Attitude towards Social Media in Kabupaten Tangerang During Covid-19 Pandemic	Anastasia Joveta, Y. Budi Susanto, Krist Ade Sudiyono	87–95
9	Indonesia's New Capital City Development Strategy from Mobility Optimization Perspective	Benny Aristo, Ivan Kristianto Singgih, Suryadiputra Liawatimena	96–106
10	Cash Flow Moderation between Profitability, Liquidity, and Leverage on Company Value on the Indonesia Stock Exchange	Partogian Sormin	107–117

p-ISSN 2985-8550
e-ISSN 2985-8569
Volume 4, 2022

Proceeding of
The 4th International Conference on Global Innovation and Trends in Economy 2022

TABLE OF CONTENT

11	The Influence on Sustainability Report Quality toward Financial Performance	Wijaya Triwacananingrum, Chelsy Cyndy Limpele	118–130
12	The Influence of the Work Environment, Motivation and Leadership on the Performance of Millennial Academic Employees During Pandemic Covid-19	Yohana F. Cahya Palupi Meilani	131–140
13	Analyzing the Role of Emotional Intelligence and Transformational Leadership During the CoV-19 Pandemic	Ardi, Sally Notariza Taher, Margaretha Pink Berlianto, Kezia Arya Nanda	141–146
14	The Effect of Capital Structure, Sales Growth and Liquidity on Performance with Company Size as Moderation	Apriliansyah, Eduard Ary Binsar Naibaho	147–160
15	Analysis of the Effect of Good Corporate Governance Mechanism, Size, and Audit Quality on the Acceptance of Going Concern Audit Opinions	Tanggor Sihombing, Nahda Annisa Rafael	161–170
16	Foreign Ownership, Capital Intensity, Investment Opportunity, Tax Haven's Affiliates and Aggressive Tax Avoidance of Foreign-owned Businesses during Pandemic	Arja Sadjiarto, Richard William Santosa, Surya Timoer	171–180
17	Exploring the Competitive Advantage of B2B E-Commerce Business: Bitubi Company	Yogi Hartono, Jacob Donald Tan	181–191
18	The Influence of Social Media Marketing, Electronic Word of Mouth and Consumer Engagement to Brand Loyalty: Study Case at the DOTA 2	Moses Lorensius Parlinggoman Hutabarat, Christopher Leonard	192–205
19	Family Firm Innovation: A Bibliometric Analysis	Hooi Lai Wan, Chan Ai Joo	206–211
20	Encouraging Innovation Capability through Entrepreneurship Orientation: The Role of Absorptive Capacity and Improvisation as Mediation	Selly Saliyah Hartati Utami, Riani Rachmawati	212–222

p-ISSN 2985-8550
e-ISSN 2985-8569
Volume 4, 2022

Proceeding of
The 4th International Conference on Global Innovation and Trends in Economy 2022

TABLE OF CONTENT

21	The Influence of Return on Assets, Return on Equity and Current Ratio on Capital Structure in Consumer Goods Companies Listed on the Indonesia Stock Exchange	Yenni Martok, Losiana Tannika	223–228
22	Warehouse Management System to Improve Work Efficiency at an Apparel Company	Yunanto Herlaksono, Julbintor Kembaren, Friska Natalia	229–235
23	Relationship Quality and Flexibility of Partnering with Suppliers on the Performance of Innovations Mediated by Knowledge Sharing (Case Study on the Steel Industry in Indonesia)	Giovani Anward, Eka Pria Anas	236–247
24	Low Carbon Economy and Green Financing	William Tjong, Jessica	248–255
25	Cultivating the Spirit of Servant Leadership in Christian Teachers through Technology-Based Teacher Performance Appraisals: Preliminary Studies at Christian Schools in Jakarta	Oki Hermawati, Richard, Hema Sagaro Setiawan	256–259
26	The Trade Competitiveness of the Indonesian Automotive Industry	Pauline H. P. Tan	260–263
27	The Role of Strategic Human Resources Management, Knowledge Management, and Innovation Capability on Innovation Performance in Pharmaceutical Company	Gerald Kevin Bonifacius H.	264–270
28	Antecedents Customer Engagement on Social Media and Its Consequence to Purchase Intention in the DKI Jakarta Hotel Industry: Uses & Gratification Theory Perspective	Isana Sri Christina Meranga	271–283
29	User Assessment of Livin by Mandiri	Zoel Hutabarat	284–288
30	Information of Covid-19 and its Impact on Stock Return	Marcello Johanes, Liza Handoko	289–295
31	Examining Factors Influencing Indonesian Customer's Intention and Adoption of BOPS Service	Dita Kartika Sari, Rizal Edy Halim	296–310

p-ISSN 2985-8550
e-ISSN 2985-8569
Volume 4, 2022

Proceeding of
The 4th International Conference on Global Innovation and Trends in Economy 2022

TABLE OF CONTENT

32	The Effect of Ability, Motivation, and Opportunity Factors on the Success of Technology Innovations Moderated by Corporate Entrepreneurial Climate	Yasinta Nikita Titisari	311–317
33	Exploring the Antecedent of Business Model Innovation in Creating a Sustainable Business	Herdi Qoharrudin, Lily Sudhartio	318–329
34	Strategic Entrepreneurship: The Role of Human Resource Practice and it Capabilities in Managing Performance Firm	Bella Irianina, Yasmine Nasution	330–344

4th INCOGITE and 2nd HOSPITOUR 2022
"Regenerative Economy, Business & Tourism: Through innovation & Sustainability"
Thursday, November 17th, 2022 – Universitas Pelita Harapan Tangerang

WOM and SENTIMENT Analysis Has Positive Influence to Positive or Negative Emotion from Class 11 or 12 in Jakarta and Surrounding Area

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Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang, Indonesia

Abstract. College selection is one of the decision-making processes in life that must be passed by high school students, the influence of WOM (Word of Mouth) and SENTIMEN Analysis originating from social media Twitter does it affect positive and negative emotions that arise when students This high school student listens to college offers from marketing. The influence of WOM in this study is from two sources, namely the influence of parents and the second is the influence of friends. Meanwhile, the SENTIMEN analysis was taken from 105 universities' social media twitter, while the emotional factor was taken from the PANAS scale. Primary data retrieval to 105 respondents from 11th and 12th grade high school students by using Google forms, while secondary data SENTIMEN analysis uses python program to 105 universities with 100 tweets so that the tweet data taken is 10500 tweets, and by using natural language processing then positive, neutral and negative sentiments can be distinguished. Then data processing using PLS-SEM. And from the results of data processing, it was found that WOM and SENTIMEN had a positive effect on positive emotion of R2 by 15.3% and negative emotion by R2 of 17.4%. SENTIMEN analysis had no effect on positive emotion and negative emotion.

Keywords: PANAS Scale; Positive Emotion and Negative Emotion; WOM and SENTIMEN analysis

1. Introduction

Grade 11 and 12 high school graduates in Indonesia from 2018 to 2019 were 20 percent, while the number of students entering private universities decreased from 2017 to 2019 by 87.2 percent, while there was an increase in the number of new students entering public universities by 24 percent. between 2018 and 2019. In addition, many previous studies that have been carried out have discussed the attitude factor and also the ratio in the decision making of 11th and 12th grade high school students in selecting universities in Indonesia. While the emotional factor is still very rarely discussed in previous studies.

High school students who will choose this college are included in generations Y and Z who were born between 2000-2003 which according to research from Viswanathan and Fain (2013) says that in generation Y in making decisions based on emotions and impulses. And in decision making, generations Y and Z are still very unstable so they need opinions from family and friends, therefore WOM is a stimulus factor that can influence decision making. Generations Y and Z are known as the digital generation, where in searching for information a lot of people use social media, so in this study, sentiment analysis data was taken from tweeters.

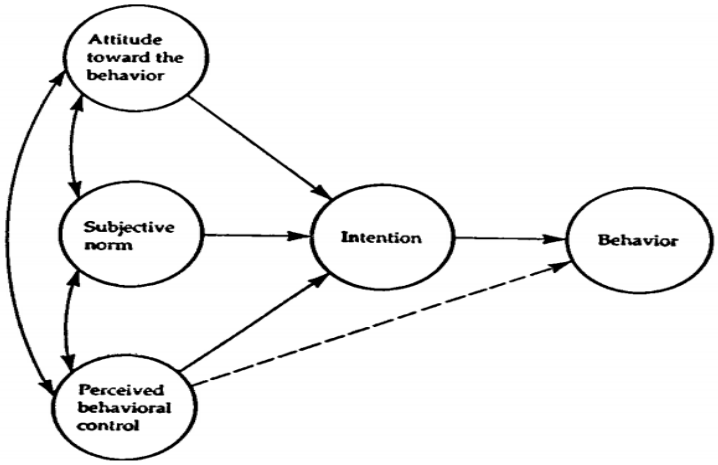
Research on emotions that will drive decision-making has been started in the world of marketing by Bagozzi, Gopinath and Nyer (1999), then continued by the research of Seligman (2011) and continued by a large study conducted by Lerner et al. (2014) with a large study entitled emotion and decision making.

2. Literature Review

2.1 Theory of Interpersonal Behaviour

According to Triandis (1977) Theory of Interpersonal Behavior adds a habit factor that determines behavior intention. Egmond & Bruel (2007) describes the TIB model by adding the hebit factor. Emotion to affect to Intention, which, because in previous research with the theory of TPB (Theory of Planned Behavior) according to AJZEN, ICEK (1991) as shown in Figure 2.1.

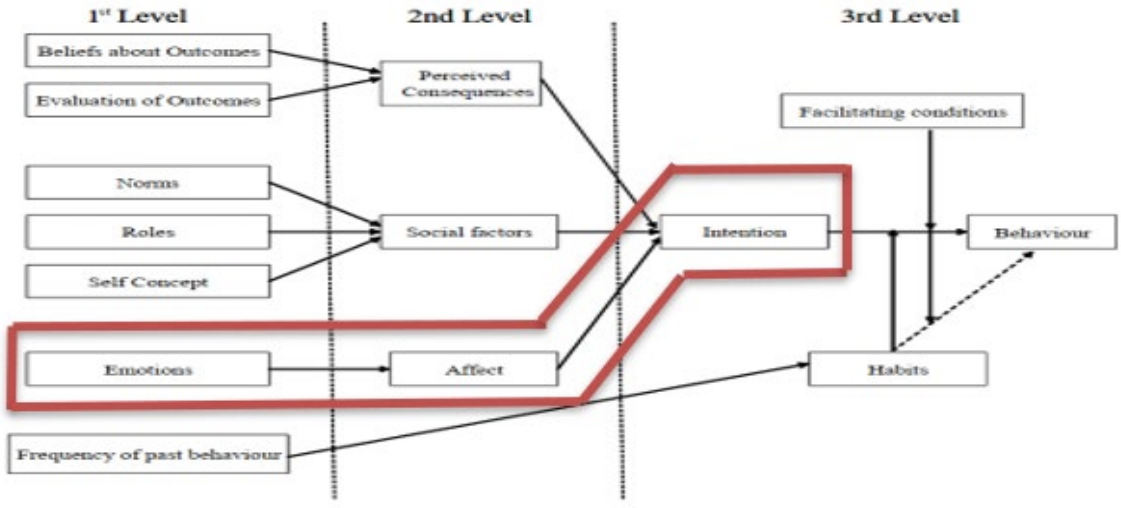
Figure 2.1
Theory of Planned Behavior



Source: AJZEN, ICEK (1991)

The Theory of Planned Behavior consists of three main variables that affect Intention, namely the attitude toward the behavior which describes the evaluation or assessment of the good or bad of the behavior. The second is subjective norm which is influenced by the perceived social pressure to intention behavior, and while perceived behavioral control is the perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles. This theory is used to describe what factors encourage someone to do intention, but this theory has limitations, namely it does not discuss emotional factors that encourage someone to make decisions. Therefore adding about Emotion to Affection which will affect someone in decision making (Triandis, 1977).

Figure 2.2
Triandis Theory of Interpersonal Behavior



Source: Egmond & Bruel (2007)

2.2 SENTIMEN Analysis

According to Achmadi et al. (2019), the results of the decisions of new students in making decisions, it appears that university quality has an effect of 0.433 on WOM. And since 2016 the Ministry of Education and Culture of the Republic of Indonesia has issued a benchmark for conducting research on private universities in Indonesia called the Accreditation of Private Universities. The perception of the quality of higher education in Indonesia is widely discussed by netizens on social media, especially social media tweeters. Sentiment analysis was used to investigate online comments from MOOC participants. Lundqvist, Liyanagunawardena and Starkey (2020). According to Prinsloo, Slade & Khalil (2019) Sentiment Analysis refers to a set of

methods, techniques, and tools for detecting and extracting subjective information, such as opinions and attitudes, from language..

2.3 WOM

WOM-driven decision-making has long been researched. WOM is a source that influences interpersonal communication. WOM is information from family and friends. Le, Robinson and Dobele (2019). WOM is also defined as a source of information (Harold et al., 2016). Finally, Oluwafemi and Dastane (2016) said WOM is an act to tell others about the experiences they have experienced.

2.4 WOM dan Emotion

In a study conducted by White (2011) on students in Australia, it was concluded that there was an indirect relationship between positive and negative emotions and WOM. Many previous studies conducted research on the relationship between WOM and new perceived emotional value to emotion, such as that conducted by Oluwafemi and Dastane (2016) which stated that WOM had a significant positive effect on perceived value (epistemic value and emotional value). Meanwhile, Susilowati and Sugandini (2018) stated that there was a significant traditional WOM influence on perceived quality, which included in perceived quality all values quantitatively or qualitatively (which can be felt or emotional value). Hanum et al. (2020) stated that WOM has a significant effect on perceived value (epistemic value, functional value, emotional value and social value). Meanwhile, Fazal-e-Hasana, et al. (2018) states the effect of perceived value quality on hope. Ahn and Kwon (2019) stated that the effect of perceived value (economic, social, hedonic, altruistic) had a significant effect on positive anticipated emotion, therefore in this study the direct relationship between WOM and emotion will be tested.

2.5 SENTIMEN Analysis dengan Emotion

Sentiment and emotion are difficult to separate because emotion is very close to sentiment, indeed, how to measure the strength of opinion is related to the intensity of certain emotions. Emotion is a complex psychological state consisting of subjective feelings that can manifest in physiological responses and produce behavioral responses such as smiling when feeling happy. Sentiments are mental attitudes, informed by emotions, and linking cognitive and physiological aspects with social and cultural aspects. Prinsloo et al. (2019). In the context of natural language processing, sentiment is expressed in binary terms (e.g., positive versus negative), whereas emotion is multidimensional (e.g., anger, sadness, fear). Liu (2015)

2.6 Emotion

According to (Ana I. Callejas-Albiñana1, Fernando E. Callejas-Albiñana and Isabel Martínez-Rodríguez, 2016) said that the key variable of the empirical study here is how Electronic Word of Mouth, customer behavior and emotional factors in decision making. In some studies focusing on how consumers receive information and process it to make decisions based on rational fundamentals according to (Solomon, 1998) which focuses on the decision-making process and branding evaluation, while according to (Bagozzi, Gopinath, and Pieters, 1999) suggest, conditions that necessary for an emotional response to a situation or event is that the person already has a vested interest in the situation and is willing and able to assess the situation. But from research because there are still few studies that discuss the influence of any emotional factors that affect decision making of students in high school. In exploring what positive and negative emotions arise in high school students, in this study using the PANAS Scale which has been studied by (David Watson & Lee Anna Clark, 1988) says that emotions are divided into positive emotions and negative emotions or also called emotions. positive affect and negative affect, and a list of positive and negative affect as below:

Positive affect

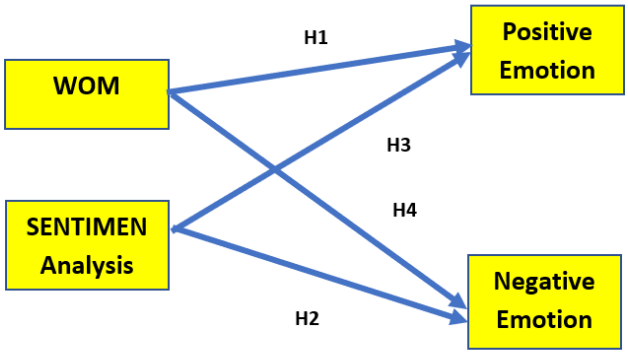
1. Attentive
2. Active
3. Alert
4. Excited
5. Enthusiastic
6. Determined
7. Inspired
8. Proud
9. Interested
10. Strong

Negative affect

1. Hostile

2. Irritable
3. Ashamed
4. Guilty
5. Distressed
6. Upset
7. Scared
8. Afraid
9. Jittery
10. Nervous

2.7 Conceptual Framework



Hypotesis

H1: WOM has a positive effect on Positive Emotion
H2: WOM has a positive effect on Negative Emotion
H3: SENTIMEN Analysis has a positive effect on Positive Emotion
H4: SENTIMENT Analysis has a positive effect on Negative Emotion

3. Methodology

This research is quantitative which is intended to test whether WOM and SENTIMEN analysis have an effect on positive and negative emotions. Data collection was carried out using a questionnaire instrument which was distributed to 105 high school students using a questionnaire, from closed questions there were 10 positive emotions and 10 negative emotions obtained from the PANAS scale, and each emotion was given a scale from 1-10 and then from 105 answers. Respondents will be summed and will get the total results of positive emotions and negative emotions. Meanwhile, SENTIMENT analysis was obtained from Tweeters from 105 universities and using the tweeter program and natural language processing, so that it can distinguish words based on Positive, Neutral and Negative. While the other data is done by taking primary data to high school students in grades 11 and 12. And in the sampling, the technique used is convenience sampling where questionnaires are distributed and asked whether the high school students are from public high schools or public private high schools. or Private High School based on Religion and others.

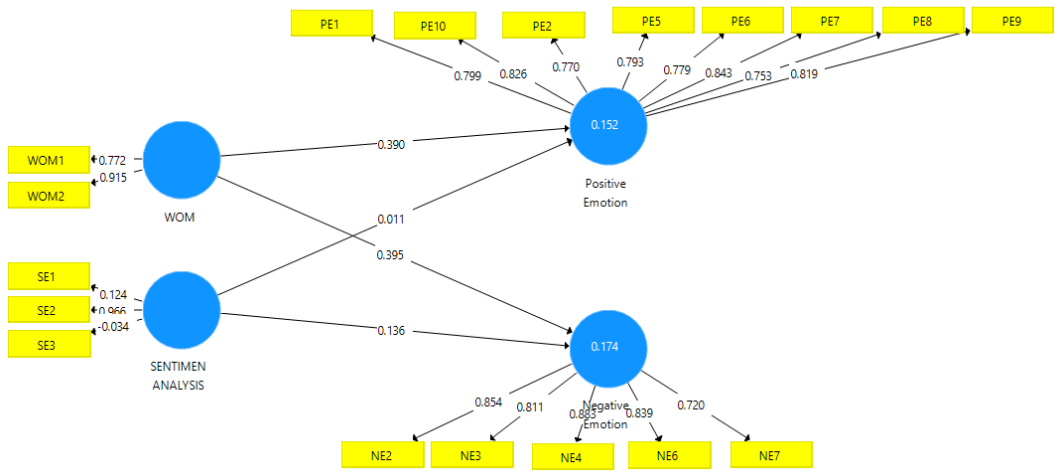
Data processing using PLS-SEM with the following stages:

1. **Outer Model**
   - Indicator Reliability (*Outer loading)*
   - Construct Reliability (*Cronbach alpha & Composite reliability)*
   - Construct/Convergent Validity (AVE)
   - Discriminant Validity (HTMT)
2. **Inner Model**
   - *Multicollinearity (VIF)*
   - Coefficient of Determinant (R^2)
   - *Predictive Relevan* Q^2
   - Q^2 *Predict*

4. Results and Discussion

After running PLS-SEM, the results are obtained as shown in Figure 4.1 below:

Figure 4.1
Outer Model



From figure 4.1, Outer Model has 0.152 positive emotion and 0.174 negative emotion.

	Negative Emotion	Positive Emotion_	SENTIME...	WOM_
NE3	0.811			
NE4	0.883			
NE6	0.837			
NE7	0.718			
PE1		0.799		
PE10		0.826		
PE2		0.769		
PE5		0.794		
PE6		0.780		
PE7		0.843		
PE8		0.753		
PE9		0.819		

Then reliability we see AVE > 0.5

	Composite Reliability	Average Variance E...
Negative Emotion	0.913	0.677
Positive Emotion_	0.934	0.637
SENTIMEN ANALYSIS_	0.585	0.514
WOM_	0.834	0.717

Then we see Discriminate Validity, namely HTMT < 0.85 so there is no indication of correlation between variables

	Negative ...	Positive E...	SENTIME...	WOM_
Negative ...				
Positive E...	0.224			
SENTIME...	0.240	0.141		
WOM_	0.500	0.467	0.114	

Then we will see Validity with Inner VIF, between 1-3 so that there is no Multicoliniarity

	Negative ...	Positive E...	SENTIME...	WOM_
Negative Emotion				
Positive Emotion_				
SENTIMEN ANALYSIS_	1.002	1.002		
WOM_	1.002	1.002		

Then R Square for Negative Emotion 0.174 and Positive Emotion 0.153, so it is concluded that the Cofficient of Determinate is Weak.

	R Square	R Square Adjusted
Negative Emotion	0.174	0.158
Positive Emotion_	0.153	0.136

Then test the effect and significance

	Original ...	Sample ...	Standard ...	T Statistic...	P Values
SENTIMEN ANALYSIS_ -> Negative Emotion	0.139	0.092	0.164	0.847	0.198
SENTIMEN ANALYSIS_ -> Positive Emotion_	0.020	-0.001	0.124	0.158	0.437
WOM_ -> Negative Emotion	0.400	0.405	0.091	4.396	0.000
WOM_ -> Positive Emotion_	0.391	0.407	0.088	4.449	0.000

H1: WOM has a positive effect on Positive Emotion
With a T-Statistic of 4.396 > 1.645 with a significant level of 0.05, WOM has a positive effect on Positive Emotion, and with a p value of 0.000 <0.05 so that it is proven to be significant.

H2: WOM has a positive effect on Negative Emotion
With a T-Statistic of 4.396 > 1.645 with a significant level of 0.05, WOM has a positive effect on Positive Emotion, and with a p value of 0.000 < 0.05 so that it is proven to be significant.

H3: SENTIMEN Analysis has a positive effect on Positive Emotion
With a T-Statistic of 0.847 < 1.645 with a significant level of 0.05, SENTIMEN Analysis has no positive effect on Positive Emotion, and with a p value of 0.1987 > 0.05 so that it is not significant.

H4: SENTIMEN Analysis has a positive effect on Negative Emotion
With a T-Statistic of 0.847 < 1.645 with a significant level of 0.05, SENTIMEN Analysis has no positive effect on Negative Emotion, and with a p value of 0.1987 > 0.05 so that it is not significant.

Q^2

	SSO	SSE	Q^2 (=1-S...
Negative Emotion	525.000	484.134	0.078
Positive Emotion_	840.000	785.799	0.065
SENTIMEN ANALYSIS_	210.000	210.000	
WOM_	210.000	210.000	

When viewed from Q2, Negative emotion and Positive Emotion have the ability to predict because > 0

Q^2

LM

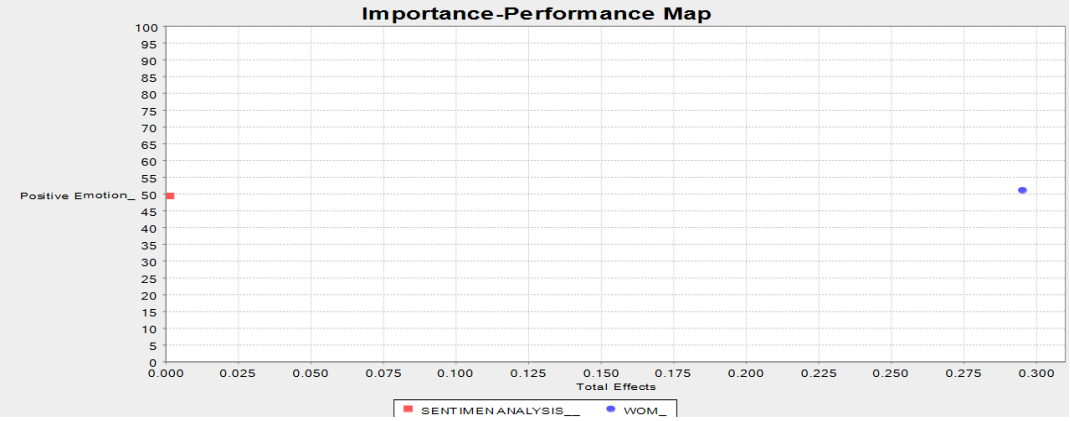
	RMSE	MAE	MAPE	Q^2_predict
NE6	2.415	1.978	77.339	0.030
NE2	2.124	1.717	64.603	0.119
NE7	2.330	1.943	68.599	0.051
NE4	2.323	1.908	81.912	0.078
NE3	2.602	2.190	75.146	0.031
PE9	1.728	1.194	26.234	-0.061
PE1	1.521	1.227	20.745	0.063
PE6	1.723	1.364	22.711	-0.028
PE2	1.625	1.305	23.856	0.014
PE8	1.996	1.522	29.806	-0.008
PE7	1.619	1.299	24.270	0.112
PE10	1.979	1.543	36.015	0.056

PLS

	RMSE	MAE	MAPE	Q^2_predict
NE6	2.405	1.987	77.264	0.038
NE2	2.137	1.733	66.671	0.108
NE7	2.343	1.953	70.041	0.041
NE4	2.324	1.908	82.625	0.077
NE3	2.553	2.159	74.165	0.067
PE9	1.698	1.180	25.615	-0.024
PE1	1.502	1.198	20.412	0.086
PE6	1.714	1.345	22.258	-0.016
PE2	1.586	1.280	23.454	0.060
PE8	1.975	1.476	28.827	0.013
PE7	1.600	1.295	24.426	0.133
PE10	1.945	1.529	35.631	0.088

Of the 13 indicators, for MAE LM > MAE LS as many as 12 indicators, it can be concluded that Positive Emotion and Negative Emotion have HIGH PREDICTION POWER.

Important and Performance Analysis (IPMA)



When viewed from IPMA, the SENTIMEN Analysis variable is important but still does not perform, while the WOM variable has performed, so Positive emotion and Negative emotion are influenced by WOM.

5. Discussion

In this study it can be seen that the effect of WOM on positive emotions is 0.390 and on negative emotions is 0.395, this indicates that negative WOM will have a greater effect on negative emotions, while sentiment analysis to positive emotions is 0.011 and to negative emotions is 0.138, this indicates that negative sentiments have a greater effect on negative emotions, so R2 for positive emotions is 0.152 and R2 for negative emotions is 0.174 so the university must be able to filter WOM and negative sentiment from traditional WOM and university social media or negative sentiment from social student media.

6. Conclusion

The influence of WOM in this study is from two sources, namely the influence of parents and the second is the influence of friends. Meanwhile, the SENTIMEN analysis was taken from 105 universities' social media twitter, while the emotional factor was taken from the PANAS scale. Primary data retrieval to 105 respondents from 11th and 12th grade high school students using Google forms, while secondary data SENTIMEN analysis uses python program to 105 universities with 100 tweets so that the tweet data taken is 10500 tweets, and by using natural language processing then positive, neutral and negative sentiments can be distinguished. Then data processing using PLS-SEM. And from the results of data processing, it was found that WOM had a positive

effect on positive emotion by R2 by 15.3% and negative emotion by R2 by 17.4%. SENTIMEN analysis had no effect on positive emotion and negative emotion.

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The Influence of Promotion and Brand Image on Customer Purchase Decision at PT Isuindomas Putra, Medan

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Abstract. This research is conducted in order to analyze the influence of promotion and brand image on customer purchase decision of Isuzu truck at PT Isuindomas Putra, Medan. The company faces some problems in terms of promotion and brand image. This research is conducted by using quantitative method by distributing the questionnaire to 97 respondents who have ever bought Isuzu truck at PT Isuindomas Putra, Medan. In order to determine the amount of the sample for this research, the writer uses Lemeshow formula. The writer also uses non probability sampling with the convenience or accidental sampling as the sampling technique. In terms of data analysis method, the writer uses multiple linear regression. The result of the t – test partial hypothesis is the promotion has positive and significant partial influence on customer purchase decision of Isuzu truck at PT Isuindomas Putra, Medan and the brand image also has positive and significant partial influence on customer purchase decision of Isuzu truck at PT Isuindomas Putra, Medan. The result of the F – test simultaneous hypothesis is the promotion and brand image have simultaneous influence on customer purchase decision of Isuzu truck at PT Isuindomas Putra, Medan. The result in this research also shows that brand image has the most dominant influence on customer purchase decision.

Keywords: Promotion; Brand Image; Customer Purchase Decision

1. Introduction

In this globalization era, the industrial development keeps on growing rapidly. There are lots of goods and services industry emerging in the marketplace. Therefore, the competition in the market is also getting tougher since there are lots of competitors compete in the marketplace likewise the truck. Since there are lots of dealer companies sell similar products which is truck, the customers can freely choose to purchase the truck from any dealers in order to fulfill the needs. In order to survive and win the competition, the company needs to determine what factors that the customers expect from the company to be delivered.

In terms of realizing the important steps to win the competition, the company has to carry out the marketing activities especially in doing the promotion and strive to increase the brand image. However, in running the marketing activities, there are some problems that often arise such as the increases of the customer's preference, development of product diversity, existence of new products, and others. Therefore, the company must be able to increase the effectiveness in managing the company to deal with the problems that might occur.

Generally, every company expects to achieve high customer purchase decision since it is the sign that the company has experienced good sales. Customer purchase decision is a process to merge some knowledges by evaluating some alternatives available and make a final decision to set one choice that is considered as the best among the alternatives that are available (Said et al., 2020) [1].

One of the crucial factors that can influence the customer purchase decision is promotion. Promotion is an activity that is carried out by the company in order to increase the target market by disseminating information, influencing, or persuading potential customers to be willing to accept, buy, and remain loyal to the products offered by the company (Purnama and Permatasari, 2018) [2]. Besides promotion, brand image is also categorized as one of the most crucial factors that can influence the customer purchase decision. Brand image is the response from the customer to all of the offerings provided by the company, as well as the customers trust and impression towards the company (Priansa, 2017) [3].

In Medan, there are lots of dealer companies emerging in the marketplace. One of the biggest dealer companies of Isuzu brand is PT Isuindomas Putra, Medan. PT Isuindomas Putra, Medan has set different target sales for each year. However, based on the data obtained by the writer in the year of 2017 – 2022 (January – July), PT Isuindomas Putra still not able to reach the target sales which can be seen from the table below:

Table 1
Sales Data of PT Isuindomas Putra, Medan

Year	Target Sales	Unit of Sales	Percentage
2017	1500 units	803 units	53.53%
2018	1350 units	705 units	52.22%
2019	1300 units	818 units	62.92%
2020	1200 units	884 units	73.6%
2021	1600 units	1438 units	89.87%
2022 (Jan – Jul)	2040 units	958 units	46.96%

Based on the problems above, the writer is interested in conducting this research with the title of **"The Influence of Promotion and Brand Image on Customer Purchase Decision at PT Isuindomas Putra, Medan"** in order to figure out how promotion and brand image can influence the customer purchase decision.

2. Literature Review

2.1 Marketing

Marketing is an activity that must be carried out by the business organization in promoting products or services that are marketed for the survival of the business organization (Syria, 2017) [4]. Good marketing is the most crucial factor in order to run a successful business. Without a good marketing, business cannot run well. Marketing is also a process of a people or group of people that strive to earn what they want in order to fulfill their needs and desires by the process of creating, offering, and exchanging goods or services (Kotler, 2018) [5].

2.2 Promotion

Promotion is an expression that has a broad meaning about the activities carried out by the company or seller effectively with the hope of encouraging potential customers to buy the products or services that are offered by the company (Setriani and Realize, 2020) [6]. Ermavianti and Suharsono (2019) also stated that promotion is an activity conducted by a company to advertise the product or brand, yielding sales, establishing a brand or brand loyalty, and also providing verbal or non – verbal information about the product or brand [7].

According to Leksono and Herwin (2017), there are four purposes of promotion [8]:

a. Modify the behavior
   By doing the promotion, it can help to accelerate the image of the company in order to convince the customers that the company can be trusted and the products or services that are offered by the company are useful for all of the customers. Therefore, there will be an increase in terms of sales.
b. Inform
   Promotion is important in order to spread the information regarding the advantages or the benefits of the products or services among the customers so that the customers can gain knowledge regarding the products or services.
c. Persuade
   Promotion is aimed to give some information on how to purchase the products or services and also to inform what benefits that the customers can obtain after consuming the products or services. Therefore, promotion can help in pushing and convince the potential customers to purchase the products or services.
d. Remind
   Promotion is utilized to inform the customers that the products or services are still exist in the marketplace. Moreover, promotion also can help the customers to always remember the benefits of the products or services that are offered by the company.

According to Kotler and Keller as cited in Amjad et al., (2022), there are three indicators of promotion [9]:

a. Advertising
   Advertising is very crucial since it can help the company to run the persuasive communication successfully to the target market. Advertising is seen as one of the most effective tools in order to communicate the product or service to the customers. Therefore, the company has to be able to create an attractive advertisement in order to attract more potential customers.
b. Direct Marketing
   Direct marketing is a promotional activity that is carried out by the company directly. The aim of conducting the direct marketing is to motivate the customers to purchase the products or services that are offered by the company.
c. Event and Experiences

Event and experiences are about the program that is conducted by the company in order to build a good interaction with the potential customers and this event is usually sponsored. The event can be in the form of entertainment shows, exhibitions, festivals, and other events that are not formal.

2.3 Brand Image

Brand image is a media that can be used to reflect the customer's feeling about the organization as a whole, as well as the products or brands. (Kenneth & Ronald, 2018) [10]. Priansa (2017) also stated that brand image is the response from the customers to all of the offerings provided by the company, as well as the customers trust and impression towards the company [11].

According to Ferrinadewi as cited in Yunaida (2017), there are three factors that build the brand image [12]:

a. Favorability of Brand Association
   Customer trust the attribute and benefit that is given by a particular brand can fulfill their needs and wants and also to create positive attitudes towards that brand.
b. Strength of Brand Association
   This depends on how the information get into the customer's mind and how the information is being process inside the mind and create a strong brand association.
c. Uniqueness of Brand Association
   A brand has to be unique and has a strong characteristic that is difficult to be duplicated by other competitors. By creating a unique characteristic, customer will always remember the brand.

According to Sudirman (2019), there are three indicators of brand image [13]:

a. Corporate Image
   Corporate image is a bunch of association that a customer perceived towards a company that produce a certain product or service which includes the popularity, credibility, network of the company, and the users.
b. User Image
   User image is a bunch of association that customers perceived about a user who use a product or service includes the user himself as well as his social status.
c. Product Image
   Product image is a set of a perceived association of the customer towards a brand which includes the product attributes, benefit for customer, and also warranties.

2.4 Customer Purchase Decision

Purchase decision is included as a part of customer behavior that refers to the purchase behavior of the final customers who purchase products or services for the sake of personal consumption. Customers are faced with various products or services each day. Therefore, the customers need to determine which products or services that will be purchased or consumed (Sholihat & Rumyeni, 2018) [14]. Said et al., (2020) also stated that purchase decision is an activity where the customer combines the knowledges that are gained in order to evaluate some alternatives that are available and choosing one of the most suitable alternatives [15].

According to Imantoro (2018), there are four factors that can influence the customer purchase decision [16]:

a. Cultural Factors
   Cultural factors are the factor that influence the behavior of the customers in searching, completing, and consuming a certain product deeply and consistently.
b. Social Factors
   Social factors are the factors that influence the behavior of the customers and this social factors usually come from the surroundings such as doing the social activities with the people in the surrounding can establish a certain behavior pattern.
c. Private Factors
   Private factors are also the factors that can influence the purchase behavior of the customers such as age, lifecycle, occupation, economic condition, lifestyle, and also personality.
d. Psychological Factors
   Psychological factors are the factors that come from within one people which can determine how they choose and consume the product. It is important for the marketers to understand the psychological factors such as motivation, perception, beliefs, and attitudes of the customers.

According to Sitompul (2019), there are four indicators of purchase decision [17]:

a. Problem Recognition
   Before a customer decides to purchase a product or services, the customer realizes that there is a problem and the customer will try to identify what needs to be fulfilled.
b. Information Search

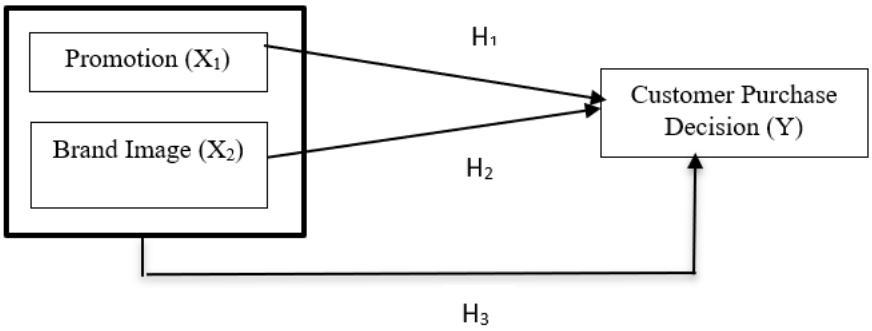
This is the step where the customer tries to search for the information about the products which includes the benefits, suitability, and the value of the product from various choices that are available. Customer can obtain the information from various sources such as personal, commercial, public, and others.

c. Purchase Decision
After the customer has obtain the information, they will start to purchase the product which is considered as the most suitable and right for them.

d. Post Purchase Behavior
After purchasing and consuming the products or services, customer will feel satisfied and happy if the products or services that they obtained are in accordance or even exceed what they expected. On the other hand, the customer will feel not satisfy and unhappy if the products or services that they obtained is lower than what they expected.

2.5 Research Model

Figure 1
Research Model



2.6 Hypothesis Development

1. Promotion has partial influence on customer purchase decision at PT Isuindomas Putra, Medan.
2. Brand Image has partial influence on customer purchase decision at PT Isuindomas Putra, Medan.
3. Promotion and Brand Image have simultaneous influence on customer purchase decision at PT Isuindomas Putra, Medan.

3. Research Methods

3.1 Location of the Research

This research is conducted at PT Isuindomas Putra, Medan that is located at Jl. Rachmadsyah No. 55 -57, Medan. The reason of choosing PT Isuindomas Putra, Medan is because after interviewing the owner of PT Isuindomas Putra, Medan, the writer found out that the company is facing some problems in terms of promotion and brand image which is in line with the writer's research title and also the owner of this company has given the permission for the writer to conduct the research.

3.2 Population, Sample, and Sampling Technique

The population that is used in this research is the customers who have ever bought Isuzu truck at PT Isuindomas Putra, Medan. Based on the Lemeshow formula, there are 97 respondents are chosen to be used as the sample. The writer also uses convenience or accidental sampling in conducting this research. Accidental sampling or convenience sampling is a sampling method based on a chance, where anyone who is suitable as a resource of data and meet the researcher coincidentally can be used as a sample (Sugiyono, 2018) [18].

3.3 Data Collection Method

In conducting this research, the writer uses primary data and secondary data. Primary data is the data that is collected directly from the research object and the writer will process the data. It is also more reliable, truthful and objective, because the data has not been tampered with by others. However, due to various reasons such as budget, time, location, data quality, it is difficult to obtain. There are some sources of primary data which are questionnaire, interview, and others. Besides primary data, the writer also uses secondary data. Secondary data

is data collected from sources that have been published by other researchers in any form or ways. Secondary data can be obtained through books, records, biographies, newspapers, publication data, data files, articles, periodicals, databases, and others. The writer uses books and journals as the references to conduct this research (Sugiyono, 2017) [19].

3.4 Operational Definition and Variable Measurement

In conducting this research, the writer uses two types of variables which are independent variable and dependent variable. Independent variable is the factor that is controlled in the experiment and therefore independent or unaffected by all other influences. In this research, the independent variables (X) are the promotion and brand image. Dependent variable is a variable that depends on the independent variable. Dependent variable is the results of the influence of independent variables. In this research, the dependent variable (Y) is the customer purchase decision (Creswell & Creswell, 2018) [20]. The writer also uses Likert Scale by making some statements through the questionnaire where the respondents can choose their opinions based on each statement in each question.

Table 2
Likert Scale

Response	Score
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

3.5 Data Analysis Method

In conducting this research, the writer will test the pre – test questionnaire of 30 respondents by using the validity and reliability test. Besides, the writer will test the main – test questionnaire of 97 respondents by using classical assumption test which includes normality test, multicollinearity test, and heteroscedasticity test; multiple linear regression test; and hypothesis test which includes the coefficient determination test, t – Test, and F – Test.

4. Findings and Result

4.1 Validity Test and Reliability Test

In conducting this research, the writer uses two types of tests to evaluate the quantitative research which are validity test and reliability test to test the pre – test questionnaire that was distributed to 30 respondents. The result of the validity test is as follows:

Table 3
Validity Test

Variable	Item Code	r count	r table	Result
Promotion (P)	P1	0.931	0.361	Valid
	P2	0.922		Valid
	P3	0.882		Valid
	P4	0.945		Valid
	P5	0.866		Valid
	P6	0.885		Valid
Brand Image (BI)	BI1	0.952	0.361	Valid
	BI2	0.907		Valid
	BI3	0.893		Valid
	BI4	0.946		Valid
	BI5	0.914		Valid
	BI6	0.830		Valid
Customer Purchase Decision (PD)	PD1	0.847	0.361	Valid
	PD2	0.777		Valid
	PD3	0.823		Valid
	PD4	0.698		Valid
	PD5	0.799		Valid

	PD6	0.812		Valid
	PD7	0.776		Valid
	PD8	0.837		Valid

Based on the results from the table above, it can be concluded that all of the statements in Promotion (X_1), Brand Image (X_2), and Customer Purchase Decision (Y) are valid since the value of the r – count is greater than the r – table.

Besides validity test, the writer also conducted reliability test. A data is categorized as reliable if the Cronbach's Alpha is greater than 0.6. The result of the reliability test is as follows:

Table 4
Reliability Test

Variable	Cronbach's Alpha	N of items
Promotion	0.948	6
Brand Image	0.956	6
Customer Purchase Decision	0.910	8

Based on the results from the table above, it can be concluded that all of the statements in Promotion (X_1), Brand Image (X_2), and Customer Purchase Decision (Y) are reliable since all of the Cronbach's Alpha values are greater than 0.6.

4.2 Normality Test

In order to test the normality, the writer uses graphical analysis and statistical analysis. Based on the graphical analysis, the result shows that the histogram is bell – shaped curve and all of the dots in the P – Plot are approximately formed a straight line. Therefore, it can be concluded that the data is a normal distribution data.

Table 5
One Sample Kolmogorov Smirnov Test

		Unstandardized Residual
N		97
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	2.70608137
Most Extreme Differences	Absolute	0.063
	Positive	0.063
	Negative	-0.056
Test Statistic		0.063
Asymp. Sig. (2-tailed)		0.200[c,d]

Based on the statistical data by using *One – Sample Kolmogorov Smirnov* test, the result of *Asymp. Sig (2 – tailed)* is 0.200. Therefore, it is concluded that the data is a normal distribution data since the *Asymp. Sig (2 – tailed)* value is greater than 0.05.

4.3 Multicollinearity Test

The writer also conducted the multicollinearity test. There is no multicollinearity between the independent variables if the tolerance value is >0.1 and the VIF <10 (Nawawi, 2020) [21].

Table 6
Multicollinearity Test

	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Collinearity Statistics

Model		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.515	1.820		-0.283	0.778		
	Promotion	0.563	0.091	0.373	6.177	0.000	0.640	1.563
	Brand Image	0.750	0.074	0.608	10.072	0.000	0.640	1.563

The results of this research shows that the tolerance value of promotion and brand image is 0.640 which is greater than 0.10 and the Variance Inflation Factor (VIF) is 1.563 which is smaller than 10. Therefore, it can be concluded that there is no multicollinearity between the independent variables which are promotion and brand image.

4.4 Heteroscedasticity Test

In conducting the heteroscedasticity test, the writer uses graphical analysis and statistical analysis. Based on the graphical analysis, the results shows that there is no clear pattern since all of the dots are spread above, below, and around 0 point. Therefore, it can be concluded that there is no heteroscedasticity occur. Based on the statistical analysis, the writer uses *Glejser* test and the result shows that the significant value of promotion is 0.574 and the significant value of brand image is 0.968. Both of the significant value of promotion and brand image are greater than 0.05. Therefore, it can be concluded that there is no heteroscedasticity occur.

Table 7
Glejser Test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.213	1.176		1.032	0.305
	Promotion	0.033	0.059	0.073	0.564	0.574
	Brand Image	0.002	0.048	0.005	0.040	0.968

4.5 Multiple Linear Regression Test

Table 8
Multiple Linear Regression Result

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.515	1.820		-0.283	0.778
	Promotion	0.563	0.091	0.373	6.177	0.000
	Brand Image	0.750	0.074	0.608	10.072	0.000

Based on the result obtained from the table above, the writer can formulate the multiple linear regression as follows:

$Y = -0.515 + 0.563\ X_1 + 0.750\ X_2 + e$

From the formulation above, the writer can draw some interpretations:

a. If the promotion (X_1) and brand image (X_2) are equal to zero, the customer purchase decision (Y) will decrease by 0.515.
b. The regression coefficient of promotion (X_1) is 0.563 and the regression coefficient of brand image (X_2) is 0.750. Therefore, when the variable of promotion and brand image is increase by 1, the promotion will increase by 0.563 and the brand image will increase by 0.750.

4.6 Coefficient of Determination

Table 9
Coefficient of Determination Result

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.884[a]	0.781	0.776	2.735

The result from the table above shows that the adjusted R^2 is 0.776, this means that the promotion and brand image have influence on the customer purchase decision by 77.6% and the rest 22.4% is influenced by other factors such as price, word of mouth, product quality, and others.

4.7 Partial Test (t – Test)

Table 10
t - Test Result

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.515	1.820		-0.283	0.778
	Promotion	0.563	0.091	0.373	6.177	0.000
	Brand Image	0.750	0.074	0.608	10.072	0.000

a. The Influence of Promotion on Customer Purchase Decision
The result shows that t – count of promotion is 6.177 and the t – table value for N = 97 is 1.98472. Therefore, it can be concluded that the t – count is greater than the t – table value (6.177 > 1.98472), and the significant value of promotion is 0.000 which is smaller than 0.05 (0.000 < 0.05). From this result, it is proven that promotion has positive and significant partial influence on customer purchase decision.

b. The Influence of Brand Image on Customer Purchase Decision
The result shows that t – count of brand image is 10.072 and the t – table value for N = 97 is 1.98472. Therefore, it can be concluded that the t – count is greater than the t – table value (10.072 > 1.98472), and the significant value of brand image is 0.000 which is smaller than 0.05 (0.000 < 0.05). From this result, it is proven that brand image has positive and significant partial influence on customer purchase decision.

4.8 Simultaneous Test (F – Test)

Table 11
F - Test Result

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2505.561	2	1252.780	167.514	0.000[b]
	Residual	702.996	94	7.479		
	Total	3208.557	96			

The result shows that the F – count value is 167.514 and the F – table value is 3.09. This shows that the F – count value is greater than the F – table value (167.514 > 3.09) and the significant value is 0.000 which is smaller than 0.05 (0.000 < 0.05). Therefore, it can be concluded that the promotion and brand image have simultaneous influence on customer purchase decision.

4.9 Dominant Test Result

The result shows that the brand image influences the customer purchase decision the most. This can be seen from **Table 7** above (t – Test result) where the beta coefficient of brand image is greater than the beta coefficient of promotion (0.750 > 0.563) and the t – count value of brand image is greater than the t – count value of promotion (10.072 > 6.177).

5. Discussion

a. The Influence of Promotion on Customer Purchase Decision
Based on the result of partial hypothesis (t – Test), the result shows that t – count of promotion is greater than the t – table (6.177 > 1.98472). Therefore, H_1 is accepted which means that promotion has positive and significant partial influence on customer purchase decision at PT Isuindomas Putra, Medan. This result is in line with the previous research that has been done previously by Azhari et al., (2020) [22].

b. The Influence of Brand Image on Customer Purchase Decision
Based on the result of partial hypothesis (t – Test), the result shows that t – count of brand image is greater than the t – table (10.072 > 1.98472). Therefore, H_2 is accepted which means that brand image has positive and significant partial influence on customer purchase decision at PT Isuindomas Putra, Medan. This result is in line with the previous research that has been done previously by Hidayat et al., (2021) [23].

c. The Influence of Promotion and Brand Image on Customer Purchase Decision
Based on the result of simultaneous hypothesis (F – Test), the result shows that the F – count value is greater than the F – table (167.514 > 3.09). Therefore, H_3 is accepted which means that promotion and brand image have simultaneous influence on customer purchase decision at PT Isuindomas Putra, Medan. This result is also in line with the previous research that has been conducted previously by Wenini et al., (2021) [24].

6. Conclusion

Based on the findings and results, the writer will draw some conclusion which can be summarized as follows:

a. Promotion has positive and significant partial influence on customer purchase decision at PT Isuindomas Putra, Medan which means that if the promotion is getting better, then the customer purchase decision of Isuzu truck at PT Isuindomas Putra, Medan will increase.

b. Brand Image has positive and significant partial influence on customer purchase decision at PT Isuindomas Putra, Medan which means that if the brand image is good, then the customer purchase decision of Isuzu truck at PT Isuindomas Putra, Medan will increase.

c. Promotion and Brand Image have simultaneous influence on customer purchase decision at PT Isuindomas Putra, Medan which is proven by the result of the coefficient of determination where promotion and brand image have influence on the customer purchase decision by 77.6% and the rest 22.4% is influenced by other factors. This means that if the promotion and brand image are good, then the customer purchase decision of Isuzu truck at PT Isuindomas Putra, Medan will be higher.

d. In terms of promotion (X_1), the writer strongly advice PT Isuindomas Putra, Medan starts to utilize social media platforms especially Instagram, make some interesting video and Ig reels that consist the complete information regarding the uniqueness and benefit of Isuzu truck, and give more attractive offers such as cashbacks, vouchers, and discounts to the customers who have successfully convince other potential customers to purchase Isuzu truck.

e. In terms of brand image (X_2), the writer strongly advice PT Isuindomas Putra, Medan to carry out some social activities by sponsoring Isuzu truck to several small businessmen in the village that cannot afford to buy truck, hold special exhibition and provide test drive more often, conduct a seminar regarding the implementation of Euro – 4 standards, and also provide some testimonies from other users to enhance the confidence of the potential customers in purchasing Isuzu truck.

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Implementation of Sustainable Growth Rate in Indonesia's Stock Market

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Abstract. The Indonesia financial market is facing a recession in 2020. The decline in the financial market has been started since 2018. The pandemic of Covid-19 worsens the condition. This paper examines the SGR, AGR, and DPR of five selective random sampling banks from the financial sector in the Indonesian capital market to find out what is happening. The findings show that even though the SGR value is decreasing, most banks show an increasing value of DPR. One possible cause is banks do not have other places for investments so that they give the profit to shareholders.

Keywords: Sustainable Growth Rate; Actual Growth Rate; Divident Payout Ratio

1. Introduction

The Indonesia financial market is facing a recession in 2020. The decline in the financial market has been started since 2018. The pandemic of Covid-19 worsens the condition.

This paper examines the SGR, AGR, and DPR of five selective random sampling banks from the financial sector in the Indonesian capital market. The value of SGR is calculated, then compared to the actual growth rate of the firms. Corporate actions related to the SGR that year are also studied, then the comparison chart is analyzed.

2. Literature Review

2.1 Babcock (1970)

Babcock (1970) is the first to study the concept of sustainable growth. The model is

$$SGR = \frac{1}{1 - r_b}$$

where SGR is the sustainable growth rate and r_b is the ratio of retained earnings to book value $\left(\frac{Retained\ earnings}{Book\ Value}\right)$. The result shows that it is not good if earnings grow too fast. Fortunately, it has good potential if earnings do not grow fast enough (Babcock, 1970).

2.2 Higgins (1977)

Higgins (1977) tries to test the consistency of financial policies and growth objectives using SGR. For firms that want to maintain a target dividend payout ratio and capital structure without issuing new equities and debts, the SGR should be consistent with the firm's established financial policies. This is the model

$$SGR = R \times P \times A \times T'$$

where SGR is the sustainable growth rate, R is the retention ratio $\left(\frac{Retained\ earnings}{Profit}\right)$, P is the profit margin $\left(\frac{Profit}{Sales}\right)$, A is the asset turnover ratio $\left(\frac{Sales}{Assets}\right)$, and T' is the leverage factor related to assets and opening equity $\left(\frac{Assets}{Opening\ equity}\right)$.

A simplified version of the model is

$$SGR\ (simplified\ version) = ROE \times b$$

where *SGR* is the sustainable growth rate and *b* is the retention ratio. The findings show that if the sales growth rate is bigger than SGR, then the firms must increase sales and get more profits. On the other hand, if the sales growth rate is lower than SGR, then firms can increase the payout ratio, reduce the leverages, or build more liquid assets (Higgins, 1977).

2.3 Ashta (2008)

Ashta (2008) tries to improve the clarity and financial analysis of Higgin's model (1977) for calculating SGR. This is the model

$$SGR = R \times P \times A' \times T^0$$

where: *SGR* is the sustainable growth rate, *R* is the retention ratio $\left(\frac{Retained\ earnings}{Profit}\right)$, *P* is the profit margin $\left(\frac{Profit}{Sales}\right)$, *A'* is the asset turnover ratio related to opening period assets $\left(\frac{Sales}{Opening\ assets}\right)$, and T^0 is the leverage factor related to opening assets and opening equity $\left(\frac{Opening\ assets}{Opening\ equity}\right)$.

The findings show that the SGR works consistently if opening assets are used in the asset turnover ratio. Then, the leverage ratio, assets, and equity must use begging of period values. For asset turnover ratio must use opening assets (Ashta, 2008).

2.4 Van Horne and Wachowicz (2008)

Van Horne and Wachowicz (2008) in his book say that the model of SGR is

$$SGR = \frac{b\left(\frac{NP}{S}\right)\left(1+\frac{D}{Eq}\right)}{\left(\frac{A}{S}\right)-\left[b\left(\frac{NP}{S}\right)\left(1+\frac{D}{Eq}\right)\right]}$$

where *A/S* is the total-assets-to-sales ratio, *NP/S* is the net profit margin (net profits divided by sales), *b* is the retention rate of earnings, *D/Eq* is the debt-to-equity ratio, S_0 is the most recent annual sales (beginning sales), and ΔS is the absolute change in sales from the most recent annual sales (Van Horne & Wachowicz, 2008).

2.5 Lockwood and Prombutr (2010)

Lockwood and Prombutr (2010) study the relation between SGR and stock returns from 1964 to 2007. This is the model

$$SGR = RR \times NPM \times ATO \times FL$$

where *SGR* is the sustainable growth rate, *RR* is the retention rate, *NPM* is the net profit margin, *ATO* is the asset turnover, and *FL* is the financial leverage of the firm.

The results show that high SGR is related with low default risk, low book-to-market ratios, and subsequent low returns. Of the four variables used in the paper to explain SGR, the net profit margin is the main factor of following returns. Additional findings tell that the SGR is related to risk, not to mispricing (Lockwood & Prombutr, 2010).

2.6 Amouzesh, Moeinfar, and Mousavi (2011)

Amouzesh, Moeinfar, and Mousavi [2011] study about SGR and its relation to liquidity and firm performance in Iran financial market during 2006-2009. The methodology used is linear regression to examine the association between the deviation of actual growth rate from SGR, ROA, PBV, CR, and Acid ratios. This is the model

$$AGR = (ROA \times b)(1 - ROA \times b)$$

$$SGR = \frac{(ROE \times b)}{(1 - ROE \times b)}$$

where *AGR* is the actual growth rate, *ROA* is return-on-asset, *ROE* is return-on-equity, *b* is the retention rate of earnings, and *SGR* is the sustainable growth rate.

The findings show that the deviation of the actual growth rate from SGR has a relationship with ROA and PBV, but no relation with CR and acid ratios (Amouzesh, Moeinfar, & Mousavi, 2011).

2.7 Fonseka, García Ramos, and Tian (2012)

Fonseka, García Ramos, and Tian (2012) compare SGR from Higgins model and Van Horne model, then estimate the divergence related to variations in common financial characteristics. This is the model

$$SGR = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11}$$

where *SGR* is the sustainable growth rate, β_0 is constant, X_1 is liquidity, X_2 is profitability, X_3 is leverage, X_4 is debt-maturity, X_5 is working-capital-management, X_6 is cash-adequacy, X_7 is firm size, X_8 is capital investment,

X_9 is free cash, X_{10} is the tax rate, and X_{11} is financial distress. The findings show that Higgins SGR is more affected by variations in financial characteristics than Van Horne SGR. Higgins model gives a higher SGR than Van Horne model for more profitable firms. Firms with high leverage get even higher SGR in Van Horne model than Higgin's one. The result confirms that both Higgins and Van Horne's models are qualitatively and similar to common financial characteristics. The paper suggests that managers and researchers can preferably use both Higgins and Van Horne's models (Fonseka, García Ramos, & Tian, 2012).

2.8 Kijewska (2016)

Kijewska (2016) proposes that the growth of a company cannot be valued by itself. The growth must be compared to SGR and the ability to obtain funds that can finance the growth. The paper shows fundamental variables that management must take account of SGR. This is the model

$$SGR = b \times OPM \times CT \times FC \times FS \times TE$$

where *SGR* is the sustainable growth rate, *OPM* is operating profit margin, *CT* is capital turnover, *FC* is financial cost ratio, *FS* is the financial structure ratio, and *TE* is the tax effect ratio. The study took place in Polland on two companies from the mining and metallurgical sector. The findings show that in the surveyed companies, a drop in sales is followed by a decline in SGR (Kijewska, 2016).

2.9 Hartono and Utami (2016)

Hartono and Utami (2016) study the effect of SGR on current ratio, price-to-earnings ratio, and profitability ratio. The mean value of SGRs is then compared in IDX30 and Sri Kehati Index. The model is

$$Y_1 = \beta_0 + \beta_1 X_1 + \varepsilon$$
$$Y_2 = \beta_0 + \beta_1 X_2 + \varepsilon$$
$$Y_3 = \beta_0 + \beta_1 X_3 + \varepsilon$$
$$SGR = ROE \times b$$

where $Y_{1,\,2,\,3}$ are the *SGR*, β_0 is the intercept, $\beta_{1,\,2,\,3}$ are the coefficient of regression, and $X_{1,\,2,\,3}$ are the dependent variables (ROA, PER, CR), b is the retention rate of earnings, and ε is the error terms.

The findings show that in the IDX30 index, SGR has a positive and significant effect on ROA, insignificant negative effect on PER, and insignificant positive effect on CR. In Sri Kehati Index, SGR has a positive and significant effect on ROA and CR, negative and significant effect on PER (Hartono & Utami, 2016).

2.10 Arora, Kumar, and Verma (2018)

Arora, Kumar, and Verma (2018) try to develop two new formulas to calculate SGR. The ability of the model to explain SGR using the new variations of the model is also explained. This is the model

$$SGR = \left(\frac{BE_t}{BE_{t-1}}\right) - 1$$

where *SGR* is the sustainable growth rate and *BE* is the book-to-equity ratio.

The results show that four key ratios are robust in explaining the variations in SGR after adding new industry-specific factors in the model, like industrial growth and inflation. The net profit margin is the most vital driver toward SGR in the Indian manufacturing factor (Arora, Kumar, & Verma, 2018).

2.11 Mamilla (2019)

Mamilla (2019) tries to compare the actual growth rate (AGR) and the SGR, then investigate the independent variables on SGR. This is the model

$$AGR = ROA(1 - DPR)$$
$$SGR = ROE(1 - DPR)$$
$$SGR = \alpha_0 + b_1 DE + b_2 CR + b_3 ATR + b_4 LNA + b_5 TR + \varepsilon$$

where *AGR* is the actual growth rate, *ROA* is the return-on-asset ratio, *DPR* is dividend-payout-ratio, *SGR* is the sustainable growth rate, *DE* is the debt-to-equity ratio, *CR* is the current ratio, *ATR* is the asset-turnover-ratio, *LNA* is the natural log of assets, *TR* is the tax rate, and ε is the error term.

The findings show that firm size and debt-equity-ratio have a significant negative relationship with SGR. The study also identifies factors of firms' operating and financial structure that are important (Mamilla, 2019).

3. Methodology

SGR is the maximum annual percentage increase in sales that can be attained based on the target operating, debt, and dividend-payout-ratios. If actual growth exceeds the SGR, the firms must get extra funding into the company, either increase sales or debt level. On the other hand, if the SGR is above the actual growth, firms have extra money to invest or give to shareholders as dividends (Van Horne & Wachowicz, 2008).

3.1 Model

This paper uses the models that are used by Mamilla [2019] to calculate IGR and SGR

$$AGR = ROA(1 - DPR)$$
$$SGR = ROE(1 - DPR)$$

where *AGR* is the actual growth rate, *ROA* is the return-on-asset ratio, *DPR* is the dividend-payout-ratio, and *SGR* is the sustainable growth rate.

3.2 Data

This paper uses five firms of the financial sector in Indonesia's capital market. The firms are randomly picked that have at least ten years of active trading data from 2009, excluding the ones with the price of 50. The five firms are BBCA, BDMN, BMRI, BBNI, and BBRI. The annual financial income data are taken from the S&P website.

Figure 1
Sectors in Bursa Efek Indonesia



4. Analysis and Calculation

All of the ROAs, ROEs, and DRPs of the five firms are taken from the S&P websites, then all of them are compared. The results are shown in the graphic.

4.1 Calculation of AGR and SGR

This is the calculation of AGR and SGR from the five firms.

Table 1
The calculation of AGR and SGR

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BBCA	**ROA**	2.6%	2.8%	3.1%	2.8%	3.0%	3.1%	3.1%	3.2%	3.3%	3.3%	3.3%
	ROE	26.6%	27.4%	28.4%	25.0%	24.6%	23.6%	21.8%	20.4%	19.1%	18.3%	17.5%
	DPR	50.1%	32.3%	25.6%	23.6%	20.1%	18.7%	20.9%	20.9%	22.2%	24.8%	30.6%
	AGR	1.30%	1.90%	2.31%	2.14%	2.40%	2.52%	2.45%	2.53%	2.57%	2.48%	2.29%
	SGR	13.27%	18.55%	21.13%	19.10%	19.66%	19.19%	17.24%	16.14%	14.86%	13.76%	12.15%
BDMN	**ROA**	1.6%	2.8%	2.6%	2.8%	2.4%	1.4%	1.3%	1.5%	1.9%	2.0%	2.0%
	ROE	11.9%	17.3%	15.4%	15.1%	13.8%	8.4%	7.4%	7.9%	9.0%	8.8%	8.9%
	DPR	58.2%	28.0%	32.6%	26.4%	29.8%	41.1%	34.0%	28.6%	27.0%	34.2%	35.5%

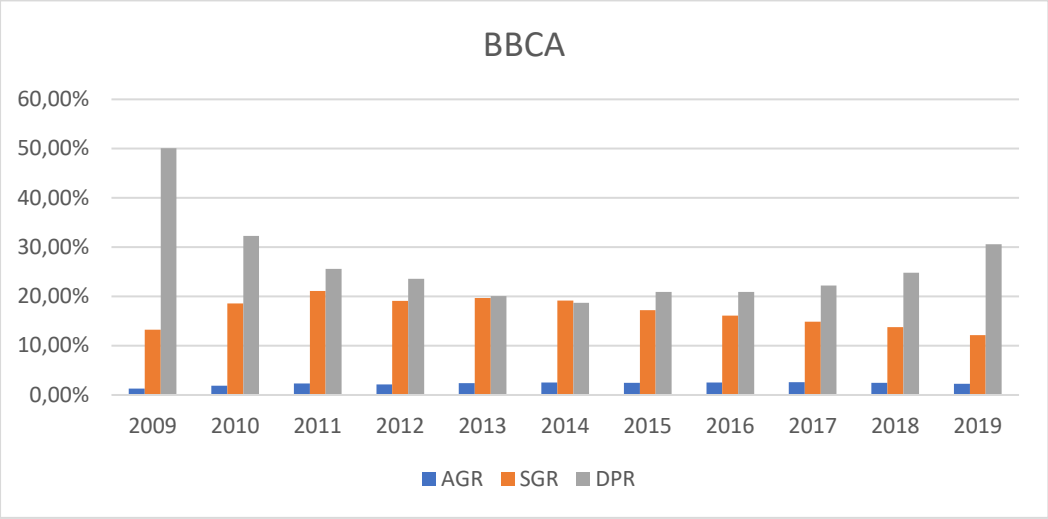
	AGR	0.67%	2.02%	1.75%	2.06%	1.68%	0.82%	0.86%	1.07%	1.39%	1.32%	1.29%
	SGR	4.97%	12.46%	10.38%	11.11%	9.69%	4.95%	4.88%	5.64%	6.57%	5.79%	5.74%
BMRI	**ROA**	1.9%	2.2%	2.5%	2.7%	2.8%	2.6%	2.4%	1.5%	2.0%	2.2%	2.3%
	ROE	21.9%	24.2%	24.2%	23.2%	22.9%	21.3%	18.9%	10.7%	13.3%	14.6%	14.4%
	DPR	31.6%	27.3%	23.0%	15.8%	25.6%	27.5%	24.4%	44.2%	30.1%	37.1%	41.0%
	AGR	1.30%	1.60%	1.93%	2.27%	2.08%	1.89%	1.81%	0.84%	1.40%	1.38%	1.36%
	SGR	14.98%	17.59%	18.63%	19.53%	17.04%	15.44%	14.29%	5.97%	9.30%	9.18%	8.50%
BBNI	**ROA**	1.2%	1.7%	2.1%	2.2%	2.5%	2.7%	2.0%	2.1%	2.1%	2.0%	1.9%
	ROE	14.4%	15.7%	16.4%	17.3%	19.9%	19.9%	13.1%	13.6%	14.5%	14.3%	13.2%
	DPR	6.9%	21.2%	21.1%	16.5%	23.3%	25.2%	29.7%	20.0%	29.1%	31.7%	24.4%
	AGR	1.12%	1.34%	1.66%	1.84%	1.92%	2.02%	1.41%	1.68%	1.49%	1.37%	1.44%
	SGR	13.41%	12.37%	12.94%	14.45%	15.26%	14.89%	9.21%	10.88%	10.28%	9.77%	9.98%
BBRI	**ROA**	2.6%	3.2%	3.5%	3.7%	3.6%	3.4%	3.0%	2.8%	2.7%	2.7%	2.5%
	ROE	29.5%	35.9%	34.9%	32.6%	29.6%	27.4%	24.1%	20.2%	18.4%	18.4%	17.5%
	DPR	36.3%	21.0%	18.3%	19.4%	26.0%	26.2%	28.6%	29.1%	36.2%	40.3%	47.1%
	AGR	1.66%	2.53%	2.86%	2.98%	2.66%	2.51%	2.14%	1.99%	1.72%	1.61%	1.32%
	SGR	18.79%	28.36%	28.51%	26.28%	21.90%	20.22%	17.21%	14.32%	11.74%	10.98%	9.26%

Based on the calculation in Table 1, all banks show their SGRs > AGRs, which means that all banks have extra funds for reinvestment or give to shareholders as dividends. By roughly looking at the data, all SGRs are getting smaller, which implies that the ability of firms to make a profit is getting weaker. It is a bad signal for the long term economy since the financial sector is one of the strongest pillars of economic in Indonesia.

4.2 Graphical Presentation of AGR and SGR

4.2.1 BBCA

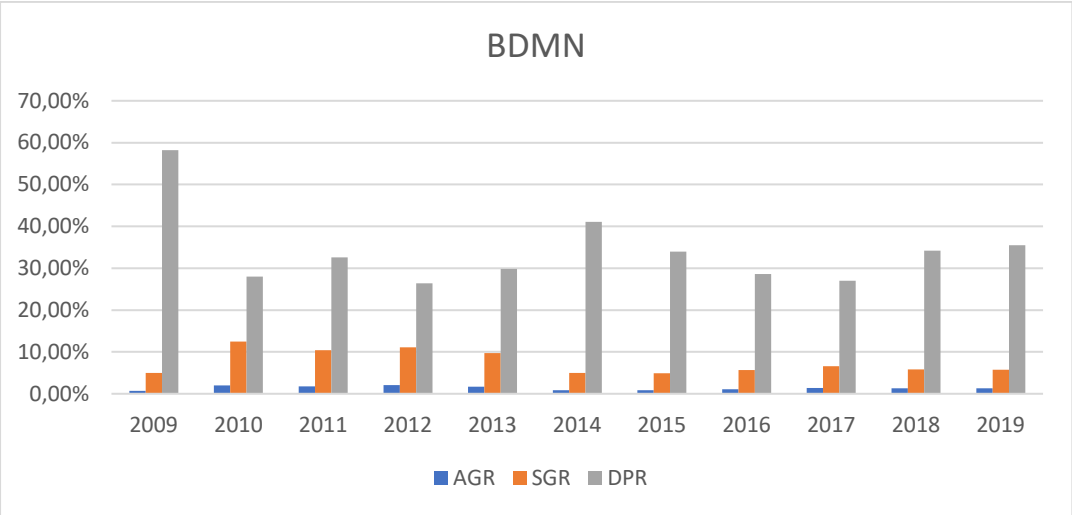
Figure 1
AGR/SGR of BBCA



The AGR of BBCA does not show any significant growth. Instead, the AGR keeps decreasing, slowly but sure. Meanwhile, since 2014 the SGR of BBCA is getting lower. The lowest point is at the end of the year 2019. On the contrary, the DPR since 2014 is getting bigger. The decrease of SGR in BBCA should have been followed by a reduction in DPR too.

4.2.2 BDMN

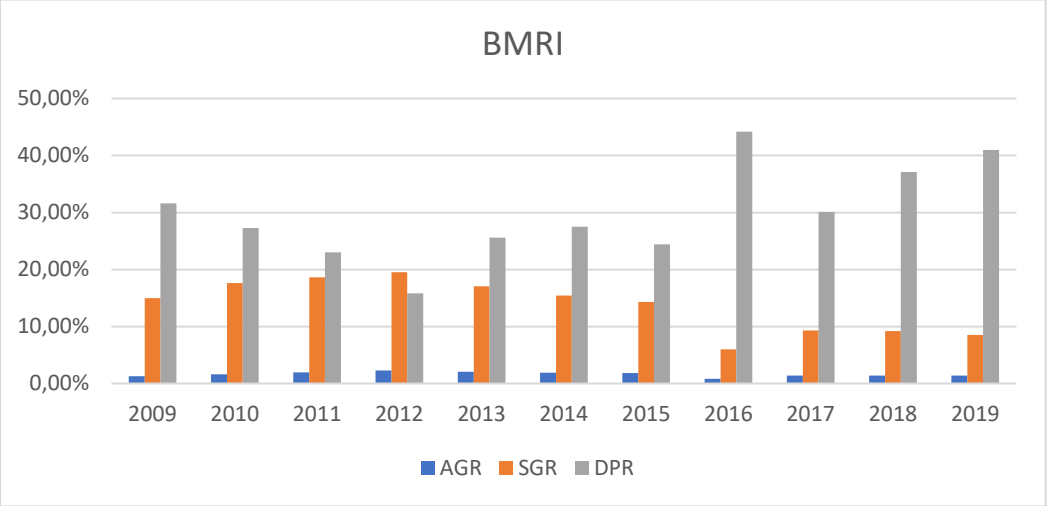
Figure 2
AGR/SGR of BDMN



The AGR of BDMN in 2019 is lower than its highest value in 2010 and 2012. In the year 2019, the AGR does not show any growth compares to 2018. Meanwhile, checking at the SGR value of BDMN is getting lower since 2017. The DPR of BDMN is getting higher since 2017. The decrease of SGR in BDMN should have been followed by a reduction of DPR too.

4.2.3 BMRI

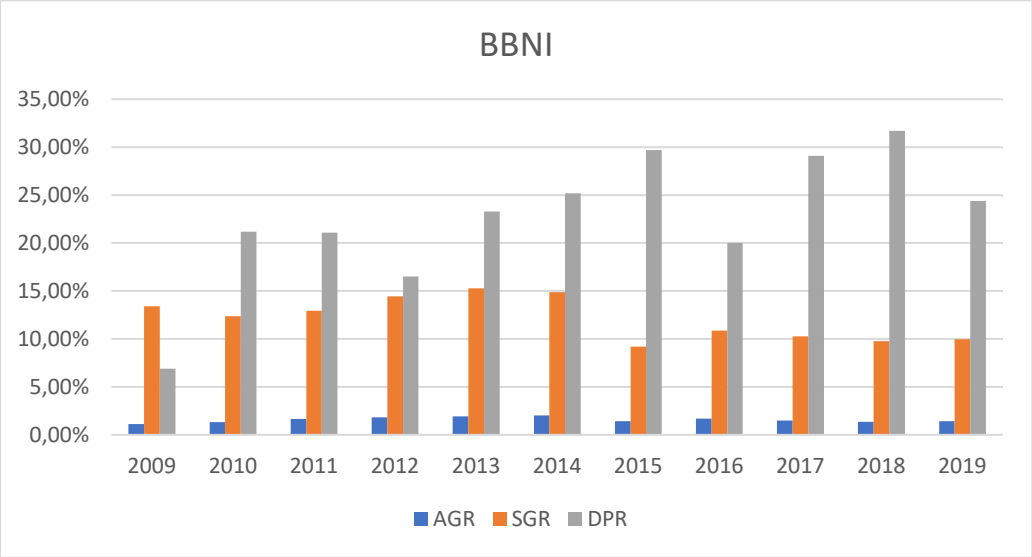
Figure 3
AGR/SGR of BMRI



The AGR of BMRI in 2019 is lower than its highest value in 2013. Then the AGR is increasing again from 2016 to 2019. In the year 2019, the SGR value of BDMN is getting lower since 2017, and it is even lower than its highest value in 2012. The decrease of SGR in BMRI should have been followed by a reduction of DPR too.

4.2.4 BBNI

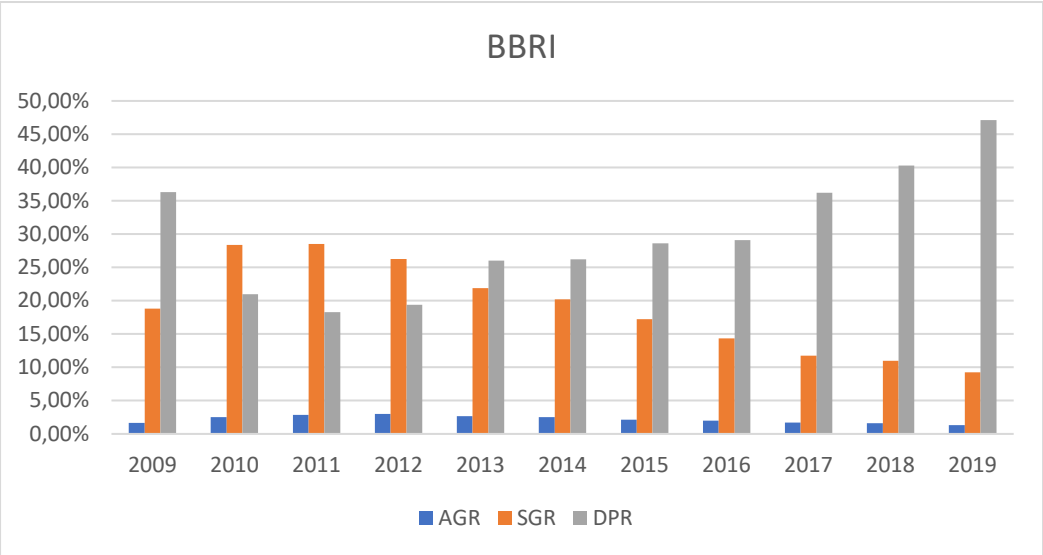
Figure 4
AGR/SGR of BBNI



The AGR of BBNI in 2019 is lower than its highest value in 2014. Then the AGR is fluctuating from 2016 to 2019. In the year 2019, the SGR value of BBNI is getting a bit higher since 2018, but it is still lower than its highest value in 2013. Even though the reduction of DPR already follows the decrease of SGR in BMRI, the DPR is still too high.

4.2.5 BBRI

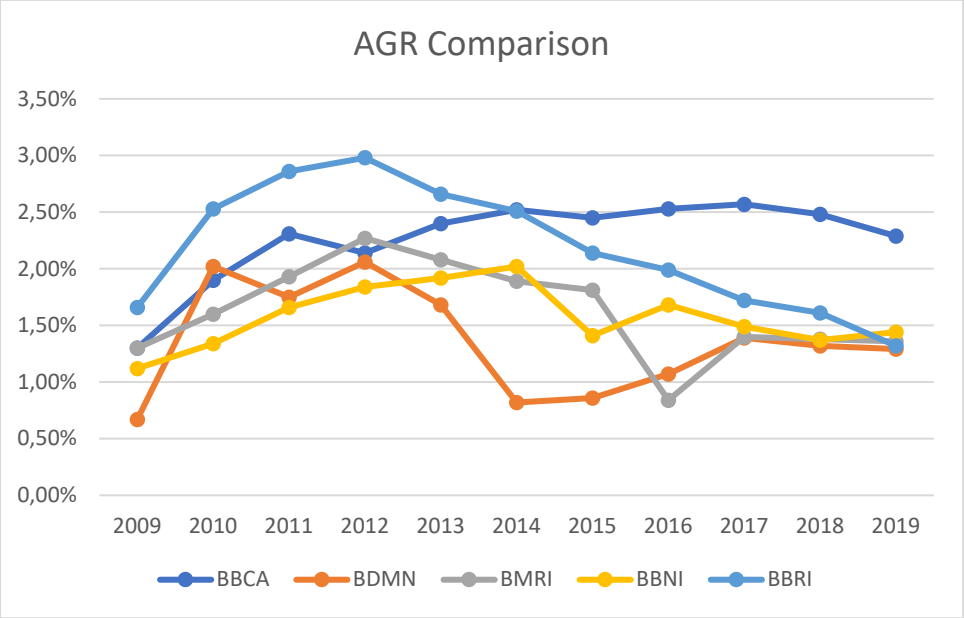
Figure 5
AGR/SGR of BBRI



The AGR of BBRI keeps on decreasing since 2012. The firm's growth is declining. Since 2011 the SGR of BBRI is getting lower. The lowest point of the SGR is in the year 2019. Surprisingly, the DPR since 2011 is getting bigger. The decrease of SGR in BBRI should have been followed by a reduction of DPR too.

4.3 AGR Comparison

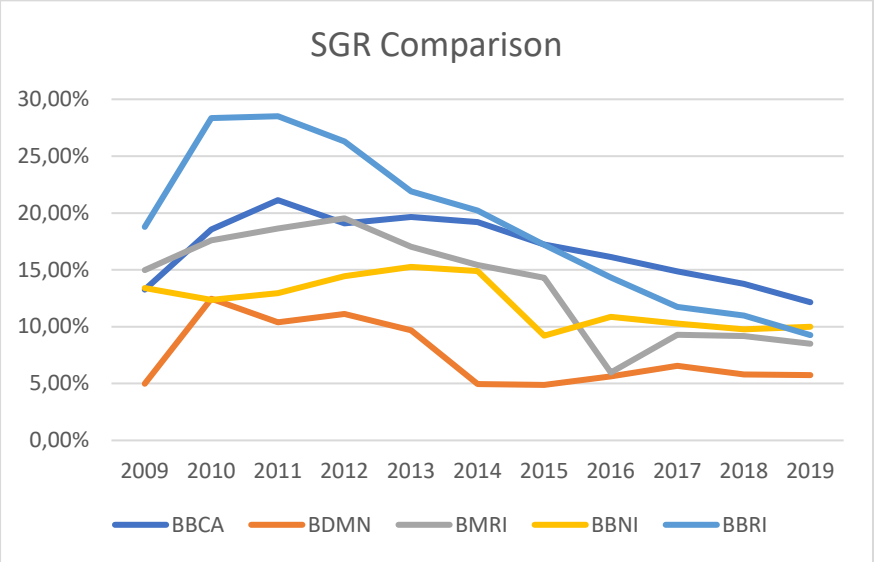
Figure 6
AGR comparison of five banks



The AGR comparison chart shows that BBCA has the most vigorous growth of five banks, while BBRI has the worst development. Currently, BBRI has lots of problems from the BRI Syariah and BRI Agro that affects the overall performance of BBRI. There are lots of hidden non-performing loan (NPL). Another challenge came from the acquisition of PT Danareksa Sekuritas during the end of 2018 .

4.4 SGR Comparison

Figure 7
SGR comparison of five banks



All five banks show declining SGR over ten years, while the DRP is increasing. This fact is quite shocking since, usually, with the decreasing of SGR, the DPR should decrease too. The possible explanation is banks do not have other places for investments. Then they just give the profit with shareholders.

5. Conclusion and Suggestion

SGR is the maximum annual percentage increase in sales that can be attained based on the target operating, debt, and dividend-payout-ratios. If actual growth exceeds the SGR, the firms must get extra funding into the company, either increase sales or debt level. On the other hand, if the SGR is above the actual growth, firms have extra money to invest or give to shareholders as dividends (Van Horne & Wachowicz, 2008).

The calculation and comparison of AGR, SGR, and DPR of five banks in Indonesia show that with a slow growth rate, even though most SGR values are declining, the DRP values are increasing. The possible explanation is banks do not have other places for investments. Then they just give the profit with shareholders. However, the suggestion needs further study with a more thorough model.

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4th INCOGITE and 2nd HOSPITOUR 2022
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Analysis of Pasar Rakyat Micro Enterprises using Business Intelligent and Data Mining in Jakarta During the Covid-19 Pandemic

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Abstract. This study aims to determine the segmentation of the seller at Pasar Jatinegara , and from the data the micro entrepreneur at Pasar Jatinegara mostly is fashion garmen and also home appliances and the rest is a food and bererage, and sales total for a month 55% is below five hundreds rupiahs and 39 % is from range five hundreds until one million a day, and its conclude the Micro Entrepreneurship and most of the seler from the interview has been there for more than 10 years, so these seller is a lower income trap, because they cannot increase skill to increase the revenue or income. As we thought that Indonesia has Go-pay and OVO and Dana, but the reality the seller haven't have account bank, and never have loan at Bank and do not have a social media, and mostly communicate with sms and most of the seller 32 % is woman dan 68 % is man by using The Business Intelligent. In order to be clear about the segmentation among these seller, then Data mining with machine learning can do that and by using the machine learning with clustering method on the respondent's profile using k-means, in within cluster sum of squares by cluster is 76 %, and it can be seen that the respondent's profile which will increase the intention to use mobile payment is that the total sales are at most under 500 thousand, then the most education in clusters 1 and 3 is at the level of SMA is about 63 percent and the rest are elementary school graduates, and the network that is most widely used is Indosat and the number of suppliers is 1-3 and the number of customers is between 2-10 customers and the last gender is mostly male.

Keywords: Business Intelligent; Data mining; Clustering; K-mean

1. Introduction

Micro businesses Indonesia reach 12 million market traders in Indonesia according to data from the DPP of the Indonesian Market Traders Association. According to BPS data, market traders in Indonesia in 2019 there were 15,567 traditional markets in Indonesia with a total of 2,818,216 market traders. During the pandemic, 43 percent of market traders in Indonesia during the pandemic were closed because it was quiet. Therefore, the role of market traders and micro-enterprises in Indonesia is very large for the Indonesian economy. INAMIKRO is a non profit organization , that has objective to help a small and micro to have more awareness to digital business.

Micro, Small and Medium Enterprises (MSMEs), including traditional markets, have a very crucial role for the Indonesian economy. Of the approximately 64.2 million existing MSMEs, it is recorded that MSMEs contribute to Indonesia's GDP of more than 60%. (Anggraini, 2021). The Covid-19 pandemic also has an impact on MSMEs, especially market traders, where the government is making efforts to prevent the spread of Covid-19 by imposing PPKM (Enforcement of Community Activity Restrictions) which prevents people from crowding in one particular location, and for that the market is a place where this happens. buying and selling transactions, and the COVID-19 pandemic conditions, the government urges no cash exchange, in order to reduce the spread of covid-19. Therefore we need payment technology that can be done online. In order to change the habit of making transactions using cash, INAMIKRO has software that will help market traders to make transactions online, and also make payments online.

The problem that was caught by INAMIKRO from market traders was how to change the habits of these market traders in using technology-based applications, for that information technology literacy is needed to ensure that market traders can use payment technology and also borrow online. According to INAMIKRO, the needs of market traaders for access to technology are at the time of buying and selling transactions and also access to cpital. The ability to use computers will also increase work productivity, as researched by (Agus Tri Indah K, 2017).

Objective of the Research

The objective of this research is make an Descriptive analytics using descriptive statistics. In order to know the characteristics and the description of the small and micro bisnis in Pasar Jatinegara. So if the characteristics from the member of the Pasar Jatinegara and their acceptance of digital payment or digital marketing and mobile payment.

2. Literature Review

2.1 Data Mining Method

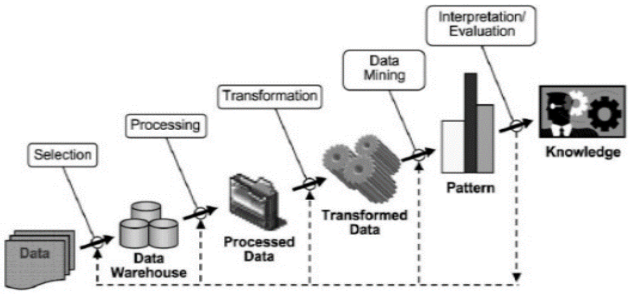
According to (Fatmawati, 2018) data mining is a process of finding useful new correlations, patterns or trends by mining a large number of data repositories, using pattern recognition such as statistics, and mathematical techniques, and the results of data mining can be divided into four groups. namely prediction models, clustering, association, estimation, classification.

2.1.1 Data Mining Processing Steps

According to (Fatmawati, 2018) said that the stages of the data mining process are starting from data selection from data sources to target data which are often referred to as datasets that are used as the basis for data processing, then the process is continued with data processing or data cleansing, here the data preparation begins for further processing, for example whether the data has number type or factor or date, and then the data in the data cleansing is also done by removing special characters, then after that the transformation is carried out, namely transforming the data from the cleansing data into the target data, the process then is to do data mining or data model based on a method that is suitable for the data, and the last is the process of interpreting the knowledge obtained from processing the data. And the data mining process stages can be seen in Figure 1. Data mining process steps.

Figure 1

Datamining process steps



2.1.2 k-Means and Clustering

According to (Fatmawati, 2018) clustering is the process of grouping data into several clusters or groups that have maximum similarity, data between clusters has minimal similarity.

According to Ledolter, J. (2013) observations on n units, $(x1, x2, \ldots, xn)$, with the observation on unit i representing a p-dimensional vector of features (attributes). The *k-means clustering* method partitions the n units into $k \leq n$ distinct clusters, $S = \{S1, S2, \ldots, Sk\}$, so as to minimize the within-cluster sum of squares

$$\arg\min_{s} \sum_{j=1}^{k} \sum_{xi \in Sj} ||xi - mj||^2 \quad (1)$$

3. Research Methodology and Result

This study uses two methods, the first is to use the Data Mining Method with a clustering algorithm to be able to group the respondent's profile. The second is a quantitative research method aimed at testing whether enthusiasm, anxiety has an effect on expertise in using computers and has an impact on intention to use technology. The data collected is 178 respondents who will be asked to market traders, where the data collection is using the google form. And the sampling technique is confinient sampling.

3.1 Business Intelligence

According to Sanjiv Jaggia (2021) Business analytics (data analytics) or Business Intelligent is involves extracting information and knowledge from data.

Table 1
Place of Business

Place To Business	Total
KP SUKAPURA	2
KP. MELAYU	1
Pasar Jatinegara	174
Sukapura Rw.002	1
Grand Total	178

From Table 1, The Place of Business mostly from Pasar Jatinegara Jakarta, 97% from all respondent from there.

Table 2
Types of Business

Types of Business	Total
Fashion	35
Alat-Alat Rumah Tangga (Ember, Plastik dll)	24
Makanan siap saji	17
Ikan Hias	11
Sembako	9
Buah buahan	3
kacamata	3
Kosmetik	3
Minuman	3
Pakan Hewan	3
Warmindo	3
Alat listrik	2
Buah buahan	2
Daging dan Ikan	2
Frozen Food	2
Gordeng	2
Kurma	2
Payung	2
Sendal	2
Sepatu	2
Warkop	2
aquarium	2
Alas Kaki	1
Alat tulis kantor	1
Atk	1
Bakso	1

From Table 2, the place of business mostly fashion and home appliance from Pasar Jatinegara Jakarta, 42 % from all respondent from there.

Table 3
Total Sales

Total Sales	Total
1 juta–2 juta	5
2 juta–5 juta	4
500 ribu–1 juta	70
Di bawah 500 ribu	99

From Table 3, Total Sales of Business mostly under Five Thousand Rupiahs or 55% per day and 39% between five thousand rupiahs per day until one million rupiahs per day

Table 4
Total Sales and Types of Business

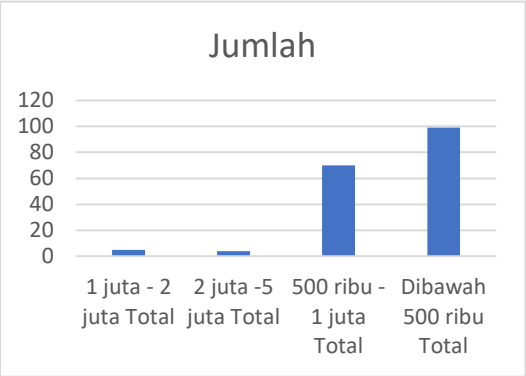
Total Sales	Types of Business	Total
1 juta - 2 juta	aquarium	1
	Fashion	3
	kacamata	1
1 juta - 2 juta Total		5
2 juta -5 juta	Alat tulis kantor	1
	Alat-Alat Rumah Tangga (Ember, Plastik dll)	1
	material bangunan	1
	Sate keroncong	1
2 juta -5 juta Total		4
500 ribu - 1 juta	Alat listrik	2
	Alat-Alat Rumah Tangga (Ember, Plastik dll)	9
	bengkel	1
	Besi	1
	Buah buahan	1
	catering	1
	Coffee Shop	1
	Daging dan Ikan	2
	Fashion	18
	Frozen Food	1
	Gordeng	1
	gordeng (perlengkaoan rumah)	1
	Ikan Hias	1
	Ikan hias, pakan, aquarium	1
	Jas Hujan	1
	jasa laundry baju	1
	kacamata	1
	Kandang Hewan	1
	Kolang Kaling	1
	Kosmetik	2
	Kurma	2
	Makanan siap saji	4
	Minuman	1

	Optik	1
	Pakan Hewan	2
	Pakan ikan	1
	Perlengkapan Rumah Tangga (Gorgyn)	1
	Sembako	6
	Sepatu	1
	service pompa	1
	sparepart	1
	Warmindo	1
500 ribu - 1 juta Total		70
Dibawah 500 ribu	Air galon isi ulang	1
	Alas Kaki	1
	Alat-Alat Rumah Tangga (Ember, Plastik dll)	14
	Aquarium	1
	Atk	1
	Bakso	1
	Buah	1
	Buah buahan	2
	Buah buahan	2
	Bumbu-Bumbu	1
	Fashion	14
	Frozen Food	1
	Gordeng	1
	Gorgyn	1
	Ikan Hias	10
	jumini	1
	kacamata	1
	Kedai makanan	1
	Kedai Minuman	1
	Kelapa Ijo	1
	Kosmetik	1
	kue	1
	Makanan	1
	Makanan & Minuman	1
	Makanan siap saji	13
	Minuman	2
	Pakan Hewan	1
	Pakan Ternak	1
	Payung	2
	Pisau, dll	1
	Sabun	1
	sate	1
	Sayur Mayur	1
	Sembako	3
	Sendal	2
	Sendal & Sepatu	1

	Sepatu	1
	Servis pompa	1
	Skincare	1
	Toko Buku	1
	Underwear	1
	Warkop	2
	Warmindo	2
	Total	99

Range Penjualan	Jumlah
1 juta–2 juta Total	5
2 juta–5 juta Total	4
500 ribu–1 juta Total	70
Di bawah 500 ribu Total	99

Figure 1
Range of total Sales per day



From Table 4 and figure 1, Total Sales of Business mostly and also the types of business that has revenue bellow under Five Thousand Rupiahs or 55% per day and 39 % between five thousand rupiahs per day until one million rupiahs per day. So there are the most of business at pasar Jatinegara are a micro business.

Table 5
Social Media

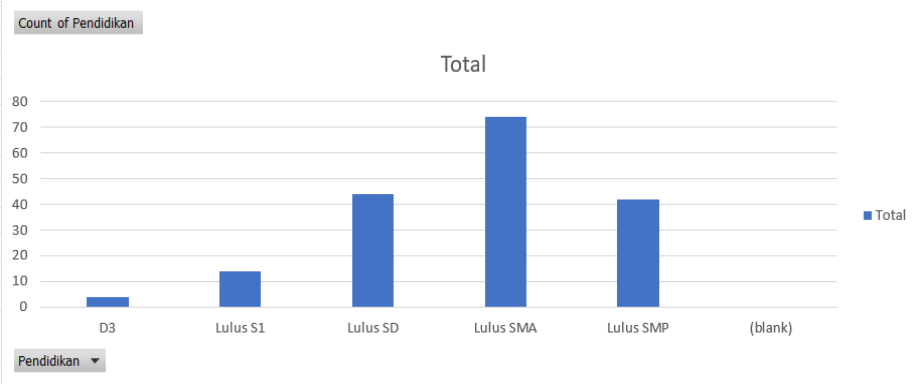
Social Media	Total
Facebook	1
Instagram	1
No	2
SMS	23
WA	151

From Table 5 Social Media that they use mostly SMS.

Table 6
Education

Education	Total
D3	4
Lulus S1	14

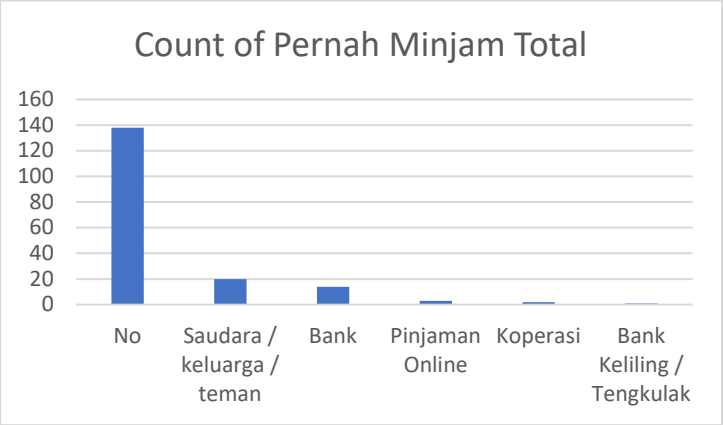
Lulus SD	44
Lulus SMA	74
Lulus SMP	42



From Table 6 Education mostly is 41% is high school and 24 % from elementary school and 23 % from junior high school

Table 7
Have Borrowed

Have Borrowed	Total
No	138
Saudara / keluarga / teman	20
Bank	14
Pinjaman Online	3
Koperasi	2
Bank Keliling / Tengkulak	1



From Table 7 most of them never borrow and is only 11 % had borrowed form family and 7,8 % had borrowed from Bank.

Table 8
Gender

Count of JK		
JK	Um	Total
Pria	21	1
	24	1
	26	1
	27	1
	28	3
	30	2
	31	1
	32	5
	33	3
	34	4
	35	3
	36	4
	37	6
	38	5
	39	3
	40	3
	41	3
	42	3
	43	3
	44	7
	45	4
	47	3
	48	3
	49	2
	50	5
	51	2
	52	3
	53	2
	54	1
	55	5
	56	6
	57	2
	58	2
	60	2
	61	3
	62	1
	63	4
	64	2
	65	3
	66	1
	67	1
	71	1
Pria Total		120

Wanita	20	1
	22	1
	24	2
	25	1
	29	2
	30	1
	31	1
	34	1
	35	1
	36	3
	38	2
	39	2
	40	1
	41	1
	42	1
	43	4
	44	2
	45	3
	46	2
	47	2
	48	1
	49	2
	50	4
	51	3
	52	4
	54	2
	60	2
	62	2
	63	1
	64	2
	69	1
Wanita Total		58
(blank)	(blank)	
(blank) Total		
Grand Total		178

From Table 8 most of the seller 32 % is woman dan 68 % is man.

4. Discussion

4.1 Businesss Intelligence

From Table 1 to 8 , from the data the micro entrepreneur at Pasar Jatinegara mostly is fashion garmen and also home appliances and the rest is a food and bererage, and sales total for a month 55% is below five hundreds rupiahs and 39 % is from range five hundreds until one million a day, and its conclude the Micro Entrepreneurship and most of the seler from the interview has been there for more than 10 years, so these seller

is a lower income trap, because they cannot increase skill to increase the revenue or income. As we thought that Indonesia has Go-pay and OVO and Dana, but the reality the seller haven't have account bank, and never have loan at Bank and do not have a social media, and mostly communicate with sms and most of the seller 32 % is woman dan 68 % is man. In order to be clear about the segmentation among these seller, this research using Data mining to make clustering for customer segmentation and also the characteristics of these segmentation.

4.2 Data Mining Process

According to (Achmadi et al., 2022)Of the 23 variables from the initial question from the respondent's profile, coding is carried out first as in for each choices that it is not number, Its will converts all alphabet into numberic number , dan it call it a coding process.

After that, multiple regression is carried out to be able to assess what data has an effect on the Intention to use mobile payment and the regression results are obtained, and only the positive coefficients will be selected without seeing significant or not so that more comprehensive characteristics can be obtained, then there are 7 data that will be collected. used for clustering, namely education, number of suppliers, gender, total sales, network and ever borrowed, and the number of customers such as Table 3 Multiple Regression, to be parameters for making clusters using the k-means method with R Squared is 0.395259739.

Table 9
Multiple Regression and R Square

	Coefficients	*t Stat*	*P-value*
Intercept	1.635953232	5.691482	5.40905E-08
Pendidikan	0.342579333	5.650773	6.60522E-08
Jml_Sup	0.306119388	5.580847	9.28985E-08
JK	0.204478726	1.462609	0.145420667
Tot_Penj	0.094011357	0.892093	0.373603816
Jaringan	0.027494558	0.758793	0.449026988
Pernah_Minjam	0.027295046	0.879901	0.380155001
Jum_Pel	0.00592322	0.608369	0.543754579
R Square	0.395259739		

After that, only using the R Studio program in conducting the clustering method with k-means, so that after clustering, 3 large groups of respondents will be obtained, namely cluster 1, cluster 2 and cluster 3. After processing, the data is obtained as below and Within cluster sum of squares by cluster is 76 %, using R Studio.

```
library(ggplot2)
library(cluster)
library(factoextra)


R.Version()

univ<-read.csv2(file.choose())
univ
## first, clustering on just Red and White meat (p=2) and k=3
## clusters
numberik<-univ[3:6]
View(numberik)
dataclus<-na.omit(numberik)

datafix<-scale(dataclus)
head(datafix)

fviz_nbclust(datafix,kmeans,method='wss') ##K=2
fviz_nbclust(datafix,kmeans,method='silhouette')## K=2
```

```
set.seed(9999)
gap_stat<-clusGap(datafix,FUN=kmeans, nstart=25, K.max=10, B=180)
fviz_gap_stat(gap_stat)

final<-kmeans(datafix,3,nstart=25)
print(final)

Clustering vector:
  1   2   3   4   5   6   7   8   9  10  11  12  13  14
  2   2   2   2   2   2   2   1   1   2   3   2   2   2
 15  16  17  18  19  20  21  22  23  24  25  26  27  28
  3   3   3   2   3   1   2   2   2   2   2   3   3   3
 29  30  31  32  33  34  35  36  37  38  39  40  41  42
  3   3   3   2   2   2   2   3   3   1   2   3   1   2
 43  44  45  46  47  48  49  50  51  52  53  54  55  56
  1   2   3   3   3   3   2   2   2   3   2   3   3   1
 57  58  59  60  61  62  63  64  65  66  67  68  69  70
  1   3   2   2   3   3   1   2   3   2   2   3   2   3
 71  72  73  74  75  76  77  78  79  80  81  82  83  84
  2   2   2   3   3   3   2   2   1   3   2   3   1   3
 85  86  87  88  89  90  91  92  93  94  95  96  97  98
  2   3   2   3   3   2   3   2   3   2   3   2   3   1
 99 100 101 102 103 104 105 106 107 108 109 110 111 112
  1   2   1   3   1   3   2   2   2   2   2   1   3   2
113 114 115 116 117 118 119 120 121 122 123 124 125 126
  2   2   3   2   2   2   2   2   2   1   2   2   3   3
127 128 129 130 131 132 133 134 135 136 137 138 139 140
  2   1   1   2   2   1   3   2   2   2   2   2   2   1
141 142 143 144 145 146 147 148 149 150 151 152 153 154
  2   2   1   2   3   2   2   1   3   2   2   2   2   2
155 156 157 158 159 160 161 162 163 164 165 166 167 168
  2   3   2   2   1   1   1   3   1   1   2   2   3   3
169 170 171 172 173 174 175 176 177 178
  2   2   1   1   2   3   1   3   3   1

Within cluster sum of squares by cluster:
[1] 22.88889 35.80583 33.06061
 (between_SS / total_SS =  76.0 %)
```

Table 4
Clustering of Respondents

Cluster	Kode	Tot_penj	Pendidikan	Jaringan	Jml_Sup	Jum_Pel	Pernah Minjam	JK
Cluster 1	1	46	8	24	5	0	55	44
Cluster 1	2	28	16	11	24	2	0	35
Cluster 1	3	4	44	3	10	17	2	
Cluster 1	4	1	3	35	0	9	1	
Cluster 1	5		8	6	0	42	0	
Cluster 1	6			0			15	
Cluster 1	7			2			5	
Cluster 1	8			1			0	
Cluster 2	1	42	33	21	6		66	60
Cluster 2	2	31	19	6	21	8	1	13
Cluster 2	3		19	1	3		3	
Cluster 2	4			31				
Cluster 2	5			9				
Cluster 2	6			1				
Cluster 2	7			2				
Cluster 2	8			2				
Cluster 3	1	10	2	8	0		14	15
Cluster 3	2	10	7	1	5		0	9
Cluster 3	3	1	10	0	6		1	
Cluster 3	4	3	1	11	4			
Cluster 3	5		4	2	1		2	
Cluster 3	6			0			2	
Cluster 3	7			1			5	
Cluster 3	8			1		1		
Cluster 3	10					21		
Cluster 3	15					1		
Cluster 3	20					1		

From the results of table 4 Clustering of Respondents, we get results that give a similar pattern between cluster 1, cluster 2 and cluster 3, namely, firstly, the total sales at most are under 500 thousand, then the most education in clusters 1 and 3 is at SMA level is around 63 percent and the rest are elementary school graduates, and the network that is most widely used is Indosat and the number of suppliers is 1-3 and the number of customers is between 2-10 customers and the last gender is mostly male.

5. Conclusion and Suggestion

From the results of machine learning by using clusterimg on the respondent's profile using k-means, in within cluster sum of squares by cluster is 76 %, it can be seen that the respondent's profile which will increase the intention to use mobile payment is that the total sales are at most under 500 thousand, then the most education in clusters 1 and 3 is at the level of SMA is about 63 percent and the rest are elementary school graduates, and the network that is most widely used is Indosat and the number of suppliers is 1-3 and the number of customers is between 2-10 customers and the last gender is mostly male.The limitation of this research is that this research has only been conducted in 2 big markets in Jakarta, so later it can be carried out outside Jakarta, especially outside Java.

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Influencing Factors of Repurchase Intention on Online Food Delivery Service in Indonesia

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Abstract. The purpose of this study was to determine the factors that influence repurchase intentions at online food delivery services in Indonesia. This study uses a quantitative study method with a cross-sectional approach with purposive sampling as the sampling technique. The sample of this research is ShopeeFood users who live in Greater Jakarta and are less than 40 years old. This study found that several factors influence repurchase intentions at Shopee Food, such as performance expectancy, habit, impulsive buying tendency, and openness to novelty. Impulse buying tendency was the most substantial factor influencing repurchase intention. Furthermore, congruity to self-image is not proven to have a significant positive effect on repurchase intention. This research only focuses on how certain factors influence the repurchase intention of Generation Y and Z OFDS consumers. So further research is needed to examine other internal and external factors. This research provides information on ShopeeFood management in making managerial decisions.

Keywords: *repurchase intention; online food delivery system; impulse buying; performance expectancy*

1. Introduction

The development of online shopping technology is currently not only centered on e-commerce but has also penetrated online services such as online transportation and online food delivery systems (Chang et al., 2014). Online food delivery system technology has increased since the Covid 19 pandemic. These services make it easier for customers to choose and buy food. The COVID-19 pandemic has changed the pattern of people's lives, especially in terms of the need for technology. More and more new technologies are emerging and used by the community to support their needs, one of which is the presence of OFDS.

There are three platforms of online food delivery systems that dominate the food delivery market in Indonesia, namely Grab (49%), Gojek (43%), and Shopee Food (8%). The competitive landscape in Indonesia continues to be dynamic, with the presence of new platforms (Shopee Food) that can attract consumer interest. ShopeeFood as a newcomer should understand what factors can affect customer repurchase to survive in the online food delivery system competition with GrabFood and GoFood.

The price war and massive discounts that initially only lasted between the two business giants, GrabFood and GoFood, are now being followed by ShopeeFood. Snapcart Indonesia (2021) shows that ShopeeFood is still lagging behind GoFood and GrabFood regarding brand awareness, popularity, and consumer and merchant preferences for using food-delivery services. Based on the red ocean market phenomenon that occurs in OFDS, which is shown through intense competition, price wars, and large companies fighting for the same market share, it is important to examine the factors that influence repurchase intention on OFDS, especially ShopeeFood which is relatively new compared to OFDS which has already been established. ShopeeFood as a newcomer entering the market, must struggle to compete in the OFDS market.

Based on the explanation above, this study aims to identify the determinants of intention to reuse the Shopefood application. In particular, this study uses UTAUT2 (Unified Theory of Acceptance and Use of Technology 2) for empirical analysis. However, in the search that has been carried out, no research discusses explicitly the factors that influence consumer repurchase intention, especially in the context of newcomer OFDS. Furthermore, previous studies only tested consumer intentions toward OFDS services (Gunden et al., 2020; Yeo et al., 2017). OFDS is still limited to several categories, therefore, this study aims to fill the research gap by creating a conceptual model that explores the factors that influence repurchase intention in the OFDS context by analyzing the role of performance expectancy, habits, impulse buying tendencies, congruity with consumer self-

image, and consumer openness to novelty toward repurchase intention in online service delivery system Shopee Food.

2. Literature Review

Repurchase Intention
Repurchase intention is the desire to buy something based on the previous buying experience. Repurchase intention is the process of purchasing goods or services from the same company (Hellier et al., 2003) based based on past purchase experiences.

Performance Expectancy
Performance Expectancy is the level where the use of technology will provide benefits for consumers in carrying out certain activities (Venkatesh et al., 2003). Performance expectancy is an individual's perception that the use of the system will improve performance. Previous research has shown that performance expectancy has a positive effect on repurchase intention. Muangmee et al., (2021) found that PE has a positive effect on repurchase intention in OFDS in Bangkok. This result is also supported by Gunden et al. (2020) in OFDS in the United States. Based on the description above, thus:
H1: Performance Expectancy has a positive effect on repurchase intention.

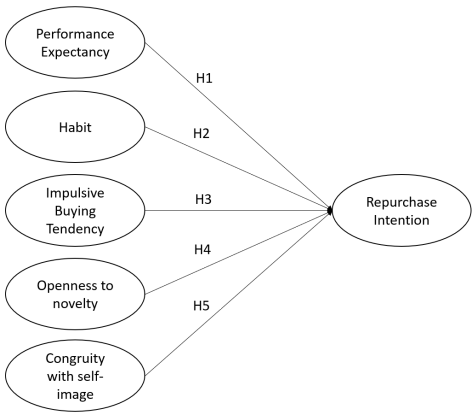
Habit
Habits describe consumers' use of information systems on an ongoing basis. This is driven by satisfaction from previous purchasing experiences (Khalifa & Liu, 2007). Habits are shown through the extent to which individuals tend to perform behaviors automatically due to the learning process (Limayem et al., 2007). Mobile apps are expected to continue to use the system if there is a pattern of habitual behavior toward the application (Hsiao et al., 2016). Habit is also defined as repeating something continuously in the same activity. Individuals can make habits without thinking about them first because they are embedded in the soul and become personal. Previous studies have shown that habit has a positive effect on repurchase intention. Lee et al. (2019) found that habit has a positive effect on repurchase intention on OFDS in South Korea. Urueña-López et al. (2012) found that satisfaction and habit are the main predictors of online repurchase intention in the e-commerce business in Spanyol. Based on the description above, thus:
H2: Habit has a positive effect on repurchase intention.

Impulsive Buying Tendency
Impulsive buying tendency has been defined as the degree to which a person allows inadvertent, immediate, and non-reflective behavior (Beatty & Ferrell, 1998). Gunden et al. (2020) found that customer purchase intention is influenced by impulsive buying tendency. Goel et al. (2022) stated that *e-impulse buying tendencies* (e-IBT) has a positive effect on satisfaction and repurchase intention. Based on the description above, thus:
H3: Impulsive Buying Tendency has a positive effect on repurchase intention.

Openness to Novelty
Openness to novelty describes how individuals pay attention to and obtain new information, events, and experiences. Gunden et al. (2020) stated that this relates to memories that require maintenance, awareness of past experiences, and knowledge gained. Openness to novelty is an individual interested in something new and desires to know and try something new. Individuals with this trait tend to be more creative, imaginative, and intellectual, have high curiosity, are broad-minded, very open, curious, and sensitive to artistic things. Conversely, those who are not open tend to be conventional and feel comfortable with existing things. Based on the description above, thus:
H4: Openness to novelty has a positive effect on repurchase intention.

Congruity with Self-Image
Self-image congruence is important to OFDS as a food service (Jeong & Jang, 2018) and has influencing purchase intentions. According to Yu, Lin, & Chen (2013), congruity with self-image has an effect on the purchase intention of internet users in many countries. The stronger congruity with self-image the stronger customer repurchase intention in online food delivery systems (Gunden et al., 2020). Foster (2019) and Khalid et al. (2018) also found that congruity with self-image has a positive effect on the repurchase intention. Based on the description above, thus:
H5**:** Congruity with Self-Image has a positive effect on repurchase intention.

Figure 1
Conceptual Framework



Source: Gunden et al. (2020)
.

3. Research Methodology

This research uses a quantitative study method with a cross-sectional approach. The sampling method used is purposive sampling, with the respondents' criteria individu who have order food using ShopeeFood and are less than 40 years old. According to (Sarstedt et al., 2019), determining the number of samples, which is considered representative, depends on the number of research indicators multiplied by 5 to 10. The number of samples in this study is 25 indicators multiplied by 7 to produce 175 samples. Based on these calculations, the minimum sample needed to be collected is 175 respondents.

This study uses a significance level of 5% (Sekaran et al., 2013), Hypothesis testing is carried out in one direction (one-tailed) with t-statistic >1,65. PLS-SEM analysis using SMART PLS version 3.3 software. This is considered because the software includes a basic and advanced menu (Ringle et al., 2015). The results of the PLS-SEM test will produce two models: the outer model (measurement model) and the inner model (structural model). The outer model will test the reliability and validity of the construct indicators. While the inner model will show the relationship between constructs and test the influence between constructs with coefficient analysis.

4. Results and Discussion

There are 196 respondents in this study, and their profiles can be seen in table 1.

Tabel 1
Respondent Profile

Item	Total	Persentage
Gender:		
• Male	85	43.36%
• Female	111	56.63%
Age of Respondent:		
• <21 years old	24	12.24%
• 21–30 years old	170	86.73%
• 31–40 years old	2	1.02%
Location		
• Jakarta	99	50.51%
• Depok	1	0.51%
• Tangerang	94	47.96%
• Bekasi	5	2.55%

The validity and reliability testing results are shown in Table 2. All indicators have an outer loading value from PE, Habit. Impulsive Buying Tendency, congruency with self-image and repurchase intention above 0.4, and the

composite reliability (CR) value above 0.7 for all variables and average variance extracted (AVE) value for all variables is above 0.5. This means that all variables and indicators in this study is valid and reliable.

Table 2
Validity and Reliability Testing

Constructs & items	*Outer Loading*
PE (CR=0.905/AVE=0.578)	
PE1	0.481
PE2	0.593
PE3	0.786
PE4	0.451
PE5	0,794
PE6	0.463
PE7	0.548
Habit (CR=0.939/AVE=0.741)	
KEB1	0.885
KEB2	0.840
KEB3	0.870
KEB4	0.847
Impulsive Buying Tendency (IMP) (CR=0.935/AVE=0.708)	
IMP1	0.833
IMP2	0.869
IMP3	0.846
IMP4	0.856
IMP5	0.802
Openness to novelty (KB) (CR=0.945/AVE=0.769)	
KB1	0.857
KB2	0.858
KB3	0.914
Congruency with self-image (KC) (CR=0.956/AVE=0.884)	
KC1	0.941
KC3	0.939
Repurchase Intention (CR=0.901/AVE=0.629)	
PI1	0.671
PI2	0.815
PI3	0.827
PI4	0.847

Notes. CR= Composite Reliability; AVE= average variance extracted.

Table 3
Discriminant Validity Testing

	IMP	KB	KC	KEB	PE	PI
IMP	0.842					
KB	0.587	0.877				
KC	0.670	0.755	0.840			
KEB	0.584	0.712	0.810	0.861		
PE	0.283	0.456	0.429	0.439	0.603	
PI	0.564	0.591	0.532	0.570	0.444	0.793

In Multicollinearity testing, there is no multicollinearity efect in this study. It can be seen that all constructs have values below 0.9 when correlated with other constructs. Thus, all construct indicators in this study have been discriminated against properly, so they can measure each construct according to Table 4. It can be seen that all variables have a VIF value below five so it can be concluded that there is no indication of collinearity in this research model and can be continued with the evaluation of the inner model. to the next stage.

Table 4
Variance Inflation Factor

	IMP	KB	KC	KEB	PE	PI
IMP						1.874
KB						2.668
KC						4.010
KEB						3.197
PE						1.308
PI						

Table 5
R-square

	R Square	*R Square Adjusted*
PI	0.478	0.465

Repurchase intention as the dependent variable in this study has an R-square of 0.478 and thus is included in the moderate category. This means that the repurchase intention variable can be explained by 47.8% by performance expectancy, habit, impulsive buying tendency, congruity with self-image and openness to novelty The remaining 52.2% is influenced by any factors not included in this study.

Table 6
Hypothesis Testing Results

	Hypothesis	StandardizedCoefficient	t-statistics	Result
H1	Performance Expectancy has a positive effect on repurchase intention.	0.190	2.548	Accepted
H2	Habit has a positive effect on repurchase intention.	0.258	1.995	Accepted
H3	Impulsive Buying Tendency has a positive effect on repurchase intention	0.316	3.665	Accepted
H4	Openness to novelty has a positive effect on repurchase intention	0.255	2.245	Accepted
H5	Congruity with Self-Image has a positive effect on repurchase intention.	-0.161	1.078	Rejected

Table 6 shows that Performance Expectancy has a positive effect on repurchase intention. This result supported by previous research (Chou & Chen, 2018; Gunden et al., 2020). Habit has a positive effect on repurchase intention. This result supported by previous reserach (Lee et al., 2019; Urueña-López et al., 2012). Impulsive Buying Tendency has a positive effect on repurchase intention. This result supported by previous reseach (Chung et al., 2017; Gunden et al., 2020). Openness to novelty has a positive effect on repurchase intention. This result supported by previous research (Jang & Feng, 2007; Lixăndroiu et al., 2021). Congruity with Self-Image has no effect on repurchase intention. Based on congruity with self-image descriptive statistical analysis results, respondents have a good response on congruity with self-image with Shopee Food, but it does not affect repurchase intention. This result could be because Shopee Food is a newcomer to online food delivery service in Indonesia, different from other competitors such as GoFood and Grab Food, which has been around for a long time in Indonesia.

5. Conclusion, Managerial Implication, Theoretical Implication, and Suggestion to Future Research

The conclusions of this research are Performance Expectancy has a positive effect on repurchase intention, Habit has a positive effect on repurchase intention, Impulsive Buying Tendency has a positive effect on repurchase intention, Openness to novelty has a positive effect on repurchase intention, and Congruity with Self-Image has no effect on repurchase intention.

This study succeeded in supporting the results of previous studies, which found that performance expectancy, habit, impulsive buying tendency, and openness to novelty positively affect repurchase intention. Performance expectancy, habit, impulsive buying tendency, and openness to novelty are essential factors in increasing

repurchase intention in the online food delivery service industry. Therefore, online food delivery service business managers need to pay attention to and improve these factors in their business activities.

Further research suggests doing the same research in several other big cities in Indonesia, such as Medan, Surabaya, and others. Using other online food service delivery platforms such as Go Food and Grab Food to test whether congruity with self-image affects repurchase intention.

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The Impact of Functional Brand Qualities and Intangible Brand Qualities Towards Perceived Value for Millennials in Indonesia

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Abstract. Purpose – The role of functional brand qualities of brand innovation and quality and intangible or symbolic brand qualities of brand experience and brand personality are considered key theoretical constructs in branding. However, this study explores and understands the degree of impact that functional brand qualities have on intangible brand qualities and how both functional and intangible brand qualities ultimately contribute to perceived values.
Methodology – This study applies the conceptual model to a specific brand within a specified demographic, with Apple being the specific brand. A specific sample of 253 Millennial Apple users between ages 20 to 40 in Indonesia was collected through non-probability judgmental (purposive) sampling. The majorities of respondents are from DKI Jakarta and make up 58.50% of the total respondents. This is seconded by 16.21% of respondents from the Banten province and 13.83% of respondents from West Java. The rest of the respondents are dispersed around Indonesia and are found in other parts of Java, Sulawesi, Sumatra, and Papua. All of the data is processed using SmartPLS ver. 3.3.2 software.
Findings – Findings from this research have shown the significance of the direct impact that brand innovation has on perceived quality, brand experience, and brand personality, yet brand innovation does not have much direct impact on perceived value. Moreover, perceived quality also significantly impacts brand experience and perceived value, yet not so much towards brand personality. Brand experience also shows a significant impact on brand personality and perceived value. However, brand personality does not show a significant impact on perceived value
Originality – Originality produces new knowledge without repeating what has already been done by others.

Keywords: Exchange rate; Gini coefficient; Bound testing analysis

1. Introduction

Brands are considered to be "one of the most valuable intangible assets that companies have" (Coelho et al., 2020; Keller & Lehmann, 2006) that can be considerably difficult to create, develop and manage. These intangible assets are also a source of numerous benefits for both companies and consumers (Coelho et al., 2020; Ahuvia, 2005; Keller & Lehmann, 2006; (Kotler, 2003) that there have been extensive efforts to research and investigate upon the core mechanisms of brand management. As the primary part of brand management, companies work towards differentiating their brand in a competitive marketplace. These efforts not only mean managing the physical and functional aspects of the brand design but also includes the intangible aspects that are represented in the beliefs and attitudes of the brand that is perceived by the consumers. Brand anthropomorphisation concerns the attribution of human characteristics to brands (Puzakova et al., 2013). The overall scope of brand anthropomorphisation ties consumption together with the consumers' need for self-expression. Efforts to attribute these human characteristics allows companies to understand how humans develop human-related feelings to their brand (Coelho et al., 2020; Carroll & Ahuvia, 2006; Rauschnabel et al., 2016). Brand personality is a facet of an anthropomorphized brand (Coelho et al., 2020; Puzakova et al., 2009), and refers to the personality traits or human values that a brand may take on during their marketing activities, or be perceived through the consumer experience (Plummer, 2000). Establishing a strong brand personality may also include the creation of personalized brand characters as part of the brand element, such as Ronald McDonald and the Michelin Man, or with the use of spokespersons or brand ambassadors such as Taiwanese rapper and musician Jay Chou with Liang Sandwich Bar. Tying the brand together with a fictional character or a spokesperson helps to humanize the brands and connect them with consumers. Brand experience stems from the concept of experiential marketing, which communicates and connects both a product's features and benefits to the consumer experience and is the key for the development of consumer-brand relationships (Andreini et al., 2018). This construct comes with the following notion: "The idea is not to sell something, but to demonstrate

how a brand can enrich a customer's life." Brand experience focuses on the feelings, sensations, cognitions, and behaviors produced in consumers (Brakus et al., 2009), which can be evoked through the use of colors, shapes, slogans, and more. We aim to revisit and test a model that explores the impact of investments in quality and innovation to help build brand personality and experience, and how it leads to developing stronger relationships between brands and consumers. This builds upon past research that has explored how brand personality and experience impacts the performance of a company, as well as past research that investigated upon how brand experience and personality can be shaped through investing in intangible qualities, while setting aside functional qualities. We also intend to look into the impact of investments in quality and innovation in consumer technology, particularly with Apple Inc., with an aim to shed light on whether these functional aspects relate to the more symbolic brand qualities, such as the likes of brand personality and experience, of consumer technology brands.(Coelho et al., 2020)

As the smartphone industry enters into the mature stage, only a few key players can sustain their presence and become the market leader in their particular way. Aside from their products' quality and specifications, branding has impacted how these companies excel next to their competitors. This rings true to consumer technology's general scope, ranging from smartphones, laptops, video game consoles to televisions and sound systems. As consumers are likely to uphold the way they portray themselves with certain values, principles, and styles of choice, they become more likely to choose brands that align with their character.(Simonin, 2014.) No matter how good the product is in its specifications, people can still set the product aside given that the company takes on a branding strategy or message that does not suit who they are. An example to consider would be Samsung, the Korean consumer technology giant that is now known to provide top-of-the-line smartphones. Samsung has become a leading innovator in the smartphone form factor, with their latest release of their foldable and curved screen technology (Samsung Report, 2020.). By taking the lead in innovation, Samsung can create its premium image with a premium price tag for its products. However, Samsung's competitors, such as the likes of Xiaomi, who may have a similar product line with nearly the same quality, yet despite their quality and innovation, they are also perceived by consumers as a company that offers the latest technology at a much lower, more affordable price.(Martin Roll, 2017.)

Apple has been a long-time player in the consumer technology industry, especially after revolutionizing its branding strategy in 2001 by simplifying its product line under then-CEO Steve Jobs. Today, the company has found success in providing a simple value offering by continuing this strategy. In terms of branding, Apple has positioned itself as a consumer technology provider that appears simple and seamless, providing no hassle for both the technology enthusiasts and mainstream users (Fell, 2011). Having both software and hardware engineered and developed internally, Apple is set to create a unique advantage where no other company can achieve. The company has also poured a sizable amount of its budget on research and development. Like Samsung, it also takes the title of being a lead innovator in the industry. As such, Apple can charge consumers at a premium price, with the promise of high-quality products that have attention to detail and consistently providing new technology for mass consumers, along with unique software that cannot be found elsewhere.(Marketing Minds, 2021.)

In the United States, Apple is seen more as a necessity that fits their technological ecosystem. For example, iMessage is a messaging service between iOS and macOS users. Many people in the United States have used iMessage more so than other instant messaging applications such as WhatsApp or Telegram (Privacy - Features - Apple, 2021.). The common usage of iMessage drives the need for those in the United States to purchase Apple devices (Statista, 2020.). This phenomenon with iMessage resonates similarly to Indonesia. The nation's usage of Blackberry smartphones and Blackberry Messenger between 2010 to 2015 as the main smartphone device that the mainstream consumers commonly use before trends shifted to touchscreen smartphones such as the Samsung Galaxy series, the iPhone, and more. Moreover, Apple products have strong synergy between its product lines, such as the Apple Watch that can seamlessly synchronize and communicate with the iPhone and have the iPhone be synchronous with the Macbook or iMac. This creates a network effect where consumers who purchase one Apple device can lead to another device's purchase to have a seamless ecosystem that is synchronous to the consumers' lifestyle. In terms of their pricing strategy in the United States, Apple is perceived to be far more reasonable in their price range, and at times may have collaborations with AT&T and Verizon as well (Pegoraro, 2020.). Apple's competitors in the United States have also set their product prices at a similar price range. As a result, Apple has achieved success in its home country. Figure 1.1 depicts the smartphone industry's market shares in the United States, with Apple competing in the industry through the sales of their iPhone. (Statista, 2020.). This particular situation in the United States does not resonate the same way in Indonesia, where GDP per capita is far lower, and that Apple is notably late to penetrate the country's smartphone market. Indonesians perceive Apple as a luxury brand, where their pricing is significantly higher than other competitors within the smartphone industry. Taking a closer look at the market share for smartphones in Indonesia, most sales come from Chinese brands such as Oppo/Vivo, Xiaomi, and Realme. These brands are far more cautious about pricing and therefore reduce the cost of production while also considering that Indonesians, albeit their heavily consumptive behavior, are also very price-sensitive when it comes to their

purchasing process. In Indonesia, Apple does not make it to the top five smartphone companies in terms of market share, with Oppo/Vivo taking the lead, followed by Samsung and Xiaomi/Realme (IDC Indonesia, 2020). This is evident in the figure 1.2: Indonesia Top 5 Smartphone Companies, 1Q20 Unit Market Shares.

Upon inspecting the company's smartphone product line, we can also establish the cost difference between Apple and their competitors in Indonesia. The graph below displays a stark contrast in the smartphone price ranges, with Apple having the biggest price range for their products and Xiaomi having the lowest price range. Apple has also received a greater number of sales in developed regions, such as the United States, China, Japan, and Europe. Apple appears to be more popular in countries with a higher GDP per capita, which is due to its relative affordability to those countries' purchasing power. Statistics gathered from (InsightPortal, 2016.). Adam Bates in (InsightPortal, 2016.) Showed a significant positive trend between GDP per capita and iOS/Android market share in several countries The brand has captured both technology enthusiasts and mainstream users within the smartphone market. In contrast to the United States, Apple has been regarded as a status symbol in Indonesia and is locally perceived to have a competent and sophisticated brand personality (Daulay et.al., 2018). Macbooks and the iPhone are coveted as the ideal device to own, despite how Indonesians may still be able to find more value from other higher-end competitors' products. In the United States and Europe, Apple consumers are mostly people who seek a device that works well without much hassle. As opposed to Google's Android and Microsoft's Windows systems, Apple's iOS and macOS devices are seamless, well-designed, and work harmoniously between hardware and software (The Verge, 2017). Its quality control is among the top and considered to be very reliable, designed with high consideration of detail. Thus, Apple products are perceived to be functionally fitting with various home and office environments without consumers having to experience too many technicalities in their user experience.(Marketing Minds, 2016.)

Apple has also been regarded as the company that will popularize technology and design. The company has been known to break the status quo and ignore competition in order to innovate and pave the way to the next generation of technological breakthroughs. An example of this was the introduction of Air Pods, truly wireless ear buds that were once mocked but are now the most popular form factor for earphones, spawning imitators and competition from competing brands. The company has also introduced a new smartphone design that stretches its screen fully within one side of the phone. Although the company was not the first to release such a phone, the first movers on this all-screen design has been inspired by Apple rumors. (Abidi, 2019). Apple's brand is all about simplicity and innovation. It has been one of the few companies that have pushed technology to the mainstream since Mac OS X's introduction in 2001 by blending both technologies with liberal arts. The first area that stands out as part of Apple's brand experience and brand personality would be its product design. Apple has given their technology a personality for their consumers. Before their product offerings, consumer technology products such as smartphones, tablets, computers, and smart watches were mostly technical and prioritized functionality. These consumer technology products did not blend well with fashion or general design. Apple has become the major influence of this movement to establish equal priority in functionality and visual appeal by creating a well-designed product with attention to detail. Their efforts to do so are reflected in both their hardware and software. In more recent years, Apple's mission statement has also considered the need for environmental sustainability. It thus has systemized the manufacturing of their products to minimize e-waste and only make use of clean energy (Marketing Minds, 2016.).

Furthermore, Apple's software design creates this harmonious experience between the hardware and software. There are five distinct operating systems: the iOS, iPadOS, macOS, watchOS, and tvOS, which all have been created to the highest degree of quality, touting minimal bugs and removing options that are too technical. Apple's "it just works" strategy has been reflected through the system to ensure that the mainstream users know how to use the system without confusing them. Both hardware and software have been developed with privacy in mind. Apple strongly values privacy, that consumers control the data that they own and that no other companies (including Apple themselves) have the right to view their consumers' personal information. The company has so far locked its ecosystem airtight to ensure that no apps or external websites can steal the user's private information without consent. Apple has so far disclosed their transparency report regarding government requests, including what was and what was not given to these agencies (Marketing Minds, 2016.) . Aside from products, Apple has also created both an online and offline retail experience that can capture the attention of the masses, reflecting the values and qualities of the company and contributing to their brand experience. Their online store is integrated into their website, to which visitors can purchase Apple products directly on their website in certain regions. Apple's retail business is also heavily focused on experience rather than the store, with no checkout counter as the salespersons have a more personalized approach to assist in the visitors' purchasing process, thus eliminating the need for queues and another extra hassle during the process (BusinessToday.In, 2019). Apple ties their brand closer to their company values and products and has communicated their brand clearly to mass consumers. Apple currently stands as the 2nd most valuable brand globally and is the number one technology brand in the world (Kantar, 2020.). With their creative approaches in promoting and elevating their brand, the company has continuously innovated in their product line, especially regarding their performance in the current state of the world where technology is strongly intertwined with

people's lives. Quoting their company's vision statement (Apple, 2019): "We believe that we are on the face of the earth to make great products, and that is not changing." The tech giant shows determination to deliver quality products for their consumers without compromising time and quality. This is how Apple has always been at the forefront of innovative solutions and determined to maintain the title of being a lead innovator in the respective industries they operate in (BrandonGaille.Com,2020).

As stated on their website, Apple's values include accessibility, education, environment, inclusion and diversity, privacy, and supplier responsibility (Arocha, 2017). These values give consumers a sense of what Apple believes in as the key factor in becoming a great technology company. For over 20 years, Apple has been critical about its principles as a quality-oriented company. To stay straight to these standards, the company assures that all of its operations within the value chain align with its own company values (BrandonGaille.Com,2020). The Indonesian smartphone industry is unique of its own. For review, the Indonesian market has a GDP growth of 5.2% (World Bank Data, 2020) and more business and jobs have enabled more consumers in Indonesia to have larger wealth allocation, which signifies the trend of increasing middle-class demographics. Smartphones and devices have also been adopted by many as there are over 171 million people in Indonesia who have been connected to the internet through mobile devices. (The Jakarta Post, 2019). One of the key drivers of growth of the internet population in Indonesia is the sales of budget smartphones. As technological supplies are getting cheaper, more affordable smartphones have been catching up with the higher-end smartphones to provide the same experience (APJII Survey, 2020.). This phenomenon has also been occurring on other Southeast Asian countries and India, where the market size is massive. Higher-end devices such as the iPhones and MacBooks will have to add key differentiation to their product offering, such as perceived brand value. This makes the company eligible to be considered as a luxury brand for the Indonesian consumer, where the purchase is considered more on emotional purchase rather than rational purchase, which explain why the pricing strategy in Indonesia does not consider cutting the price and instead focus on the premium market. As buying power increases, Apple and their resellers will enjoy high margin per goods sold without having to compete directly with low- and middle-class brands.

The critical significance in our choice to have Apple as the object of this research ties with the phenomenon of how consumers place a high value on Apple's brand and their products. In an article published by Detik.Com (Kristo, 2020.), Apple is noted to have consumers that are driven by fanaticism, which was proven through how iPhone sales still made record highs within Q3 of 2020, reaching over USD 26.4 million. Apple still performed well despite being in the middle of the COVID-19 pandemic and that over 70 brick and mortar stores were closed throughout the US (Apple, 2020) . Fanaticism as a driving force of perceived value ties with how consumers resonate with Apple's brand identity. The Apple brand personality is all about lifestyle; imagination; liberty regained; innovation; passion; hopes, dreams, and aspirations; and power-to-the-people through technology, while also considering simplicity; people-driven product design; and having a humanistic and heartfelt connection with their customers. Moreover, Apple is also known for its overall customer experience, which is a key factor that reinforces its brand experience. Apple delivers this through their products to match their brand promise altogether. (Marketingminds).

In Indonesia, Apple may not have achieved a significant market share in the consumer technology industry. However, it is worth noting that Apple products have been present in Indonesia's market since the late 2000s and that the brand is regarded highly by Indonesian consumers. This phenomenon has sparked the researcher's interest. There are two distinct perceptions of the Apple brand in developed countries such as the United States and developing countries such as Indonesia. The Apple brand is seen as an essential tech company selling quality technological devices on the former segment. The latter segment viewed the Apple brand as a premium company that sells luxury technological devices. This difference in brand perception has led Apple to explore different pricing strategies and explore new product mix to serve better in developing countries, such as launching more affordable devices such as the Apple Watch SE and the iPhone SE to boost overseas sales while leveraging its position as a premium brand.

Millennial Generation

According to Pew Research Center (Dimock, 2019), Millennials are often considered to be born between 1981 to 1996 (currently ages 24 to 39) as the widely accepted birth cohort, but CNN (2020) states that the generation can also be listed between 1980 to 2000 (currently ages 20 to 40) for research purposes. Millennials tend to be known for being the most educated generation compared to previous generations and are also the age group who created and embraced technology and technological innovations (Bleedorn, 2017). They are both the drivers and consumers of technology and are also 2.5x more likely to be early adopters (Barton et al., 2014.) Millennials are considered tech-savvy and are often bombarded by information with their capacity to innovate and adapt through technology. Also, Millennials managed to personalize technological devices and integrate them into their everyday life. As Millennials also love to interact with one another socially, one of the means of technology innovation is how technology has allowed people to connect with others from anywhere. Socializing no longer requires you to be present in front of one another (Bleedorn, 2017). From that, (ComScore, 2014)

states that Millennials spend an average of 96 hours a month on digital networks such as Facebook, Instagram, Twitter, and other social media sites. The current strategy for branding towards Millennials is rather different from previous generations. According *Millennial Marketing*, 2015) 62% of Millennials would be more likely to become loyal customers if a brand engages with them on social networks. Millennials also think highly of brands rooted in purpose and particularly aspire to brands that reflect a fundamental attitude, with a profound reason for being, and strive to change the world positively. With this in mind, Millennials also demand the good practice of corporate social responsibility and have their priorities focused on the genuineness, authenticity, and truth behind cause marketing and ethical business practices. (Forbes, 2018.)

Brand

The word brand begins from the Old Norse word *brand*, which means "to burn," and stems from the purpose of burning brands onto livestock animals in order to identify them (Interbrand Group, 1992). The American Marketing Association (AMA) defines the word brand as a "name, term, symbol, logo, or design, or a combination of them, intended to recognize the goods and services of one seller or group of sellers and to differentiate them from those of competition." (Keller & Swaminathan, 2013, p. 30) In other words, a brand is the combination of multiple elements that are used to identify and distinguish or differentiate products from one another. If a new design is created for or associated with a new product, then that is a whole new brand that has been created. However, many brand managers refer to a brand as something more than what the AMA describes. Brand managers emphasize how the product, the company's name, or other factors tied to the brand have a certain amount of awareness, prominence, and reputation in the marketplace (Keller & Swaminathan, 2013) Moreover, a brand also stands as being beyond just a product, as brands also have other dimensions that are differentiated from products. These dimensions pertain to the rational and tangible aspects tied to the brand's product performance or the emotional and intangible aspects tied to what the brand is trying to represent. (Keller & Swaminathan, 2013, p. 31).

Brand Resonance Model

The following are the steps of the brand resonance model (Keller & Swaminathan, 2013, p. 107): (1) Make sure that the identity and association of the brand in the customers' minds are in accordance with a specific product class, product benefit, or customer need, (2) Firmly establish the brand meaning in the minds of customers by linking tangible and intangible brand associations, (3) Evoke the right customer responses to the brand, and (4) Convert the brand responses to create brand resonance while also establishing an intense and active loyalty relationship between the brand and the customers. The four steps correspond to a set of questions that customers tend to ask about brands, and the four questions create a *branding ladder*, which are are as follows (Keller, 2013, p. 107): (1) Who are you? (Brand Identity), (2) What are you? (Brand Meaning), (3) What about you? What do I think or feel about you? (Brand Responses), and (4) What about you and me? What kind of association and how much of a connection would I like to have with you? (Brand Relationships). The process of building a brand includes the six brand building blocks (Keller & Swaminathan, 2013, p. 107-120) that is put together like a pyramid. The building process begins from the base of the pyramid that is *brand salience* which answers to the question of *brand identity* and has the objective to create a deep and broad brand awareness. Building on top of the base includes *brand performance* and *brand imagery*, with both answering to the second question of *brand meaning* and has the objective of identifying the points-of-parity and difference of the brand through the customer experience of the brand and other extrinsic properties of the brand that aims to satisfy the psychological or social needs. The next building blocks include *brand judgements* and *brand feelings*, which answers the third question of *brand responses* and aims to create positive, accessible reactions through the customers' personal opinions and evaluations of the brand and how they are emotionally responding to the brand. By satisfying all the building blocks mentioned, this will lead to *brand resonance*, the final building block that answers the question of *brand relationships* and has the objective of establishing an intense and active loyalty relationship between customers and brands. Brand resonance can be characterized in two ways: in terms of the intensity of the psychological bond customers have with the brand, or in terms of the level of activity between customers and the brand that stems from loyalty. The two dimensions are broken down into four categories as follows (Keller & Swaminathan, 2013, p. 120-121): 1) *Behavioral loyalty* refers to repeat purchases and the share of category volume that is attributed to the brand, 2) *Attitudinal attachment* refers to the customers' personal attachment to the brand, 3) *Sense of community* refers to how customers identify a brand with a community as a social phenomenon. This is where customers feel a kinship among each other or can be affiliated with other people that are either brand users or customers, employees, or representatives of the company, and 4) *Active engagement* refers to when customers are engaged with the brand, that customers are willing to invest time, energy, money, or expend other resources in the brand beyond the amount that has been expended while consuming the brand (Walker, 2008).

Theory of Customer-Based Brand Equity (CBBE)

Customer based brand equity (CBBE) is formally defined as the differential effect that brand knowledge has on consumer response to the marketing of that brand. (Keller, 2013) Essentially, brand equity under this definition is derived from the perspective of the consumer. Positive CBBE is portrayed through a favorable reaction from consumers when the brand is identified, whereas negative CBBE is exemplified when consumers react less favorably when the brand is identified and compared to an unknown or unnamed brand. The characteristics of customers of brands with positive CBB include the tendency to be more accepting towards new brand extensions and are not likely to react negatively to price increases or become less supportive of the brand's marketing and advertising activities. Customers will also show willingness to support the brand and actively seek for the brand in brand new distribution channels. According to (Keller, 2013), there are three main factors that define CBBE, which are 1) differential effect, 2) brand knowledge, and 3) consumer response to marketing. The differences in consumer responses indicates how the branded product stands out, and if no differences occur then it would indicate how the product is merely considered as a generic item or a commodity. This differential effect comes from the brand awareness and knowledge consumers have towards a brand, which is based on their learning experience with the brand. Lastly, the differential effect is also a reflection of the consumer behavior, which also includes their overall perception of the brand, as well as their preferences and behavior they have towards the brand.

Brand Innovation

Brand innovativeness is defined as the degree to which consumers perceive the brand as creative and as challenging the market with new ideas and solutions (Kunz et al., 2011). Moreover, (Tajeddini & Trueman, 2008); (Tajeddini & Trueman, 2012) considers innovation as a necessity for every company, as instead of looking at the firm's capital, capacity, or costs, the firm's success in the market is more so defined through how innovative the firm actually is. This is especially emphasized due to the technology boom in recent years that continues to progress and develop in multitudes of competitive markets. It is imperative for businesses to maintain their competitive edge in order to perform well in volatile markets, thus putting emphasis on the importance of creative and innovative maneuvers that businesses uphold. Moreover, in (Drejer, 2004) Schumpeter stated that brand innovation has varying concepts and can be done in different ways, such as product innovation, process innovation, rebranding strategies, repackaging with new designs and creating new merchandise. Most times, brand innovation strategies are done after observing and analysing the brand's market performance and the outcome of their brand equity.

Perceived Quality

Perceived quality is an intangible yet critical element for the consumer decision making process, in which consumers will compare the quality and the price of a product within a certain category (Jin & Suh, 2005). However, it is rather different from other concepts like actual or objective quality, product-based quality, and manufacturing quality, as perceived quality is primarily based on the customers' perception. Therefore, perceived quality cannot be objectively defined or determined, and is based upon the judgment of what is actually important to customers as they go through the decision-making process. In consistency with the brand resonance model, the following have been identified as the general dimensions that define quality and influence attitudes and behavior towards a brand (Keller & Swaminathan, 2013, p. 157): 1) Primary ingredients and supplementary features of the product, 2) Product reliability, durability and serviceability, and 3) Style and design of the product.

Brand Experience

Brand experience is defined as the subjective, internal consumer responses, and behavioural responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments (Brakus et al., 2009). According to researchers, brand experience is considered to be a valid and relevant brand quality that should be observed and managed because of how it is a supplementary factor that contributes to the consumer's developing relationship and association with a brand. The concept of brand experience elaborates upon an intimate relationship between the customers and the brand. Moreover, according to (Brakus et al., 2009) consumers have four main internal responses that are stimulated through brand experience: sensations, feelings, cognition, and behaviour. Sensory based responses are stimulated through visual or physical touch. Responses that stimulate feelings are developed through how the brand creates a sense of attachment or emotional bond with the customers. The cognitive dimension engages the customer's intellectual responses, in which customs are mentally stimulated through the use of imaginative and analytical thinking processes. The behavioural dimension involves the reactions that customers have when interacting with the brand, such as motor responses, emotional responses, verbal responses, and other behavioural experiences.

Brand Personality

(Aaker, 1997) defines brand personality as the set of human characteristics associated with a brand. In this sense, consumers attribute human traits to a brand through using their brand knowledge and learning experiences when interacting with the brand. Based upon extensive research and data collections, (Aaker, 1997) managed to create a personality scale that involves five factors of brand personalities: sincerity, excitement, competence, sophistication, and ruggedness, as shown on Figure 2.2. However, these factors may differ depending upon the context of cultural differences amongst different countries. For example, in Japan and Spain, the factor of "ruggedness" may be replaced with "peacefulness". Other examples include how Confucian values such as "passive likeableness" and "ascendancy" are added to the list of factors in Korea.

Brand personality plays an important role in creating brand equity and maintaining long-term consumer-brand relationships (Sung & Kim, 2010a) as creating a personality for the brand evokes a human connection and builds a sense of loyalty and trust between the customers and the business, which will then increase the brand's favourability amongst consumers. Brand personality can also reflect the consumers' personality and identity, leading the brand to be used as a means of self-expression as well. Common means of portraying brand personality are through the use of advertising-related factors and product-related factors. (Eisend & Stokburger-Sauer, 2013) Advertising-related factors involve the integrated marketing communication factors, such as the content, delivery, timing and consistency of the advertisements. Product-related factors involve the product design, the product type (whether it is hedonic or utilitarian), and the origin of the product.

Perceived Value

As value is considered to be highly personal, special, and can vary widely from one customer to another (*Holbrook, 1994*); (Zeithaml, 1988), perceived value is based upon the judgment of consumers of what is considered valuable to them. Essentially, it is the value that customers receive based on the aftermath of their purchasing process, which also includes the total costs that come with the purchase. This concept includes three complementary models (Khalifa, 2004) : 1) Customer value in exchange, 2) Customer value build up, and 3) Customer value dynamics.

Moreover, measuring perceived value can simply be done by asking participants to rate the value that they receive when making their purchases towards a specific brand or product.

The Relationship Between Variables

According to (Zeithaml, 1988), brand innovation should bring about higher perceptions of product quality where it concerns the degree to which purchasers sees as excellent in a specific brand. As consumers form their own perceptions of product quality from observing the functional and non-functional attributes of the product (Dodds et al., 1991), innovation must also make consumers feel the increase in the brand's ability to meet customer demands, which ultimately results in a better perception of brand excellence or brand advantages, namely brand quality (Coelho et al., 2020). Moreover, perceived quality is noted as a key driver of customer satisfaction, value, and loyalty (Netemeyer et al., 2004) alongside with symbolic, hedonic and esthetic features in product consumption. Thus, the consideration of the relationship between brand innovativeness and brand quality is crucial as innovativeness also means offering better quality to customers. Based on this explanation, the first hypothesis is as follows:

H1: Brand innovation impacts perceived quality.

Innovativeness must have an impact on the brand experience and personality (Aaker, 1997). There are brand experience and brand personality indicators that pertain to the nature of innovation, that brands can innovate to shape the consumer brand experience and brand personality. For example, brands will be considered creative when they offer creative solutions for the customers in their product offerings, including new product design, attributes, and marketing approaches (Kunz et al., 2011; Moorman, 1995). With that, customers are able to feel how these characteristics are able to resonate and align with who they are as an individual. (Fang, 2008) states that brands with such characteristics are the ones that are the most advanced in developing their offerings for the customer needs. Brand innovation can also be on the experiential forefront that can stimulate and enhance the consumers' affective, sensory, behavioral and intellectual experiences. Moreover, as innovation aims to provide additional benefits to customers, the outcome of innovation will ultimately result in increased perceived value. Innovating through developing and enhancing the attributes of a product or brand can improve and elevate the way consumers experience the product and relate towards the product, and thus also provide added value. Thus, the hypotheses are as follows:

H2: Brand innovation impacts brand experience.

H3: Brand innovation impacts brand personality.

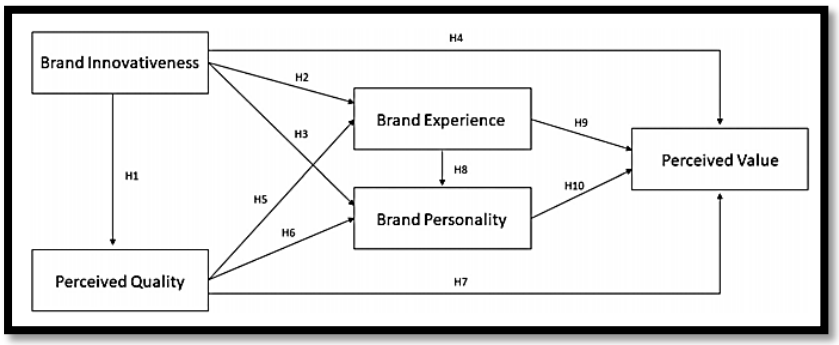
H4: Brand innovation impacts perceived value.

(Zeithaml, 1988) and (Netemeyer et al., 2004) refers to perceived quality as the perceived level of superiority of a brand in comparison to other brands. The key to have consumers develop a brand love relationship is by having the brand become one of the best in the market (Batra et al., 2012) which implies the importance of quality and how it has a strong impact on the consumer perception of a brand. Quality is also a part of customer satisfaction (Lam et al., 2013) and how consumers perceive quality is through the fulfilment of customer expectations. These expectations can be fulfilled through making sure that the company listens to their customers and are constantly aware of their needs and wants. One way to do so would be to compile adequate production and quality control processes, or develop a good attribute design process (Golder et al., 2012). By satisfying these expectations, consumers may recognize the brand as competent and are eager to take care of their customers (Coelho et al., 2020). Moreover, (Zeithaml, 1988) defines perceived quality as the consumer's judgement about a product's overall excellence or superiority, while defining perceived value as the overall assessment of the utility of a product based on perceptions of what is received and what is given. This implies how perceived value takes into consideration perceived quality, in that consumers consider the benefits and the costs of an offering (Coelho et al., 2020). Based on these explanations, the hypotheses are as follows:
H5: Perceived quality impacts brand experience.
H6: Perceived quality impacts brand personality.
H7: Perceived quality impacts perceived value.

Brand experience is the subjective, internal consumer responses (sensations, feelings and cognitions) and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments. (Brakus et al., 2009). The viewpoint of brand personality by consumers may be affected through both direct and indirect contact that consumers have with a specific brand, and this contact is made through various promotional methods that are related to the product attributes. With that, consumer experiences with a brand are likely related to the process of building the consumer perception of the brand's personality (Brakus et al., 2009). Furthermore, as brand experience also considers the experiential aspects in communicating the brand that involves sensory dimensions to create an emotional bond with customers, this would also imply that brand experience has an impact towards perceived value through the evocation of the experiential dimensions and consumers appreciation of the sensations or feelings of pleasure of consumption (Holbrook & Hirschman, 1982) . Thus, the hypotheses are as follows:
H8: Brand experience impacts brand personality.
H9: Brand experience impacts perceived value.

Firms that develop personality in order to generate trust and loyalty of their brands from their customers will also raise the consumer preference and usage (Aaker, 1997; Thorbjørnsen et al., 2002; Fournier, 1998; Rojas-Méndez et al., 2013; Swaminathan et al., 2008; Venable et al., 2005). The relationship between the brand and consumer that is built in trust is valuable, holding an important role in generating brand equity and also for maintaining a long-term relationship between both parties (Sung & Kim, 2010; Valette-Florence et al., 2011) Moreover, brand personality evokes a sense of identification among consumers, and this increases customer value, which contributes to the levels of consumer preference and the usage of the brand's products (Rojas-Méndez et al., 2013) (With this in mind, brand personality should have an impact towards perceived value as it creates added value for the customers (Coelho et al., 2020) . Thus, the final hypothesis is as follows:
H10: Brand personality impacts perceived value.

Figure 1
Conceptual Model



Note. The research model adopted from Coelho et al. (2020)

2. Research Method

This research uses descriptive analysis in the research design to explain the factors tied to the functional and intangible aspects of branding towards perceived value. The research also uses inferential statistics to describe the characteristics of the data while also investigating the correlation of the variables. An online questionnaire through the use of Google Forms will be used in order to gather data. The unit of analysis comprises of individuals, and the data from the individual responses to the questionnaire will be based on the seven-point Likert scale (1=Strongly Disagree, 2=Disagree, 3=Somewhat Disagree, 4=Neither Agree nor Disagree, 5=Somewhat Agree, 6=Agree, 7=Strongly Agree). This research also uses non-probability purposive (judgmental) sampling as the researcher has determined a specific criterion of the sample to ensure that the results will be accurate while also minimalizing the margin of error (Sekaran & Bougie, 2016). With that, the survey will be distributed through social media and is targeted towards Millennials between ages 20 up to 40 who are living in Indonesia and are active users of Apple products. The researcher has determined the sample size through the "rule of thumb" from (J. F. Hair et al., 2019)(J. Hair et al., 2014), who suggested that the minimum sample size should be at least 5 times the number of indicators. This research has a total of 43 indicators, and thus the minimum number of respondents would be 215 respondents. The total number of respondents gathered in this research for data processing amount to 253 respondents.

3. Results and Discussions

For this research study, a total of 253 respondents have participated in the online questionnaire. The respondent profile includes the respondents' characteristics that have participated in the questionnaire based on different classifications of categories such as age, gender, job status, domicile, and the number of times that the respondents have upgraded their Apple products. Further entries also required the participants to inform the researcher of the Apple products that they own, why the respondents choose to buy or use Apple products, and the last time the respondents purchased an Apple product. This research aims to capture the Millennial age group, following CNN's (2020) range of those born between 1980 to 2000. Thus, the respondents that the researcher is looking for between ages 20 up to 40 years old. Over 62.85% of respondents fall between ages 20 to 24 years old, making up most respondents in this study. This is followed by 30.04% of respondents falling between ages 25 to 30, followed by 5.93% of respondents falling under ages 30 to 35. The least number of respondents make up 1.19% of the respondents, and they fall between ages 35 to 40.

Certain dimensions of brand personality are connected to indicators of masculinity and femininity, which have gender implications. The aforementioned brand personality dimensions include the dimension of sophistication and feminine indicators and the ruggedness and masculine indicators (Aaker, 1997). The data is skewed towards having more female participants, making up 63.64% of respondents, and male participants making up 36.36% of the respondents. The respondent profile also describes the job statuses of the respondents. 29.64% of respondents to the questionnaire are unemployed and make up most respondents, which is then closely followed by 27.67% of respondents being non-managerial employees. This would make sense as most respondents fall between ages 20 up to 24 years old, which is the age group for university students and fresh graduates. The third-largest portion of respondents comes from entrepreneurs, making up 16.21% of the respondents. This is then followed by 9.49% of respondents are first-level supervisors and 8.70% of respondents work in middle-management roles. This somewhat corresponds to the second largest age group of those falling between 25 to 29 years old. Moreover, only 1.19% of respondents are in the top management, and 7.11% of respondents are interns.

The majorities of respondents are from DKI Jakarta and make up 58.50% of the total respondents. This is seconded by 16.21% of respondents from the Banten province and 13.83% of respondents from West Java. The rest of the respondents are dispersed around Indonesia and are found in other parts of Java, Sulawesi, Sumatra, and Papua. Respondents were asked to share how many times they have upgraded their Apple products within the past ten years, indicating the number of times they purchased a brand-new product from Apple and stayed with the brand. 70.75% of the respondents have upgraded their Apple products between 2 to 5 times within the past ten years, while 12.65% have upgraded 6 to 10 times within the past ten years. Moreover, 3.95% of respondents have upgraded more than ten times, while 5.53% mention only upgrading once. There are also Apple users within the scope that have only purchased an Apple product once, making up 7.11% of the respondents' overall percentage. Respondents were also asked to mention what Apple products they owned. With regards to key Apple devices, a staggering 87.35% of respondents owning an iPhone. Additionally, 59.68% of respondents own a MacBook, and only 9.49% own a Desktop Mac, while 50.59% own an iPad. Furthermore, some fewer respondents own Apple wearables, such as the AirPods (32.41%), Apple Watch (17.39%), and Beats (5.53%). Very few owned Apple accessories such as the Apple Pencil (0.79%), keyboard (0.40%), and Magic Mouse (0.40%), and Apple home devices such as the Apple TV (1.19%) and HomePod (0.79%). Some still cite owning the iPod (4.74%), an older Apple device with the most recent release in 2019.

Moreover, respondents were asked to explain why they have chosen Apple over other brands based on a list of reasons that have been narrowed by the researcher based on them and an option to provide their reason. An

overwhelming 80.63% majority chose Apple because they believe the brand and products are reliable and perform well. Moreover, 55.73% of respondents trust Apple as a brand, and 55.34% also have mentioned that they particularly like Apple products' appearance. Less than half of the respondents, with 47.04% of respondents, have mentioned that Apple lives up to their expectations, whereas 39.92% feel safe using Apple products. Furthermore, only 24.51% claim that Apple products solve many of their problems. Lastly, respondents were asked about when they last purchased an Apple product. 43.48% of respondents bought their most recent Apple product less than one year ago, with 33.60% of respondents having done so between one to two years ago and 12.25% of respondents having done so between three to four years ago. Only a few respondents mention having purchased the last Apple product beyond five years ago, with 5.93% of respondents making their last purchase between five to six years ago, 1.98% of respondents making their latest purchase between seven to eight years ago, and 2.77% making their last purchase 9 to 10 years ago.

Outer Model Evaluation

A pre-test was conducted in this research to ensure that the indicators and variables pass the validity and reliability test. During the pre-test, there were 13 indicators found to be invalid: BE12, BP1, BP2, BP5, BP7, BP8, BP9, BP10, BP11, BP12, BP13, BP14, and BP15. All invalid indicators found in the pre-test were removed prior to the actual test. The outer model evaluation is comprised of convergent validity testing (Factor Loading and the Average Variance Extracted (AVE)), discriminant validity testing (Cross Loading and the Fornell-Larcker Criterion (FLc)), and reliability testing (Cronbach's Alpha and Composite Reliability). The researcher has used the Smart PLS v. 3.3.2 software to process the data.

Validity Testing in the Actual Model

The data processed during the actual model also follows the same process as the pre-test model. During the convergent validity test, there were 2 more indicators that were found to be invalid: BE1 with an outer loading factor of 0.682, and BP19 with an outer loading factor of 0.686.

a. Convergent Validity Test Results: Validity testing in this research include convergent validity testing and discriminant validity testing. The parameters used to evaluate the constructs in convergent validity testing include the loading factor and the Average Variance Extracted (AVE). The validity of the measurement is determined when the loading factor is above 0.70 and the AVE is above 0.50 (J. F. Hair et al., 2019). Table 3.1 shows all valid indicators from the actual test:

Table 3.1
Convergent Validity Test Results

Variables	Indicators	Factor Loading	AVE	Results
Brand Innovation	BI1	0.862	0.735	Valid
	BI2	0.807		Valid
	BI3	0.897		Valid
	BI4	0.860		Valid
Perceived Quality	PQ1	0.820	0.716	Valid
	PQ2	0.885		Valid
	PQ3	0.870		Valid
	PQ4	0.808		Valid
Perceived Value	PV1	0.797	0.694	Valid
	PV2	0.835		Valid
	PV3	0.818		Valid
	PV4	0.881		Valid
Brand Experience	BE2	0.721	0.635	Valid
	BE3	0.705		Valid
	BE4	0.807		Valid
	BE5	0.850		Valid
	BE6	0.825		Valid
	BE7	0.836		Valid
	BE8	0.855		Valid
	BE9	0.820		Valid
	BE10	0.781		Valid
	BE11	0.756		Valid
Brand Personality	BP3	0.802	0.665	Valid
	BP4	0.848		Valid
	BP6	0.768		Valid
	BP16	0.821		Valid
	BP17	0.872		Valid
	BP18	0.778		Valid

b. Discriminant Validity Test Results. Table 3.2 shows how all variables have passed the discriminant validity test and all variables are deemed valid as the square root of the Average Variance Extracted (√AVE) is greater than the value of the Fornell-Larcker criterion (FLc).

Table 3.2
Discriminant Validity Test Results

	BE	BI	BP	PQ	PV
BE	0.797				
BI	0.610	0.857			
BP	0.775	0.658	0.816		
PQ	0.508	0.525	0.499	0.846	
PV	0.527	0.472	0.486	0.563	0.833

Reliability Testing in the Actual Model

After conducting the validity test, the researcher must also conduct a reliability test to ensure the reliability, stability and consistency of the data when measuring the variables. There are two parameters that will be used to test the reliability of the instrument: Cronbach's Alpha and the Composite Reliability. The data is deemed to be reliable when the value of Cronbach's alpha is above 0.6 and when the value of the Composite Reliability is above 0.7 (Hair et al., 2014). The actual results from the reliability test are shown in Table 3.3:

Table 3.3
Reliability Test Results

Variables	Cronbach's Alpha	Composite Reliability	Results
Brand Innovation	0.880	0.917	Reliable
Perceived Quality	0.868	0.910	Reliable
Perceived Value	0.853	0.901	Reliable
Brand Experience	0.936	0.946	Reliable
Brand Personality	0.899	0.917	Reliable

Multicollinearity Test (VIF)

The multicollinear test is used to view the relationship between variables in a regression model. This test looks at variables from the research and observes whether they are independent or interrelated. The Variance Inflation Factor (VIF) can be used to determine the independent or interrelated variables (Sekaran & Bougie, 2016). If the VIF is less than 10, the data will be considered to have fulfilled criteria for passing the multicollinearity test. The inner VIF values are as follows:

Table 3.4
Inner Variance Inflation Factor (VIF) from the Actual Test

	BE	BI	BP	PQ	PV
BI	-	1.000	1.381	1.769	1.988
PQ	-	-	1.381	1.497	1.509
BE	-	-	-	1.727	2.697
BP	-	-	-	-	2.921
PV	-	-	-	-	-

Source: Processed Data (n=253) (2020)

Based on the outcome shown on Table 4.16, all VIF values are below 10. The researcher can therefore conclude that there is no multicollinearity between the variables.

Inner Model Evaluation

The inner model is analysed through the interpretation of the coefficient of determination (R2) for each of the latent endogenous variables and the statistical significance of each of the hypothesised relationships between the variables. The coefficient of determination (R2) shows the extent of the effect of the independent variables with the dependent variables. The rules of thumb for this test are 0.75 (strong), 0.50 (moderate), and 0.25 (weak) (J. F. Hair et al., 2019). This hypothesis test will be a two-tailed test as the hypotheses of this research aims to seek positive relationships. Aside from the coefficient of determination (R2) is the T-statistic test. The t-statistic test indicates the effects of the independent variables and whether it influences the dependent variable. The independent variables are considered significant towards the dependent variables when the p-value is below 0.05 and the T-value is above 1.96 (two-tailed test) (J. F. Hair et al., 2019)

a. R-Squared (R2) Test. The coefficient of determination (R2) shows the extent of the effect of the independent variables with the dependent variables. The rules of thumb for this test are 0.75 (strong), 0.50

(moderate), and 0.25 (weak) (J. F. Hair et al., 2019). The actual results from the coefficient of determination (R2) are as follows:

Table 4.5
The Coefficient of Determination (R2) from the Actual Test

Variables	R^2 Adjusted	Category
Perceived Quality	0.273	Weak
Brand Experience	0.416	Weak
Brand Personality	0.654	Moderate
Perceived Value	0.394	Weak

Source: Processed Data (n=253) (2020)

The adjusted values of the coefficient of determination (R2) that are displayed in Table 4.5 show the extent of the impact of the variables towards each other. As shown in the table above, brand innovation appears to be the only independent variable that impacts all other variables, and therefore has no R2 value compared to the rest of the variables that are impacted by other variables to some degree. However, brand innovation has a weak impact towards perceived quality with an adjusted R2 value of 27.3% and is the only variable to impact perceived quality. This indicates that, aside from brand innovation, there are apparently other missing variables that are not mentioned in this research model that contributes to 73.7% of the overall impact towards perceived quality.

Moreover, brand innovation and perceived quality has a moderate impact towards brand experience with an adjusted R2 value of 41.6%. This implies that other variables that are not mentioned in this research model contribute to 59.4% of the overall impact towards brand experience. Additionally, both brand innovation and perceived quality also has a moderate impact towards brand personality with an adjusted R2 value of 65.4%. This also implies how other variables that are not mentioned in this research model contribute to 34.6% of the overall impact towards brand personality. Furthermore, the variables brand innovation, perceived quality, brand experience, and brand personality has a weak impact towards perceived value with an adjusted R2 value of 39.4%. Perceived value is the only variable that is impacted by all other variables in the research model yet based on the R2 value it appears that all variables combined did not have a strong impact towards perceived value, and that there are other variables that are not mentioned in this research model that contribute to 60.6% of the impact towards perceived value.

Hypothesis Test Results

The t-statistic test indicates the effects of the independent variables and whether it influences the dependent variable. The independent variables are considered significant towards the dependent variables when the p-value is below 0.05 and the T-value is above 1.96 (two-tailed test) (J. F. Hair et al., 2019). The researcher has used SmartPLS ver 3.3.2 to conduct hypothesis testing. The results from the bootstrapping calculation includes the T-value and P-value, along with the direct effect results from the path coefficients are shown as follows:

Table 3.6
Hypothesis Test Results from the Actual Test

Hypothesis	Path Coefficient	T-Value (>1.96)	P-Value (<0.05)	Results
H1: BI → PQ	0.241	10.268	0.000	Accepted
H2: BI → BE	0.101	7.060	0.000	Accepted
H3: BI → BP	0.051	4.416	0.000	Accepted
H4: BI → PV	0.474	0.938	0.349	Unaccepted
H5: PQ → BE	0.273	4.360	0.000	Accepted
H6: PQ → BP	0.259	1.312	0.190	Unaccepted
H7: PQ → PV	0.362	6.029	0.000	Accepted
H8: BE → BP	0.576	10.736	0.000	Accepted
H9: BE → PV	0.525	2.214	0.027	Accepted
H10: BP → PV	0.063	0.538	0.591	Unaccepted

Source: Processed Data (n=253) (2020)

Based on the hypothesis test results above, Hypothesis 1 which states that Brand Innovation impacts Perceived Quality is accepted, with the T-value = 10.268 > T-table = 1.96 and p-value = 0.000 < 0.05. This outcome conforms to the outcome of the previous research (Coelho et al., 2020). Hypothesis 2 which states that Brand Innovation impacts Brand Experience is accepted, with the T-value = 7.060 > T-table = 1.96 and p-value = 0.000 < 0.05. This outcome conforms to the outcome of the previous research (Coelho, Bairrada & Coelho, 2019). Hypothesis 3 which states that Brand Innovation impacts Brand Personality is accepted, with the T-value = 4.416 > T-table = 1.96 and p-value = 0.000 < 0.05. This outcome conforms to the outcome of the previous research (Coelho et al., 2020). Hypothesis 4 which states that Brand Innovation impacts Perceived Value is

unaccepted, with the T-value = 0.938 < T-table = 1.96 and p-value = 0.349 > 0.05. This outcome somewhat conforms to the outcome of the previous research (Coelho, Bairrada & Coelho, 2019). Hypothesis 5 which states that Perceived Quality impacts Brand Experience is accepted, with the T-value = 4.360 > T-table = 1.96 and p-value = 0.000 < 0.05. This outcome is somewhat different to the outcome of the previous research (Coelho, Bairrada & Coelho, 2019). Hypothesis 6 which states that Perceived Quality impacts Brand Personality is unaccepted, with the T-value = 1.312 > T-table = 1.96 and p-value = 0.190 > 0.05. This outcome is different and contradictory to the outcome of the previous research (Coelho, Bairrada & Coelho, 2019). Hypothesis 6 which states that Perceived Quality impacts Brand Personality is unaccepted, with the T-value = 1.312 > T-table = 1.96 and p-value = 0.190 > 0.05. This outcome is different and contradictory to the outcome of the previous research (Coelho et al., 2020). Hypothesis 7 which states that Perceived Quality impacts Perceived Value is accepted, with the T-value = 6.029 > T-table = 1.96 and p-value = 0.000 < 0.05. This outcome conforms to the outcome of the previous research (Coelho, Bairrada & Coelho, 2019). Hypothesis 8 which states that Brand Experience impacts Brand Personality is accepted, with the T-value = 10.736 > T-table = 1.96 and p-value = 0.000 < 0.05. This outcome conforms to the outcome of the previous research (Coelho et al., 2020). Hypothesis 9 which states that Brand Experience impacts Perceived Value is accepted, with the T-value = 2.214 > T-table = 1.96 and p-value = 0.027 < 0.05. This outcome conforms to the outcome of the previous research (Coelho et al., 2020). Hypothesis 10 which states that Brand Personality impacts Perceived Value is unaccepted, with the T-value = 0.538 < T-table = 1.96 and p-value = 0.591 > 0.05. This outcome is different and contradictory to the outcome of the previous research (Coelho et al., 2020).

4. Conclusions

One way to maximize perceived value in marketing a business and its products and services is by formulating branding strategies through the combined use of tangible and intangible aspects of a brand. H1, H2, and H3's acceptance show how innovation serves as a functional quality in branding and marketing activities. The rejection of H4 in this research also indicates how innovation might not necessarily lead to an increase in brands' perceived value. However, innovation does impact perceived quality, brand experience, and brand personality, all of which are key contributing factors to enhance marketing strategies and increase the overall brand equity among consumers. In theory, quality also serves as a critical functional quality in branding and marketing activities. The rejection of H6 show how quality has a lesser impact on some of the symbolistic elements of branding; however, H5 and H7 show that quality does contribute to the overall experience customers have when interacting with the brand and may greatly impact the perceived value of the brand that includes everything associated with the brand. Lastly, H8 and H9 show how brand experience seems to hold great importance that brand managers and brand strategists must consider. For products that are the likes of Apple where user experience when interacting with products is a fundamental aspect of Apple's business, it is no surprise that brand experience holds greater importance in comparison to brand personality here, and even has influence towards shaping the brand personality, as well as shaping the overall perceived value of the brand. Given that the products or services under a brand are heavily experiential, it is crucial to ensure that strategists take note of delivering the experience altogether.

Recommendations

The range of this research is limited to millennial Indonesians who are active users of Apple products. Future research can increase the sample size to have more reliable data and better focus on exploring the research with one product line under the chosen brand. Additionally, future research may also consider exploring and making comparisons among different brands working within similar industries. Furthermore, based on the Coefficient of Determination (R2) test, other unmentioned variables can be added and explored in future research. Moreover, the dimensions of brand personality must be taken into account when making brand comparisons and other variables that may have a significant contribution to this model but were not mentioned. Unusually for Apple, the impact of perceived value towards brand experience is more relevant to this research than the impact of perceived value towards brand personality, whereas the opposite had occurred for the brands explored in the previous research. Rather than using the brand personality variable and having all dimensions be considered as indicators under brand personality, the dimensions of brand personality could instead be narrowed down following the brand identity prism of future brands that will be explored. For example, Apple's brand personality could have been narrowed down the indicators under the dimensions of excitement and competence while excluding indicators under sincerity, sophistication, and ruggedness

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The Role of Marketing 4P Towards Brand Decision of Cigarette Products in Millennial & Z Generations in Jambi City Mediated by Perception

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Abstract. The Ministry of Finance has issued PMK Number 192/PMK.010/21 concerning "Tobacco Products Excise Tariffs", the regulation regulates the determination of cigarette excise rates and retail selling prices (HJE). One of the reasons for the government to increase the excise rate on tobacco products is to make people reduce their cigarette consumption. This research focuses on the consumption of cigarettes by several generations in Jambi City, namely Generation X who was born in the vulnerable years between 1965 – 1980, the Millennial Generation who were born in the age range of 1981 – 1996 and Generation Z who was born in the age range of 1997 – 2012. from this study to determine whether public perception of cigarettes can be influenced by the 4P marketing theory (Product, Price, Place and Promotion) which is widely applied by cigarette companies to determine which brand of cigarette products they will consume. The method used in this study is descriptive analysis with a quantitative approach, with data analysis techniques Partial Least Square Structural Equation Modeling or PLS-SEM using Smart PLS 3.2 software. The results showed that of the 4 variables of the 4P theory applied by cigarette companies, only 1 variable, namely Price, had no direct and significant effect on people's perceptions of cigarettes. Other variables, namely Product, Place and Promotion have a direct and significant effect on people's perceptions of cigarettes in influencing people's decisions to consume products from a brand. This research still has some limitations, namely the research has not been too broad to all outlets and respondents who can represent all segments of society, and also research can be focused on one cigarette manufacturer. This research can be used by cigarette manufacturers in determining the company's promotional policies so that it can be more targeted in accordance with its target market.

Keywords: excise stamps; cigarettes; market segement; 4P; perception; brand decision

1. Introduction

Cigarette products in today's life have become a trend for most people's basic needs. Especially in big cities and densely populated, cigarettes have become a daily consumption, so that these products are very easy to reach by the general public. Cigarettes are products whose circulation is highly regulated and closely monitored by the Central Government through the Ministry of Finance, Ministry of Health and Ministry of Trade. In accordance with Government Regulation (PP) Number 109 of 2012 concerning "Safety of Materials Containing Addictive Substances in the Form of Tobacco Products for Health" Article 3 that this Government Regulation regulates tobacco products, the responsibilities of the Government and Regional Governments, implementation, community participation, and guidance and supervision. In line with the PP, the Ministry of Finance implements a tax determination policy regarding the determination of cigarette excise rates and retail selling prices which is regulated through the Minister of Finance Regulation Number 192/PMK.010/2021 concerning "Tobacco Products Excise Tariffs", in that regulation types Tobacco product manufacturers are divided into 9 categories, namely SKM (Machine Cigarettes), SPM (Machine White Cigarettes), SKT (Hand Kretek Cigarettes), SPT (White Hand Cigarettes), SKTF (Filtered Hand-Rolled Cigarettes) or SPTF (White Hand Cigarettes). Filters), TIS (Slice Tobacco), KLM (Rhubarb Cigarettes, Frankincense) or KLB (Leaf Cigarettes or Klobot), CRT (Cigars), and HPTL (Other Tobacco Processing Products) where each category is regulated by factory production limits, selling price limits retail per stick or gram, and excise rate per stick or gram.

With this regulation, the calculation of production costs and recommended retail selling prices greatly affects the purchasing power of consumers in determining which cigarette products will be consumed. Background,

occupation and income per capita of the population in an area are also factors that affect consumer purchasing power and sales of products on the market.

According to the Central Bureau of Statistics, Generation X is people born in the vulnerable years between 1965–1980, Millennial Generation are people born in the 1981-1996 age range and Generation Z is people born in the 1997 - 2012 age range (Central Bureau of Statistics. 2020) . Jambi City is the capital city of Jambi Province with the most densely populated population and distribution of outlets in the province and has continued to increase in the last 3 years.

With the main commodities from oil palm and rubber plantations, the population is quite dense and tends to be heterogeneous in Jambi City, social life between communities can be a benchmark in identifying the influence of cigarette consumption. Cigarette consumption by children and adolescents is in an increasing trend, citing survey data on smoking behavior among adolescents issued by the Ministry of Health in 2019, it was noted that the total number of children exposed to cigarette smoke both as active and passive smokers reached 57.8% (lifestyle.business. com, 2020). Although it has been informed through various media that smoking is harmful to health, the number of smokers shows an increasing number, the number of cigarette consumption in Indonesia occupies the highest position in the world at 1,634 trillion cigarettes compared to developed countries which have lower numbers such as China with 451 billion cigarettes. , the United States as many as 328 billion sticks, Japan as many as 286 billion sticks, and Russia as many as 215 billion sticks

1.1 Problem

Based on the observations made by the researchers, there are many factors that influence the decisions of Millennial Generation & Z consumers in consuming a cigarette brand.

1. Can Perception mediate products on the brand decisions of Millennial Generation & Z consumers in determining the brand of cigarettes they consume?
2. Can Perception mediate price on the brand decisions of Millennial Generation & Z consumers in determining the brand of cigarettes they consume?
3. Can Perception mediate place on the brand decisions of Millennial Generation & Z consumers in determining the brand of cigarettes they consume?
4. Can Perception mediate promotion of Millennial Generation & Z consumer brand decisions in determining the brand of cigarettes they consume?

1.2 Purpose

The purpose of this research is as follows :

1. Knowing whether Perception can mediate products on the brand decisions of Millennial Generation & Z consumers in determining the brand of cigarettes they consume.
2. Knowing whether Perception can mediate price on the brand decisions of Millennial Generation & Z consumers in determining the brand of cigarettes they consume.
3. Knowing whether Perception can mediate place on the brand decisions of Millennial Generation & Z consumers in determining the brand of cigarettes they consume.
4. Knowing whether Perception can mediate promotion of Millennial Generation & Z consumer brand decisions in determining the brand of cigarettes they consume.

2. Theory

2.1 Basic Theory

2.1.1 Marketing Mix Factor

According to Kotler and Armstrong (2016: 51) the notion of the marketing mix is that the marketing mix is the set of tactical marketing tools that the firm blends to produce the response it wans in target markets. Meanwhile, another understanding from Buchari Alma (2016: 205), provides a definition of the marketing mix as a strategy to interfere with marketing activities, in order to find the maximum combination so that it brings satisfactory results. Market integration or what is often referred to as the marketing mix has a very important role in marketing, because the marketing mix combines profit and customer satisfaction. According to Kotler and Keller (2016), there are four concept variables involved in the marketing mix:

1. Product
   something that can be offered to the market to get attention, so that the product being sold is bought, used or consumed that can fulfill a consumer want or need.
2. Price
   the amount of value that consumers exchange for the benefits of owning or using a product or service whose value is set by the buyer and seller through bargaining, or set by the seller for the same price to all buyers.
3. Place

Place includes all the company's activities in making products that will be available to target consumers. Place can be said to be one of the important aspects in the distribution process. In carrying out distribution, besides involving producers directly, it will also involve retailers and distributors.

4. Promotion
   "Promotion refers to activities that communicate the merits of the product and persuade target customers to buy it." The purpose of this definition is the activity used to communicate information about the product to be sold to potential consumers. In addition to communicating information about a product, promotion is also used as a means to persuade and influence consumers to consume the product.

Based on the explanation of the marketing mix, it is known that the marketing mix consists of several components. The marketing mix for goods is better known as the four Ps (Product, Price, Place, Promotion), the components contained in the marketing mix support and influence each other and these components can determine demand in a business. By using the elements of the marketing mix, the company will have a competitive advantage over competitors because with the implementation of an effective and efficient marketing mix, a purchasing decision process will prefer the company's products.

2.1.2 Perception

The assessment that each consumer feels about the goods and services they receive is not the same, many factors can influence it. The consumer's perception of a price can influence his decision to buy a product. Therefore, every producer will try to give a good perception of the products or services they sell. According to Hawkins et al. (1986), perception is a process that begins with consumer exposure and attention to marketing stimuli and ends with consumer interpretation.

2.1.3 Brand Decision

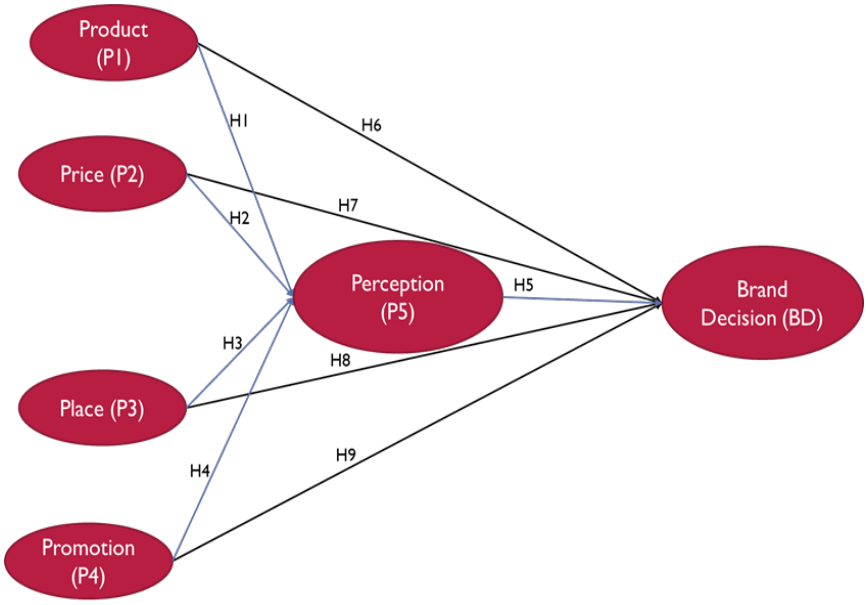
According to Rapler (2004) states that this phase can be regarded as the "information search phase" carried out by consumers and is referred to as the critical stage. This phase can be the best opportunity for brands to incorporate their brand and exert influence during the buying decision process. This can be achieved either directly through communication to consumers or indirectly through the influence of the communication media on the brand. To make consumers directly aware of a brand, they usually use strategies that create awareness, create positive perceptions and build response from target consumers through one or more elements of the marketing mix that will lead to trial, brand image, and post purchase behavior. Measured by reach and frequency whose goal is to create a top-of-mind brand in consumers.

The main problem faced by companies when competing in the market based on the marketing attributes of the core product is the difference in traditional strategies that will eliminate companies in a market (Porter, 1985). Branding strategy for the company is how the design is made to produce outcomes that are acceptable to the market naturally and placing the brand in a target market can form loyal consumers and can have a positive influence on other target consumers (Aaker and Shansb 1982; Dickson and Ginter 1987).

In addition, Machfoedz (2013: 44), argues that purchasing decisions are a process of assessing and selecting from various alternatives in accordance with certain interests by determining an option that is considered the most profitable. The purchase decision according to Kotler (2007) is the stage in the buyer's decision-making process where consumers will actually buy. The definition of purchasing decisions according to Nugroho (2003) is an integration process that combines knowledge attitudes to evaluate two or more alternative behaviors and choose one of them.

2.2 Conceptual Framework

This study will adopt and modify the model from the results of a previous study conducted by Jacinta Mwende (2005) "A Survey Of Factors That Influence Consumers Choice Of Cigarette Brands In Nairobi". The reason the researcher adopts this model is because there are several phenomena related to the variables in the research model. Where then the researchers modified the variables and models according to the needs of the author into the model because it was suspected to have an effect on cigarette consumption. The researcher also adopted and modified the model from the research results of Ratlan Pardede (2016) entitled "The Influence of Price Perception and Product Quality on Consumer Purchase Decisions Mediated by Consumer Satisfaction" which is closely related to the theory of Jagdish N Sheth (1991) "Consumption Values - Why We Buy What We Buy". Furthermore, it can be seen in the image below, which is the model in this study



2.3 Hypothesis

2.3.1 Relationship between Product and Perception

The product (P1) of a cigarette brand can affect consumers' perception (P5) of a brand.
H1 - Product (P1) has a positive and significant effect on Perception (P5)

2.3.2 Relationship between Price and Perception

Price (P2) of a cigarette brand can affect consumers' perception (P5) of a brand.
H2 - Price (P2) has a positive and significant effect on Perception (P5)

2.3.3 Relationship between Place and Perception

Place (P3) of a cigarette brand can affect consumers' Perception (P5) of a brand.
H3 - Place (P3) has a positive and significant effect on Perception (P5)

2.3.4 Relationship between Promotion and Perception

Promotion (P4) of a cigarette brand can affect consumers' perception (P5) of a brand.
H4 - Promotion (P4) has a positive and significant effect on Perception (P5)

2.3.5 Relationship between Perception and Brand Decision

Perception (P5) of a cigarette brand can affect consumer's Brand Decision (BD) towards a brand.
H5 - Promotion (P4) has a positive and significant effect on Perception (P5)

2.3.6 Relationship between Product and Brand Decision

The product (P1) of a cigarette brand can influence the consumer's Brand Decision (BD) towards a brand
H6 - Product (P1) has a positive and significant effect on Brand Decison (BD)

2.3.7 Relationship between Price and Brand Decision

Price (P2) of a cigarette brand can affect the consumer's Brand Decision (BD) towards a brand
H7 - Price (P2) has a positive and significant effect on Brand Decision (BD)

2.3.8 Relationship between Place and Brand Decision

Place (P3) of a cigarette brand can influence the consumer's Brand Decision (BD) towards a brand
H8 - Place (P3) has a positive and significant effect on Brand Decision (BD)

2.3.9 Relationship between Promotion and Brand Decision

Promotion (P4) of a cigarette brand can influence consumer's Brand Decision (BD) towards a brand.
H9 - Promotion (P4) has a positive and significant effect on Brand Decision (BD)

3. Research Methods

3.1 Research paradigm

This study uses a quantitative research design with positivism philosophy. Examining the relationship between variables using theory testing methods is a quantitative research. Figures from the results of data processing can be analyzed by statistical procedures so that measurements can be made on variables. This research method is based on the philosophy of positivism, used to examine a particular population or sample, data collection using research instruments, statistical data analysis, with the aim of testing the hypothesis that has been applied. The philosophy of positivism views that reality/symptoms/phenomena can be clarified, relatively fixed, concrete, observable, measurable, and the relationship of symptoms is causal (Sugiyono, 2013).

3.2 Research Object

This section describes the nature or condition of an object, person, or object that is the center of attention and research target. The nature of the situation in question can be in the form of nature, quantity, and quality which can be in the form of behavior, activities, opinions, views of judgment, pro-contra attitudes, sympathy-antipathy, inner state, and it can also be a process. What is meant by the research subject is the person, place, or object to be observed. While what is meant by the object of research, is the thing that is the target of research, the object of research, is the subject matter to be researched to obtain data in a more focused manner. The object of this study is to find out why Millennial and Generation Z cigarette consumers in Jambi City use the brand for their consumption. While the subjects in this study were smokers in the Millennial Generation and Z segments with ages between 18 and 35 years in Jambi City

3.3 Population and Sample

Population is a general area consisting of subjects or objects that have certain characteristics and qualities that have been determined by researchers so that they can be studied and after that conclusions are obtained. The population is the amount contained in the subject or object studied by the researcher which includes all the properties or characteristics possessed by the subject or object (Sugiyono, 2017). The population used in this study were all consumers / smokers in Jambi City.

The data sample collection technique uses non-probability sampling, which is a sampling technique that does not provide equal opportunities or opportunities for each element or member of the population to be selected as a sample. Non-probability sampling has several parts, including convenience sampling, namely the determination of the sample based on chance determined by the researcher. The sample used in this study were smokers in the city of Jambi with the target respondents being male gender and the age group of 18 years to 35 years as many as 200 people.

3.4 Variable Operations

Operational variables are defined as a process of decomposition of variables in research into sub-variables, indicators of sub-variables, dimensions and measurements. Through the operationalization of variables, the concept construct is determined to be a measurable variable. While variables that are not measured directly but represent and measure several indicator variables indirectly are referred to as latent variables (Hair et al, 2014). Indicator variables are used to provide clues and parse a situation so that it can be used further to measure changes.

3.5 Data Collection Techniques

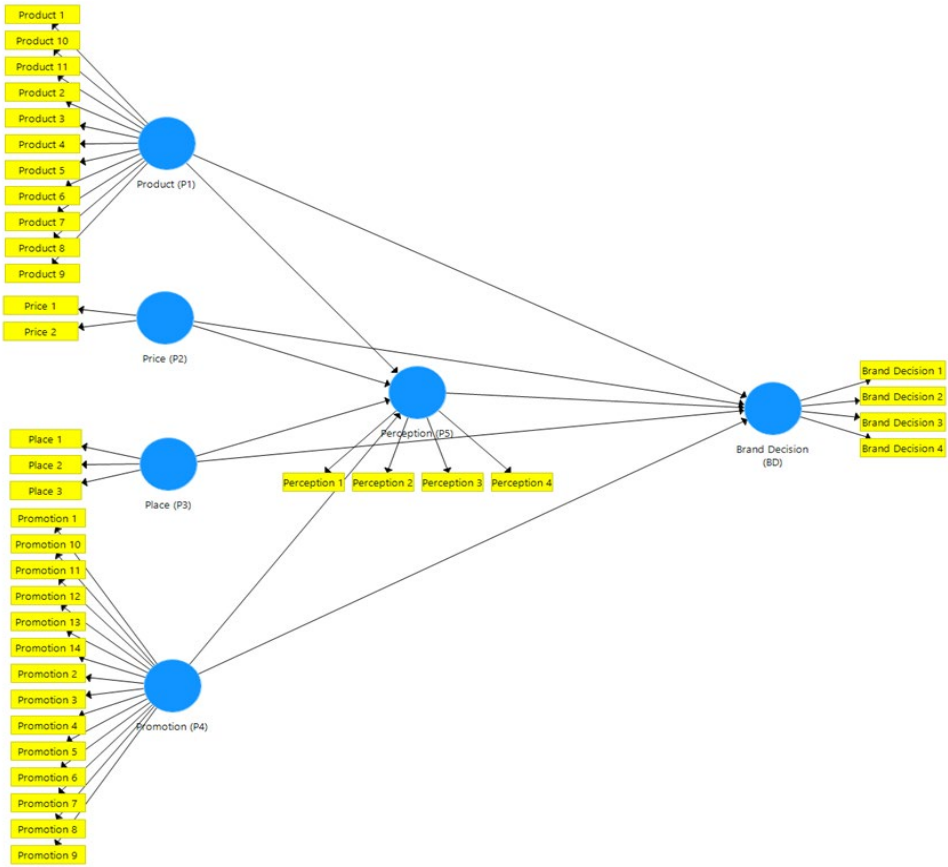
Data collection techniques according to (Zikmud, Babin, Car, & Griffin, 2013) there are two methods that can be categorized in the data collection process.

1. Observation research
   Observation research has a definition, namely a process that is carried out systematically from observing behavior patterns towards objects, events, and people that are seen directly
2. Survey research
   Survey research has a definition, namely the method of collecting data by asking questions to respondents in writing or verbally, via email, questionnaires or questionnaires.

Based on the two methods above, the researchers used the survey research method. The survey method in this study used a questionnaire as a data collection instrument. By conducting a survey method, the data obtained from the sample will be useful as a pre-test and main test of the research which will later be tested for the validity and reliability of each indicator. Questionnaires are written questions to obtain all the information needed from each respondent who is considered to have the appropriate knowledge contained in each question and is included in the respondent's criteria. Questionnaires can be distributed directly or indirectly. The questions on the questionnaire are arranged and grouped according to the indicators of each variable which have been explained in the variable operational section. This questionnaire data collection is done online using Google Forms.

3.6 Data Analysis Techniques

In this study, because the variables used are more than 3 (three), the research will use data analysis techniques Structural Equation Modeling which is a modeling technique that is linear and general. Included in SEM are factor analysis, path analysis and regression. Partial Least Square Structural Equation Modeling or PLS-SEM is used to test the hypotheses that have been formulated to analyze the influence between variables both directly and indirectly. According to Ghozali & Latan (2015) the PLS-SEM method can be used to explain the relationship between several latent variables simultaneously. There are two models in PLS-SEM, namely the measurement model or the outer model and also the structural model or the inner model. The outer model is used to measure the reflective model by testing the validity and reliability. After that, the inner model was tested to determine the relationship between latent variables. By using PLS-SEM the researcher would conduct an analysis to determine the effect. To analyze the data in this study, the researcher used Smart PLS version 3.2 software.



3.6.1 Validity Test

According to Radjab & Jam'an (2017:94) validity refers to measuring what should be measured. Furthermore, validity is divided into 2 forms, namely, Convergent Validity (the ability to measure what you want to measure) and Discriminant Validity (the ability to measure a research instrument which can then be applied in general). Meanwhile, according to Hair et al. (2014:7) validity is a level where a measurement can accurately represent the situation to be studied. In testing convergent validity, an indicator is said to be valid if it has a Loading factor or Outer Loading value 0.7 (Malhotra & Birks, 2007: 648). In addition, one must also look at the MSA (Measure of Sampling Adequacy) value, an indicator is said to be valid if it has an AVE value of 0.7 (Hair et al., 2014:102). Furthermore, discriminant validity testing is carried out where the criteria for an indicator are said to be valid if the indicator of a variable which when compared to other variables has a smaller factor value than the variable itself (IndicatorA1:VariableA>IndicatorA1:VariableB) - Cross Loading. In addition, it is also necessary to look at the Fornell-lacker Criteria value where the comparison value between variable A: Variable A > variable A: variable B (Hair et al., 2014:115)

3.6.2 Reliability Test

According to Sugiyono (2017:121) an instrument that can be said to be reliable is an instrument which, when used to measure the same object several times, will produce the same consistent data. Meanwhile, according to (Ghozali, 2016: 47), a questionnaire is said to be reliable if the respondent answers consistently or stable to the questionnaire questions from time to time. Furthermore, according to Malhotra & Birks (2007:358), if the value

of Cronbach's alpha and Composite reliability value of the variable 0.7 then the variable is said to be reliable. The value of Cronbach's alpha and composite reliability is then obtained using the help of the Smart-PLS program. The pretest test is a test carried out to determine the feasibility of the indicators used in making survey questions (Hair et al., 2014: 606).

3.6.3 Regression Coefficient Test

Regression coefficient test is used to measure whether a model is able to explain the variation of the dependent variable (Ghozali, 2016:95). Furthermore, it is explained that the value of the coefficient of determination is in the range between zero to one, and if the value of R2 is lower, the variation of the dependent variable to be explained by the independent variables is increasingly limited. On the other hand, the closer the value of R2 to the number one means that the independent variables provide almost all the information needed to predict the variation of the dependent variable.

3.6.4 Model Accuracy Test

Model accuracy test or t-statistical test (bootstrapping) is a test to test how far the influence of an individual independent variable in explaining the variation of the dependent variable (Ghozali, 2016: 97). The test criteria are set based on probability. If the significant level used is 5 percent, in other words if the probability Ha > 0.05 then it is declared insignificant, and if the probability Ha < 0.05 then it is declared significant. Bootstrapping process is used to describe the influence between construct variables. The value of the t-statistical test used for the two tailed is t-value 1.65 with a significant level of 10%; then t-value 1.96 with a significant level of 5% and t-value 2.58 with a significant level of 1% (Hair et al., 2013).

3.6.5 Path Coefficients

Path Coefficients Test is a measurement of path coefficients between constructs to see the significance and strength of the relationship and also to test hypotheses. Path coefficients values range from -1 to +1. The closer the value to +1, the stronger the relationship between the two constructs. The relationship that is getting closer to -1 indicates that the relationship is negative (Sarstedt et al., 2017).

3.6.6 Linear Test (F2)

Linearity test or f test (influence between variables) can be used to find out if at least one independent or independent variable in a research model has a simultaneous effect on the dependent or dependent variable (Ghozali, 2016: 96) or to know whether or not a distribution is linear. the value of the data obtained, through the linearity test will determine the regression analysis used. If the results are categorized as linear, the research data will be resolved by linear regression analysis. It is better if the data is not linear then it is solved by non-linear regression analysis. To detect whether the model is linear or not, it can be done by comparing the F-Table values. The f2 value is 0.02 as small, 0.15 as medium, and the value is 0.35 as large. Values less than 0.02 can be ignored or considered to have no effect (Sarstedt et al., 2017).

3.6.7 Predictive Relevance Test

Predictive Relevance test is used to find out how well the observations have been made. The Predictive Relevance test uses the value of the Cross-validated redundancy (Q2) or Q-square test. The value of Q2 > 0 indicates that the model has accurate predictive relevance to certain constructs, while the value of Q2 < 0 indicates that the model lacks predictive relevance (Sarstedt et al., 2017). The value of Cross-validated Redundancy (Q2) was obtained using the Blindfolding procedure in SmartPLS v.3.2. How to Calculate Blindfolding.

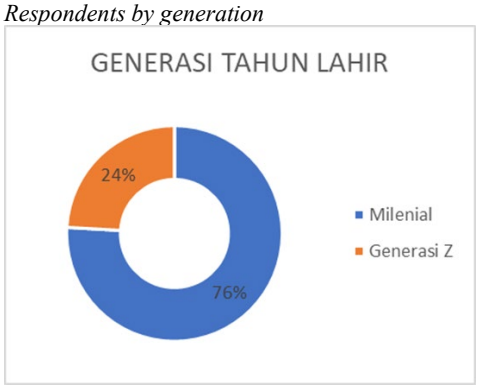
4. Analysis and Discussion

4.1 Characteristics of Respondents

Data collection was obtained by conducting surveys or direct interviews with respondents who were met by researchers randomly at the place or location of the sale and purchase of cigarettes between sellers and buyers through the G-Form. The survey was conducted in July 2022 involving as many as 220 respondents (n: 220) in Jambi City. Respondents who were surveyed were respondents who met several predetermined criteria:

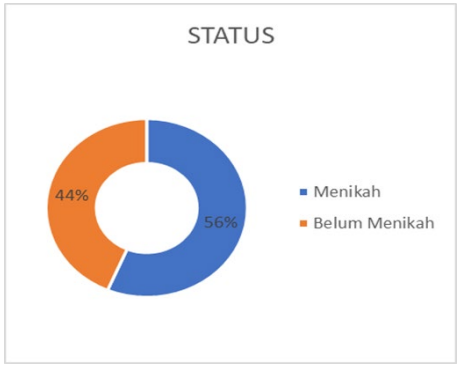
- Man
- Age 18–35 years old
- Smokers

Figure 4.1
Respondents by generation



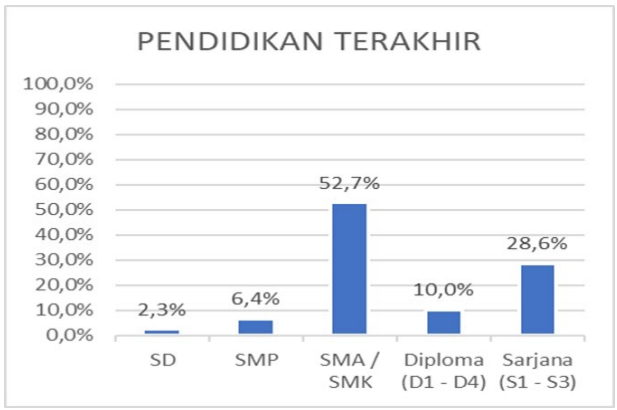
Based on Figure 4.1 above, it can be seen that the percentage of millennial generation respondents is 76% or 167 respondents, while generation z is 24% or 53 respondents. So, it can be seen that the number of millennial generation respondents is the largest number of respondents.

Figure 4.2
Respondents by Status



Based on Figure 4.2 above, it can be seen that the percentage of respondents with married status is 56% or 124 respondents, while those with unmarried status are 44% or 96 respondents. So, it can be seen that the number of married respondents is the largest number of respondents.

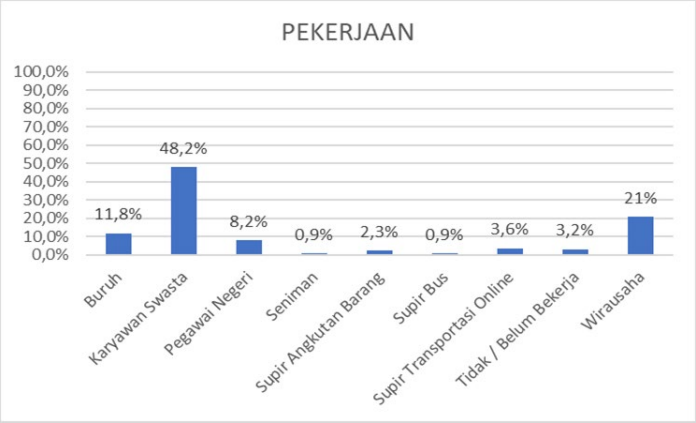
Figure 4.3
Respondents by Latest Education



Based on Figure 4.3 above, it can be seen that the percentage of respondents with the latest education in SMA/SMK is 52.7% or 116 respondents, the last education is Bachelor (S1-S3) as many as 28.6% or 63 respondents. The last education is Diploma (D1-D4) as many as 10% or 22 respondents. The last education was junior high school as much as 6.4% or 14 respondents and the last education was elementary school as much as

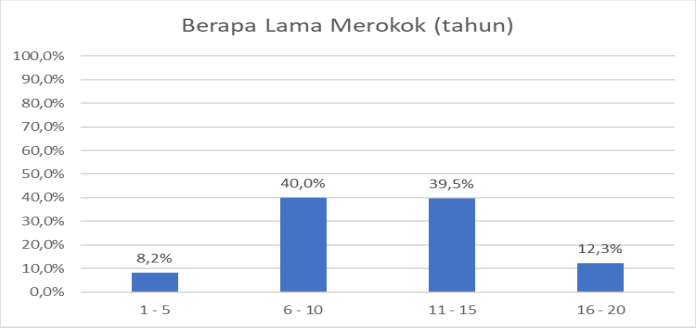
2.3% or 5 respondents. So that it can be seen that the number of respondents with the last education of SMA/SMK is the largest number of respondents.

Figure 4.4
Respondents by Job



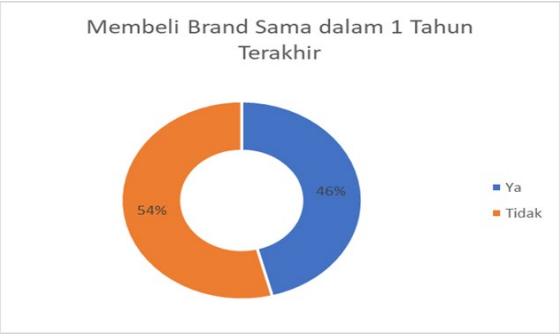
Based on Figure 4.4 above, it can be seen that the percentage of respondents with private employee jobs is 48.2% or 106 respondents, entrepreneurial jobs are 21% or 46 respondents. Labor employment is 11.8% or 26 respondents. The employment of civil servants is 8.2% or 18 respondents and the rest have other jobs. So it can be seen that the number of respondents with jobs as private employees is the largest number of respondents.

Figure 4.5
Respondents by Smoking Period



Based on Figure 4.5 above, it can be seen that the percentage of respondents with a smoking period of 6-10 years was 40% or 88 respondents, while smoking 11-15 years was 39.5% or 87 respondents. The length of smoking 16-20 years was 12.3% or 27 respondents and the length of smoking 1-5 years was 8.2% or 18 respondents. So it can be seen that the number of respondents with a smoking period of 6-10 years is the largest number of respondents.

Figure 4.6
Respondents by Buying the Same Brand

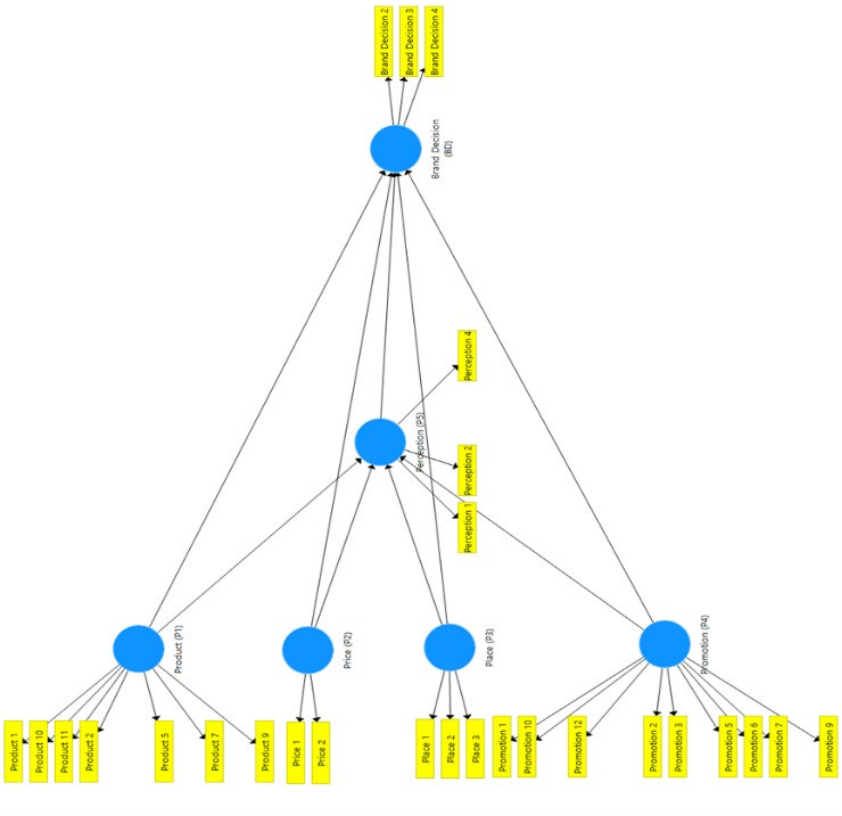


Based on Figure 4.6 above, it can be seen that the percentage of the number of respondents who bought the same brand in the last 1 year was 54% or 119 respondents, while those who did not buy the same brand in the last 1 year were 46% or 101 respondents. So, it can be seen that the number of respondents who bought the same brand in the last 1 year became the largest number of respondents.

4.2 Statistical Analysis

In this data analysis, there were 11 indicators that were issued because they did not meet the criteria, namely the value of outer loading was less than 0.6. The six indicators include Product 3, product 4, product 6, product 8, promotion 4, promotion 8, promotion 11, promotion 13, promotion 14, perception 3, brand decision 1. After the eleven indicators are removed in the data analysis, the research model changed to as follows:

Figure 4.7
Research Model



4.2.1 Descriptive statistics

From the 220 respondents who were interviewed in this study, all data samples were described using descriptive statistical methods by measuring the frequency, mean, median, min and max of each variable. This descriptive statistical test uses the SMARTPLS 3.2 program, the results of the descriptive statistical test of all data samples can be shown in the table (attachment 1)

In Attachment 1, it can be seen the data processing results from the questionnaires that have been surveyed :

- Variable Product That the respondents feel that cigarette products have a fairly dominant influence on millennial and z generation consumers in deciding what products to consume.
- Variable Price that respondents feel that the price of cigarettes has a fairly dominant influence on millennial and z generation consumers in deciding what products to consume.
- Variable Place that the respondents feel that the place / existence of cigarettes has a considerable influence on millennial and z generation consumers in deciding what products to consume.
- Variable Promotion, that the respondents feel that cigarette promotion has a considerable influence on millennial and z generation consumers in deciding what products to consume.
- Variable Perception, that the respondents feel that the perception of cigarettes is a necessity, life style, and cigarette brands can describe the personality of consumers in the millennial and z generations.
- Variable Brand Decision, that the respondents feel that the brand currently consumed is a brand that has good benefits, can satisfy consumer needs, will repeat purchases of cigarette brands and can recommend to other consumers of smokers in the millennial and z generations.

4.2.2 Outer Model Statistics

Outer Model analysis was conducted by measuring the validity and reliability of each indicator and latent variable of this study. This measurement focuses on metrics that show predictive ability through measurements of convergent validity, discriminant validity, and reliability (Hair et al., 2013). In the analysis of the outer model, the researcher uses the SMARTPLS 3.2 program and the results are as follows:

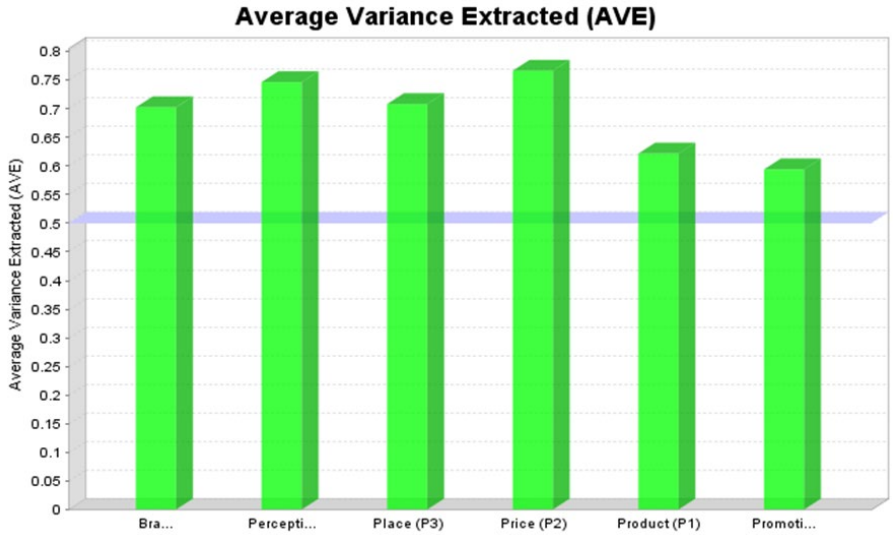
1. Convergent Validity

   Convergent validity was used to measure the positive correlation with alternative measures of the same construct. Convergent validity was measured using average variance extracted (AVE). If the sample data has a high outer loading value, it shows that the indicators in this study have a strong correlation with the construct (Hair et al., 2013). The results of the convergent validity measurement in this study can be seen in the table below:

Table 4.1
Convergent Validity Measurement

	Brand Decision (BD)	Perception (P5)	Place (P3)	Price (P2)	Product (P1)	Promotion (P4)
Brand Decision 2	0,885					
Brand Decision 3	0,835					
Brand Decision 4	0,792					
Perception 1		0,884				
Perception 2		0,878				
Perception 4		0,829				
Place 1			0,872			
Place 2			0,852			
Place 3			0,799			
Price 1				0,882		
Price 2				0,869		
Product 1					0,789	
Product 10					0,789	
Product 11					0,800	
Product 2					0,769	
Product 5					0,784	
Product 7					0,788	
Product 9					0,802	
Promotion 1						0,787
Promotion 10						0,766
Promotion 12						0,754
Promotion 2						0,800
Promotion 3						0,826
Promotion 5						0,759
Promotion 6						0,774
Promotion 7						0,716
Promotion 9						0,750

Figure 4.8
Average Variance Extracted (AVE)



From the results of data processing above, all variables have an AVE value > 0.5 which indicates that all variables are valid. All indicators of each variable also have a value > 0.7. In processing the data above, indicators that do not meet the requirements have been issued so that it can be said that all indicators used in this study are valid. From the results of the above processing, it can be concluded that all indicators and variables are positive and correlated with variables in the same construct.

2. Discriminant Validity
Discriminant validity is a reflective indicator that can be seen in the cross loading value between the indicator and its construct (Setiaman, 2020). The value of the construct in question must be greater than the value of other constructs and it is expected that the cross loading value is > 0.7 (Hair et al., 2013). The measurement of cross loading in this study can be seen in the table below:

Table 4.2
Cross Loading

	Brand Decision (BD)	Perception (P5)	Place (P3)	Price (P2)	Product (P1)	Promotion (P4)
Brand Decision 2	0,885	0,677	0,677	0,442	0,648	0,407
Brand Decision 3	0,835	0,675	0,637	0,428	0,598	0,333
Brand Decision 4	0,792	0,601	0,505	0,452	0,591	0,521
Perception 1	0,698	0,884	0,644	0,518	0,716	0,577
Perception 2	0,671	0,878	0,584	0,460	0,654	0,497
Perception 4	0,645	0,829	0,659	0,435	0,632	0,304
Place 1	0,628	0,632	0,872	0,455	0,615	0,243
Place 2	0,641	0,608	0,852	0,476	0,624	0,234
Place 3	0,564	0,597	0,799	0,402	0,571	0,432
Price 1	0,464	0,497	0,538	0,882	0,558	0,352
Price 2	0,455	0,459	0,384	0,869	0,508	0,487
Product 1	0,664	0,685	0,602	0,456	0,789	0,512
Product 10	0,569	0,564	0,545	0,457	0,789	0,445
Product 11	0,606	0,555	0,584	0,603	0,800	0,458
Product 2	0,573	0,637	0,559	0,535	0,769	0,490
Product 5	0,529	0,611	0,610	0,411	0,784	0,477
Product 7	0,530	0,618	0,532	0,459	0,788	0,415
Product 9	0,546	0,586	0,520	0,438	0,802	0,424

Promotion 1	0,279	0,335	0,132	0,326	0,382	0,787
Promotion 10	0,537	0,568	0,470	0,464	0,555	0,766
Promotion 12	0,469	0,511	0,449	0,403	0,587	0,754
Promotion 2	0,208	0,240	0,046	0,320	0,259	0,800
Promotion 3	0,300	0,332	0,153	0,331	0,390	0,826
Promotion 5	0,361	0,397	0,204	0,364	0,408	0,759
Promotion 6	0,302	0,291	0,150	0,288	0,346	0,774
Promotion 7	0,401	0,360	0,297	0,309	0,444	0,716
Promotion 9	0,355	0,438	0,250	0,382	0,459	0,750

From the results above, it can be seen that the cross loading of each indicator specifically has a greater value than the cross loading of different constructions. This is in accordance with the theory described earlier and it can be concluded from this cross loading measurement that each construct in the model has discriminant validity. The second evaluation for the discriminant validity test is to use the Fornell Larcker criteria. The results of the second discriminant validity test using the Fornell-Larcker criteria can be seen in Table 4.3 below:

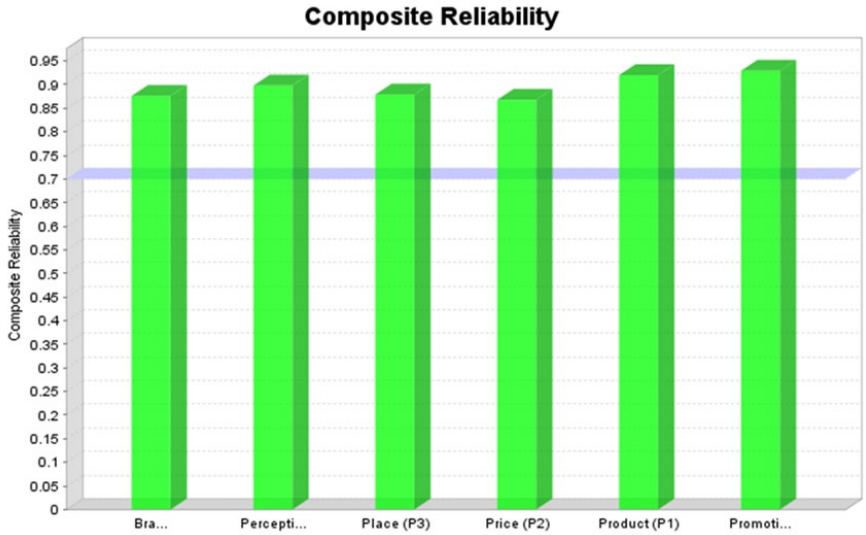
Table 4.5
Discriminant Validity Test

	Brand Decision (BD)	**Perception (P5)**	**Place (P3)**	**Price (P2)**	**Product (P1)**	**Promotion (P4)**
Brand Decision (BD)	0,838					
Perception (P5)	0,778	0,864				
Place (P3)	0,727	0,728	0,842			
Price (P2)	0,525	0,547	0,529	0,875		
Product (P1)	0,731	0,774	0,717	0,609	0,789	
Promotion (P4)	0,497	0,536	0,356	0,477	0,586	0,771

The Fornell-Larcker criterion is measured based on the belief that the variables share a greater variance with the related indicators than the other constructs shown in the evaluation results above. All values in bold in the table above have a value greater than the value of any construct associated with the variable. Thus, the results of this study indicate that each variable in the model has discriminant validity. By considering the two approaches above in measuring discriminant validity, it can be concluded that each variable in the model is empirically far from each other and has discriminant validity.

3. Composite Reliability
   Composite reliability test to measure the convergent validity of a reflective model. The minimum composite reliability value is 0.6 or > 0.7 (Setiaman, 2020). The results of the composite reliability measurement on the main test data are shown in the Figure below:

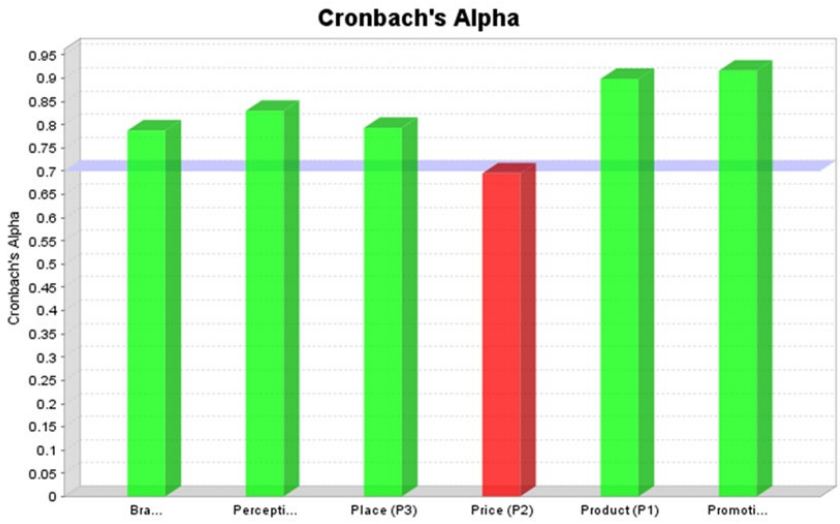
Figure 4.9
Composite Reliability



From results above, it can be seen that all variables have composite reliability higher than 0,7, which shows that all variables tested are reliable.

4. Cronbach's Alpha
The main data analysis also measures the value of Cronbach's alpha to assess the consistency of the entire scale and is expected to be greater than 0.7 (Hair et al., 2013). The results of this test can be seen in the figure below:

Figure 4.10
Cronbach's Alpha



From the results of the analysis, almost all variables have Cronbach's alpha values greater than 0.7. There is only one variable whose value is less than 0.7, namely 0.695 but very close to 0.7. This value indicates that all the variables tested for the main data analysis have high reliability and further research can be carried out.

4.2.3 Outer Model Statistics

After testing for the outer model is done, then the structural model analysis (inner model) is still using the SMARTPLS program. Structural model analysis has important metric values, namely, R2, f2, VIF, path coefficient, t test (model accuracy), predictive relevance test and FIT test

1. Regression Coefficient Test (R2)

The value of R-Squares is the result of a linear regression test, namely the amount of endogenous variability that can be explained by exogenous variables (Hair et al., 2013). The results of the R-Squares Test can be seen in the table below:

Table 4.6
R-Squares Test

	R Square	R Square Adjusted
Brand Decision (BD)	0,681	0,674
Perception (P5)	0,678	0,672

From the results of further analysis that has been carried out, the value of R2 on the perception variable (P5) is 0.672. Referring to the existing theory, the R2 value obtained is 0.672 indicating the strength of the moderate model. Based on these results, it can be seen the magnitude of the influence of other variables on perception. There are 0.672 variants described in the construct that represent perception. That is, 67.2% perception of cigarette brands consumed is influenced by the Product, Price, Place, and Promotion variables. In addition, it can be seen that the results of the brand decision variable R2 (BD) are 0.674. By referring to the existing theory, the value of R2 on the brand decision variable shows the strength of the moderate model. This means that 67.4% of the brand decision variables in a Cigarette Brand are influenced by the Product, Price, Place, Promotion and Perception variables.

2. Linear Test (F2)
Effect size analysis will see the substantive effect on endogenous constructs. The results of the f2 measurement on each variable can be seen in the table below:

Table 4.7
Linear Test (F2)

	Brand Decision (BD)	Perception (P5)	Place (P3)	Price (P2)	Product (P1)	Promotion (P4)
Brand Decision (BD)						
Perception (P5)	0,148					
Place (P3)	0,100	**0,196**				
Price (P2)	**0,001**	**0,002**				
Product (P1)	0,025	**0,164**				
Promotion (P4)	**0,012**	0,047				

As can be seen in the table above, we can analyze that the variables that affect perception have a large contribution with a value of 0.196 for the place variable and 0.164 for the product variable, and other variables have a small influence with a value of 0.002 and 0.047. Then the variable that contributes to the brand decision variable has a value of 0.148 for perception and the rest has a small effect.

3. Path Coefficient
Path Coefficients Test is a measurement of path coefficients between variables to see the significance and strength of the relationship and also to test hypotheses. Path coefficients values range from -1 to +1. The results of the path coefficients test measurements can be seen in the following table:

Table 4.8
Path Coefficients Test

	Brand Decision (BD)	Perception (P5)	Place (P3)	Price (P2)	Product (P1)	Promotion (P4)
Brand Decision (BD)						
Perception (P5)	0,384					
Place (P3)	0,287	0,370				
Price (P2)	0,024	0,036				
Product (P1)	0,167	0,396				

Promotion (P4)	0,080	0,156				

As can be seen in the table above, we can analyze that the significance and strength of the relationship between variables is positive or >0.

4. Model Accuracy Test (T)

Hypothesis testing is done by looking at the results of the R-Square, P-Values-, and T-Stastic inner model analysis. This test uses the path coefficient in the SMARTPLS program, the results of the path coefficient measurement can be seen in the table below:

Table 4.9
Model Accuracy Test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Perception (P5) -> Brand Decision (BD)	0,384	0,382	0,072	5,341	**0,000**
Place (P3) -> Brand Decision (BD)	0,287	0,280	0,058	4,954	**0,000**
Place (P3) -> Perception (P5)	0,370	0,366	0,063	5,837	**0,000**
Price (P2) -> Brand Decision (BD)	0,024	0,027	0,056	0,424	**0,672**
Price (P2) -> Perception (P5)	0,036	0,035	0,054	0,661	**0,509**
Product (P1) -> Brand Decision (BD)	0,167	0,173	0,093	1,782	**0,075**
Product (P1) -> Perception (P5)	0,396	0,396	0,078	5,070	**0,000**
Promotion (P4) -> Brand Decision (BD)	0,080	0,077	0,056	1,426	**0,154**
Promotion (P4) -> Perception (P5)	0,156	0,159	0,047	3,341	**0,001**

In this study, calculations for indirect path coefficients were also carried out because this study used mediating variables. Therefore, the results of indirect path coefficients can be seen in the table below:

Table 4.10
Model Accuracy Test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Place (P3) -> Perception (P5) -> Brand Decision (BD)	0,142	0,141	0,040	3,534	**0,000**
Price (P2) -> Perception (P5) -> Brand Decision (BD)	0,014	0,014	0,021	0,646	**0,519**
Product (P1) -> Perception (P5) -> Brand Decision (BD)	0,152	0,150	0,037	4,157	**0,000**
Promotion (P4) -> Perception (P5) -> Brand Decision (BD)	0,060	0,061	0,021	2,780	**0,006**

From the two tables above, it can be concluded that the type of mediation is based on the influence between these variables. The conclusion is as follows:

- The Product variable (P1) on the Brand Decision (BD) variable has no direct and insignificant effect. The Product variable (P1) on the Brand Decision (BD) variable which is influenced by the Perception variable (P5) has a positive and significant effect. From the two results, it can be concluded that the type of mediation that occurs is complementary mediation.
- Price variable (P2) on the Brand Decision (BD) variable has no direct and insignificant effect. The Price variable (P2) on the Brand Decision (BD) variable which is influenced by the Perception variable (P5) has a negative and insignificant effect. From the two results, it can be concluded that the type of mediation that occurs is that there is no mediation or non-mediation effect.

- The Place variable (P3) on the Brand Decision (BD) variable has a direct and significant influence. The Place variable (P3) on the Brand Decision (BD) variable which is influenced by the Perception variable (P5) has a positive and significant effect. From the two results, it can be concluded that the type of mediation that occurs is non-mediation or direct influence.
- The Promotion variable (P4) on the Brand Decision (BD) variable has no direct and insignificant effect. The Promotion variable (P4) on the Brand Decision (BD) variable which is influenced by the Perception variable (P5) has a positive and significant effect. From the two results, it can be concluded that the type of mediation that occurs is complementary mediation.

5. Predictive Relevance Test
   Predictive Relevance test is used to find out how well the observations have been made. The Predictive Relevance test uses the value of the Cross-validated redundancy (Q2) or Q-square test. the results of the predictive relevance test can be seen in the table below:

Table 4.11
Predictive Relevance Test

	SSO	SSE	Q^2 (=1-SSE/SSO)
Brand Decision (BD)	660,000	355,022	0,462
Perception (P5)	660,000	332,742	0,496
Place (P3)	660,000	660,000	
Price (P2)	440,000	440,000	
Product (P1)	1540,000	1540,000	
Promotion (P4)	1980,000	1980,000	

As can be seen in the table above, we can analyze that the value of Q2 > 0 is 0.462 and 0.496, which means that the observation value of the model is good.

4.3 Discussion

From the results of data analysis that has been carried out, there are several discussions related to the hypotheses proposed in this study, the following are the discussions carried out for each hypothesis in the research that has been carried out by the researcher based on the processed data that has been carried out by the researcher.

1. Effect of Product (P1) on Perception (P5) – H1
   Product (P1) has a direct and significant effect on perception (P5) with a t-value of 5.070 > 1.96 and a p-value of 0.000 < 0.05. Therefore, the first hypothesis can be accepted because the product (P1) has a direct and significant effect on perception (P5).
2. Effect of Price (P2) on Perception (P5) – H2
   Price (P2) has no direct and insignificant effect on Perception (P5) with a t-value of 0.661 < 1.96 and a p-value of 0.509 > 0.05. Therefore, the second hypothesis cannot be accepted because Price (P2) has no direct and significant effect on Perception (P5).
3. Effect of Place (P3) on Perception (P5) – H3
   Place (P3) has a direct and significant effect on Perception (P5) with a t-value of 5.837 > 1.96 and a p-value of 0.000 < 0.05. Therefore, the third hypothesis can be accepted because Place (P3) has a direct and significant effect on Perception (P5).
4. Effect of Promotion (P4) on Perception (P5) – H4
   Promotion (P4) has a direct and significant effect on Perception (P5) with a t-value of 3.341 > 1.96 and a p-value of 0.001 < 0.05. Therefore, the fourth hypothesis can be accepted because Promotion (P4) has a direct and significant effect on Perception (P5).
5. Effect of Perception (P5) on Brand Decision (BD) – H5
   Perception (P5) has a direct and significant effect on Brand Decision (BD) with a t-value of 5.341 > 1.96 and a p-value of 0.000 < 0.05. Therefore, the fifth hypothesis can be accepted because Perception (P5) has a direct and significant effect on Brand Decision (BD).
6. Effect of Product (P1) on Brand Decision (BD) – H6
   The product (P1) has no direct and insignificant effect on Brand Decision (BD) with a t-value of 1.782 < 1.96 and a p-value of 0.075 > 0.05. Therefore, the sixth hypothesis cannot be accepted because the Product (P1) does not have a direct and significant effect on Brand Decision (BD).
7. Effect of Price (P2) on Brand Decision (BD) – H7

Price (P2) has no direct and insignificant effect on Brand Decision (BD) with a t-value of 0.424 < 1.96 and a p-value of 0.672 > 0.05. Therefore, the seventh hypothesis cannot be accepted because Price (P2) has no direct and significant effect on Brand Decision (BD).

8. Effect of Place (P3) on Brand Decision (BD) – H8
   Place (P3) has a direct and significant effect on Brand Decision (BD) with a t-value of 4.954 > 1.96 and a p-value of 0.000 < 0.05. Therefore, the eighth hypothesis can be accepted because Place (P3) has a direct and significant effect on Brand Decision (BD).
9. Effect of Promotion (P4) on Brand Decision (BD) – H9
   Promotion (P4) has no direct and insignificant effect on Brand Decision (BD) with a t-value of 1.426 < 1.96 and a p-value of 0.154 > 0.05. Therefore, the ninth hypothesis cannot be accepted because Promotion (P4) does not have a direct and significant effect on Brand Decision (BD).

5. Conclusion and Suggestions

5.1 Conclusion

Based on the results of the discussion that has been carried out in Chapter IV, it was found that there were 4 rejected hypotheses and 5 accepted hypotheses. Marketing 4P (Product, Price, Place & Promotion) can be used as one of the strategies of cigarette companies mediated by the perception variable to influence consumers in determining the brand they will consume. So the authors conclude the results of this study as follows:

1. Product variable has a direct and significant effect on Perception (P5) with a t-value of 5.070 > 1.96 and a p-value of 0.000 < 0.05. However, it has no direct and insignificant effect on Brand Decision (BD) with a t-value of 1.782 < 1.96 and a p-value of 0.075 > 0.05. Based on the results of the two tests, it can be concluded that a product that is produced must pay attention to what is needed by consumers, and what views will appear when consumers see the product produced, if these two things can be fulfilled then more consumers will decide to buy. using a product from a brand
2. Price variable has no direct and insignificant effect on Perception (P5) with a t-value of 0.661 < 1.96 and a p-value of 0.509 > 0.05. And also has no direct and insignificant effect on Brand Decision (BD) with a t-value of 0.424 < 1.96 and a p-value of 0.672 > 0.05. Based on the results of the two tests, it can be concluded that the price or cost that must be incurred by consumers to get a product does not really affect the perception of consumers and also consumer decisions in using the product, because consumers prioritize their satisfaction with the product of a brand they consume.
3. The Place variable has a direct and significant effect on Perception (P5) with a t-value of 5.837 > 1.96 and a p-value of 0.000 < 0.05. And a direct and significant effect on Brand Decision (BD) with a t-value of 4.954 > 1.96 and a p-value of 0.000 < 0.05. Based on the results of the two tests, it can be concluded that the existence of a product in the field is very important in order to bring the product marketed closer to consumers, and also consumers can more easily and efficiently get products on the market. This is because if a product is difficult to reach by consumers, consumers can indirectly switch to other similar products and consumer perceptions of a product that is difficult to obtain will disappear and be considered the product no longer exists.
4. Promotion variable has a direct and significant effect on Perception (P5) with a t-value of 3.341 > 1.96 and a p-value of 0.001 < 0.05. However, it has no direct and insignificant effect on Brand Decision (BD) with a t-value of 1.426 < 1.96 and a p-value of 0.154 > 0.05. Based on the results of the two tests, it can be concluded that promotional activities carried out by a brand to introduce its products to target consumers are very important, because these promotional activities can create or influence consumer perceptions of a product, if the perception is good it will end in the consumer's decision to use the product. product of a particular brand. So with this it can be explained that the purpose of carrying out promotional activities is to improve the image or consumer view of a product that is being marketed so that consumers can try the product from the brand and make it a loyal consumer to the product of the brand.

5.2 Suggestions

From the results of the discussion and conclusions that have been made, the researcher provides suggestions in the form of academic suggestions and practitioner suggestions. This suggestion can be used to develop further research:

1. Increasing the number of research respondents in order to obtain more significant and more detailed results.
2. Conduct research from different industries so as to provide different perspectives from different industries
3. This research was conducted specifically for cigarette products, so in the future it can replace cigarette products with other products that resemble such as vapes or e-cigarettes so that they can represent other industries.

4. The location of conducting the survey is more spread out so that all segments can be described in further research.
5. Research is more focused on one of the cigarette manufacturers so that they can be more specific in getting solutions to market their products.
6. Evaluating sales visits to outlets or places that are often used as places where consumers buy cigarettes.
7. Evaluate marketing methods with lower costs and get consumer responses to as many products as possible.
8. The research is extended to districts where consumers are quite homogeneous compared to those in cities.
9. Research focuses on the shift in price-sensitive consumers so that the price variable can focus more on further research, so that a brand if it will determine the price can choose the most appropriate price

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Appendix

Variable	Indicator	Freq	Mean	Median	Min	Max	Standard Deviation
Product (P1)	Product 1	220	4,100	4	1	5	1,048

	Product 2	220	3,505	4	1	5	1,154
	Product 3	220	3,591	4	1	5	1,090
	Product 4	220	3,173	3	1	5	1,098
	Product 5	220	3,959	4	1	5	1,149
	Product 6	220	3,923	4	1	5	1,044
	Product 7	220	3,764	4	1	5	1,128
	Product 8	220	3,541	4	1	5	1,157
	Product 9	220	3,645	4	1	5	1,054
	Product 10	220	3,664	4	1	5	1,025
	Product 11	220	3,732	4	1	5	1,102
Price (P2)	Price 1	220	3,882	4	1	5	1,038
	Price 2	220	3,550	4	1	5	1,054
Place (P3)	Place 1	220	4,114	4	1	5	1,018
	Place 2	220	4,032	4	1	5	1,093
	Place 3	220	3,900	4	1	5	1,163
Promotion (P4)	Promotion 1	220	2,823	3	1	5	1,079
	Promotion 2	220	2,827	3	1	5	1,131
	Promotion 3	220	2,873	3	1	5	1,172
	Promotion 4	220	2,591	2	1	5	1,263
	Promotion 5	220	2,895	3	1	5	1,237
	Promotion 6	220	2,859	3	1	5	1,145
	Promotion 7	220	3,173	3	1	5	1,119
	Promotion 8	220	3,200	3	1	5	0,908
	Promotion 9	220	3,450	4	1	5	1,169
	Promotion 10	220	3,436	4	1	5	1,144
	Promotion 11	220	4,082	4	1	5	1,024
	Promotion 12	220	3,436	3	1	5	1,176
	Promotion 13	220	3,673	4	1	5	1,075
	Promotion 14	220	3,873	4	1	5	1,161
Perception (P5)	Perception 1	220	3,964	4	1	5	0,967
	Perception 2	220	3,555	4	1	5	1,113
	Perception 3	220	3,736	4	1	5	1,076

	Perception 4	220	3,764	4	1	5	1,111
Brand Decision (BD)	Brand Decision 1	220	3,545	4	1	5	1,019
	Brand Decision 2	220	3,955	4	1	5	0,952
	Brand Decision 3	220	3,977	4	1	5	0,993
	Brand Decision 4	220	3,536	4	1	5	0,979



Analysis of Factors Influence Micro Enterprises Online Purchase Intention on Social Media Agency Services with Mediation of Attitude towards Social Media in Kabupaten Tangerang During Covid-19 Pandemic

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Abstract. Begin with the Covid-19 as digital accelerator brings people to access social media daily, social media agency come as a solution to help micro business to survive on the pandemic era. Therefore, the social media agency is facing a hypercompetitive situation and need to know the factor of micro business having an intention to purchasing their services. Based on the findings, Subjective Norms (SN), Perceived Usefulness (PU), Perceived Behavioral Control (PBC), Cost (C), Attitude toward social media (ASM) significantly influence micro business owners online purchase intention. Therefore, Perceived Usefulness is significantly influenced online purchase intention using mediating variable. It describes that the highest influenced factor is Perceived Usefulness, which improve respondent online purchase intention, with or without any mediating variables. Also, it shows that attitude towards social media was not significantly influenced as a mediator. From the result, it can be suggested on the social media agency to focused more on how their services can bring an effort saving and enhance micro business in Kabupaten Tangerang through social media, especially on the post-pandemic situation. Its also recommended for the micro business owner to considered using social media agency for an effective workflow on activating social media for business.

Keywords: Online Purchase Intention; Micro Enterprisel; Influence; Social Media Agency; Attitude towards Social Media

1. Introduction

Coronavirus disease 19 (COVID-19), well-known as Coronavirus, is a transmittable virus that might cause infection in a respiratory area. COVID-19 was first detected in Wuhan, China, and rapidly infected many people around the world (Shereen et al., 2020). The existence of this virus requires humans to be able to change habits to prevent further transmission. Face-to-face or offline activities are slowly becoming online, and this is where the role of the internet is essential and needed. Asosiasi Penyelenggara Jasa Internet (APJII) survey result shows that the internet user in Indonesia was increasing to 8,9%, from 171,17 million in 2018 becoming 196,71 million in 2020. The upgrading number of the whole population was also significant, from 64,8% becoming 73,7% of the 266,9 million total population all around Indonesia. It shows that the internet made a lot of progress in the 2019-2020, which was the beginning of the Covid-19 pandemic emerging in Indonesia. APJJI survey also shows that the most significant internet penetration in Indonesia is in the Java area, which also affects the big city that is commonly called Jabodetabek.

By the power of digitalization, social media becoming a trend and one of the platform's that can't be removed from people's daily activities. It can be looked at how social media becoming the platform that mostly used by people in Indonesia while accessing the internet. Previously, social media as a means of socializing in long-distance has now become a practical and varied business platform. This situation also could be concluded that Covid-19 somehow becomes a rapid digital accelerator (Kotller et al., 2021), specifically for Indonesian people. As social media becoming everyone's common online platform, most of business try to go online and developing their social media for reaching out their audiences. Knowing that the current crowd on the pandemic are using social media daily, most of business must join the crowd to attract them (Tiago & Veríssimo, 2014). Meaning that the business on this pandemic needs to follow the customer' 'new behavior' to gain their trust, yet also keep up their business performances by activating social media for business.

This condition becoming a chance for social media agency, as a company that providing social media management services for other business to optimize their marketing through online. F.A. Hersin (personal communication, November 20, 2021), Co-Founder of Flippio Studio Creative Agency, social media agency services came to be an efficient and profitable option for business to implementing social media marketing on this rapid changes situation. By purchasing social media agency services, business owner can simply purchase on the package that include all their social media marketing needs, included content planning, design, marketing, copywriting, online ads, and many more. It will be billed monthly, and the package itself could be subscribe with a certain amount according to their budget capability to make their cost remains efficient. This will help the business owner more cut their time and effort on implementing social media marketing, compared to having and maintaining their own employees. Looking at how social media for business as a digital marketing tool also needs to be optimized as a major part of marketing activities to reach the right target market. To develop a marketing strategy itself, it is important to identify and understand the needs and motivations behind social media usage (Zhu & Chen, 2015). An effective social media marketing will build the business through various media, that gives you promotion of product exposure as a result (Divya & Regi, 2014). Often, small businesses will start with a basic strategy and develop intermediate or advanced methods down the road. That's why, social media agency are a right option for entrepreneurs to develop their online marketing, with a more affordable price and an experienced team.

The solution provided by the social media agency came as suitable choice, according to people in Indonesia that started to adapt to survive their business on the pandemic, especially the primary sector in Indonesia, which is Micro, Small & Medium Enterprises (MSME) (Bahtiar, 2021). Many MSMEs have to close their businesses or go out of business affected by the Covid-19 (Dora & Saudi, 2020). Therefore, according to Syaifullah et al. (2021), using social media for marketing positively affects the MSMEs' business performance. This means that social media could help MSME to improve business performance due to the pandemic era. Although, they try to survive by adapting to the digitalization with a limited financial resources and managerial resources to support marketing activities. Usually, small firm are unable to make a significant amount of investment to develop marketing capabilities like larger firms do (Tarsakoo & Charoensukmongkol, 2020). That's why social media agency could be the right option for MSME to keep their business performance on the right track or even increasing with a limited budget. Every business can make and implement a digital marketing strategy that meets their needs and budget, which have to be considered if we're talking about MSME, specifically micro business, that have a specific budget to expense (Saleem, 2021).

In Tangerang (Kabupaten Tangerang), Banten, Indonesia. Bantenhits.com due to the pandemic, the number of MSMEs is quite increasing. Siti Zahro, Head of Promotion Section in the Field of Promotional Partnerships of the Cooperative and Micro Enterprises Office, claimed the MSME in Tangerang reached about 13.000 businesses. It also makes the Tangerang Government consider supporting the MSMEs' economic progress in this situational condition, which described on tangerangkab.go.id . This condition also become more important if we're looking at the majority of MSMEs in Kabupaten Tangerang is the Micro business, by the data in 2018 as we can see below The author had been interviewed Veronica (Personal communication, September 23, 2021), owner of Iniharu, hampers shop and one of micro business in Tangerang, which uses social media marketing through a digital agency, Flippio Studio. She said that during this pandemic new era, as MSMEs, they're forced to be known all about the digital world. By comparing from the previous, MSME could divide their marketing into 30% by online and 70% by offline. But during this pandemic, they've to switch one another. That's why digitalization has a big role in the MSME for surviving alongside the Covid-19 era.

Kotller et al. (2021) stated that it is important to considering about hiring a new digital talent which expertise and could working in the digital transformation, and do a collaboration within the managers, to develop an effective digitalization process and activate marketing. Social media agency delivered and fulfilled the empty slot on MSME's limited social media capabilities, especially micro business, to help them upgrade, update, and expand their marketing also business through online, which using social media. Therefore, F.A. Hersin (personal communication, November 20, 2021) stated that as a business, social media agency also needs their own strategy to gain their consumer in this hypercompetitive situation, according to how massive the number of social media agency that existed in Indonesia nowadays. The importance of digital presence is becoming the key of making them trustworthy. To make small business owners trusting on the services, it could be proven by the portfolio and how the agency approaching through digital platform, which is social media. Because the agency focusing on managing social media, they must also prove it on their on social media as their brand identity. This also become more important because most of the social media agency are expanding their business through online, that usually having an issue with trust. This online purchase intention will define many factors behind it, and how the consumer, which is the micro business owners, made their mind to purchase social media agency services.

Therefore, we need to know about the factors that made micro business purchasing social media agency services as their solution to survive and expanding their business through online via social media, and what's factors affected them on picking their choices. This thesis will specifically be analyzing the factors that affected micro business in Tangerang purchase intention on social media agency services to develop their business performance to a larger scope and remain efficient during the pandemic. The result, referred from the business problem above, will help the company, which is the social media agency, to improve their customer's online purchase intention based on the factors itself.

2. Literature Review

Micro, Small, Medium Enterprise (MSME) or UMKM (Usaha Mikro, Kecil, Menengah) are becoming Indonesia's the primary sector (Bahtiar, 2021). It is a classification of the business referred to the business' assets and yearly income. According to Pasal 35 ayat (3) PP 7 tahun 2021 about Micro, Small and Medium Enterprise (MSME), the micro business described as a business with a total maximum Rp.1.000.000.000 of assets and a maximum Rp.2.000.000.000 of yearly income. Then, the small business described as a business with a total asset in between Rp.1.000.000.000-Rp.5.000.000.000, and with a total yearly income in between Rp.2.000.000.000.-Rp.15.000.000.000. Last, the medium business described as a business with total asset more than Rp.5.000.000.000.

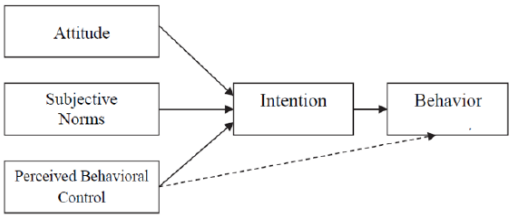
Marketing could be described as the process of engaging customers, build strong customer relationships, and create customer value whether to capture value from customers in return. It usually begins by understanding consumer needs and wants, determining which target markets the organization suit for them, and creating value proposition that can attract and grow valued consumers. Beside of it, marketing also having a role to engage customers and build deep relationships with customers to become a part of their lives. At the end, marketing should bring a result that contains of delivering value and customers satisfaction indeed (Kotler & Armstrong, 2018).

Digital marketing described as an implementation of marketing using electronic device and internet, though digital channels such as social media, search engines, email, websites, and any other online platform that able to connect with customers. It usually being called as online marketing, internet marketing, or even web marketing on specific terms and platform. The emerge of digital marketing usage nowadays are referring to the needs of business players to connect with customers that most of the time are spending their time online (Desai, 2019).

Social media are a highly interactive internet-based platform that create a people and community to share, discuss, co-create, and communicate through online. There is various type of social media which becoming everyone's trends nowadays, including Facebook, Twitter, Instagram, TikTok, and many more. The massive influence of social media also made it become a marketing tool for business with a low cost yet high efficiency, that suit to every business size, including MSME (Venciūtė, 2018). Then, social media agency are a group or team of people which taking a role of a social media marketer, that had a responsibility and capable to promote the business through paid and organic posts on the business's social media accounts (Desai, 2019).

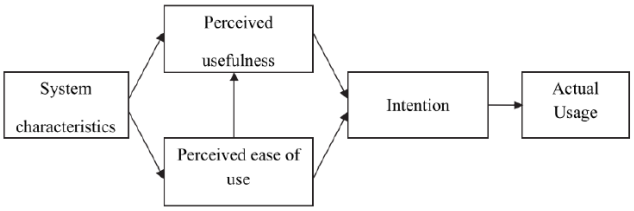
Also, this research are using 2 theories. Theory of Planned Behavior (TPB), which described that behavior is created by some factors including attitude, subjective norms, and perceived behavioral control. The theory will define how the intention are made by these 3 variables (Ajzen, 1991).

Figure 1
Theory of Planned Behavior



Then, the second theory, Theory of Acceptance Model or TAM, is made to know about how "intention" is directly influenced by two factors, which are perceived usefulness and perceived ease of use (Ha et al., 2019).

Figure 2
Theory of Acceptence Model



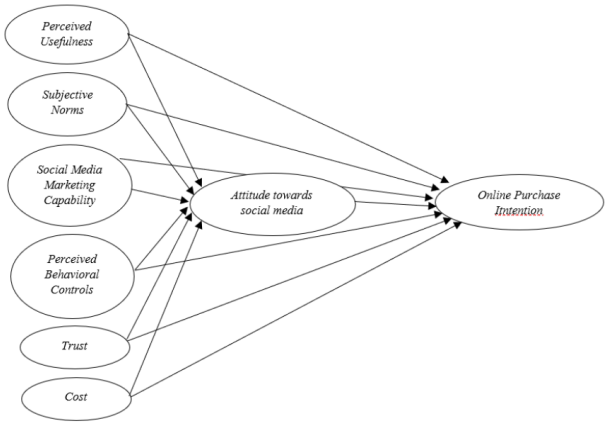
Other than that, there are 3 more factors used on this research, which are trust, cost, and online purchase intention. Trust that will create an individual or person to assure about something they try to believe, and becoming a factor that influenced on consumer online shopping intention (Ha et al., 2019). Then, cost that becoming a limited capability for the micro business and assumed will be related to their social media marketing capabilities as a part of technology adoption aspect. Last, online purchase intention, which is a measurement of consumer intention to buy or purchase something through online.

As a core theory, this research will using the Theory of Planned Behavior by Ajzen (1991), that describe about three variables that have an influence on intentions, which are attitude, subjective norms and perceived behavioral control. These factors will create intention and finally at the end turns into behavior (Figure 5. Theory of Planned Behavior).

Second, this research are adopting research model by Di Virgilio & Antonelli (2017), titled "Consumer behavior, trust, and electronic word-of-mouth communication: Developing an online purchase intention model". This journal is introducing the mediation effect of trust in social media platform and eWOM communication on the direct effect performed by the customers' behavioral intentions on the purchase intention and it expands the area of effect to the social media platform. The framework shows the trust in social media platform and eWOM communication has a mediating effect on online purchase intention. Therefore, these studies open a new path of research on how consumer behavior can take place through the combined effect of trust and eWOM on behavioral intentions. These studies also opening a possibility to be implemented in a specific context or generations, which will brings a different orientation to gain a greater value that fit their needs (Bilgihan, 2016, on Di Virgilio & Antonelli, 2017).

The third research model that were adopted for this thesis is from Ha et al. (2019) titled "The effect of trust on consumers' online purchase intention: An integration of TAM and TPB". This framework is combining the Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB) by adding the factor of trust in the investigation of consumer online shopping intention. The result on this journal specifically indicate that trust is a factor that carries significant impact to consumer online shopping intention. The theories were combined and turns into a new conceptual framework for this research, shown on figure 3.

Figure 3
Conceptual Framework



3. Research Methodology

This research will be using positivism paradigm, which focusing on the real phenomenon that happens on the social life to find the truth and impact on the society (Seran, 2020:4). Then, the research object is the online purchase intention on social media agency during the Covid-19 pandemic. Therefore, the subject will be the micro enterprises as a consumer of social media agency. Population on this research are the micro enterprise in Kabupaten Tangerang, Banten, Indonesia. Micro enterprise itself categorized as a business that have a maximum asset Rp.1.000.000.000, according to Pasal 35 ayat (3) PP 7 tahun 2021 about Micro, Small and Medium Enterprise (MSME) category. The respondent was chosen using non-probability with a judgement sampling approach. The data itself would be collected using online form questionairre by shared via WhatsApp and Instagram, consist of 1 (Sangat Tidak Setuju) to 5 (Sangat Setuju) score of Likert Scale. The research proceed by starting a pre-test, and continued to the main test which analysed by using descriptive analysis, outer model analysis (validity & reliability test), inner model analysis (coefficient determinant, VIF, path coefficient) and hypothesis discussion.

4. Result and Discussion

By using a questionnaire that meet the requirements, the outputs are as follows:

4.1 Respondent Characteristics

The respondent of this research consisted of 88 respondents, with a majority 53.4% are female, age is 30% from the 26-30 (followed by 25% of the group of 21-25), mostly starting their business in 2021 (28,4%), and 48% of them have had used or experienced social media agency services.

4.2 Research Result

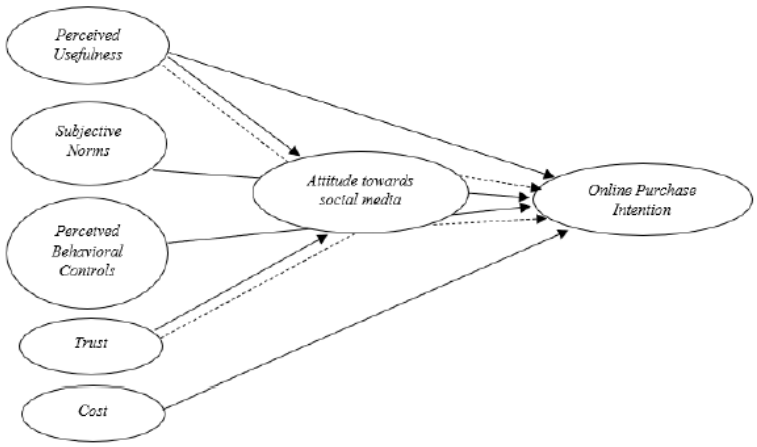
a. There are 2 variables that have a significant influence, according to direct path coefficient test, to variable Attitude towards social media (ASM), which are Perceived Usefulness (PU) and Trust (T). It shows that these two variables are significantly becoming a factor that impacting respondent's attitude towards social media. In this case, the convenience obtained when using the services of a social media agency and their trust to the social media agency will affecting the respondents' attitude towards social media as an owner of micro business in Kabupaten Tangerang.
b. There are 5 variables that have a significant influence, according to direct path coefficient test, to variable Online Purchase Intention (OPI), which are Subjective Norms (SN), Perceived Usefulness (PU), Perceived Behavioral Control (PBC), Cost (C), Attitude toward social media (ASM). It shows that variables SN, PU, PBC, and C are significantly becoming a factor that impacting respondent's intention to purchase on social media agency services through online. Then, respondent's attitude towards social media, as a mediating variable, also have a significant influence to the online purchase intention of social media agency services.
c. According to the model used on this research was using a mediating variable, there are an indirect influence that made by the independent to dependent through mediating variable. By the test of indirect coefficient path, concluded that the variable Trust (T) and Perceived Usefulness (PU) are having a significant influenced

to Online Purchase Intention (OPI) in mediation of Attitude towards social media (ASM). It shows that there are a connection between the respondent's needs on getting their business' social media activation easily & effectively, also importance to know about the agency's track record, into their intention to purchase social media agency's services by online. It was provenly mediated by their attitude towards social media, especially to their frequency, interest and dependence on social media as a marketing tool for their business.

4.3 Final Framework

By looking at the result, the model could be concluded as follows:

Figure 4
Final Framework



a. According to the research purpose that used to know about the factors makes micro business owners' intention on using social media agency due to the pandemic changes, the result shows there are some factors that have a significant direct influence, including Perceived Usefulness, Subjective Norms, Perceived Behavioral Control, Cost, Attitude towards social media. This result are answering which factor do have a significant impact or affecting on making micro business owner in Kabupaten Tangerang on using social media agency for their business, due to the pandemic changes.
b. Trust concluded as a factor that indirectly made a significant influence to online purchase intention by the mediation of attitude towards social media. It shows by looking at how trust can become the factor only if it mediated by attitude towards social media. In this case, the relation between trust and attitude towards social media are strong enough to lead an intention. This finding are not inline with the previous research that told about how trust can directly influence online shopping intention (Ha et al., 2019). It might be caused by the difference of the scoop of sample, or the indicator that represent online shopping intention and online purchase intention.
c. There is a strong influence made by Perceived Usefulness, that have an inline result as the factor of online purchase intention. It shows by looking at how Perceived Usefulness as a variable influence online purchase intention, with or without a mediation of attitude towards social media. It means that perceived usefulness can be concluded as a strongest factor influencing respondent online purchase intention on social media.
d. Attitude towards social media turns out to be not generally impacting as a mediating variable, because there's only 2 hypothesis that accepted according to the mediation. But it plays a big role to create a connection between Trust and Online Purchase Intention. This is answering for the research objective about how attitude towards social media as a mediation have a role on influencing from the factors (independent variables) into online purchase intention (dependent variable), which significantly influence on trust and online purchase intention.

5. Conclusion and Recommendation

According to the data processing that has been done by spreading online form, which obtained total of 88 respondents of micro business owners in Kabupaten Tangerang, using SMART-PLS, the result answering the research problem can be answered as follows:

1. The factor that has a significant effect to micro business owners' online purchases intention on social media agency services are Perceived Usefulness, Subjective Norms, Perceived Behavioral Control, Cost, Attitude towards social media.

2. Micro business owner's attitude towards social media do have a direct significant effect on their intention to purchasing social media agency services. But as a mediator, it didn't play a big part in it.
3. The factor that significantly have an effect mediated by micro business owners' attitude towards social media towards their online purchases' intention on social media agency services is Trust and Perceived Usefulness.

According to this research, it is important for the social media agency to know their focus to sell their services on the competitive situation. It's important to focus more on how to make the services looks useful and make the clients, in this case is the micro business owner, felt helpful by purchasing the services. It can be done by highlighting how the services can cut their effort, saving their time more, and even creating a mindset of an 'auto-pilot' solution for the clients on running their social media marketing. It is the most important thing, by looking at how the audience as a micro business owner needs to do their other things on running their business, so they consider more on a service that will reduce their workload.

Then, beside of the effort and time saving, social media agency can also show and educate their potential clients with the information about how these services can be worth it compared to the money they spend, how the business can join the trend and get more engagement from the audience, and on how efficient the services will be for them to develop their online marketing.

For the micro business owner, it's important to consider using social media agency, especially referring to how their audience are preferably using online activities beside offline due the pandemic changes. Using a social media agency service will be more effective and efficient beside hiring an inhouse or permanent employee, because it will cost more, and they need to be trained. But, by using social media agency, they can run the social media effectively with more affordable price. Therefore, it is important for the micro business to consider while choosing a right social media agency by looking at their latest works, the package's details and offer, also their strategies that can help the business growth on the social media

For the future research, it can take a general scoop to gain more insight and various result, referred to how this researched are focused on the specific conditions, which are on the period of Covid-19 pandemic (starting 2020) with a different location too. Next up, the respondent of this research is combined by the business owner that have been used, never used, and currently using social media agency. These three groups of respondents might have a different point of view into the social media agency because of their experience. It might be bringing a more specific result if the future research can be focused on the micro business that currently using social media agency services to make the result up-to-date and having an experience with an exact same period. Last, the next future research can also explore more on the successful variable, which are perceived usefulness to online purchase intention, mediated by attitude towards social media with more indicator for each variable.

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Indonesia's New Capital City Development Strategy from Mobility Optimization Perspective

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Abstract. Based on Indonesia's 2045 vision, Indonesia's new capital city development is expected to accelerate Indonesia's economic transformation. Its development consists of six economic clusters and two supporting clusters, including low carbon-energy targets, smart city, and industry 4.0. This study provides insights into achieving the stated development goals from the mobility optimization perspective. The strategies include optimization and machine learning-based traffic control, real-time and dynamic bus routing, smart waste management, and the use of drones and electric vehicles. This study can guide researchers and practitioners to contribute to Indonesia's new capital city development and accelerate the process.

Keywords: Optimization; mobility; real-time; smart city; machine learning

1. Introduction

Indonesia's government focuses on developing its new capital city. The new capital city development aims to distribute economic improvement in less populated areas of Indonesia. Supporting regulations and key performance indicator for the development have been defined in 2022 and is planned to be completed in 2045 [1]. The new capital city is designed based on six economic clusters and two supporting clusters [2]. Some of the clusters include low-carbon energy and smart city clusters. These clusters were highly related to its mobility system development, with detailed key performance indicators in Ibu Kota Negara [3].

Our study aims to list the essential mobility system characteristics based on the government's requirements. After identifying them, we provide a list of potential topics to be resolved from the mobility optimization perspective. We list the problem's objectives and decision variables for each situation, and we believe that researchers could refer to such a list to conduct detailed studies to resolve the issues.

2. Mobility Optimization in Indonesia's New City Development: Status and Development Strategies

Based on The Indonesia National Artificial Intelligence Strategy (Stranas KA) and the Indonesia government's regulations [3], the development of Indonesia's new national capital city (IKN) in mobility and smart city aspects aims at several targets:

1. Real-time data acquisition, analysis, and decision-making.
2. Integrated and collaborated transportation for resolving congestion and reducing personal vehicle usage. It is highly related to the multimodal transportation network design (which involves transfers between airplanes, trains, buses, ships, etc., ensuring at most two time-transfer rules).
3. At most 10-minutes access to any transportation mode by anyone.
4. Effective and efficient cargo distribution to reduce high logistics costs.

5. Traffic light optimization considering real-time CCTV data.
6. Smart waste management.
7. Early alarm and optimal relief distribution in disaster situations.
8. Low carbon emission transportation (electric and hydrogen-based vehicles) to achieve 100% renewable energy in 2045.

To achieve those goals, mobility and smart city studies for the new IKN from the mobility optimization perspective could be conducted as follows:

1. [City traffic simulation] Optimization and machine learning-embedded city traffic simulation models that use real-time road information (e.g., from Google Maps, Waze, etc.). The analysis should not be time-consuming and have an acceptable solution quality, e.g., in terms of the resulting travel time [4-5]. This study includes the dynamic traffic light scheme setting based on the real-time traffic situation and could incorporate pedestrian movements.
2. [Real-time bus route update] Updates on short/long-term bus routes based on usage data with online change notifications to users through their smartphones. Changes based on real-time information allow us to deal with uncertainties [6].
3. [Multimodal transportation network design] Location, allocation, and routing problems for multimodal transportation network systems could be optimized using mathematical models, heuristics, expert-based rules, and machine learning techniques [7-12]. To ensure the modes support each other, it is possible to simultaneously consider the coopetition (cooperation and competition) aspect.
4. [Bus station location problem] Ensuring good access to stations by bus passengers using the set covering problem for solving the bus routing problem.
5. [Sea toll development] An efficient logistics network design is related to the Indonesia sea toll development project, in which the development of transfer points (e.g., ports) should be scheduled well to increase connectivity [13].
6. [Smart waste truck routing] Smart waste management could be resolved by an online waste truck dispatching and routing that includes predicting the waste level. Such a prediction could be based on historical data using machine learning techniques [14-15].
7. [Drone mapping routing] Drones could be routed to map the disaster area in real-time [16]. Evacuation and logistics distribution routes could be optimized using heuristics and simulation. Such optimization approaches could be combined with data from IoT sensors.
8. [Electric vehicle relocation] Relocation of electric vehicles should be planned appropriately to ensure demand satisfaction [17]. Determining the best location for charging stations (that are reachable by the customers and require a low investment cost) is necessary before using electric or hydrogen-based vehicles. Quantitative analysis should also be conducted to evaluate the effectiveness of the battery recharging and swapping system.

Characteristics of each mobility optimization problem are addressed in Table 1.

Table 1
Characteristics of mobility optimization problems in Indonesia‘s new capital city.

Mobility problem type	Objective	Decision variables	Main characteristics	Related references
City traffic simulation	Minimizing congestion	Traffic light schedule, vehicle flow (direction)	Real-time data analysis, dynamic update	[18]
Real-time bus route update	Minimizing total travel times of passengers or buses	Updated bus routes	Real-time transportation card tag recording and analysis	[19]
Multimodal transportation network design	Maximizing transportation demand satisfaction by all modes	Location of transfer stations	Reducing effects of competition between modes and increasing connectivity	[20]
Bus station location problem	Minimizing total distances between stations and passenger points	Location of bus stations	Determining appropriate time and location to update bus stations	[21]
Sea toll development	Maximizing (domestic and international) profit increase of the ports	Amount of yearly investment for each port	Appropriate prediction of (domestic and international) market share change due to the investment	[13]

Smart waste truck routing	Maximizing waste truck utilization	Real-time truck routes	Regional waste level prediction-based route determination	[22]
Drone mapping routing	Minimizing total drone observation times	Drone routes and altitudes	Image processing and data transfer techniques	[10]
Electric vehicle relocation	Minimizing total relocation times	Relocation time and destination for each electric vehicle	Real-time electric vehicle usage data obtained from smartphone and online systems	[14]

Each problem above must be described and formulated mathematically to mimic the natural systems, and appropriate solution methods (e.g., rules, algorithms, metaheuristics) must be developed. The proposed models should be tested through implementations in biological systems, e.g., using actual data and applied to government-developed systems, or at least tested on accurate condition-like simulations [15]. The implementations on natural systems are highly related to data extraction using IoT sensors and big data analysis techniques (using machine learning techniques), which might highly depend on multidiscipline and Penta helix collaborations.

2.1 City traffic simulation

One method to optimize city traffic is reinforcement learning (RL), a machine learning technique. By using RL, we could assess real-time traffic situations, make real-time decisions, and measure the effect of making such decisions to be considered when making the following decisions. The basic concept for RL is illustrated in Figure 1 [23], and an example of values used for each component is shown in Figure 2 [24]. Every time we observe the state and based on that, we take action. Each action would provide a particular reward that we use to give some scores to the state-action candidates (to be considered in the subsequent decision-making). For instance, given a specific traffic condition, when we set a particular light duration sequence, and it allows us to reduce the number of waiting for cars at the intersection, we give a higher score for that condition and sequence setting pair, so in the future, we will likely to make similar decisions. Some latest review papers discussing using RL for city traffic optimization are [23,25].

Figure 1
Reinforcement learning framework

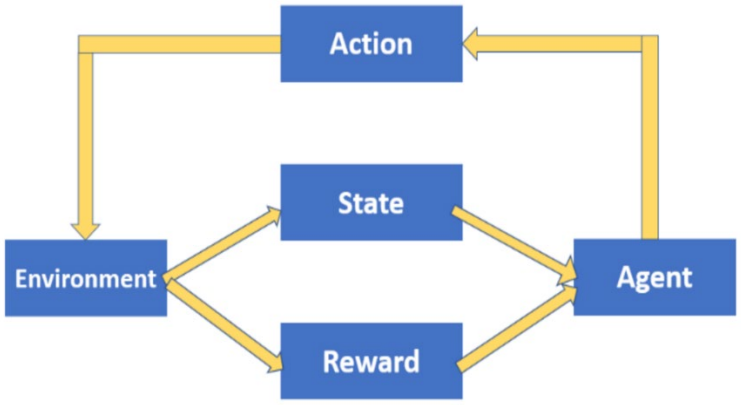
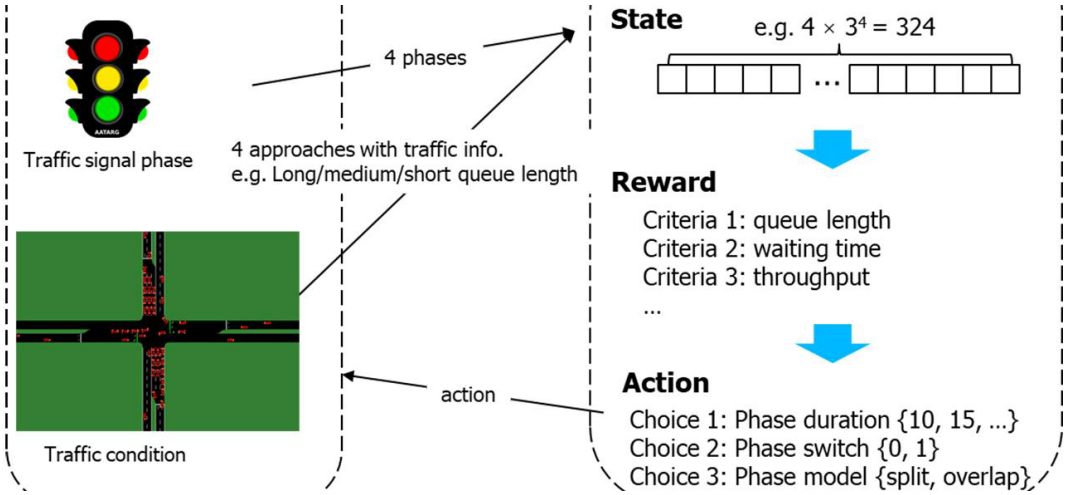


Figure 2
Berkeley's DeepDrive traffic light control using RL

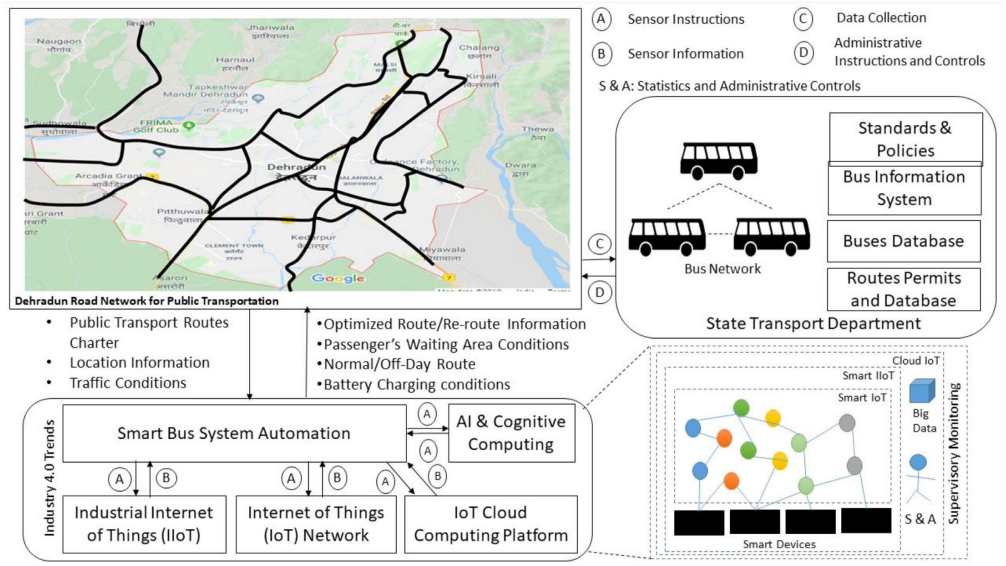


2.2 Real-time bus route update

It is common to have fixed bus routes to ensure passengers' convenience. It might be possible to update the routes after a certain long period. In this case, the regulator usually places some information on the route change and informs passengers so they can adapt to the new bus route or schedule. Because of the development of communication technologies, many personal cars use navigation systems to travel from their current point to their destinations. Considering the same trend of technology use by bus drivers and users, it will become possible for the regulator to apply more dynamic bus routes in the future.

Dynamic bus routes could allow higher utilization of the buses, shorter passenger travel times, and less heavy traffic. To generate such ways, it is necessary to capture and predict passengers' mobility behavior, e.g., by observing the bus and taxi travel demands [26-27]. To satisfy the requirement of 10-minute access to main facilities in Indonesia's new capital city, it is necessary to minimize the total user ride time (e.g., [19]). To reduce the traffic in the mobility network, it is required to route the bus(es) while considering other buses in the system. Considering the density of the passengers' travels, it would be necessary to appropriately design overlapping subroutes to satisfy the passenger demands [28]. More complex bus routing problems could incorporate the bus arrival prediction [29], necessary bus waiting times at stations to reduce passengers' waiting time [27], and the usage of electric buses with battery charging requirements [30] (Figure 3).

Figure 3
Electric bus system design in Dehradun Smart City

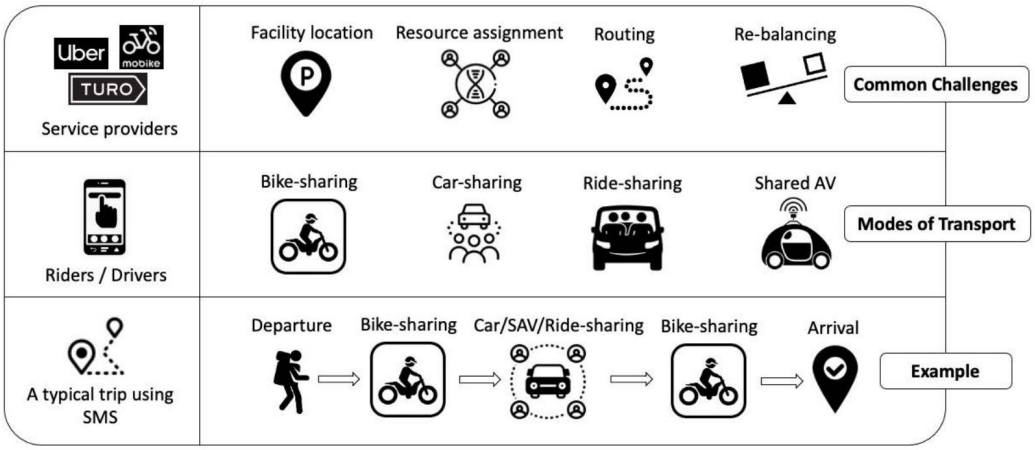


2.3 Multimodal transportation network design

Each transportation mode has its advantages, which highly depend on each unit's capacity, speed limit, operation scheme, etc. [31]. Designing an efficient multimodal transportation network design in Indonesia's new capital city is necessary to ensure good access between each pair of points in the town while effectively using each mode as a single mode of transportation. The multimodal transportation network design topic starts from the system installation until the functional design of the transportation modes. The management of the same or different transportation modes could be conducted by more than one institution, e.g., government or private companies. Such separated control could potentially cause competition between the services [32]. However, to ensure an overall sound transport system connectivity and utilization, it is necessary to incorporate cooperation between different service providers and transportation modes. Such combined competition and cooperation aspects fit into the competition framework. Although the coopetition's economic benefit was still limited [33], there are various potential advantages, e.g., carbon emission reduction when incorporating environment-friendly-transportation modes into the transportation network [34].

The multimodal transportation location problem (Table 1) discusses the installation of a new transportation mode network, given some existing networks of transportation modes. An example of a recently discussed transportation mode is the rapid transit Hyperloop [35]. Latest studies on other multimodal transportation network design issues considered: the transportation mode center's centrality consideration (in China; [36]), the robustness of the network when facing accidents and disasters (in Lisbon; [37]), multimodal traffic management during emergency evacuation [38], real-time matching for demand request fulfillment when using different modes [34] (Figure 4), urban multimodal transportation road network design and allocation [39]. Some review studies on multimodal transportation emphasized the importance of (1) environment-related analysis [40], which is suitable for the targets made for Indonesia's new capital city development, and (2) accurate data collection when using multimodal transportation for disaster evacuation purposes [41].

Figure 4
Coordinated transportation modes in a shared mobility system



2.4 Bus station location problem

The development of Indonesia's new capital city must ensure 10-minute access by passengers to any station of any transportation mode, including the bus. It is necessary to design bus station locations close to passengers' pickup points. We need to determine (1) when we need to update the bus station locations and (2) how the locations need to be updated.

A set covering approach has been used for designing bus station locations [42]. The latest reviews on bus station location problems or set covering issues stated the importance of considering travel time uncertainty [43-44]. The necessity for capturing and dealing with more dynamics in the travel demands could be covered through the recent developments and usages of IoT sensors, e.g., using GPS, GIS [45], and smart card data [46] (Figure 5).

Figure 5
Passengers' origin-destination travel density based on smart card data.

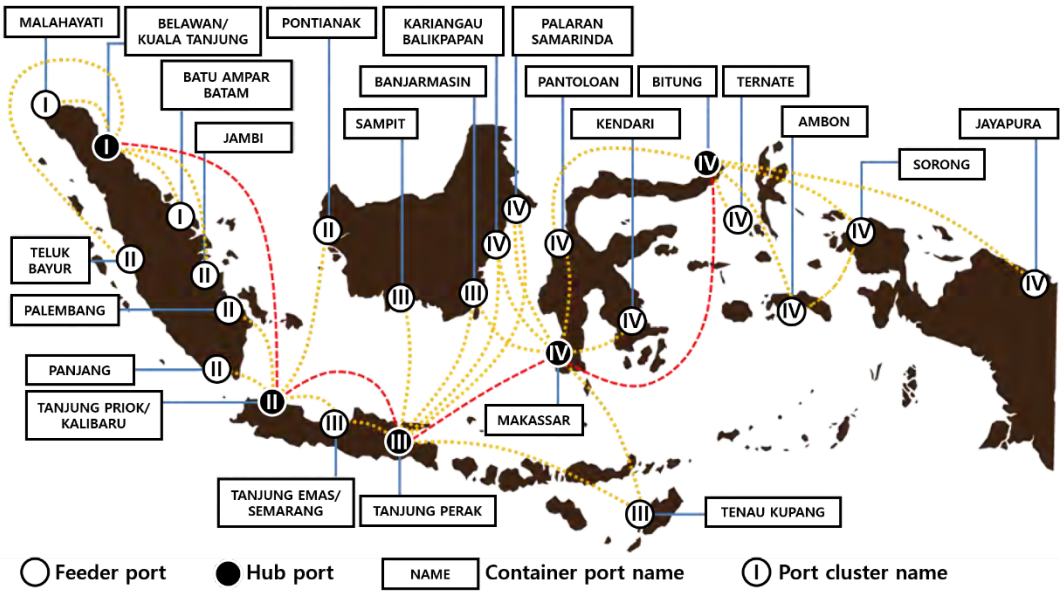


2.5 Sea toll development

Indonesia's sea toll project was planned to be executed between 2019 and 2024 [13]. It aims to increase connectivity between central (hub) and support (feeder) ports, dispersedly located in Indonesia. The port network is presented in Figure 6. Given the planned budget for the five years, it is necessary to allocate several investment funds to specific ports or port clusters in which specific year, which has been studied by [13]. The goal was to prioritize investments in port pairs with a more significant number of container flows.

To support the development of Indonesia's new capital city, it is necessary to further assess the port development around the new capital city at Kalimantan island. To increase Indonesia's port competitiveness, we must also consider potential international cargo flows aside from domestic ones. Another requirement is to simultaneously observe the development in the hinterland area and identify bottleneck segments within the whole multimodal transportation network in the new capital city area [47-48].

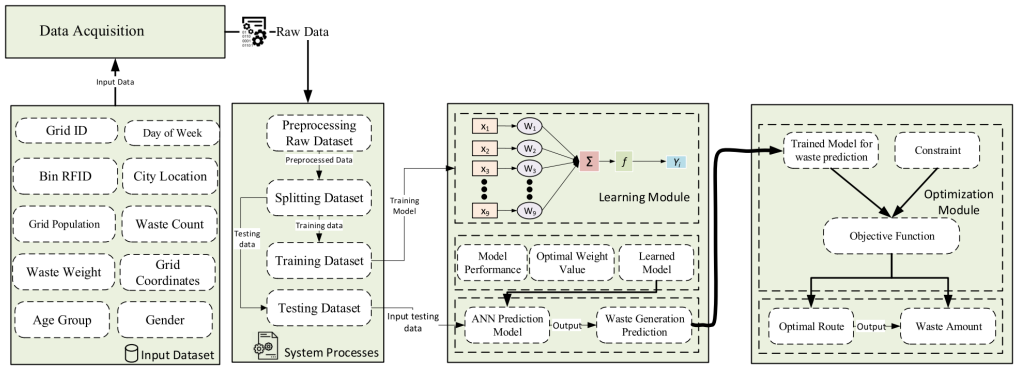
Figure 6
Port network in Indonesia



2.6 Smart waste truck routing

Along with the development of information technology and extensive data collection in smart cities, it becomes possible to schedule waste-collecting trucks better. One way is to predict waste levels in target pickup areas using the data provided by the sensors, then deploy the truck on dynamic routes constructed in real-time [49]. A detailed data structure, collection, and processing scheme was presented in [50], as shown in Figure 7. A recent study on intelligent waste collection considered route workload balance and dealt with real-sized problem instances [22]. To develop an intelligent waste transportation network in Indonesia's new capital city, we might optimize the system starting from its design before optimizing its operation.

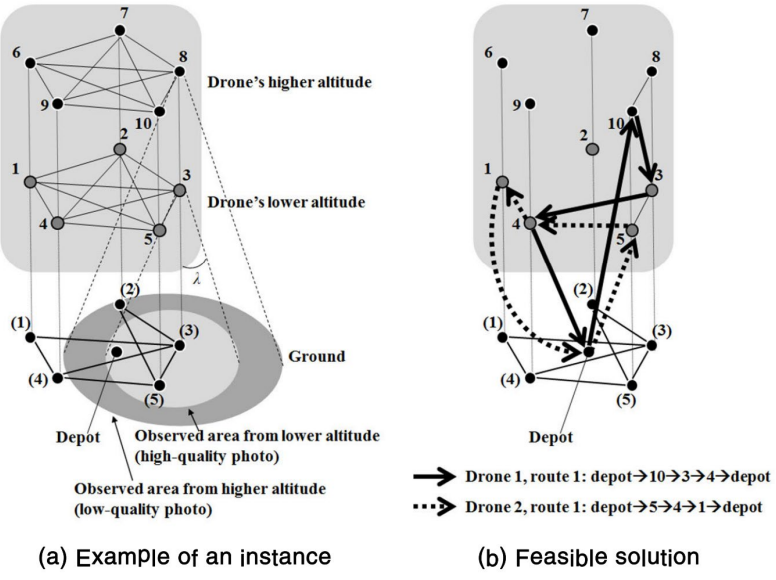
Figure 7
Data collection, analysis, and processing for intelligent waste truck routing.



2.7 Drone mapping routing

Routing drones with observation or monitoring purposes on a three-dimensional area would be an emerging technology in Indonesia's new capital city. Drones could observe areas that cost more when followed directly by a human. In their studies, Singgih et al. [10] and Zhen et al. [51] studied a three-dimensional drone routing problem to minimize the total drone travel times. The observable area from different flight altitudes and an example of feasible drone routes are illustrated in [10] (Figure 8). The study needs to be further improved by specifically applying image processing techniques on the flying drones and designing an efficient data transfer scheme to allow fast reporting on real-time traffic situations observed by the drones.

Figure 8
An instance and solution for the three-dimensional drone routing problem



2.8 Electric vehicle relocation

Indonesia's government targets to operate a transportation system with low carbon emissions, which will be achieved using electric vehicles and hydrogen-based ones. Related to the electric vehicle relocation, Singgih et al. [14] showed how the battery charging requirements could be satisfied through appropriate vehicle-station allocations and relocation schedules. To utilize the big data appropriately, we must consider electric vehicle reservation data from users' smartphones or booking systems.

Other than the relocation process itself, there are more issues to resolve regarding the electric vehicle systems for Indonesia's new capital city, e.g., general electric vehicle routing that considers the battery limitation during travel [52] and electric vehicle routing with energy usage prediction and partial recharging scheme [53]. With more data availability and digitalized systems, it is necessary to conduct more data-driven studies, e.g., using electric vehicle charging data [54-55].

3. Conclusions

This study listed the main characteristics required for mobility system development for smart cities in Indonesia's new capital city. Various potential optimization issues to be resolved are listed with their problem descriptions and updates on some latest related studies on the topics. This study provides insights into what kinds of problems to consider.

We must conduct a more detailed problem description, in-depth requirement analysis, and appropriate solution method design for future research topics. The problem definition and research should be conducted collaboratively with planners in Indonesia's new capital city to ensure accurate identification of requirements and deliverability of the outcomes (how we could implement the results effectively to resolve actual issues). Instead of only conducting studies on the computational aspect, incorporating the data collection scheme using IoT sensors would be an essential research direction.

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Cash Flow Moderation between Profitability, Liquidity, and Leverage on Company Value on the Indonesia Stock Exchange

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Abstract. This study objective is to test the effect of profitability, liquidity, and leverage on firm value where cash flow is treated as a moderating variable. The object of research is the consumer goods industry listed on IDX for the period 2027-2021 by implementing multiple regression analysis models. The results showed that profitability had a positive effect on firm value, while liquidity and leverage had no significant effect on firm value. Meanwhile, cash flow is able to strengthen the influence of profitability on firm value, while variable cash flow is not able to moderate the effect of liquidity and leverage on firm value.

Keywords: Profitability; liquidity; leverage; cash flow; firm value

1. Introduction

Current national and global social and economic conditions have created increasingly sharp pressures between companies in the industry. Recently, competition forces makes industry try to continuously improve performance, so that they can achieve goals. The goal of every organization is to maximize the value of the company or wealth for shareholders. Maximizing the value of the company is planned to be more appropriate as the goal of a company because maximizing the value of the company means maximizing the present value of all the profits should be gained by shareholders in the future. The value of the company's shares reflects the value of the company. In other words, if the company value decreases, the stock market value will also decrease, and if the company value increases, the stock market value will also increase (Sudana, 2015; Maryam et al, 2020). Achievement of company goals should not only be short term but able to develop and survive in the long term. One of the limitations of the company's development is the lack of funds. One of the source of fund is in form of additional share capital. Equity financing by issung share could be create a strong equity structure.

With the existence of a capital market, the limitations experienced by companies in developing their business can be overcome by offering part of their ownership in the form of stock through the Indonesia Stock Exchange. Carrying out this process also makes the company transform from a private company to a public company that will be managed better, transparently and professionally. The listed companies in IDX are classified on the IDX-IC as 11 sectors, one of which that is the consumer goods sector. Companies listed in the Consumer Goods sector produce basic ingredients into products that will be consumed by the public because the company's production is a daily necessity. With the high demand for products from this industry, makes the company's ability to create profits also increases so that investors also feel the benefits. However, the role of the community on the performance of this company has a significant influence, for example, when the emergence of the Coronavirus Disease in early 2020 in Indonesia caused a decrease in public behavior in investing.

The IDX Index decreased since the end of the 2019 period by -38% and one of which is the primary consumer goods sector by -40%. This can happen due to weak economic growth due to the Covid-19 pandemic, one of which is the decline in people's purchasing power should drives the company's financial performance also declines. However, according to data listed on the IDX throughout the first quarter of 2020, the decline that occurred in the Consumer Goods sector was the lowest compared to the decline that occurred in other sectors. This indicates that this sector is still in demand by investors even during the pandemic of corona virus -19.

In relation to the company's goal, the price per share represents the wealth of shareholders. Thus, maximizing stock prices is the same as maximizing shareholder wealth so that the value of the company increases. The goal of company can provide maximum prosperity for shareholders if the share price increases. Firm value is very important for the company because high corporate value will be proceed by high shareholder prosperity (Anita & Yulianto, 2016). By continuing the research of firm value, which is measured using the Tobin's Q indicator, where this ratio measures every element of debt and assets owned by a company.

Several factors can affect company value, one of them is profitability variable (Sabrin et. al 2018, Masha and Murtaqi, 2017; Purwohandoko, 2017; Sucuahi and Cambarihan., 2016). Concept of profitability show the ability of a company to earn profits in a certain period. Companies that are able to generate large and stable profits will attract investors, because it will automatically benefit investors. The capability of company to generate profits also shows good company management, thereby fostering trust in investors. The investor trust can ultimately be the most effective instrument to raise the company's stock price. An increase in share price means increasing the value of the company, so that it can further guarantee the prosperity of shareholders. It is different if the company does not have a good ability to generate profits, then investors will hesitate or do not believe in investing their shares. This distrust becomes a serious trigger for the decline in the company's stock price, so that the company's value will also fall. Profitability variable is an important prerequisite for maintaining the long-term sustainability of a company and is a variable that has a significant effect on achieving the financial goals of other companies.

Liquidity is one of very important element in every company. It shows the amount of working capital needed by a company to finance all the operational activities. Planning and monitoring the company's liquidity is very important for the company because it can prevent the company from the risk of non-fulfillment of short-term liability financing and excess current assets. Companies that are growing well are reflected in an increase in liquidity. The meaning of liquidity is the level of a company's ability to meet its short-term obligations by using its current assets. The greater the liquidity ratio of a company, the greater the company's ability to meet its short-term obligations and vice versa. This is because a company with a high level of liquidity proves that the company's performance in managing its current assets is good. Liquidity is one of the factors that can drive changes in stock prices (Baten and Vo, 2019; Zuhroh, 2019; Du et al, 2016). High liquidity shows the company's ability to meet its short-term obligations. The company's liquidity can be measured by the current ratio, which shows the company's ability to pay current debts using its current assets. The higher the liquidity, the greater the current assets owned by the company compared to its current liabilities.

Beside profitability and liquidity factors, the next variable is leverage.This variable is seen to have an impact on company value. According to Yulia et., al (2020). If the value of the debt level is still below the standard value of similar company obligations, it is mean that the company has productive debt. Through debt financing company has ability to increase it sales. Debt as a second source of fund will drive capacity to improve company profit, and will enhance the investors interest in investing their capital and be able to increase stock prices in the capital market so that company value also grows.

Previous researchers have found inconsistent results on the profitability with different result, supporting and non supporting. Besides that result research also already get in testing of liquidity, and capital structure impact on firm value. The finding of Ranti and Agus (2022) that profitability variable has a significant and positive effect on firm value. While liquidity has a negative effect on firm value, then leverage has a significant positive effect on firm value. Another researcher, M. Zihadi et al. (2021), found that liquidity, activity, leverage and Profitability variable simultaneously affect firm value. Meanwhile, Ida and Ida (2020) examined the construction industry, found that liquidity had a significant positive effect on firm value. The findings of Ida and Ida also found that there is no effect of liquidity on firm value. Capital structure (leverage) is able to mediate the effect of Profitability variable and liquidity on firm value. Then the research by Gregorius and Dominicius (2017) examined the manufacturing industry, that liquidity had no significant effect on firm value, nor did leverage have a significant and negative effect on firm value. Departing from the inconsistent and controversial results of previous research, the novelty of this research is 1) if the previous researcher researched the construction and manufacturing industries, then this research examines the consumer goods industry, 2) the data used is the latest in the last year at IDX, namely data for the reporting year finance 2016-2021, 3) research will examine how the influence of the cash flow variable as a moderating variable between profitability variable, liquidity, and leverage. Based on this, the title of the research is: Cash Flow Moderation between Profitability variable, Liquidity, and Leverage on Firm Value.

The purpose of this study was to examine whether profitability variable, liquidity, leverage affect firm value, which is moderated by cash flow in the consumer goods industry which is listed on the Indonesia Stock Exchange.

2. Literature Review

2.1 Agency Theory

According to Scott in https://articleeducation.id (2021), the concept of agency theory is "a contractual relationship between the principal who is the party who employs the agent to perform tasks for the interest of the principal, and the agent who is the party carrying out the interests of the principal." Agency theory can be interpreted as the relationship between the owner/shareholder (principal) and the manager (agent), who has a contract in managing a company.

2.2 Signal Theory

Signaling theory is a management decision that can provide clues to investors regarding the prospects of a company (Bringham & Ehrhardt, 2021). In general, signaling theory is closely related to the availability of information to determine the quality of an entity. Signals are informational cues sent out by one party to another in order to influence desired outcomes. After obtaining private information (positive or negative signal), insiders decide whether to communicate it to the outsiders or not. Usually, the prime aim of insiders is to send out positive signals to outsiders and avoid sending negative information deliberately in order to reduce information asymmetry or misleading, which helps firms reach their ultimate goal of positively influencing desired outcomes e.g. leaders of a young firm in an initial public offering (IPO). appoint diverse group of prestigious directors to send a message to potential investors about the firm's legitimacy (Certo, 2003; Filatotchev & Bishop, 2002). In this context, the main focus of signaling theory remains on purposely communicating positive information for conveying positive attributes of the organization to outsiders (Connelly et al., 2011). Positive signal gives investor as tool to reduce business and financial risk.

2.3 Firm Value

Especially in this era of technology and information in the industrial 4.0 era, business people should be more careful and wise in managing the variables that encourage organizational performance improvement. In the literature review and research field, the variables of profitability, liquidity and leverage and cash flow are very important factors in accelerating company value.

The value of the company able to reflect the performance of management in managing its assets, the higher the value obtained is able to prosper the shareholders, so that investors' perceptions of the prospects of a company increase (Rosada & Farida, 2017). Firm value is defined as the perception of shareholders on the level of success of a company in relation to stock prices, where if the stock price increases it can make the value of the company increase due to high market confidence in the company's long-term prospects (Manurung, Effrida, & Andreas, 2007). 2019). In this study, firm value was measured using the Tobin's Q ratio.

Tobin's Q ratio is used as a measuring tool to determine the long-term prospects of a company by looking at the total capital at book value based on assets owned. Tobin's Q formula is as follows:

Tobin^' s Q=(MVE+DEBT)/(BV TA)

Information:
MVE = Total Market Value
DEBT =Total Book Value of Liabilities
BV TA = Total Book Value of Assets

2.4 Profitability and Firm Value

Signaling theory which states that profitability will be a management signal that describes the company's prospects based on the level of Profitability variable that is formed and directly affects the value of the company can be seen from the stock price in the market research conducted by Agustia (2010), Alfredo Mahendra DJ (2011),Wulandari (2013) show that Profitability variable has a significant positive effect on firm value.

The Profitability variable ratio reflect the level of a company's capability in creating profits which is reflected in the income statement. By analyzing this ratio, investors could get information concerning success of a company in carrying out its business operations, which is known based on the profits earned and the investments owned by the company. According to Rosada & Farida (2017), Profitability is a indicator to proves the level of success of a company to generate profits, help project the company's ability to produce in the long term, and minimize the risk of default in terms of borrowing funds or carrying out investment activities. Profitability is measured using the Return On Assets (ROA) with formula:

ROA = Net Profit/Total Asset

2.5 Liquidity and firm value

Liquidity shows the level of a company's ability to meet short-term obligations on time. Liquidity is related to the problem of the company's ability to fulfill its financial obligations which must be fulfilled immediately. Meanwhile, according to Munawir (2010), "liquidity shows the ability of a company to meet its financial obligations that must be met, or the company's ability to meet financial obligations at the time of collection". So it can be concluded that liquidity is the company's ability to meet its short-term financial obligations which must be fulfilled immediately. The company's ability to fulfill its short-term obligations will be responded positively by the market, this is in accordance with the concept of signaling theory with a high level of liquidity. According to Alfredo Mahendra DJ (2011), Safitri (2014) in his research shows that liquidity has a positive effect on firm value. The higher the level of company liquidity, the higher the interest of investors to invest.

This will increase the company's stock price, where the value of the company will also increase. This statement is in line with research conducted by Putra and Lestari (2016) which found a positive and significant relationship between liquidity and firm value. In this study liquidity is proxied by the current ratio with the formula:

Current ratio = Current Assets/Current Liabilities

2.6 Leverage

The leverage ratio is a measuring tool used to find out how much total capital is used by a company based on debt to acquire assets. According to Febriyanto (2018), basically, companies that use debt as capital are able to increase profits on sales obtained higher than using limited personal capital.

Thus it was concluded that the solvency ratio is a measuring tool in knowing the total capital derived from the company's debt. In this study, the leverage ratio is measured using the Debt to Equity Ratio (DER) indicator (proxy). If a company's debt level is high, it indicates an unfavorable financial condition because it can cause bankruptcy so that investor demand for shares decreases which causes a decrease in company value. The formula used to calculate the Debt to Equity Ratio (DER) is as follows:

DER=(Total Liabilities)/(Total Equity)

Information:
DER = Debt to Equity Ratio
Total Liabilities = Total Debt
Total Equity = Total Capital

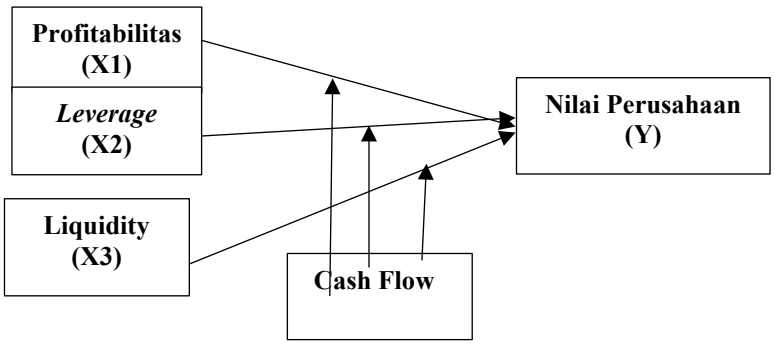
2.7 Operating Cash Flow

According to Sumarsan (2013), the definition of operating cash flow is "Cash flow from operating activities shows the net cash value obtained from the sale of goods or services of the company after deducting the cash that must be spent to produce and sell products or services." Meanwhile, according to Surya (2012), "The amount of cash flow originating from operating activities is an indicator that determines whether a company's operations can generate sufficient cash flow to pay off loans. Cash flow that can maintain the company's operating ability, pay dividends, and make new investments without relying on external funding sources. In this study, the cash flow proxy used is operating cash flow ratio to total assets. The formula used is as follows:

$$OCFA = \frac{Operating\ Cash\ Flow}{Total\ Aset}$$

Information:
OCFA = Operating cash flow to total assets
After operationally formulating each research variable, then the research framework is described as follows:

Figure 1
Framework of thinking



3. Hypothesis

Based on the review of the literature, framework, and findings of previous studies that have not been consistent, each research hypothesis is formulated as follows:
H1: Profitability variable Has a Positive Effect on Firm Value

H2: Liquidity has a positive effect on firm value
H3: Leverage has a positive effect on firm value
H4: Profitability variable has a positive effect on firm value moderated by cash flow
H5: Liquidity has a positive effect on firm value moderated by cash flow
H6: Leverage has a positive effect on firm value moderated by cash flow

4. Research Methods

4.1 Types of research

The research conducted is a type of quantitative research. According to Martono (2019: 20), quantitative research is a study conducted to test a problem based on processing numbers which are then analyzed through statistical procedures.

4.2 Population

According to Martono (2019), the population is the total data that is used as the object of research. In this study, the object under study is the Consumer Goods sector which is listed on the Indonesia Stock Exchange.

4.3 Sample

Silaen (2018) defines a sample as part of the population with certain criteria. The technique in determining the research sample used by the author is purposive sampling technique, which means that there are several criteria for determining the sample, including:

Table 1
Sample Characteristics

Description	**Total**
Primary Consumer Goods Sector Manufacturing Company (IDX-IC Non-Cyclicals) listed on IDX	92
Companies that have not yet IPO As of January 1, 2016	(31)
Companies that do not report financial statement	(14)
Incomplete data	(9)
Total	38
Year of observation	6
Total observation sample (38 x 6 tahun)	228
Outlier	(10)
Number of observation	218

Source: www.idx.co.id

4.4 Data and data collection technique

This study uses a secondary data collection method, in which the data has been recorded at www.idx.co.id in the form of financial reports, stock prices obtained from the www.investing.com site, and interest rate data obtained through data recorded at Bank Indonesia and reprocessed. The technique used in the process of collecting data through documentation review. According to Martono (2019), the documentation method is a method used to collect data related to the research to be carried out.

4.5 Empirical Research Model

The equation model formulated for regression testing is as follows:

$$TobinsQit = \alpha + \beta 1ROAit + \beta 2CR + \beta 3DERit + \beta 4ROA*OCFAit + \beta 5CR*OCFA + \beta 6DER*OCF + \varepsilon it$$

Information:
Tobin's Q = Value of firm

α = Constant
β = Coefficient
ROA = Profitability variable
CR = Liquidity
DER = *Debt to Equity Ratio*
OCFA = Operating Cash Flow
DPR = *Dividend Payout Ratio*
SIZE = Company size
ε = *error term*

5. Results and Discussion

5.1 Descriptive Statistical Analysis

The following presents the results of the descriptive statistical analysis in this study in tabular form.

Table 2
Descriptive Statistical Test Results

Variable	Obs	Mean	Std. Dev.	Min	Max
TobinsQ	218	2.099	3.42687	.0071886	21.84305
ROA	218	.063	.1342255	-.582526	.5306875
CR	218	2.406	2.319231	.0601375	13.30906
DER	218	1.178	2.094431	-10.31441	17.21064
OCFA	218	.104	.1196344	-.2063165	.5487684
DPR	218	.375	.5128937	-.83	4.124582
SIZE	218	15.53901	1.546896	10.66048	20.0516

Source: Secondary data, www.idx.co.id processed with STATA 17

From table 2 above, the average Profitability variable by proxy ROA for the six (6) year period 2016-2021 is 6.31%, where the highest figure is 53% and the lowest is -0.58%. Meanwhile, the level of liquidity by proxy The average CR for 6 years is 2.40 or 240%, where the highest is 13.3 or 1330%, and the lowest is 0.060 or 6%. Leverage with an average DER proxy for 6 years was 1,178 or 117.8%, where the highest figure was 209% and the lowest was -1,031%.

5.2 Classic Assumption Test

The normality test in this study uses the Kolmogorov-Smirnov statistical analysis of the residual equation with the condition that if the probability value is above 0.05 then the data in the study can be normally distributed, and vice versa. Then the results of the study show that the K-S value is 0.007 which proves that the data is not normally distributed. Thus these symptoms are overcome by transforming the data into the form of Natural Logarithms (Ln), statistical test values with significance values seen through asymp values. sig. to be 0.182. This indicates that the research data is normally distributed because it meets the normality test requirements with a standard significance value above 0.05. So that the requirements of the normality test have been fulfilled.

The multicollinearity test for each research variable resulted in a tolerance value of <0.10 and a VIF value of > 10. This indicates that the independent variables used in this study do not have a linear relationship. If viewed based on the multicollinearity test criteria, that the data indicates symptoms of multicollinearity if there is a tolerance value of more than 0.10 and a VIF value of less than 10, it can be concluded that the data in this study are free from symptoms of muticolinierity or the multicollinearity test requirements are fulfilled.

The heteroscedasticity test in this study was carried out using the Glesjer Test, the SPSS output results on the heteroscedasticity test stated that the significance value of each independent variable used in this study had a significance value of more than 0.05 according to the Heteroscedasticity test criteria using the Glesjer Test. This indicates that there are no independent variables that statistically affect the residual absolute value as the

dependent variable. Thus, it can be concluded that the regression model in this study is free from symptoms of heteroscedasticity.

The autocorrelation test in this study used the Runs Test with the Asymp value. Sig. (2-tailed) of 0.572 where the test criteria for the Run Test are the Asymp Sig results > 0.05. So it can be concluded that the autocorrelation test conditions are fulfilled.

5.3 Analisis Regresi Berganda

The following is the multiple linear regression analysis table that was processed using STATA 17 software.

Table 3

Result of F test, t test and Coeficient Determination

```
      Linear regression                               Number of obs     =        218
                                                      F(8, 209)         =      10.63
                                                      Prob > F          =     0.0000
                                                      R-squared         =     0.6080
                                                      Root MSE          =     2.1861

------------------------------------------------------------------------------
             |               Robust
     TobinsQ |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         ROA |   2.887085   1.253618     2.30   0.022     .4157282    5.358442
          CR |  -.0651674   .0800455    -0.81   0.416    -.2229674    .0926325
         DER |  -.0270082   .0851434    -0.32   0.751    -.1948581    .1408418
    ROAxOCFA |    58.1639   12.99423     4.48   0.000     32.54733    83.78046
     CRxOCFA |   .0063492   .6328567     0.01   0.992    -1.241252     1.25395
    DERxOCFA |   .4713005   1.651683     0.29   0.776    -2.784794    3.727395
        SIZE |  -.1199898   .1243892    -0.96   0.336    -.3652081    .1252286
         DPR |   .0039424   .1786051     0.02   0.982    -.3481561    .3560408
       _cons |    2.90608   2.065384     1.41   0.161    -1.165576    6.977736
------------------------------------------------------------------------------
```

Source: Secondary data from www.idx.co.id processed with STATA 17

Based on the results of the regression analysis table 3, the multiple regression equation model is obtained as follows:

TobinsQit = 2,90 + 2.88 ROA -0.065 CR – 0.027DERit + 58.164 ROA*OCFAit + 0.006 CR*OCFA+0.471DER*OCFA+ εit

Based on the results of the constant values in the regression model, it can be seen that there is a positive effect of the Profitability variable (ROA) variable on firm value. Meanwhile, Liquidity (CR) and Debt to Equity Ratio (DER) have no significant effect on Firm Value (Tobin's Q). This means that the operating cash flow variable (OCFA) as a moderating variable is able to strengthen the significant effect of Profitability variable on firm value, while the cash flow variable is not able to affect liquidity and leverage on firm value.

5.4 Individual Parameter Significance Test (Test Statistical t)

The t statistic test shows how far the influence of each independent variable individually in explaining the variation of the dependent variable. In the t statistical test, the calculated t value will be compared with the t table value, carried out in the following way:

If t count > t table or probability < significance level (Sig < 0.05), then Ha is accepted and Ho is rejected, the independent variable affects the dependent variable. If t count < t table or probability > significance level (Sig > 0.05), then Ha is rejected and Ho is accepted, the independent variable is not effect on the dependent variable.

5.5 F Uji test

Based on the results of the F test in table 3, it can be seen that the Profitability variable variable is proxied by Return on Assets (ROA), Liquidity by proxy Current Ratio (CR), Leverage by proxy Debt to Equity Ratio

(DER), Cash flow by proxy Operating Cash Flow (OFCA) jointly affect the value of the company. This means that this research model is suitable for predicting firm value.

5.6 Test the coefficient of determination

The study found the results of statistical tests on the coefficient of determination as shown in Table 3 the value of Adjusted R Square obtained a figure of 60.80%. This indicates that the variable firm value as the dependent variable can be explained by the variables of Profitability, liquidity, Leverage, and operating cash flow as moderating by 60.80% (strong impact), while the remaining 39.20% is explained by variables outside this research model.

H test results 1: Profitability variable has a positive effect on firm value

Based on the statistical test results shown in Table 3 above, it shows a probability of 0.000 < significance level of 0.05, which means that there is a positive influence from the Profitability variable variable (ROA) on firm value (Tobins Q). Thus the hypothesis (H1), which says that there is a positive effect between Profitability variable on firm value, is proven to be significant. Thus H1 is accepted. This indicates that if the Profitability variable value obtained by a company increases, it will increase the value of the company. Thus, it can be concluded that the higher the Profitability variable value, the higher the company value.

The results of this study support the research of Priswanti, Andini, & Ariesta (2018), which states that the Profitability variable variable has a partial influence on Firm Value. This proves that by increasing the profit earned by the company in carrying out its operational activities, the investor's trust is higher which results in the company's value increasing. However, the results of this study contradict the research conducted by Effendi (2019), which proves that the profitability variable variable has no effect on Firm Value.

H2 test results: Liquidity has a positive effect on firm value

From the results of the multiple regression calculation above, it is obtained that liquidity by proxy Current Ratio (CR) obtains a probability number of 0.416 > the level of significance (Sig <0.05) so that H2 which says liquidity has an effect on firm value is rejected.

H3 test results: Leverage has a positive effect on firm value

Based on the statistical test results shown in Table 3, it proves that the H2 hypothesis is rejected, this indicates that the leverage variable has an influence on firm value where the probability value is 0.751 > a significance level of 0.05. So it can be said that the Leverage variable has no effect on Firm Value. The results of this study also explain the direction of the influence of the leverage variable on firm value, namely obtaining a betta coefficient value of -0.027, which means that the leverage variable and firm value have a negative relationship. Thus it can be concluded that the formulation of the hypothesis which states that the higher the leverage will reduce the value of the company is rejected. The results of this study contradict the results of research conducted by Sanita et al., (2021) which state that the leverage variable has no effect on firm value.

However, the results of this study support the results of research that has been carried out previously by Zahra et. al (2021), which suggests that the value of the Debt to Equity Ratio (DER) has an effect on Firm Value. Where, when a company has high debt but is still within reasonable limits or below industry standard values, then the opportunity for increased sales to the company can increase. This is because the debt owned by the company is used for productive activities or is turned back into capital to develop sales in order to create higher profits.

H4 test results: Profitability variable has a positive effect on firm value moderated by cash flow

Based on the results of statistical tests on the hypothesis which says that Profitability variable affects firm value which is moderated by cash flow, it shows a number where the probability number is 0.000 <0.050. This means that Profitability variable has a positive effect on firm value which is moderated by cash flow. In other words, that cash flow can strengthen the influence of Profitability variable to increase firm value. The higher the Profitability variable, the firm's value will also increase which is reinforced by cash flow.

H5 test results: Liquidity has a positive effect on firm value which is moderated by cash flow

The statistical test results are shown in Table 3, showing a probability number of 0.992 > a significance level of 0.05, the results are not significant, this means that liquidity has no positive effect on firm value. Then from these results it can be said that cash flow is not able to function as a moderator variable that strengthens the relationship of liquidity to firm value.

H6 test results: Leverage has a positive effect on firm value moderated by cash flow

The statistical test results are shown in Table 3, showing a probability number of 0.776 > a significance level of 0.05, the results are not significant, this means that leverage has no positive effect on firm value. Then

from these results it can be said that cash flow is not able to function as a moderator variable that strengthens the relationship of leverage to firm value.

6. Conclusion

This study aims to test the consistency of variables that can affect firm value. The independent variables used in this study include Profitability variable, liquidity, leverage, and cash flow with the dependent variable namely company value. The research object used by the author is a company engaged in the primary goods consumption industry which is listed on the Indonesia Stock Exchange with a research period of six years, namely from 2016 – 2021 with a total sample of 218 observations.

Based on the previous description with reference to the formulation of the hypothesis and a confidence level of 95% (<= 0.05), the results of this study are as follows:

a. The test results for the Coefficient of Determination (R^2) indicate that the variables Profitability variable, liquidity, and Leverage, are able to explain the variable Firm Value simultaneously by 60.80.6% while the remaining 39.20% is explained by other variables not used in the this research.
b. The results of the Simultaneous Significant Test analysis (Test F) indicate that the Profitability variable, Liquidity, and Leverage variables which are moderated by cash flow are able to influence the Firm Value together.
c. Profitability variable has a positive effect on firm value, thus H1 which states that Profitability variable has a positive effect on firm value is acceptable. The results of this study support the research of Retno, Rita & Mariska (2018) which proves that the Profitability variable variable has a positive effect on firm value, but the results of this study are in contrast to Effendi's research (2019) which states that Profitability variable has no effect on firm value.
d. Liquidity does not have a positive effect on firm value, thus H2 which states that liquidity has an effect on company value is rejected. This finding does not support Ida and Ida (2020) who examined the construction industry, which found that liquidity has a significant positive effect on firm value. However, it supports the research results of Gregory and Dominicius (2017) that liquidity has no significant effect on firm value.
e. Leverage has no positive effect on Firm Value, thus H3 which states that Leverage has a positive and negative effect on Firm Value is rejected. This supports research that has been carried out previously by Zahra et al., (2021) which revealed that the Debt to Equity Ratio (DER) has an effect on firm value. Meanwhile, according to research conducted by Sanita et al., (2021) it results that the Debt to Equity Ratio (DER) has no effect on company value.
f. The findings of this study prove that cash flow can strengthen the positive effect of Profitability variable on firm value, on the other hand, cash flow is not significant as a moderating variable for the influence of liquidity and leverage on firm value.

Practical Implications

Based on the findings of this study, the management of the company should pay more attention to cash flow management because cash flow is able to strengthen the influence of Profitability variable to increase the value of the company, and vice versa if cash flow is not or is not managed properly, it will reduce the company's ability to increase Profitability variable and in turn will weaken the value of the company.

Suggestion

With the limitations of writing in this study, the authors provide several suggestions that can be done by further research, namely:

1. It is hoped that in further research to add independent variables to measure financial performance by using other financial ratio measuring tools that are not used in this study
2. For further researchers who will complete this research by measuring macroeconomic conditions, it is expected to conduct research on companies in sectors other than Non-Cyclical Consumer Goods.
3. Future research is expected to be able to add to the total research sample, able to increase the value of a higher coefficient of determination.

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The Influence on Sustainability Report Quality toward Financial Performance

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Abstract. The purpose of this research is to see if the quality of a sustainability report has an effect on firm's performance. The quality of sustainability report is assessed by its assurance statement and also from the disclosure of GRI standards on the sustainability report. The samples that are used for this research are the firms who had received the ASRRAT award for 2018-2020 period which will be using the reports from 2017-2019. The result of this research shows that the variables used such as sustainability disclosure index and assurance statement has no effect on firm's performance but then again when both of the variables are tested simultaneously result shows that it has a positive effect on firm performance whichon this research is measured by return on assets. But the variable firm size is proven to have a negative effect on firm's performance and industry sensitivity is proven to have no effect on firm's performance.

Keywords: sustainability report; assurance statement; firm performance; NCSR

1. Introduction

Sustainability report is a report regarding non-financial company information that contains social, environmental and economic (ESG) disclosures and also how the company is progressing with respect to these three factors. Siregar & Bachtiar (2010) in their research emphasizes that sustainability reporting is a report published by a company regarding social, economic and environmental factors that have an impact on daily activities. Yi & Yu (2010) also added in their research that in addition to disclosing non-financial company information, this sustainability report also serves as accountability to stakeholders, both internal and external, will create good company performance and lead to sustainable development.

Today, there are many problems related to financial reports that occur such as falsification of financial statements which makes the credibility of the financial statements themselves questionable, and therefore it is not enough for stakeholders, shareholders and potential investors to only see and judge from their financial reports. Stakeholders, shareholders, as well as potential investors also need information that is more than just financial reports, such as knowing the company's condition with regard to its social and environmental aspects and this is included in a sustainability report. This in itself is quite crucial because users of financial statements demand better and more knowledge or information regarding how economic, social and environmental impacts are taken into account in business continuity and also how companies comply with existing day-to-day regulations (Amran & Ooi, 2014). Therefore, many companies and business people are competing to publish the most interesting sustainability reports because of the emergence of company awareness and concern for their production activities. Companies are also competing to disclose matters such as fulfillment of responsibilities and detailed matters that are not disclosed in the company's financial statements in a complete sustainability report. It is evident that the clarity is also attractive to potential investors because the company also feels that only financial reports not enough to satisfy potential investors, stakeholders, or the target market of the company itself. According to Rajafi & Irianto (2007) in their research, it is said that business people need to put forward a concept of sustainability or sustainability where this concept allows corporate life or also life as a society to continue to be sustainable. In addition, it is proven by the research of Loh, Thomas, & Wang (2017) that in fact the market value of a company that has a sustainability report is better when compared to a company that does not have a sustainability report and this certainly makes the sustainability report more important information. users in making decisions.

The concept of sustainability of a company itself is usually outlined in a report called the Triple Bottom Line Reporting. This report covers three main aspects of sustainability reporting, namely economic, social and environmental. The three aspects disclosed in this report can direct companies to voluntarily contribute to

creating a better social and environmental life (Muqodim & Susilo, 2013). Rajafi & Irianto (2010) wrote in their research that disclosure of the three aspects above is needed to build trust, answer needs, also reduce company risk and also maintain the company's reputation. In addition, it is also necessary to encourage continuous internal improvement, as well as achieve competitive advantages over capital, labor, suppliers and customers.

Sustainability reporting itself in Indonesia has been made an obligation for all companies since 2017 at which time the Financial Services Authority issued POJK (Financial Services Authority Regulation) no. 51 of 2017 concerning the Implementation of Sustainable Finance for Financial Service Institutions, Issuers and Public Companies. The standard used is the standard from the Global Reporting Initiative (GRI) which contains disclosures relating to economic, social and environmental aspects.

In Indonesia, not all companies publish their sustainability reports, while companies are given awards for companies whose sustainability reports are proven to be well disclosed and in accordance with GRI or G4 standards that exist and apply in Indonesia, which regulate the basic principles needed in a sustainability report. namely balance, comparability, accurability, transparent, also reliability. This award is given by the National Center for Sustainability Reporting (NCSR) in their annual event, namely the Asia Sustainability Reporting Rating (ASRRAT) where companies are assessed by dozens of reliable assessors and then divided into groups of platinum (highest), gold, silver, and bronze awards. the lowest. To get the award the company must have the following criteria:

Table 1.1
NCSR Assessment Benchmarks

RATINGS & NUMBERS		BENCHMARK
Platinum	93–100	- Using GRI standards - Have an assurance statement sheet that contains the AS AA1000 standard (2018) and or ISAE 3000 in its sustainability report - Full disclosure regarding Energy - Full disclosure that regarding GHG Emissions - SDG compass - Comprehensive options
Gold	86–92	- Using GRI standards - Comply with POJK 51/2017
Silver	79–85	
Bronze	72–84	
White	<72	

Source: National Center for Sustainability Reporting

This raises questions regarding the quality of the sustainability reporting for each company that gets a different award and how the company's performance is so that in this study the researcher will examine the quality of the sustainability report in question. In assessing the quality of sustainability reports, the standards set by the Global Reporting Initiative (GRI) are made as one of the benchmarks where there are a total of 250 disclosures on three aspects, namely social, economic and environmental. This sustainability report generally requires assurance services to assess whether it is in compliance with applicable standards and principles or not and in their work an assessor must use the AA1000AS (2018) standard, which is a framework created that will guide the company in identifying, prioritizing and responding to challenges sustainability challenges will improve the company's performance in the long term and or use standards from ISAE3000 in carrying out their work. The assurance statement is made as one of the important points that need to be considered in this research because this is one of the factors that guarantees the quality of a sustainability report. An assurance service is provided by KAP whose type is an independent professional service. An assessor must be a competent and certified person in his field. This research will look at how much disclosure is made by companies holding the NCSR award and will also assess the quality of the report from the attached assessor's opinion. However, it turns out that not all companies that issue sustainability reports also attach assurance statements to them, so that by following the NCSR the company's sustainability reports are indirectly assured by the assessors of the activity.

Due to the reasons mentioned above, for this study researchers will investigate the relationship between the quality of sustainability reports and the performance of companies that have received awards from the NCSR based in Indonesia. This also involves several related variables such as considering the industrial sensitivity of each company because previous research (Rudyanto & Siregar 2018) revealed that in fact industry sensitivity or industry belonging was made as one of the aspects that could affect the quality of sustainability reports as well

as the size companies (Ghozali & Rohman 2019). Both are proven to affect the quality of the sustainability report.

De Klerk et al. (2015) in his research classified companies that were sensitive to the environment and those that were not sensitive to the environment where the results showed that companies could be said to be sensitive to the environment when the company was in the mining industry, quarrying industry, manufacturing, electricity, to industries that engaged in the supply of steam or gas, also a construction company.

Hongming et al. (2020) conducted a similar study and obtained the results of a positive effect of the three indicators used on company performance, but the indicators used in this study were social, environmental and safety as well as health, there was no explanation regarding the economic impact. Then, Hardi & Chairina (2019), who used a sample of Indonesian companies, found that there was an effect from economic disclosures but no effect from social and environmental disclosures. Supported by the research results of Fuadah et al. (2019) where there are significant results or relationships between sustainability reports and the company's financial performance.

However, the existing literature does not consider the quality of corporate sustainability reports where, like the sample that will be used in this study, there are already quality benchmarks for each sustainability report taken from published NCSR data.

In this regard, researchers will analyze company performance by considering the GRI Standards (Hypothesis 1), assurance statements (Hypothesis 2), and GRI standards and assurance statements simultaneously (Hypothesis 3).

2. Literature Review and Hypothesis Development

2.1 Sustainability Reporting

Sustainability report is a report made by the company which will also calculate and reveal and see the company's efforts to make it a company that can be trusted by all stakeholders (Effendi, 2016). This report, which is aimed at stakeholders, also acts as a company tool to prove its contribution to social problems and sustainable development which is increasingly recognized by society (Zorio et al., 2013). The results of a KPMG survey in 1993 revealed that 13% of 100 large companies in ten different countries published or disclosed a separate report regarding the company's social and environmental impact. In 2005, after another survey was held, the results were found to have increased almost three times, namely at 33% and at that time it had covered 16 countries. At the same time, observations from several studies lead to a conclusion that in the 90s non-financial reports dominated (Larrinaga, 2007). With numbers increasing every year, this is made a liability in several countries, including Indonesia itself.

2.2 Sustainability Assurance

Assurance is defined as a relationship in which a practitioner aims to obtain sufficient evidence to draw the necessary conclusions to convince report users regarding the information disclosed in the financial statements (IAASB, 2013, p.7). The IAASB's definition with regard to assurance emphasizes three things, namely: 1) the responsible party; 2) independent external assurance services; and 3) report users. If the financial report has an auditor who will assess the report, then in the case of a sustainability report the term assessor is used which is a service provided by KAP and is classified as an independent professional service. This external assurance is needed to examine the company's sustainability report and assess whether the report is complete in its disclosure so that it can be said that the sustainability report can be trusted and used by existing potential investors. The Assessor's duty is to provide validation of a company's sustainability report as well as evaluate the components disclosed in a sustainability report.

2.3 ASIAN Sustainability Report Rating (ASRRAT)

The National Center for Sustainability (NCSR) is the first independent company in Indonesia which aims to develop sustainability reporting practices in Indonesia itself. NCSR has an annual event namely ASRRAT (formerly SRA) which aims to convey appreciation to companies that publish sustainability reports. This is one of NCSR's efforts to improve the quality of sustainability reports. Through several selections and existing criteria, it proves that the winning company is a company that has been tested for its sustainability report. Companies participating in this event come from various industries such as mining, oil, manufacturing, construction, etc. In addition, companies that are included in the State Owned Enterprises also participate in participating.

2.4 Agency Theory

According to Haniffa & Cooke (2002) in their research, agency theory already includes effective corporate governance and will increase the company's ability to face all challenges that may exist and can also reduce conflicts of interest. This agency theory itself explains the conflict from the relationship between the company management (agent) and the stakeholders, this is what is called a conflict of interest where this occurs because there is asymmetry of information or information that is inconsistent and tends to be different from what is received by stakeholders and management. itself, there are also factors of optimistic management behavior, to conflicts of interest between stakeholders and management. Therefore, it is made as an urgency in a company to monitor the performance of management carefully and thoroughly so as to result in the alignment of the objectives of the company's management with stakeholders. This can reduce the occurrence of conflicts, and maximize management performance so that neither party is harmed because both benefit.

2.5 Stakeholder Theory

Stakeholders are groups or individuals who can have an impact or who can receive the impact of an achievement as well as certain goals. This was stated by Friedman in Ramizes' book entitled Cultivating Peace. Another definition put forward by Biset with regard to stakeholders is someone who has a concern for a specific problem, while Grimble & Wellard describes stakeholders in terms of the important position and influence they have. From each of the existing definitions, it can be concluded that stakeholder is an attachment between an individual or a group of people with a company institution that is based on a certain interest. Thus, when discussing matters relating to stakeholder theory or stakeholder theory, this means studying matters that have a relationship with the interests of many parties.

2.6 Global Reporting Initiative (GRI)

There are many reporting standards used in the accounting world, especially in the field of auditing to areas related to social accounting, as well as sustainability reporting. The Global Reporting Initiative (GRI) is one of the institutions that provides examples of guidelines for the presentation of sustainability reporting, namely the Sustainability Reporting Guidelines which are currently used as standards in many countries including Indonesia. GRI itself is a network-based institution that will spearhead the preparation of the sustainability report framework that we know so far.

2.7 GRI G4 Sustainability Reporting Guidelines

Sustainability Reporting presented by GRI-G4 discloses reporting principles and standard disclosures as well as implementation guidelines that must be adopted by companies. There are two types of standard publications for this guide: general standard publications and specific standard publications. The General Standard Disclosures themselves consist of seven aspects: 1) Strategy and analysis. It outlines corporate sustainability with the aim of providing context for later sections of the report, which are more detailed than sections in regulations or guidelines. 2) Company profile, which is a complete description of the characteristics of the company and how the company conveys the context regarding the detailed details of the sustainability report compared to the sections in the guide; 3) Material and Boundary Aspects. These facets are identified when the company submits a full description of the contents of the report, the material aspects and limitations identified, and the process followed will determine the restatements. 4) Stakeholder relations are an overall description of how the company's relations with stakeholders throughout the reporting period. Disclosure of this standard is not limited to the work done for reporting purposes. 5) The report profile conveys basic information about the report, the GRI content index, and an overview of how to obtain external assurance. 6) Governance conveys an overall picture of the structure and composition of governance. The role of the highest governance body can be seen in how the company organizes strategy, sets goals, and assesses the capabilities of each party related to the company; 7) Ethics and Integrity is the overall description of the principles, norms, values and standards set by the company itself. Internal and external mechanisms will obtain information on ethical behavior and compliance; and don't forget to report concerns about behavior and integrity issues that are found and deemed unethical or illegal. Assurance Statement Assurance statement is a report provided by independent professional services whose purpose is to convey independent and professional opinion in order to improve and guarantee the quality of existing sustainability reports. This report is addressed to management and external parties to assist in decision making. (NCSR, 2018). Assurance Standards In assuring sustainability reports, of course there are standards as well as national and international frameworks that regulate the most well-known ones such as ISAE 3000 and AA1000AS (GRI, 2013: 12).

2.8 International Standard on Assurance Engagements 3000 (ISAE 3000)

ISAE 3000 is the most common standard for each assurance statement report developed by the IAASB and published in 2003. This standard emphasizes the comprehensive procedures used for the process of collecting

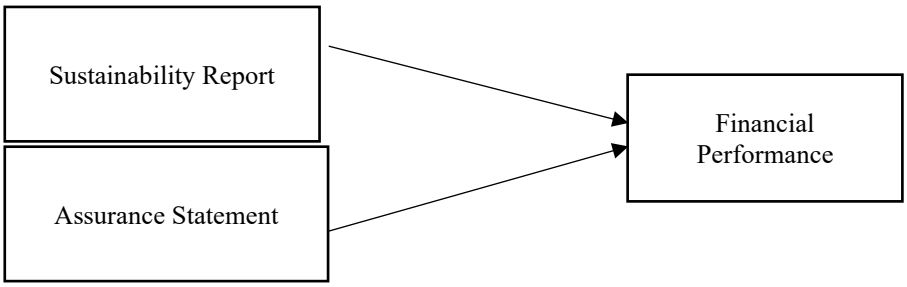
data, evidence and the independence of the assuror (GRI, 2013). There is a minimum assurance content of this standard, totaling 19 content that is used for scoring in related research.

2.9 AA 1000 *Assurance Standards* (AA1000AS)

AccountAbility AA1000 Assurance Standard is used by several companies to help guide corporate sustainability. The standard in question is the result of development by AccountAbility, an institution as well as an external party assurance consulting service which is the result of the implementation of the AA1000APS Principles. The most recent version was published in 2008 and the emphasis in this standard is on how companies respond to stakeholder concerns and corporate sustainability reports. There is a minimum assurance content of this standard, which is 23 content that will be used for scoring in this research.

2.10 Thinking Framework

Figure 2.1
Thinking Framework



2.11 Hypothesis Development

The Effect of GRI Standard Disclosures on Company Performance

GRI Standards are an important component in compiling a sustainability report. If the company's sustainability report applies the GRI standards, this will be used as a factor to measure the quality of the sustainability report itself. The quality of a good sustainability report has an effect on the company's brand because investors also consider this when deciding whether to invest or not, but this does not guarantee that the company will have good performance either because of the above, the authors draw Hypothesis 1, namely:
H1: GRI standard disclosures applied in sustainability reports have a positive influence on company performance.

The Effect of the Assurance Statement on Company Performance

An assurance statement is a very important component contained in a company's sustainability report in order to assess the quality of the report presented because the opinion of the existing assessors will reflect how transparent the company is in disclosing social and environmental matters related to the company. A good assurance statement is an assurance statement that is written according to the AS AA1000 standard (2018) and/or ISAE 3000. However, this cannot guarantee that the company concerned has good performance. Because of the above, the authors draw Hypothesis 2, namely:
H2: Assurance statements in sustainability reports have a positive effect on company performance.

3. Research Method

3.1 Population

Population is a generalization consisting of objects or subjects who have certain quantities and characteristics (Sugiyono, 2015) which will later be used by researchers and studied and conclusions drawn. This study uses companies listed on the ASIAN Sustainability Reporting Award (ASRRAT) winner list held by the National Center for Sustainability Report (NCSR) for the 2018-2020 period as a population. The number of companies participating in the event each year varies. In 2018 there were a total of 38 companies participating, increasing to 41 companies in 2019, and with the same number in 2020. Participants in the ASRRAT event itself came from various industries such as manufacturing, contractors, mining, oil and gas, banking, and from various other sectors. And it should also be noted that the participating companies consist of go public companies listed on the IDX as well as various companies included in the State-Owned Enterprises (BUMN).

3.2 Sample

According to Sugiyono (2015), a sample is a smaller number than the population but still has the same characteristics or characteristics as the population. Because the population is quite large, in this case the researcher will use a purposive sampling method in limiting the sample to be used using the following criteria:

1. The company participated in the ASRRAT event throughout the 2018-2020 period.
2. The company publishes a sustainability report for the 2017-2019 period.
3. The company publishes financial reports or annual reports for the 2017-2019 period.
4. The company has at least one data, namely an assurance statement or financial information about the company for the 2017-2019 period.

In this research, researchers will only cover companies that meet the criteria mentioned above.

The data for this study were taken from sustainability reports published on the NCSR official website which will assist research in matters relating to the disclosure of GRI standards as well as assurance statements which will be used as variables as well as annual reports or company financial reports published on the IDX or the company's official website which will measure company performance.

3.3 Data collection technique

Researchers in this case used the documentation study technique proposed by Sugiyono (2015) for data collection by collecting data and information through written figures, archives, books, photos, as well as papers and presenting them in a report that can be used to assist research. The data regarding the quality of sustainability reports in this study were taken directly from the company's sustainability reports on the official NCSR website as well as the GRI guidelines from the official Global Initiative Reporting website, while data regarding company performance were taken from annual reports and/or financial reports published by companies in the official website or on the Indonesia Stock Exchange (IDX).

3.4 Empirical Research Model

Based on the description above as well as the determination of the previous hypothesis regarding the effect of the quality of the sustainability report on company performance, in this study the researchers used the empirical model as follows:

$$ROA = \alpha + \beta SRDI_{it} + \beta ASSR_{it} + yENVS_{it} + ySIZE_{it}$$

uit ..... Model (1)

Where:
ROA = *Return on Assets* as a proxy for company performance
SRDI = *Sustainability Report Disclosure Index*
ASSR = *Assurance Statement*
ENVS = *Industry Sensitivity*
SIZE = *Firm Size*
u = *Error*

4. Result and Discussion

4.1 Research Discussion

4.1.1 Descriptive Statistical Analysis

This study uses descriptive statistics to characterize the information from the data that has been inputted so that it will be easier for readers to understand. This analysis is used to look at the average, smallest and largest values as well as the standard deviation of each variable ranging from return on assets, firm size, industry sensitivity, assurance statement, to the sustainability disclosure index. The table below shows the descriptive statistics of the data used, namely 63 observations:

Table 4.1
Descriptive Statistics

Variabel	Min	Max	Mean	Std. Deviation	N
ROA	- 0.029898713	0.185993878	0.0374153437	0.0397183547	63

SIZE	6.082441029	13.87977585	8.774395129	2.044255012	63
ENVS	0	1	0.48	0.503	63
ASSR	0	23	9.75	10.442	63
SRDI	0.22	0.928	0.4392850959	0.1595093440	63

Source: SPSS 26 output results

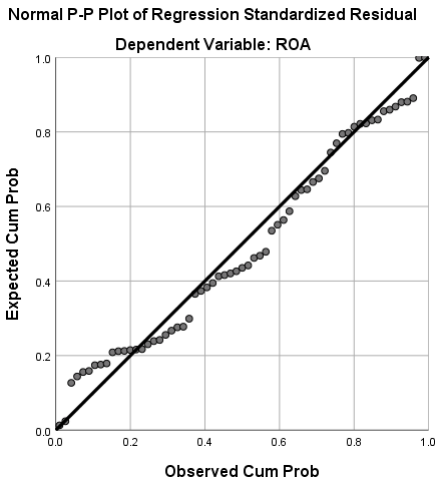
4.1.2 Classic assumption test

In this study, the researcher conducted a classical assumption test with the aim of being able to see whether the research model used met the standards to be used or not. Therefore, the model will pass several tests until it can be said to meet the goodness of fit and is declared workable for this research, which includes the normality test, multicollinearity test, and heteroscedasticity test.

4.1.3 Normality test

In this study, researchers conducted a normality test with the aim of being able to see whether the variables used were fairly distributed so that they could be used or not. The variables tested in this case include the dependent and independent variables. The figure below shows the results of the normality test, which is based on plotting, namely the p-plot regression of data processed with SPSS 26.

Figure 4.1
Normality Test



Source: SPSS 26 output results

The picture above shows that the points or plotting of the existing data follow the set diagonal line and there are no points that are scattered chaotically, so it can be said that the variables are normally and fairly distributed, also the regression model has passed the normality test because it shows no symptoms normality.

4.1.4 Multicollinearity Test

In this study, researchers conducted a multicollinearity test with the aim of being able to see whether there were correlated independent variables. The trick is to look at the VIF value as well as the tolerance value of the output data used whether it complies with the criteria or not. A regression model can be said to be good if there is no correlation between the existing variables and the regression model in the research concerned can be assessed from the table attached below:

Table 4.2
Multicollinearity Test

Coefficients[a]			
Model		Collinearity Statistics	
		Tolerance	VIF
1	SIZE	.916	1.092

	ENVS	.977	1.023
	ASSR	.903	1.108
	SRDI	.972	1.029

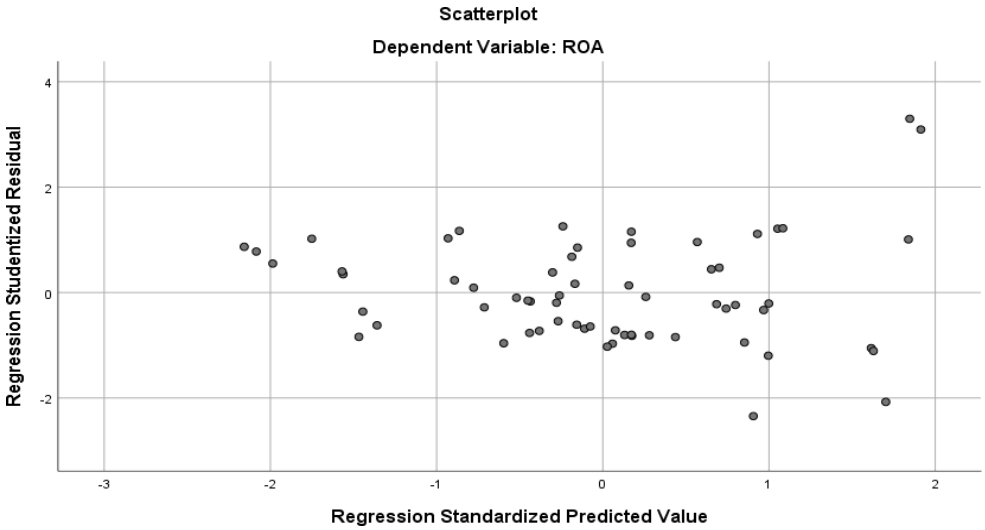
Source: SPSS 26 output results

It can be noted that the VIF value as well as the tolerance for all variables have met the criteria, namely the VIF value must be lower than 10 and the tolerance value must be above 0.1. Therefore it can be said that the variables used have no correlation and the regression model used in this study is considered good and free from multicollinearity symptoms.

4.1.5 Heteroscedasticity Test

In this study, the researcher conducted a heteroscedasticity test with the aim of being able to see whether there was an unequal distribution of variance among the residuals when building the regression model. The tests carried out will see whether the regression model is free from heteroscedasticity symptoms or not in this study by looking at the Scatterplots graph that has been processed from SPSS 26 as shown below:

Figure 4.2
Heteroscedasticity Test



Source: SPSS 26 output results

The picture above shows an irregular or unclear pattern. It can also be seen that the dots are scattered in various places, above and below zero on the Y axis so that it meets the criteria to be free from problems or symptoms of heteroscedasticity and can be continued for the next analysis.

4.1.6 Autocorrelation Test

In this study, the researcher conducted an autocorrelation test with the aim of being able to see whether in the regression model used there is a relationship between the t-period confounding error and the t-1 period confounding error. In this case the researcher looks at the Durbin-Watson value with a significance of 5% and will draw conclusions whether there is a problem with the autocorrelation of the regression model.

Table 4.3
Autocorrelation Test

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.430[a]	.185	.129	.0370747990	1.921

Source: SPSS 26 output results

a. Predictors: (Constant), SRDI, SIZE, ENVS, ASSR
b. Dependent Variable: ROA

Based on the picture above, the Durbin-Watson value is listed as d = 1,921. In this study, four independent variables were used to determine the value of K = 4 and the total observation of N = 63. The Durbin-Watson table shows that the dU value when K is 4 and N is 63 is 1.7296 so that 4-dU is obtained with a value 2.2704. With this, it can be said that the regression model used meets the criteria of dU < d < 4-dU, namely 1.7296 < 1.921 < 2.2704, which means it is free from problems or symptoms of autocorrelation.

4.1.7 Hypothesis testing

Determination Coefficient Test (R2)

In this study, the researcher tested the coefficient of determination (R2) with the aim of being able to see whether the regression model used was effective in explaining the variation of the dependent variable using the coefficient of determination. In general, in every study it will be proven by the r-square value where the closer the r-square value is to number 1, it means that the existing independent variables convey information about the variation of the dependent variable. The test results in this study can be seen in the image below:

Table 4.4
Test of the Coefficient of Determination (R2)

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.430[a]	.185	.129	.0370747990	1.921

Source: SPSS 26 output results

a. Predictors: (Constant), SRDI, SIZE, ENVS, ASSR
b. Dependent Variable: ROA

Based on the figure above, information can be obtained, namely the dependent variable in this study, namely return on assets, can be described by the independent and control variables by 18.5% while as much as 43% is explained by other variables not used in this study. This is because the dependent variable, namely ROA, is not only influenced by SRDI, firm size, industry sensitivity as well as assurance statements, but there are many other things that influence it.

F Statistic Test

In this study, the researcher conducted an F statistical test with the aim of being able to see whether or not there was an influence of the independent variable and control on the dependent variable as a whole by looking at the significance value of the F where prob > F if it is less than 5% then a research model is considered workable. The following will be the results of the F statistic test below:

Table 4.5
Statistical Test F

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.018	4	.005	3.289	.017[b]
	Residual	.080	58	.001		
	Total	.098	62			

Source: SPSS 26 output results

a. Dependent Variable: ROA
b. Predictors: (Constant), SRDI, SIZE, ENVS, ASSR

Based on the table above, information can be obtained about the calculated F value, the result is 3,289 with a significance of 0.017%. The previous data stated that the value of K = 4 and N-K = 59 and if you look at the table of F values with sig = 5%, you will get a value 2.53. Therefore the result is that the standard F count is greater than the F table value with a significance below 5% and it can be said that the regression model for this study can be used because the independent and control variables have proven to have an influence on the dependent variable used in this study.

Statistical Test t

In this study, the researcher conducted a statistical t test with the aim of being able to see how far each independent and control variable affected the dependent variable in this study. If the significance value of the p-value from the processed data shows a number that is less than 5% for each independent variable, then the effect on the dependent variable can be shown and vice versa. The following is the result of processed data that will show its value:

Table 4.6
Statistical Test t

Coefficients[a]				
Model		Unstandardized B	t	Sig.
1	SIZE	-.008	-2.284	.002
	ENVS	.014	1.509	.137
	ASSR	.000	-.507	.614
	SRDI	-.034	-1.123	.266

Source: SPSS 26 output results

From the figure above, information can be obtained where the calculated t values for each independent and control variable are -0.507, -1.123, 1.509, and -3.284 while the coefficient β values are 0.000, -0.304, 0.014, and -0.008. and the significance of each variable is 0.614, 0.266, 0.002, and 0.137. Looking at the t table with a significance level of 5%, the value 2.0017 will be N-K-1 = 58 so that knowing the effect must meet the criteria for t count > t table value. From the data above it can also be seen that only the SIZE variable fulfills a significance level below 5% with a negative β value. Therefore it can be concluded that company size has a negative influence on company performance while other variables such as the sustainability report disclosure index, assurance statements, and industry sensitivity have no effect on company performance as proxied by this return on assets.

The Effect of GRI Standard Disclosures on Company Performance

Based on the results of the hypothesis testing that has been carried out in the previous sub-chapter, it can be interpreted that the disclosure of GRI standards proxied through the sustainability report disclosure index (SRDI) has a significance of 0.266 and a β value of -0.034 at the level of a = 5%. With this information, it can be concluded that disclosure of GRI standards partially has no effect on company performance and means that H1 in this study is **rejected**.

Sustainability reports containing disclosure of non-financial information based on GRI standards have in fact proven to have no effect on company performance. The point is that a decrease or increase in company performance has nothing to do with the disclosure of this non-financial information. This disclosure is only considered as additional information that does not even affect the policies that will be taken by stakeholders in an effort to increase company profits. So it may be felt that the disclosure of the company's performance included in the annual report alone is sufficient to assist in making decisions. This may also be caused by uncertainty in the market so that things that can affect the company's performance vary and are not just disclosures of the GRI standards and in general, the impact of this sustainability report will only be seen in the long or long term. term. The results of this study which prove that the disclosure of GRI standards has no effect on company performance may also be an answer to why there are still so few companies in Indonesia that publish their corporate sustainability reports. The researcher realizes that this hypothesis is rejected, perhaps because of the limitations of the data used, but these results are in line with the research conducted by Sejati & Prastiwi (2015) where the result is that disclosures regarding sustainability have no effect on company performance.

The Effect of the Assurance Statement on Company Performance

Based on the results of the hypothesis testing that has been done in the previous sub-chapter, it can be seen that the minimum assurance content disclosure has a significance of 0.614 and a β value of 0.000 at the level of a = 5%. With this information, it can be concluded that the disclosure of minimum assurance content in the assurance statement attached to the company's sustainability report partially has no impact on company performance and means that H2 in this study is **rejected**.

An assurance statement is an important component in a company's sustainability report because it guarantees the reliability of the report. This is also one of the indices of the GRI standard which suggests validation from external parties will guarantee its sustainability report but in this study it is seen that there are still several companies that have not attached assurance statements and from the results of this study it is also proven that this variable has no effect on the company's performance in general. This form of validation from

external parties is considered not to determine the increase or decrease in company profits, because it is only limited to ensuring that the company's sustainability report is disclosed properly and correctly and in accordance with applicable standards. Although researchers are aware of the limitations of data collection in this study because of the companies that did not attach assurance statements in their sustainability reports in 2017 and 2018, there were 12 companies that made up half of the sample used and in 2019 there were nine companies that did not attach assurance statements, therefore the researchers acknowledged that the limitations of existing data and the number of years of research are relatively short but this is in line with research from Rahmansyah & Faisal (2015) which found that assurance statements have no effect on company performance.

5. Conclusions

The conclusion that can be drawn is that the first hypothesis, namely the disclosure of GRI standards applied in sustainability reports has a positive effect on company performance and the second hypothesis, namely the assurance statement on sustainability reports has a positive effect on company performance, was **rejected** because it did not meet the t-test significance criteria below 5%. Another control variable, namely industry sensitivity, is also proven to have no effect on company performance and the only variable that meets the significance criteria below 5% or which means it has an influence on company performance in this study is firm size which has a negative effect based on the statistical hypothesis test t that was done in the previous chapter.

This means that company size can trigger a decrease in the company's return on assets or it can be said that if there is a decrease in the company's return on assets, this can be triggered or influenced by the log total assets of the company. Whereas for other variables such as disclosure of GRI standards, disclosure of the minimum content of the assurance statement as well as industry sensitivity has no effect on the company's performance as a proxy through the company's return on assets or in other words an increase or decrease in return on assets is not triggered by the disclosure of GRI standards in the report. corporate sustainability, disclosure of the minimum content of the assurance statement in the company's sustainability report and the sensitivity of the company's industry so that this cannot be used as a reference for investors in considering their investment in a company.

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The Influence of the Work Environment, Motivation and Leadership on the Performance of Millenial Academic Employees During Pandemic Covid-19

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Abstract. This study aims to determine the effect of work environment and leadership on employee performance, work environment and leadership on employee motivation, motivation on millennial generation performance at XYZ Private College. The phenomenon of an increase in permanent academic employees (lecturers and academic staffs) at the age of the millennial generation at PTS XYZ. Then there are efforts to improve towards superior accreditation from B accreditation as a form of performance for millennial lecturers and staffs at PTS XYZ during the Covid-19 pandemic. The research conducted is a quantitative study with the respondents being permanent employees of the millennial generation (lecturers and academic staffs) who have worked for at least 2 years. Collecting data using a questionnaire measuring instrument using a Likert scale of 1 – 5. The data analysis method used the Structural Equation Model (SEM) with Smart-PLS software in processing the data for 150 respondent. The results showed that the work environment and leadership had a positive influence on employee motivation. Work environment, leadership and motivation of employees have a positive influence on employee performance. This research is related to employee performance so that it can be used as consideration for similar private universities in an effort to improve the performance of millennial generation employees and become a reference for further research.

Keywords: work environment; employee motivation; leadership; employee performance

1. Introduction

National Education Law no. 20 of 2003, concerning the National Education System in article 3, it is stated that National Education functions to develop capabilities and form the character and civilization of a dignified nation in the context of the intellectual life of the nation. MPR Decree No. IV of 1999, regarding the GBHN, explained in article 4 that one of the directions of the national development policy in the field of education in paragraph seven is to develop the quality of human resources as early as possible in a directed, integrated and comprehensive manner through various proactive and reactive efforts by all components of the nation so that the younger generation can develop optimally accompanied by the right to support and the environment. in accordance with their potential so that students become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable and responsible (Ministry of National Education, 2003).

One of the institutions that support national education is Private Universities (PTS). BPS data (BPS.go.id, 2022) states that the number of campuses in Indonesia is still dominated by private universities. Of the 3,115 existing universities, 2,990 of them are private. Meanwhile, the other 125 are state universities. The distribution of PTS is more in Jabodetabek as much as 501. One of the private universities that was established in 1994, has more than 15,000 active students, 30,000 graduates and more than 500 permanent employees is PTS XYZ, which is located in Tangerang Banten. XYZ University currently ranks 42 nationally for cluster 3. However, PTS XYZ is still trying to achieve Superior accreditation as a form of institutional performance. University performance is supported by the performance of lecturers and academic staff.

There are five groups of generational groupings including in Private Universities, namely Matures (born under 1945), Baby Boomers (born between 1947-1964); Generation Xers (born 1965-1980); Generation Y/ millennials (born 1981-1995) and Post Millennials (1995-present) (Oblinger, 2010). The number of millennial generation lecturers and academic staff at PTS XYZ has increased from year to year to 48% of all permanent employees in 2022. It is important to manage the performance of millennial employees, especially during the Covid-19 pandemic.

As PTS, XYZ must be able to show excellence and survive during the Covid 19 pandemic and technological challenges. To be able to realize it, it is necessary to have competent employees who have high motivation, these conditions require the support of a conducive work environment and motivating leadership. PTS must continue to evaluate and provide additional capabilities to all its employees. If this cannot be fulfilled sooner or later the quality of education services at the private universities will decline and it is likely that students will decrease. Performance of lecturers and academic staff can create an image and positive effects in order to attract students into private higher education. Johari, Tan, & Zulkarnain (2018) stated that performance of an individual is controlled by three elements, specifically condition at work, inspiration, and the capacity to carry out the responsibility.

In this study, the variables of work environment, leadership, and motivation were determined which were considered appropriate because employees who work in a good work environment with harmonious leadership will foster high morale in carrying out their work tasks, so that these three variables become important factors in improving Millennial employee performance during the Covid-19 pandemic. The Pew Research Center has released a new definition of the millennial generation. Millennials in this definition have a slightly shorter time span. The new measure states that those born between 1981 and 1996 are millennials (News.Abs-CBN, 2018). Central Bureau of Statistics (2020) with population Millennials ranging in age from 20 to 42 years reach 69,699,972 people or equivalent to 25.80% of the total population Indonesia.

2. Literature Review

2.1 Millennials Employees

A study conducted by Gallup (2016) shows that the millennial generation in work has much different characteristics compared to previous generations, which include: millennials work not only to receive a salary but also to pursue goals (something that has been aspired before); generation Millennials don't really pursue job satisfaction, but what millennials want is the possibility of developing themselves into the job (learning things new, new skills, new perspectives, getting to know more people, and taking opportunities to grow); millennials don't want bosses who like to command and control; the millennial generation does not want an annual review, the millennial generation wants on going conservation; Millennials don't think about fixing their weaknesses, millennials think more about developing their own strengths; For the millennial generation, work is not just work but work is part of their life. Millennials also tend to have characteristics such as being intelligent, creative, productive, achievement-oriented, seeking personal development, career paths, and looking for mentors or supervisors to encourage and facilitate professional development (Kicheva, 2017).

2.2 Performance

Employee performance is a person's capacity to effectively perform by utilizing assets accessible at work. Either the activity is hours of intensive practice before a concert or performing an obligation work as efficiently and effectively as possible, performance is what must be produced from these activities Maintaining performance of employee is a very important thing in the effort the company achieves its goals. Long-term success organization including PTS is its ability to measure how well its employees perform in their job. The performance of each employee is a significant factor related with organization results and achievement (Bruggen, 2015). Instead for lecturer' performance has certain characteristic such as strong need for work and have skills in planning syllabus, class management. For academic staff how their performance in give academic services for students and lecturers (Hamid, 2014).

Dessler (2017) states that: Employee performance is the actual achievement of the employee compared to the expected performance of the employee. Expected work performance is standard performance that is compiled as a reference so that employees can see the performance of employees according to their position compared to the standards made. According to Mathis and Jackson (2011) performance is basically what employees do or don't do. One that is used to measure performance is to look at the dimensions of employee performance. The dimensions and indicators of employee performance are: Quality the indicators are understanding tasks, targeting work, and aligning work with leadership goals; Quantity the indicators are the frequency of errors and failures, completing tasks and responsibilities, clear scope of work, and number of jobs; Timeliness the indicators work according to the standard time and the work can be completed faster than the specified time; Presence the indicators are absenteeism, responsibility, and monitoring.

2.3 Work Environment

The work environment is one factor that determines performance employee. While employee performance is one of the keys to the institution's success factor. Physical Work Environment The physical environment at work is very important to performance, satisfaction, relationships employee social and employee health. Physical work environment is all the physical state that exists in around the workplace that can affect employees

both directly or indirectly. The results of the study indicate the factors that influence physical work environment, namely lighting, air temperature, humidity, air circulation, and noise while non-work environment factors Physical is a factor that conditions working relationship between supervisor and subordinates and between fellow employees who can affect the work environment and employee performance (Jayaweera, 2015).

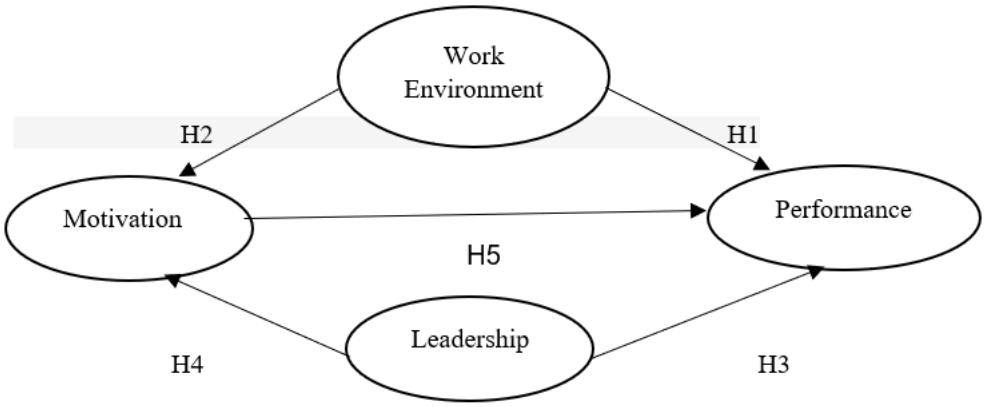
2.4 Leadership

Schermerhorn Jr and Bachrach (2015) mention leadership as "The process of inspiring others to work hard to accomplish important tasks". Bass and Avolio proposed 4 dimensions of transformational leadership known as the "4I" concept in 1994. Bass suggested transformational leaders to gain the trust, respect and admiration of their followers. Dimensions and indicators of transformational leadership used as a reference in this study: Idealized influence: the leader can show trust in his employees, provide examples of difficult problems, present the most important values in the organization, and emphasize the importance of goals and explain the consequences that will occur from each decision made. This leader will serve as a good role model for his followers; Inspirational motivation: the leader is able to articulate the vision and mission in the organization in an interesting way by speaking optimistically and enthusiastically, this is able to arouse the enthusiasm of his followers; Intellectual simulation: the leader can stimulate the creation of new ideas and new ways of working, without deviating from the culture that has been created in the organization; Individualized consideration: the leader relates personally to his followers, taking into account their needs, considering the abilities and aspirations of each individual, and being able to listen, train and provide advice on the problems they face with full attention.

2.6 Motivation

Motivation According to Mathis and Jackson translated by Sadell (2015) states that motivation is a desire in the person that causes the person to act. Motivation also define as desire in a person that causes that person to take action). The dimension of motivation according to McCleland (2011) consists of 3 types of motivation, namely the need for achievement, the need for power, and the need for affiliation. The indicators of work motivation are as follows: 1. The Need for Achievement (nAch) dimension consists of three indicators, namely liking challenges at work, responsibilities, and rewards and work performance. 2. The Need for Power (nPo) dimension consists of two indicators, namely looking for a position in the group and looking for opportunities to expand power. 3. The Need for Affiliation (nAff) dimension consists of two indicators, namely having a good relationship with the organization and having good cooperation.

Figure 1
Framework Model



3. Research Method

The object of this research is the performance of employees with the subject of permanent millennials academic employees PTS XYZ in Tangerang. The study uses an individual unit of analysis (individual) to produce a picture that represents the actual condition of the employee's performance. This research uses quantitative research with descriptive research design. The source of data in this study is primary data from the results of collecting answers to the respondents' questionnaires that have been determined. The indicator measurement scale uses a Likert scale type with five answer points, namely: 1. "Strongly disagree", 2. "Disagree", 3. "Neutral", 4. “Agree”, 5. “Strongly agree”. The data analysis method uses SEM with PLS approach and statistical calculations using Smart PLS 3.0 software. There were 150 respondents who filled out

the questionnaire by convenience sampling, namely permanent employees (lecturers or academic staff) of the millennial generation aged 21-40 years and had worked at PTS XYZ for at least 2 years with the consideration of being able to answer the questionnaire as expected.

4. Results and Discussion

Respondent profile

The number of respondents who answered the questionnaire collected was 150 with the number of male respondents as many as 88 and female respondents as many as 62. The age range of respondents in this study started from the age range of 21 - 30 as many as 72, age range 31 - 40 as many as 78. Work period 2-5 years as many as 85 people. Work time above 5 years as many as 65 respondents. Then, for the education level S1 as many as 75 people, S2 as many as 68 people and S3 as many as 7 respondents.

Preliminary Study Test

The preliminary research test was conducted by distributing questionnaires to 40 permanent employees PTS XYZ. The pretest was conducted to determine that the respondents understand the questions that must be answered and to determine the validity of the variables used in the study, namely the variables of Work Environment, Motivation, Leadership and Employee Performance. Preliminary Study Validity and Reliability Test The validity test on the PLS-SEM method can be done with two events, namely convergent validity and discriminant validity. Convergent validity is the value of the latent loading factor with its indicators, if the loading factor value 0.7 then the indicators used are valid (Hair et al. al., 2019) and if the Average Variance Extracted (AVE) value 0.5 then the indicator in the latent variable is valid. While discriminant validity is an indicator measurement based on the value of the coefficient of cross loading factor with the latent variable the method used is Fornell-Larcker, if the value of the square root of the Average Variance Extracted (AVE) for each construct is greater than the correlation value between constructs and other constructs in model, then the model is said to have a good discriminant validity value (Fornell and Larker, 1981 in Hair et al., 2019). While the reliability test can be done in two ways, namely with Cronbach's alpha with a value > 0.70 and composite reliability with a value > 0.70.

Table 1
Validity and Reliability Preliminary Test

Variable	Indicator	Loading (>0.7)	AVE (>0.5)	CR (>0.7)	Cronbach's Alpha (>0.7)
Performance	P1	0.765	0.662	0.860	0.851
	P2	0.731			
	P3	0.782			
	P4	0.764			
	P5	0.742			
Leadership	L1	0.806	0.780	0.849	0.837
	L2	0.852			
	L3	0.828			
	L4	0.778			
	L5	0.730			
	L6	0.742			
	L7	0.816			
Work Environment	WE1	0.823	0.751	0.863	0.875
	WE2	0.790			
	WE3	0.795			
	WE4	0.780			
	WE5	0.864			
Motivation	MT1	0.763	0.678	0.832	0.819

	MT2	0.725			
	MT3	0.787			
	MT4	0.748			
	MT5	0.831			
	MT6	0.770			
	MT7	0.792			
	MT8	0.776			
	MT9	0.768			
	MT10	0.780			

Table 2
Discriminant validity fornell-lacker criterion Preliminary Test

Variable	Leadership	Performance	Work Environment	Motivation
Leadership	0.864			
Performance	0.643	0.822		
Work Environment	0.672	0.681	0.817	
Motivation	0.675	0.689	0.719	0.820

Based on the results of the preliminary study data processing in Table 1, it shows that all the loading factor values on the indicators have a value above 0.7 and the average variance extracted (AVE) value has a value above 0.5. Likewise, discriminant validity through the Fornell-Larker criterion assessment shown in table 2 shows the results that meet the requirements. Thus it can be said that all indicators in the study are valid. While the reliability test results obtained Cronbach's alpha and composite reliability values for indicators on each variable, all above 0.7. Thus it can be said that all indicators in the study are reliable. Each variable has consistency in generating values for the model.

Actual Test

Table 3
Validity and Reliability Actual Test

Variable	Indicator	Loading (>0.7)	AVE (>0.5)	CR (>0.7)	Cronbach's Alpha (>0.7)
Performance	WP1	0.810	0.682	0.870	0.851
	WP2	0.786			
	WP3	0.863			
	WP4	0.869			
	WP5	0.775			
Leadership	L1	0.792	0.680	0.829	0.817
	L2	0.865			
	L3	0.845			
	L4	0.812			
	L5	0.834			
	L6	0.786			
	L7	0.821			
Work Environment	WE1	0.749	0.701	0.843	0.845
	WE2	0.736			
	WE3	0.812			
	WE4	0.812			

	WE5	0.776			
Motivation	MT1	0.762	0.678	0.840	0.843
	MT2	0.707			
	MT3	0.786			
	MT4	0.752			
	MT5	0.752			
	MT6	0.712			
	MT7	0.757			
	MT8	0.800			
	MT9	0.722			
	MT10	0.744			

Table 4
Discriminant validity fornell-lacker criterion Actual

Variable	Leadership	Work Performance	Work Environment	Motivation
Leadership	0.805			
Performance	0.683	0.826		
Work Environment	0.720	0.736	0.848	
Motivation	0.704	0.682	0.764	0.850

Based on the actual data processing results in Table 3, it shows that all loading factor values on the indicator have a value above 0.7 and the average variance extracted (AVE) value has a value above 0.5. Similarly, discriminant validity through the Fornell-larker criterion assessment shown in Table 4 shows the results that meet the requirements. Thus it can be said that all indicators in the study are valid. While the results of the reliability test obtained Cronbach's alpha and composite reliability values for indicators on each variable, all above 0.7. Thus it can be said that all indicators in the study are reliable. Each variable has consistency in generating values for the model.

Multicollinearity Test

In assessing the feasibility of the model using the Partial Least Square (PLS) method, it begins by looking at the Variant Inflation Factor (VIF) value for each dependent latent variable. To find out whether the formative indicators have multicollinearity by knowing the VIF value. The VIF value between 5-10 can be said that the indicator occurs multicollinearity (Ghozali & Latan, 2015). Table 5 shows that there is no independent variable that has a VIF value > 5, so it can be concluded that the model is free from collinearity problems.

Table 5
Multicollinearity Test

Predictor	**Performance**	**Motivation**
Construct	**VIF**	**VIF**
Leadership	2.362	2.213
Work Environment	2.315	2.287
Motivation	3.106	

Coefficient of Determination

Results in the R-square value can be used to assess the magnitude of the influence or contribution of certain independent latent variables to the dependent latent variable whether it has a substantive effect (Ghozali & Latan, 2015). The magnitude of R-square is never negative and is at most equal to one (0 R2 1), the value of R-quare is closer to 1, the higher the contribution of the independent variable to the dependent variable (Ghozali & Latan, 2015).

Table 6
Coefficient of Determination

Dependent Variable	R Square
Motivation	0.687
Performance	0.650

Based on the data presented in Table 7 above, it can be seen that the R-Square value for the Motivation variable is 0.687, the acquisition of this value explains that the work environment and leadership affect motivation by 68.7%. While the R-square value for employee performance is 0.650, this indicates that the magnitude of the influence of work environment, leadership and motivation on employee performance is 65%, the rest 35% is the influence of other variables that are not in the model.

Hypothesis Testing Results

Hypothesis testing between constructs, namely exogenous constructs (independent variable) against endogenous constructs (dependent variable) was carried out using the bootstrap resampling method developed by Geisser (Ghozali & Latan, 2015). The test statistic used is statistical t-test or t-test, the application of the resampling method allows the validity of freely distributed data, does not require the assumption of a normal distribution, and does not require a large sample. Because this study uses a saturated sample or all of the population is used as a sample / census, the hypothesis testing is done by looking at the direction of influence between the two variables. The value of testing the hypothesis of this study can be shown in Table 7.

Table 7
Hypothesis testing

Hypotheses	Path Coefficient	T Statistics	P Values	Decision
H1 : Work Environment → Performance	0.254	4.688	0.000	Supported
H2 : Work Environment → Motivation	0.336	3.548	0.001	Supported
H3 : Leadership → Performance	0.322	3.308	0.002	Supported
H4 : Leadership → Motivation	0.269	3.837	0.000	Supported
H5 : Motivation → Performance	0.290	3.702	0.004	Supported

Discussion

Relationship between Work Environment and Performance

From Table 7 above, it is known that the t count for the Work Environment variable is 4.688 at a significance level of 0.000 with a regression coefficient of +0.254. Because the significance value is 0.000 < 0.05, it can be concluded that the work environment variable has a positive and significant effect on on millennials academic employee performance at XYZ. Thus hypothesis H1 is supported. This proves that the work environment has a positive effect on performance of millennials permanent academic employees at PTS XYZ. The creation of a good and conducive work environment can affect the increase in employee performance. The results of this study are in line with the research of Johri et al. (2015), indicate that the work environment has a significant and positive effect on employee performance. Siddiqi et al. (2018), study indicate that there is a significant influence between the work environment and employee performance. Elisiana et al., (2016), the study was conducted results of the study indicate that the work environment has a positive effect on employee performance.

Relationship between Work Environment and Motivation

From Table 7 above, it is known that the t count for the Work Environment variable is 3.048 at a significance level of 0.001 with a regression coefficient of +0.336. Because the significance value is 0.001 <0.05, it can be concluded that the work environment variable has a positive and significant effect on motivation. Thus hypothesis H2 is supported. This proves that the work environment has a positive effect on millennials academic employee motivation at PTS XYZ. A supportive and adequate work environment will certainly make employees enthusiastic in carrying out activities well so as to achieve optimal results (Sedarmayanti, 2012). These results are in line with research conducted by Ingsiyah et al. (2019), on employees of PT. Pusri Palembang. The results of the study indicate that the physical work environment and non-physical

work environment have a positive impact on employee work motivation, Warouw et al. (2017) with research on employees of PT. BPR Prisma Dana Manado, the research results show that the work environment has a positive effect on employee motivation, and also Manikottama et al. (2019) which shows that the work environment has a positive and significant effect on employee motivation.

Relationship between Leadership and Performance

From the table 7 above, it is known that the t-count for the Leadership variable is 2.308 at a significance level of 0.011 with a regression coefficient of +0.228. Because the significance value is 0.011 < 0.05, it can be concluded that the leadership variable has a positive and significant effect on millennials academic employee performance at XYZ. Thus, hypothesis H4 is supported. This shows that the effectiveness of leadership greatly affects employee performance. The results of this study support the results of previous research conducted by Rasmuji (2017), the study was conducted on 77 PD employees. BPR BKK Batang, Makambe et al., (2020), research on 200 bank employees in Botswana South Africa, and Sembiring et al, (2021), research was conducted on 57 employees of Bank XYZ Regional Credit Card Medan. The results showed that leadership had a positive and significant effect on employee performance.

Relationship between Leadership and Motivation

From the table 7 above, it is known that the t-count for the Leadership variable is 4.737 at a significance level of 0.004 with a regression coefficient of +0.469. Because the significance value is 0.000 < 0.05, it can be concluded that the leadership variable has a positive and significant effect on millennials academic employee motivation. Thus hypothesis H3 is supported. These results prove that leadership has a positive and significant effect on motivation. The application of effective leadership by opening good communication lines between leaders and subordinates and being able to provide solutions when employees experience difficulties at work is a strong indicator in growing employee motivation. The results of this study are in line with the results of research conducted by Renat (2013), Mahendra and Brahmasari (2014) which state that leadership has a positive and significant effect on motivation. Research conducted by Noviyanti, Enny et al., (2019), researched 112 employees in Padang Pariaman district. The results of the study indicate that leadership is one of the factors that influence motivation where employee motivation in carrying out work cannot be separated from the ability of a leader to encourage, encourage, and inspire employees. Other studies that support this hypothesis were also produced in research conducted by Renat (2013), Mahendra and Brahmasari (2014).

Relationship between Motivation and Performance

From the table 7 above, it is known that the t-count for the motivation variable is 2.702 at a significance level of 0.004 with a regression coefficient of +0.290. Because the significance value is 0.004 < 0.05, it can be concluded that the motivation variable has a positive and significant effect on employee performance. Thus hypothesis H5 is supported. These results prove that motivation has a positive and significant effect on employee performance. Employee motivation will be stronger with the support of a good and adequate and healthy work environment, as well as the implementation of effective leadership will encourage employees to be enthusiastic and enthusiastic in doing their work to show their best performance. This confirms the results of previous studies that have been conducted regarding the impact of motivation on performance. Dewi et al., (2018), a survey was conducted on 48 nurses in Yogyakarta, the results showed that motivation was positively and significantly related to performance. Prabowo et al. (2018), said that motivation has a positive impact on the performance felt by employees who work at the Santika Graha Hotel, Malang. Motivation has a positive and significant influence on the performance of private employees working in Jordan (Al-Hawary et al., 2017). Motivation has a positive and significant impact on performance of employees working at State Universities in Thailand (Pongpearchan, 2016). Motivation has a positive and significant impact on the performance of nurses working in hospitals in Ghana (Aduo-Adjei et al., 2016). Manikottama et al. (2019) stated that motivation has a positive and significant relationship to employee performance in a study conducted on all contract employees at PT Satu Visi Edukasi.

5. Conclusions and Recommendations

Conclusion

Work environment variables have a positive and significant effect on employee performance variables, work environment variables have a positive and significant effect on employee motivation, leadership variables have a positive and significant effect on employee performance, leadership variables affect employee motivation variables, and employee motivation variables have a positive and significant effect on employee performance. The better and more conducive and adequate working environment conditions as well as the application of

effective leadership will encourage the enthusiasm and enthusiasm of employees in carrying out work tasks by providing their best performance due to millennial academic employees of XYZ.

Suggestion

Further research can consider other variables that have the potential to influence employee performance and also its application in different industrial fields so that it is expected to enrich and expand the scope of research so that more representative results are obtained.

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Analyzing the Role of Emotional Intelligence and Transformational Leadership During the CoV-19 Pandemic

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Abstract. Recent decades have seen a movement in successful leadership theorizing, views, and study toward an emphasis on interpersonal skills and the leader's ability to inspire, encourage, and motivate subordinates and generate and sustain a good feeling of participation to the whole organization. Previous research and conceptions of leadership have tended to center on command and control, strategic planning, and goal setting, but this new approach takes a very different tack. Therefore, the basis of this essay is the connection between emotional intelligence (leading from the heart) and transformational leadership in the context of COVID-19 (coronavirus) pandemic difficulties. It is therefore argued here that a leadership style that centers on emotional intelligence mediated by transformational leadership can be instrumental in guiding business organizations through the times of crisis that humanity (and the organization specifically) is currently facing, unleashed by the COVID-19 pandemic challenges. The method utilized in this essay is based on a fast review of the current literature on these occurrences and how it may be used to develop a conceptual framework that could provide novel insights into how to effectively address the difficulties of Covid-19 with strong leadership. The conclusion of this essay is that in times of crisis – such as the one that was brought about by Covid-19 – a combination of emotional intelligence and transformational leadership is required to create meaningful change within an organization. This will allow the organization to recover and continue to function economically and sustainably.

Keywords: emotional intelligence; transformational leadership; COVID-19 pandemic challenges

1. Introduction

Many organizations and individuals throughout the world have regarded the COVID-19 (coronavirus) pandemic as an epic test of leadership style, character, and strategy (WHO, 2020; Sahu, 2020). Business titans have responded to the coronavirus epidemic by implementing new leadership styles and tactics meant to help their companies survive (McKinsey, 2020), thrive (Sahu, 2020), and gain an edge in an increasingly competitive market (UNESCO, 2020). Considering this, the focus of this essay is to illuminate how a style of organizational leadership that mobilizes emotional intelligence and transformational leadership might assist companies overcome the obstacles posed by COVID-19. Understanding the effects of the pandemic on companies and how different types of corporate leadership might approach the threats presented by the coronavirus are the focus of this article. This article proposes that emotional intelligence-infused transformative leadership may be crucial for guiding organizations through the current organizational muck (McKinsey, 2020). This essay is based on the central idea that improved engagement, motivation, and involvement may be achieved via a better understanding of the role emotional intelligence plays in transformative leadership. Because of this, transformational leadership is based on an emotional approach that puts the needs and goals of followers above those of the leader. The acceptance, cooperation, and awareness of subordinates are improved in a way that fits with the completion of group tasks and organizational goals. Research findings vary about the influence of EI on TL have given rise to ongoing debate between proponents and skeptics, an important component of EI is positively related to transformational leadership behavior (TL) (Barling, Slater, and Kelloway, 2000); EI did not contribute significantly to the behavior of TL (Antonakis, Ashkanasy, and Dasborough, 2009); EI and TL has marginal associations (Harms and Credé, 2010). Another study found emotional intelligence (EI) in relation to its contribution to the effectiveness of leadership in organizational settings remains unclear, empirical support to better explain the relationship between emotional intelligence and transformational leadership the need for a more valid and reliable assessment tool in the field of human resource development (Kim & Kim, 2017). This

study draws on important information about the relationship between EI and TL, through a review of the empirical findings of the influence of EI on TL, to propose implications in the practice of the field of leadership.

2. Literature Review

2.1 Emotional Intelligence Theory

There are many factors that are considered to influence effective and adequate leadership for leadership development. There is a question why leaders with great expertise are not always successful in influencing others and achieving business goals. Goleman (1998) proposed that organizational performance which tends to be associated with technical excellence and individual skills, and cognitive intelligence can be an obstacle to the performance of organizational leaders, leaders should not underestimate emotional intelligence (EI), because of failure and inability to drive followers and satisfy customers who rely more on human interaction that delivers results and potential economic effects. the leader acts as a role model within the group, managing members' emotions and establishing a positive climate. Transformational leaders must be able to control emotions to reflect their emotional behavior, feel the emotions of others, and react effectively to the emotional needs of the group (Clarke, 2010). EI is related not only to cognitive intelligence but personality qualities. EI along with other cognitive intelligences provides individual performance potential. EI refers to the ability to understand and manage emotions in oneself and others to achieve personal and collective goals (Brown & Moshavi, 2005).

Table 1
Emotional Intelligence Theory

Author & Year	Publication	Topic/Title	Summary of Findings
Salovey and Mayer (1990)	Cognition and Personality	Emotional intelligence, imagination, cognition, and personality	Initially, EI was referred to as social intelligence. The ability to examine one's own and other people's feelings and emotions and to use this information to guide one's thoughts and actions.
Goleman (1995)	Book, published by Bantam Books	Emotional intelligence	Four competences of EI are said to exist: self-awareness, self- management, social awareness, and relationship management.
Bar-On & Parker (1997)	Technical manual	Bar-On emotional quotient inventory: technical manual, multi health systems	Five components have been identified: interpersonal, intrapersonal, adaptation, stress management, and overall mood.
Weisinger (1998)	Book published by Jossey-Bass	Emotional intelligence at work	Examining EI in the workplace.
Mayer &Salovey (1997)	Book, published by Basic Books.	Emotional development and Emotional intelligence, an implication for educators	The capacity to recognize emotions, to access and activate emotions to create ideas, to appreciate emotions and EI, and to manage emotions in order to foster emotional and intellectual development.
Goleman, D., Boyatzis, R.E. and McKee, A., 2002.	Harvard Business Press.	Primal leadership: Unleashing the power of emotional intelligence	Explores the function of EI in leadership by demonstrating that a leader's emotions are infectious; hence, if a leader radiates optimism, an organization flourish, but if he or she transmits negativity, it flounders.

EI measurement to see ability as new types of intelligence are the Multifactor Emotional Intelligence Scale (MEIS) and Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT) (Salovey and Mayer, 1990). MEIS and MSCEIT measure four branches of EI, (a) understanding emotions in oneself and others, and other stimuli;

(b) the ability to use and communicate emotions; (c) the ability to analyze emotional information and identify changing emotions; and (d) the ability to control the emotions and moods of oneself and others (Conte, 2005).

2.2 Transformational Leadership Theory

The researcher defines TL with four dimensions, namely (a) ideal influence, (b) inspirational motivation, (c) intellectual stimulation, and (d) individual considerations. (Bass, 1991; Bass & Avolio, 1997; Bogler, Caspi, & Roccas, 2013).

Figure 1
Addictive Effect of Transformational Leadership Framework



The four parts each define traits that are important to the "transformation" process. The "four I's" are used by managers who are good role models, encouragers, innovators, and coaches to "transform" their employees into better, more successful, and productive people.

Inspirational Motivation:	Transformational leadership is based on making sure that everyone in the group has the same vision, mission, and set of values. Their vision is so strong that they always know what they want from a conversation. Transformational leaders lead by giving their followers a sense of purpose and a challenge. They work with a lot of energy and hope to build a spirit of teamwork and commitment.
Intellectual Stimulation:	These leaders encourage their followers to be innovative and creative. They encourage their followers to come up with new ideas, and they never criticize them in public for the mistakes they make. Leaders pay attention to the "what" of problems and not the "who's to blame" part. They don't think twice about getting rid of an old rule they made if it turns out not to work.
Idealized Influence:	They believe that a leader can only influence those who follow him if he does what he says. Followers look up to the leaders and try to be like them. People always trust and respect these kinds of leaders because of what they do. They usually put the needs of their followers ahead of their own, give up personal gains for them, and act in a way that meets high ethical standards. When these leaders use their power, they want to get people to work toward the organization's goals.
Individualized Consideration:	Leaders act as guides for their followers and give them rewards for being creative and coming up with new ideas. Depending on their skills and knowledge, the followers are treated in different ways. They have the power to make decisions and are always given the help they need to put those decisions into action.

Measurement of TL are the Multifactor Leadership Questionnaire (MLQ) and Form 5X (MLQ-5X) to identify an individual's leadership style (Bass and Avolio, 2000).

3. Methodology

This study does not address all leadership styles but focuses on the relationship between emotional intelligence and transformational leadership in the existing literature. Through a review of several empirical studies carried out an in-depth analysis. Several articles were identified using multiple ProQuest database by searching the relationship between EI and TL, a combination of the keywords "emotional intelligence" and "transformational leadership" was used. Examination of 26 article titles and abstracts to determine the focus on the relationship between EI and TL, the clarity of the research framework and its measurement were reviewed in depth.

4. Results

Linkages between Emotional Intelligence (EI) and Transformational Leadership (TL)

There are correlation between EI and TL in 47 managers and employees in Aba, Nigeria (Ugoani, Amu, and Kalu, 2015) and correlation between EI and TL with data from 50 managers and 273 employees in two Chinese construction companies that measure the four dimensions of EI (self-awareness, self-management, social awareness, and relationship management) (San Lam and O'Higgins, 2013). Although several different studies provide convincing empirical evidence that EI is positively related to TL. The demonstration of EI's value for enhancing organizational happiness, commitment, and effectiveness is one of the most significant advances in the study of EI and TL. The TL components of inspiring motivation and personalized concern are strongly associated with the capacity to monitor and control one's own and others' emotions. Transformational leaders are motivated, enthusiastic, and energized; as a result, they energize their followers and use powerful emotions to elicit the same emotions in their audiences. Transformational leaders may have a dual impact, exerting their influence on followers via the building of personal connection with the leader and social identification with the work unit, which can result in distinct consequences.

5. Discussion

Consensus in the essay on emotional intelligence implies that the ability to monitor, regulate, and control emotions in the context of oneself and others correlates with transformational leadership competence. Therefore, transformational leadership comprises the activity that mobilizes purposeful action in a leader's followers by altering the way they see and understand the world. Consequently, Sivanathan & Fekken (2020) acknowledged that a leader's followers perceive emotionally intelligent leaders as more effective, persuasive, and transformational leaders, which is required to turn the corner in the era of the coronavirus pandemic, when organizational leaders are required more than ever to lead with the heart for genuine, lasting change (Baba, 2021).

6. The Implications

1. Consequently, with a focus on the capacity to successfully manage relationships and empathy, emotionally intelligent (transformational) leaders are more likely to demonstrate individualized concern.
2. Emotional intelligence is linked to other facets of transformational leadership, such as inspirational motivation, idealised consideration, and intellectual stimulation, which could lead to a win-win situation as opposed to transactional leadership, which de-emphasizes leading with the heart and instead emphasizes achieving organizational goals (Babalola, Ren & Ogbonnaya, 2020). In recent research, Babalola et al. (2020) identified a leadership style that detracts from win-win dialectics as 'bottom-line mentality,' a one-dimensional mindset centering around bottom-line objectives that penetrates the majority of modern businesses in the aftermath of COVID-19 difficulties.
3. Babalola et al. (2020) discovered that the mindset of accomplishing goals in a bleak economic and corporate climate has contributed to stress, sleeplessness, and poor employee performance, as staff are controlled rather than led.
4. They discovered that supervisors and leaders, by their leadership style and bottom-line mindset, have worsened employee views of a competitive work environment, hence enhancing employee well-being at the workplace. Contemporary literature on the interface between emotional intelligence, transformational leadership, and successfully navigating the roadblock of the COVID-19 challenges for business underscores the need for organisational leaders to be wary of being overly focused on bottom-line outcomes and cognizant of the broader implications of 'achieving target mentality' on disparate aspects of their employees' lives, which could be detrimental to organisational performance (Babalola et al., 2020).

7. Conclusion

1. This essay concludes that a combination of emotional intelligence and transformational leadership is required to effectively drive change for organizations during times of crisis, such as the one ushered in by Covid-19, allowing them to recover and continue to operate profitably and sustainably.
2. Few exceptions notwithstanding, many studies indicate that there is a positive link between TL and EI. According to several studies conducted in a variety of contexts, emotionally competent leaders at all

levels of management are more successful in their company and can alter the people and work culture via their unique personality qualities and inspiring motivational power.

3. The capacity to lead successful, transformative change in the coronavirus age hinges, as argued here, on leaders' ability to affect the emotional environment, which in turn greatly influences performance, company sustainability, commitment, and wellbeing.
4. Consequently, this essay has highlighted the need of emotional intelligence and transformational leadership in navigating the doldrums and corporate losses ushered in by the coronavirus epidemic for the betterment of the business world and societal health.
5. It has also emphasized the need for a new kind of leadership that puts more focus on inspiring and motivating followers than on setting and reaching specific goals. Therefore, in today's corporate climate, transformational and emotionally intelligent leadership, rather than transactional and emotionally numb leadership, is necessary to effectively mediate the changes in consumer behavior, leadership and management techniques, and company operationalization.
6. This essay proposes a novel approach to management and leadership that, if adopted, might help businesses recover from the setbacks caused by the recent coronavirus outbreak.

8. Limitation and Further Research

This essay examined the relationship between EI (Emotional Intelligence) and TL (Transformational Leadership) based on a cursory assessment of the current literature on these phenomena to develop a conceptual framework that may provide novel insights into how to successfully lead in the face of the challenges given by Covid-19. To bolster the results, more research using a cross-sectional study design and an examination of the link between self-report predictor factors of emotional intelligence (EI) and personality characteristics and self-report criterion variables transformational leadership must be conducted (Ljerka & Dario, 2020). Future study should also examine possible moderator effects on the relationship between EI and TL, such as the impact of individual differences between leaders and subordinates in certain cultural situations, (Ljerka & Dario, 2020).

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The Effect of Capital Structure, Sales Growth and Liquidity on Performance with Company Size as Moderation

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Abstract. This study aims to determine and test based on empirical evidence regarding the effect of Capital Structure, Sales Growth and Liquidity with firm size as moderation on Performance. Performance is measured by using Return on Asset. This study uses secondary data sources recorded in S&P Capital IQ. Four hundred ninety-five observations with purposive sampling technique in selecting samples from healthcare companies for Indonesia, Malaysia, Singapore, Thailand, the Philiphines, and Vietnam. For the period 2010 – 2020. The research method is a multiple linear regression model. The results show that Capital Structure and Sales Growth affect performance. This study also indicates that company size as a moderator variable has insignificance for capital structure and sales growth to performance. However, firm size affects the relationship between net liquidity and performance.

Keywords: Capital Structure; Growth; Liquidity; Performance

1. Introduction

2020 is a year with quite a stern test for the people of Indonesia and the whole world. The seventh President of Indonesia conveyed this in a video uploaded by the presidential secretariat on December 31, 2020. This statement provides a broad picture of what is happening globally, including in Indonesia. Some companies experience a decline in performance, cut people's jobs, or go bankrupt in the economy.

In difficult times for many companies, the Healthcare Industry may be one of the industries with a positive financial impact. The world of medicine and hospital services is busy helping many people suffering. Business sustainability remains a priority for all companies in these difficult times.

Citing the 2019 Asean Investment Report, the demand for healthcare in ASEAN countries and the need for investment in the regional healthcare market will increase rapidly in the coming years. This increase was driven by population growth, demographic changes, universal healthcare programs, and an increased incidence of non-communicable diseases.

In 2018, Johnson & Johnson (United States) expanded in Singapore by opening a design laboratory. Chugai Pharma (Japan) initiated a $220 million investment to deploy by 2021 in biopharmaceutical research.

Meanwhile, in 2020, the growth of the Indonesian pharmaceutical industry in the third quarter of 2020 will reach a maximum of around 7 percent. This is because the downward trend in inpatient visits to the hospital in the second quarter of 2020 continued from July to September 2020. This growth was based on the high demand for immunomodulatory drugs and health supplements.

The phenomenon of investment in ASEAN countries is due to the prospect of growing sales. Thus cash flow management for these investments is a critical business that cannot be forgotten apart from realizing reciprocity on these investments, which can be reflected in the excellent performance of healthcare companies.

Researchers aim the study to determine how capital structure, sales growth, and liquidity positively influence performance. Furthermore, the researchers included the moderating variable, firm size, as one of the instruments in the research model to see its effect on performance.

Although there have been many previous studies to determine the factors of the effect of capital structure, sales growth, and liquidity on the company's performance, there are still differences in the study

results. In this study, the researcher used firm size as a moderating variable and in several previous studies, firm size was usually used as a control variable.

Hillier (2021), in his book Fundamentals of Corporate Finance, explains the purpose of financial management is to make money or add value to its owners. Profitability Ratios measure how efficiently the company uses its assets and manages its operations. The focus of this ratio is on net income. (Ross et al, n.d.)

Trade-off theory explains that decision-makers consider and evaluate the costs and benefits of using debt or capital plans. Planned considerations involve balancing marginal costs and benefits in a firm's financial capital structure.According to Modigliani and Miller (Frank & Goyal, 2008), adding a preposition of tax costs and creating debt benefits derived from tax benefits does not compensate for debt cost, which results in extreme predictions in testing the effects of testing the theory.

Myers (1984) then criticized the Tradeoff theory with the Pecking Order theory, giving an opinion on the use of the Trade-Off Theory by the company must have a target of debt to value ratio and gradually move to the target. The target is the balancing of the debt tax ratio and bankruptcy costs.

This prediction was also mentioned by Fama & French (2002) in their research which tested the Trade-Off Theory and Pecking Order Theory. Prediction is; (1) In referring to bankruptcy costs, companies with larger ones have a large amount of leverage (2)Companies with diverse incomes have a small amount of leverage.

Frank & Goyal (2008) explain their predictions in Static Order Theory about profitability. Static Trade-off Theory predicts that companies with higher profits will have high debt values.

Frank & Goyal (2008) explains the Pecking Order theory where companies in their business show a preference in choosing funding sources. This theory states that business organisations' preferred funding source is income from undistributed profits, debt, and equity funds.

Their research (Chandra et al., 2019) tries to find a relationship between capital structure and profitability. Capital structure has a significant positive effect on profitability. This finding supports the trade-off theory, which states that firms tend to go into debt to benefit from tax deductions from interest expenses. With a tax reduction, the company's profitability will increase. However, several conclusions were drawn in the study by Qayyum & Noreen (2019a), which tested the capital structure with three profitability ratios. ROA is negatively correlated with leverage.

H1: Capital Structure has a Positive Effect on Performance Firm's Growth

According to Barton (Deitana, 2011) the ability to maintain a company's profitability is influenced by the rate of change in growth. Companies with high sales growth will represent an increasing revenue picture so that sales growth can predict the company’s success. Sales growth is also an indicator of the demand and competitiveness of companies in an industry.

According to Subramanyam, sales growth is an analysis of trends in sales by segment that is useful in assessing profitability. Sales growth is often the result of more factors, including changes in price, volume, acquisitions or divestments, and exchange rates (Subramanyam, n.d).

According to Coad, in his research, he tried to find empirical evidence from the "Growth of the fitter" principle with three growth variables measured as employment rate, value-added and sales growth for their effect on the profit rate.

In the study by Liu, the research conclusions related to sales growth are summarized in two aspects. First, the financial performance of China's agricultural issuers is in a fluctuating downward trend. Second, the rate of sales growth can improve financial performance (Liu et al., n.d.). Companies listed on the stock exchange must pay attention to the relationship between sales revenue and the cost of goods sold, where increased sales growth can be achieved by increasing product volume or selling price. The same result was also obtained by Dakic. The results showed that sales growth had a significant positive effect on profitability in the food processing industry (Dakić et al., n.d).

However, the research that studied pharmaceutical companies in Indonesia by Lim & Rokhim (2020a) 2020 and Pardanawati (2021a) in a study that examined consumer goods companies showed different results. Lim & Rokhim concluded a negative relationship between sales growth and the three dependent variables (ROA, ROE, and EPS).

H2: Sales Growth has a positive influence on performance

Companies can have excessive liquidity because liquid assets tend to generate low returns. Excessive liquidity can hurt profitability. Two ratios that measure the quantity of liquidity are the Current Ratio and the Quick Ratio. (Ross et al, n.d.)

Liquidity management includes the planning and control of current assets and current liabilities in such a way as to eliminate the inability to meet short-term liabilities. This, on the one hand, avoids overinvesting in assets. (Ross et al, n.d.)

Eljelly (2004) explains that the effect that the company directly receives is its profitability more directly in the form of an increase in the company's need to borrow debt from external parties to accommodate it. Working capital requirements and cash gaps.

According to Jensen & Meckling, an agency relationship is a contract in which one or more persons (principals) employ another person (agent) to perform some services on their behalf, which involves delegating some decision-making authority to agents. Principals and agents can seek the maximum value of something, in this case, for example, liquidity and profitability information. Hence, there is a good reason why agents will not always act in the principal's best interests (Jensen et al., 1976).

In Vieira's research, higher liquidity can result in increased problem agency between managers and shareholders, as managers tend to invest more in projects that strengthen their position in the company than in projects that contribute to increase company profitability.

The research of Alarussi & Alhaderi (2018) and found in 120 samples of companies with various industries, the study did not find a significant relationship between liquidity and profitability.

However, different results were obtained in the study of Samo and Morad. This study examines liquidity on the profitability of companies in the textile industry and concludes a relationship between liquidity and profitability in one sector. These results are in line with research in the Pharmaceutical industry by Lim & Rokhim (2020a), which concludes a strong relationship between profitability and liquidity.

H3: Liquidity has a positive effect on performance

Firm size can moderate the capital structure in its influence on firm performance. Research by (Ibhagui & Olokoyo, 2018) shows the positive impact of leverage on company performance in companies with small and large company sizes. The positive effect is mostly more substantial in small firms for leverage ratios on firm performance.

H4: Firm size strengthens the relationship between capital structure and performance

Sales dynamics are often used as a proxy for growth. In a study by (Albulescu et al., 2021), large companies recorded higher growth rates. Performance helps automotive companies to develop and increase company sales. Company size is an essential factor for the growth of companies in the automotive industry of the Timis region of Romania. In addition, size is more critical for companies growing less quickly.

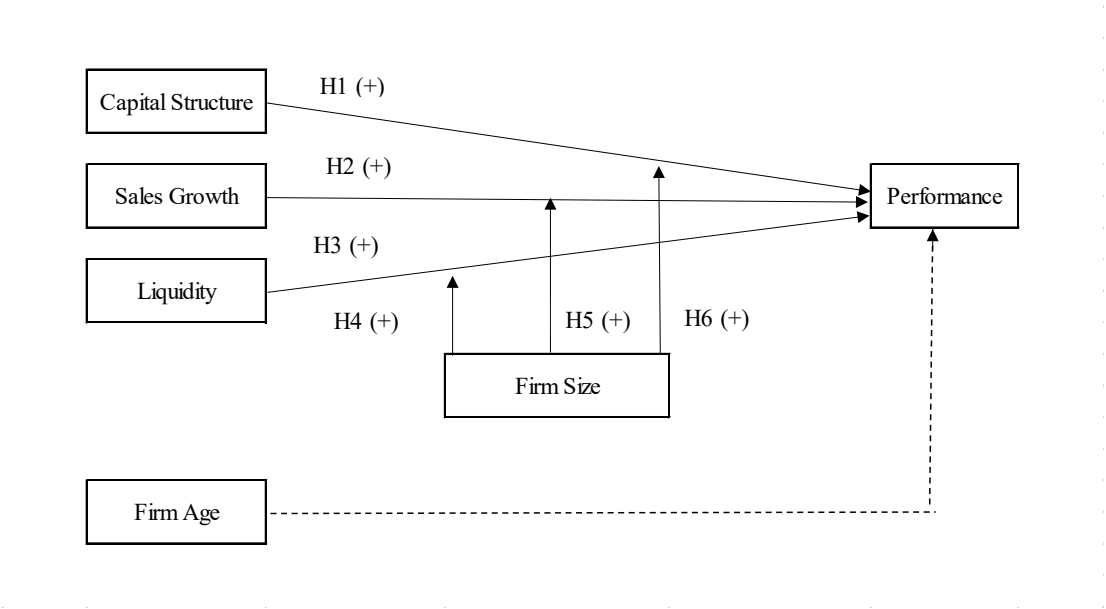
H5: Firm size strengthens the relationship between sales growth and performance

In a study by (Dalci et al., 2019) which tried to find the effect of firm size as a moderating variable of liquidity and profitability, it was found that the smaller the firm size, the negative impact of liquidity on ROA becomes more vital for the firm.

H6: Firm size strengthens the relationship between liquidity and performance

Based on the hypotheses above, the conceptual framework of the research can be formulated in figure 1 as follows.

Figure 1
Research Model



Source: Apriliansyah (2022)

2. Methods

The data of this study were taken from the S&P Global Market Intelligence website in financial information reports from 2010 to 2020. The data is processed quantitatively. This analysis is carried out using a way of analysing a problem that is realised with quantitative data. The information that has been obtained is then summarized as a dataset and processed by using statistical applications (SPSS 24)

This study uses a purposive sampling method where the researcher chooses to use indicators that have been adjusted to the limitations and objectives of this study. The following are the criteria for the data to be sampled:

1. A publicly listed company officially registered in 6 ASEAN countries, namely Indonesia, Malaysia, Singapore, Thailand, the Philippines, and Vietnam.
2. Companies from the Healthcare industry that disclose financial statements that independent auditors have audited for the 2010 – 2020 financial year.

This study uses dependent, independent, control and moderating variables. The dependent variable is performance; the independent variable is capital structure, sales growth and liquidity; the control variable is firm age; and the moderating variable is firm size. Their measurements are described in the following section.

Table 1
Variable Measurement

No.	Variable			Measurement
1	Performance	ROA	=	$\frac{Net\ Income}{Total\ Asset}$
2	Capital Structure	DAR	=	$\frac{Total\ Debt}{Total\ Asset}$
3	Sales Growth	SGR	=	$\frac{Sales_t - Sales_{t-1}}{Total\ Asset}$

4	Liquidity	CR	=	$\frac{Current\ Asset}{Current\ Liability}$
5	Firm Size	SIZE	=	*ln Total Asset*
6	Firm Age	AGE	=	*log Age*

Source: Apriliansyah (2022)

This study uses multiple regression models to analyze the relationship between the independent and dependent variables. In the first model, the researcher tries to find the relationship between the variables without any moderation with the following equation:

Model 1

$$ROA = \beta_0 + \beta_1 DAR_{it} + \beta_2 SGR_{it} + \beta_3 CR_{it} + \beta_4 SIZE_{it} + \beta_5 AGE_{it} + \varepsilon_{it}$$

In the second research model, the researcher includes the moderating effect in the regression equation to find its impact on the dependent variable with the following equation:

Model 2

$$ROA = \beta_0 + \beta_1 DAR_{it} + \beta_2 SGR_{it} + \beta_3 CR_{it} + \beta_4 SIZE_{it} + \beta_5 DAR*SIZE_{it} + \beta_6 SGR*SIZE_{it} + \beta_7 CR*SIZE_{it} + \beta_8 AGE_{it} + \varepsilon_{it}$$

3. Result

This study uses public healthcare companies in six ASEAN countries (Singapore, Indonesia, Malaysia, Philippines, Thailand, and Vietnam then used a purposive sampling method to select samples (based on specific criteria) in the 2010-2020 period. Based on the table, it is known that 45 samples that passed according to the criteria determined based on the observation time of 11 years (2010-2020) were described as follows:

Table 2
Sample Criteria

No.	Sample Criteria	Amount
1	ASEAN Healthcare Companies in 2010 - 2020	116
2	Companies with IPO years after 2010	-50
3	Companies with incomplete data in the S&P Capital Pro database	-21
	Chosen as sample	45
	Sample in Total	495

Source: Apriliansyah (2022)

Based on information from the results of descriptive statistical analysis, the number of samples, minimum, maximum, mean, and standard deviation in this study are described in tables 3 and 4 as follows:

Table 3
Descriptive Statistics 1

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
ROA	495	-1.029	1.561	0.059	0.142
DAR	495	0.022	1.476	0.338	0.178
SGR	495	-0.989	8.876	0.195	0.749
CR	495	0.243	21.615	2.449	2.231
SIZE	495	9.861	18.872	13.869	1.712
AGE	495	1.079	1.851	1.540	0.163
Valid N (listwise)	495				

Based on table 3, the results of the descriptive analysis test model 1 explain that there are 495 company data. ROA with a minimum value of -1,029 from the company E for L Aim Public Company Limited 2012 had a net loss of 19,728. A maximum value of 1,561 Malaysian Genomics Resource Center Berhad in 2020 had a net income of 58,318. The mean value is 0.059, and the Standard Deviation is 0.142.

SGR with a minimum value of -0.989 from Malaysian Genomics Resource Center Berhad in 2019, a maximum value of 8.876 from E for L Aim Public Company Limited in 2014, a Mean value of 0.195 and a Standard Deviation of 0.747.

Table 4
Descriptive Statistics 2

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
DARxSIZE	495	0.374	19.917	4.701	2.533
SGRxSIZE	495	-13.557	152.514	2.777	10.956
CRxSIZE	495	3.430	260.927	33.442	29.841
Valid N (listwise)	495				

Table 5
Kolmogorov-Smirnov Normality Test Research Model 1

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		495
Normal Parameters[a,b]	Mean	0.000
	Std. Deviation	0.133
Most Extreme Differences	Absolute	0.166
	Positive	0.160
	Negative	-0.166
Test Statistic		0.166
Asymp. Sig. (2-tailed)		.000[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Based on the normality test above, the result of the significant value on the ROE variable using the Kolmogorov-Smirnov test is 0.000. The conclusion is that the data in research model 1 has not been distributed normally because the significance level is not a criterion, which is more than 0.05.

Table 6
Kolmogorov-Smirnov Normality Test Research Model 2

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		495
Normal Parameters[a,b]	Mean	0.000
	Std. Deviation	0.130
Most Extreme Differences	Absolute	0.169
	Positive	0.150
	Negative	-0.169
Test Statistic		0.169
Asymp. Sig. (2-tailed)		.000[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Based on the normality test above, the result of the significant value on the ROE variable using the Kolmogorov-Smirnov test is 0.000. The conclusion is that the data in research model 2 has not been distributed normally because the significance level is not a criterion, which is more than 0.05.

Table 7
Multicollinearity Test of Research Model 1

Coefficients[a]							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.184	0.081		-2.252	0.025		
	DAR	-0.229	0.041	-0.287	-5.530	0.000	0.663	1.509
	SGR	0.023	0.008	0.120	2.762	0.006	0.949	1.053
	CR	-0.002	0.003	-0.033	-0.646	0.519	0.668	1.497
	SIZE	0.007	0.004	0.081	1.893	0.059	0.972	1.029
	AGE	0.148	0.038	0.170	3.864	0.000	0.921	1.086

a. Dependent Variable: ROA

From the results of multicollinearity testing based on the table above, the independent variable in research model 1 does not have a strong correlation with other independent variables, meaning that it does not have symptoms of multicollinearity in this study. This can be proven by the VIF results on all variables still below 10

Table 8
Multicollinearity Test of Research Model 2

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.446	0.196		-2.277	0.023		
	DAR	-0.173	0.369	-0.217	-0.469	0.639	0.008	122.879
	SGR	0.083	0.045	0.438	1.846	0.066	0.031	32.447
	CR	0.074	0.025	1.170	2.921	0.004	0.011	92.487
	SIZE	0.024	0.013	0.286	1.797	0.073	0.069	14.595
	AGE	0.171	0.038	0.197	4.454	0.000	0.886	1.129
	DARxSIZE	-0.005	0.027	-0.082	-0.170	0.865	0.007	135.696

	SGRxSIZE	-0.004	0.003	-0.336	-1.402	0.162	0.030	33.162
	CRxSIZE	-0.006	0.002	-1.213	-3.020	0.003	0.011	93.094

a. Dependent Variable: ROA

In research model 2, experiencing multicollinearity problems which show collinearity with VIF on all variables in research model 2 having values above ten on the variables DAR, SGR, CR, DARxSIZE, SGRxSIZE and CRxSIZE.

Table 9
Glejser Test of Research Model 1

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.490	0.063		7.827	0.000
	DAR	0.019	0.032	0.030	0.590	0.556
	SGR	0.017	0.006	0.114	2.688	0.007
	CR	0.008	0.003	0.163	3.244	0.001
	SIZE	-0.019	0.003	-0.283	-6.784	0.000
	AGE	-0.125	0.029	-0.182	-4.239	0.000

a. Dependent Variable: ABSRES1

From the above test, it is known that in research model 1, all variables except DAR no longer have heteroscedasticity problems.

Table 10
Glejser Test of Research Model 2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.060	0.142		0.425	0.671
	DAR	0.668	0.268	1.092	2.496	0.013
	SGR	0.142	0.033	0.982	4.369	0.000
	CR	0.079	0.018	1.615	4.254	0.000
	SIZE	0.012	0.010	0.196	1.298	0.195
	AGE	-0.121	0.028	-0.182	-4.349	0.000
	DARxSIZE	-0.047	0.020	-1.092	-2.373	0.018
	SGRxSIZE	-0.009	0.002	-0.876	-3.851	0.000
	CRxSIZE	-0.005	0.001	-1.445	-3.792	0.000

a. Dependent Variable: ABSRES2

In research model 2, all variables except the SIZE variable have no heteroscedasticity. The conclusion is that there is a heteroscedasticity problem in this study.

Table 11
Durbin Watson test of Research Model 1

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.357[a]	0.128	0.119	0.133	1.340

a. Predictors: (Constant), AGE, CR, SIZE, SGR, DAR

b. Dependent Variable: ROA

In the table above, it is known that the value of Durbin Watson in research model 1 is 1,340, while the criteria based on Durbin Watson to determine if there is a correlation problem is 1 < DW < 3, which means this study does not have correlational problem.

Table 12
Durbin Watson test of Research Model 2

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.397[a]	0.157	0.144	0.131	1.277

a. Predictors: (Constant), CRxSIZE, SIZE, AGE, SGR, DAR, SGRxSIZE, CR, DARxSIZE
b. Dependent Variable: ROA

In the table above, it is known that the value of Durbin Watson in research model 2 is 1.277, while the criteria based on Durbin Watson to determine if there is a correlation problem is 1 < DW < 3, which means this study does not have correlational problem.

The coefficient of determination test is a test to measure the model's ability to explain variations in the dependent variable. If the adjusted R Square value is more excellent, the greater the ability of the independent variable (independent) to explain the dependent variable in the absence of a standard in assessing the adjusted R Square.

Table 13
Adjusted R Square of Research Model 1

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.357[a]	0.128	0.119	0.133

a. Predictors: (Constant), AGE, CR, SIZE, SGR, DAR
b. Dependent Variable: ROA

The results of the coefficient of determination test (Adj. R Square) based on the results of the coefficient of determination test (Adj. R Square) research model 1 explained that the independent variables (Performance, Sales Growth, Liquidity, Company Size and Company Age) had a simultaneous effect on the dependent variable (Performance) of 11.9% while other variables outside this study explain 88.1%.

Table 14
Adjusted R Square of Research Model 2

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.397[a]	0.157	0.144	0.131

a. Predictors: (Constant), CRxSIZE, SIZE, AGE, SGR, DAR, SGRxSIZE, CR, DARxSIZE
b. Dependent Variable: ROA

Adding a new variable in moderating firm size on Performance, Sales Growth and Liquidity in research model 2 adds the Adjusted R Square value to 14.4%. In comparison, 83.6% can be explained further by other variables outside of this study.

The results of the simultaneous effect test help see the effect of the overall variable by looking at the level of significance that must be within a tolerance of 1% or 5%, or 10%. The following are the results of the test for the effect of models 1 and 2:

Table 15
ANOVA of Research Model 1

ANOVA[a]					
Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	1.268	5	0.254	14.298	.000[b]
	Residual	8.675	489	0.018		
	Total	9.943	494			

a. Dependent Variable: ROA

b. Predictors: (Constant), AGE, CR, SIZE, SGR, DAR

Research model 1 has a significance of 0.000, which is smaller than 0.01, which means that the capital structure, sales growth, liquidity, firm size, and age together influence performance.

Table 16

ANOVA of Research Model 2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.566	8	0.196	11.353	.000[b]
	Residual	8.377	486	0.017		
	Total	9.943	494			

a. Dependent Variable: ROA

b. Predictors: (Constant), CRxSIZE, SIZE, AGE, SGR, DAR, SGRxSIZE, CR, DARxSIZE

Model 2 has a significance of 0.000, which is smaller than 0.01. This means that the capital structure, sales growth, liquidity, firm size, age, and moderation from firm size to capital structure, sales growth, and liquidity influence performance.

The t-test is used to conclude the significance of the independent variables individually on the dependent variable. The t-test has a significance level that represents the value. The hypothetical model can be accepted if the slope direction is appropriate and the significant significance level. The tolerance limit for the significance level is 1% or 5%, or 10%.

Table 17

T-Test of research model 1

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.184	0.081		-2.252	0.025
	DAR	-0.229	0.041	-0.287	-5.530	0.000
	SGR	0.023	0.008	0.120	2.762	0.006
	CR	-0.002	0.003	-0.033	-0.646	0.519
	SIZE	0.007	0.004	0.081	1.893	0.059
	AGE	0.148	0.038	0.170	3.864	0.000

a. Dependent Variable: ROA

The capital structure proxied by the DAR variable has a negative coefficient value and a significance of 0.000 to the performance proxied by the ROA variable with an alpha significance criterion of 1%.

Sales growth proxied by the SGR variable has a positive coefficient value and a significance of 0.006. Performance is proxied by the ROA variable with an alpha significance criterion of 1%.

Liquidity proxied by the CR variable has a negative coefficient value and a significance of 0.519. Performance is proxied by the ROA variable with an alpha significance criterion of 10%.

Table 18

T-Test of research model 2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.446	0.196		-2.277	0.023
	DAR	-0.173	0.369	-0.217	-0.469	0.639

SGR	0.083	0.045	0.438	1.846	0.066
CR	0.074	0.025	1.170	2.921	0.004
SIZE	0.024	0.013	0.286	1.797	0.073
AGE	0.171	0.038	0.197	4.454	0.000
DARxSIZE	-0.005	0.027	-0.082	-0.170	0.865
SGRxSIZE	-0.004	0.003	-0.336	-1.402	0.162
CRxSIZE	-0.006	0.002	-1.213	-3.020	0.003

a. Dependent Variable:
ROA

Capital structure with firm size as moderation proxied by the DAR variable has a negative coefficient value and a significance of 0.865 on performance which is proxied by the ROA variable with an alpha significance criterion of 10%.

Sales growth with company size as moderation as proxied by the SGR variable has a negative coefficient value and a significance of 0.162 on performance which is proxied by the ROA variable with an alpha significance criterion of 10%.

Liquidity with firm size as a moderation proxied by the CR variable has a negative coefficient value and a significance of 0.003 on performance as proxied by the ROA variable with an alpha significance criterion of 10%.

4. Discussion

Capital Structure has a negative and significant effect on Performance

With a negative coefficient value and a significance below the alpha level of 1%, it can be concluded that the capital structure has a negative direction and has a significant effect on performance. Then H1 in this study can be rejected.

These results are the same as those of Chandra et al. (2019) and Fekadu Agmas (2020), who previously tried to find a relationship between capital structure and profitability. Capital structure has a significant positive effect on profitability.

Suppose the capital structure has a significant positive effect on profitability. In that case, the trade-off theory is statistically proven, which states that companies tend to go into debt to benefit from tax deductions from interest costs. With a tax reduction, the company's profitability will increase.

On the other hand, the pecking order theory is statistically proven. It states that leverage is negatively correlated with the company's financial performance because high debt levels reduce its economic performance.

This t-test indicates that healthcare companies in ASEAN countries tend to adopt the trade-off theory. In short, high-growth firms tend to avoid debt. This view of the trade-off theory is reinforced by the significant positive effect of capital structure on profitability. Companies use debt to receive tax credits from interest costs to increase profits.

Sales Growth has a positive and significant effect on Performance

A positive coefficient value and a significance of 0.006 on performance as a proxy for the ROA variable has reached the P-Value significance criteria with an alpha significance criterion of 1%. So that Sales Growth has a positive and significant effect on performance so that H2 is accepted.

These results are the same as those of Liu et al. (2020), who studied agricultural companies in China and Dakić et al. (2020) researched food processing companies in the Republic of Serbia. The ROA ratio shows how well the company's total assets are used by management for profit. This means that the higher the ROA indicates that the company is making more money with less investment. ROA is a handy comparative indicator of profitability in an industry. One of the main factors that can improve the company's business performance is the level of sales growth.

Liquidity has a negative and insignificant effect on performance

With Liquidity which has a negative coefficient value and a significance of 0.519 on performance as a proxy for the ROA variable, it does not reach the P-Value significance criteria with an alpha significance criterion of 10%. So that sales growth has a positive and significant effect on performance, H3 is rejected.

These results are the same as the research results by Alarussi & Alhaderi (2018) on companies in various industries where the study did not find a significant relationship between liquidity and profitability.

Company performance is considered a source of sustainable economic growth, one of the most critical factors analyzed by stakeholders in their decision-making process.

Any company that manages its liquidity is fundamental to all organizations, regardless of size. Higher liquidity results in increased agency problems between managers and shareholders, as managers tend to invest more in projects that strengthen their position in the company than in projects that contribute to increase company profitability.

Capital structure moderated by firm size affects performance

With Capital Structure with firm size as moderation which has a negative coefficient value and a significance of 0.865 on performance, it can be concluded that firm size cannot moderate capital structure on performance.

ROA shows how well the company's total assets are used by management to make a profit. This means that the higher the ROA indicates that the company is making more money with less investment. Also, ROA is a useful comparative indicator of profitability in an industry.

This result contrasts with the 2021 study, which tried to examine the firm size, which acts as a moderating variable and concluded that firm size strengthened the relationship between DAR and DAR on ROA.

Ibhagui's research (2018) shows that the negative effect of leverage on company performance is most prominent and significant for small-sized companies; however, the effect diminishes as the firm grows, eventually disappearing when the firm size exceeds the expected threshold level. This means that firm size does affect the relationship between leverage and firm performance. There is a level or 'boundary point' of firm size so that the relationship between power and firm performance changes.

Sales Growth with moderate company size affects Performance

With sales growth with company size as a proxy, the proxy has a negative coefficient value and a significance of 0.162 for performance with an alpha significance criterion of 10%. So it can be concluded that sales growth with moderate company size does not show significant results on performance, so H5 is rejected.

A study by (Albulescu et al., 2021) concluded that large companies recorded higher growth rates. ROA is a very useful comparative indicator of profitability in an industry. One of the main factors that can improve the company's business performance is the level of sales growth. This result is in contrast to Abbasi's research which found that the interaction term (Size x Growth) has a significance on firm performance,

Liquidity with moderate firm size has a significant effect on performance

With the Liquidity Variable with firm size as moderating having a negative coefficient value and a significance of 0.003 on performance, it can be concluded that firm size can moderate performance in its influence on performance. So H6 is accepted.

This result is to Dalci's research (2020), the liquidity-profitability relationship can consider firm size to see whether the observed relationship has an effect. The impact of liquidity on profitability is expected to be influenced by firm size, whose results have proven a moderating role of firm size on the relationship between liquidity and profitability for German non-financial firms regardless of the industry in which they operate.

5. Conclusion

Capital structure has a negative effect on performance, and Sales growth positively affects performance. Only Liquidity has insignificance and a negative effect on performance. Firm size cannot strengthen the relationship between capital structure and performance, same as sales growth and performance. On the other hand, Firm size can strengthen the relationship between liquidity and performance.

There are problems in the classical assumption test results due to limitations in this study. In this study, treatment was carried out to overcome difficulties in the classical assumption test. However, the data still showed problems in the results of the heteroscedasticity and multicollinearity tests, so in this study, using the data before treatment became a limitation of the study.

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Analysis of the Effect of Good Corporate Governance Mechanism, Size, and Audit Quality on the Acceptance of Going Concern Audit Opinions

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Abstract. This researh aims to analyze the influence the effect of independent commissioner, managerial ownership, institusional ownership, audit quality, size and audit committee on the acceptance of going concern opinion on real estate companies that have been listed on S&P Capital in 2016-2020. The population used in this reseach are all real estate companies listed on www.capitaliq.com in the five year period, bertween 2016-2020 with 23 companies. The sampling method used in this reseach is using purposive sampling method to obtain 115 sample. The data analysis method used in this reseach is logistic regression. The results of this study explain that independent commissioners, company size and audit committee effect on the acceptance of going concern audit opinions, while managerial ownership, institutional ownership and audit quality not affect the acceptance of going concern audit opinions.

Keywords: Going concern opinions; independent commissioner; managerial ownership; institutional ownership; audit commitee; firm size; audit quality

1. Introduction

In this era of globalization, getting information from go public companies owned by the state and private sector is increasingly easy to access. One of the most important information from companies that go public is their financial statements. Financial statements are the final output of the accounting process that can be used as a tool to communicate financial data and company activities to those in need. (Hery, 2015) According to the Statement of Financial Accounting Standards (Revised 2017) complete financial statements consist of a statement of financial position, income statement, statement of changes in equity, cash flow statement and notes to financial statements. The purpose of the financial statements is to show the financial condition of a company. That way, good financial reports can help investors or parties who use these interests in making decisions, and can show the performance of company management in accordance with existing accounting standards.

Going concern is an understanding of the viability of a business entity and is an assumption in the financial statements so that if the entity or business entity accepts the opposite condition, it means that the condition is problematic (Sulistio, 2017). Companies that get a going concern assessment tend to go bankrupt because most investors will cancel their investment plans after seeing the results of the auditors (Endiana & Suryandari, 2021). The auditor also has the responsibility to review whether there are high sanctions related to the company's competence in making its survival last for a period of 1 year starting from the date of the audit report.

In order for the company be able to avoid the going concern problem, it cannot be separated from the company's performance that is well organized and in accordance with existing standards. The course of a company's business is completely determined by how management manages the company. Through Good Corporate Governance, namely the management system by the company's management which is arranged in a systematic and organized manner, it is hoped that it can help the company in producing good corporate value.

Megantara, (2021) in his research mentions where the size of the company can have an impact on the provision of going concern opinions, the size of the company is observed through the assets it has and is a reflection of the company's growth. Based on the description on the background accompanied by the main reference in the form of research journal Deviyanti et al., (2021). Several equations of independent variables from previous research are independent commissioners, managerial ownership, and institutional ownership. Based on research by Albertus Karjono & Tri Ayu Sumadiya. (2021) proxies the audit committee as a mechanism of good corporate governance that affects the provision of going concern audit opinions. By looking

at the size of the company and audit quality, it can also affect the provision of going concern audit opinions (Pipin Kurnia & Nanda Fito Mella, 2018). So that researchers want to study "Analysis of the Effect of Good Corporate Governance Mechanisms, Size and Quality of Audits on Accepting Going Concern Audit Opinions in Real Estate Companies Listed in S&P Capital" in 2016-2020.

2. Literature Review and Hypotheses Development

2.1 Agency Theory

Agency Theory or Agency Theory was first developed by Jensen and Meckling (1976), namely the theory of the basic contractual relationship between the principal and the agent. The relationship between the principal and the agent will usually cause agency problems, namely the separation or difference in interests experienced by the two parties. Problems arise because the agent who is given responsibility by the principal in managing his company feels he has more information about the company's capabilities, the work environment and the company as a whole. Meanwhile, the principal who owns the company tends to have little information. This is what causes an imbalance of information between the owner of the company and the management who runs it.

2.2 Good Corporate Governance

According to the Cadbury Committee in Tjager et al (2002) the notion of Good Corporate Governance is all regulations that formulate the relationship between managers, shareholders, employees, creditors, the government, and stakeholders or parties who have other interests externally and internally with regard to the rights and responsibilities of the company. he answered.

Corporate Governance itself is a balance between social goals and economic goals and individual goals with group goals. Thus, corporate governance definitely emphasizes accountability for managing resources that focus on individual, community, and corporate needs.

2.3 Audit Opinion

In the dictionary of accounting terms Tobing (2004) states that the presence of an auditor's opinion is evidence that the company has conducted an audit of financial statements in accordance with applicable norms and rules. And followed by the existence of financial statements that have been examined by producing an opinion given by the auditor. Going concern audit opinion is an audit opinion made by the auditor to evaluate whether there are doubts about the company's ability to maintain its viability.

2.4 Independent Commissioner

The Independent Commissioner himself has an important task in preventing Going Concern audit opinions, namely supervising and overcoming problems of interest on the part of management, members of the board of directors, and members of the board of commissioners such as misuse of company money and manipulation of transactions. For this reason, the company needs an independent commissioner who can assist the board of commissioners.

2.5 Managerial ownership

Managerial ownership is the number of company shares owned by management compared to all outstanding company shares. With managerial ownership, it can affect the determination of existing accounting policies in the company, such as the chosen policy will be in accordance with the company's objectives.

2.6 Institutional Ownership

According to Rosmalinda et al., (2017) institutional ownership is ownership of shares in a company owned by institutions or institutions such as insurance companies, banks, investment companies and other institutional ownership.

2.7 Audit Quality

According to De Angelo in the ebook M. Tandiontong (2016), a major audit is the possibility that the auditor will encounter and propose fraud in the auditee's accounting system. The reputation of the public accounting firm is the view of the credibility and good name of the KAP, where the assessment factor is influenced by the timeliness of issuing the audited financial statements.

2.8 Firm Size

Firm Size or commonly called company size is a scale where the size of a company can be calculated compared to total assets, total sales, share value and part of it (Putu Ayu and Gerianta, 2018).

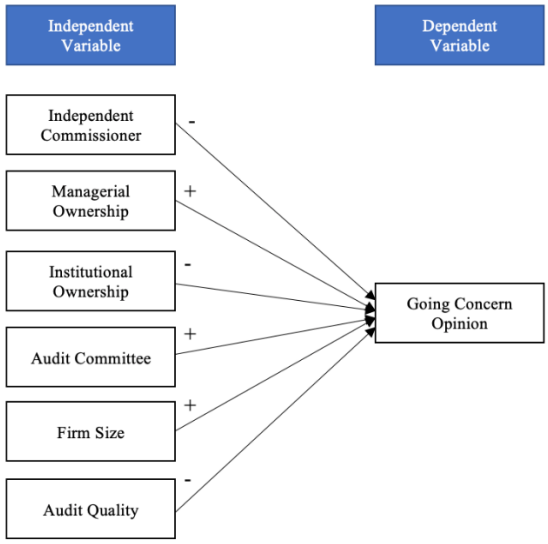
2.9 Existence of the Audit Committee

Namely a committee assembled by the board of commissioners with the task and authority to carry out monitoring of the company's management. The audit committee plays a role in supporting the quality of financial reports and carrying out internal and external audit functions (Tandungan & Mertha, 2016).

2.10 Conceptual Framework

Based on the literature study that the author has summarized, there are inconsistent results from several previous research results in focusing on the analysis that affects the acceptance of going concern audit opinions. Therefore, in this study the author applies the independent variables and the dependent variable in his research which is attached to this study, as follows.

Figure 1
Conceptual Framework



2.11 Hypothesis Development

Independent Commissioner on the Acceptance of Going Concern Audit Opinions.

The results of previous research conducted by Sri Deviyanti and Ibnu (2021) stated that the proportion of independent commissioners had a significant negative effect on the acceptance of going concern opinions. Meanwhile, according to research according to Lutfiah, Pupung and Mey. (2018) shows that the proportion of independent commissioners has a significant positive effect on the acceptance of going concern audit opinions. So it can be concluded the following hypothesis:

H1: Independent commissioners have a significant negative effect on the acceptance of going concern audit opinions.

Managerial Ownership of Accepting Going Concern Audit Opinions.

According to the research of Indra, S. and Muhammad Alim (2022) stated that managerial ownership has a significant positive effect on the acceptance of going concern audit opinions. Meanwhile, research conducted by Asti Wardani and Dudy Setiawan (2021) states that managerial ownership does not have a significant effect on the acceptance of going concern audit opinions. So it can be concluded the following hypothesis:

H2: Managerial ownership has a significant positive effect on the acceptance of going concern audit opinions.

Institutional Ownership of Accepting Going Concern Audit Opinions.

According to the research of Sri, Deviyanti and Ibnu (2021) stated that the existence of institutional ownership has a negative and significant effect on the acceptance of going concern audit opinions. Meanwhile, research conducted by Asti Wardani and Dudy Setiawan (2021) states that institutional ownership does not have any effect on the going concern audit opinion given by the auditor. So it can be concluded the following hypothesis:

H3: Institutional ownership has a significant negative effect on the acceptance of going concern audit opinion.

Audit Committee on Acceptance of Going Concern Audit Opinions

According to research conducted by Albertus Karjono & Tri Ayu Sumadiya (2021) stated that the audit committee has a significant positive influence on the acceptance of going concern audit opinions. Meanwhile, other research from Izzatullaeli and Triyanto (2021) gives the opposite opinion which states that the existence of an audit committee has a negative and significant effect on the acceptance of going concern audit opinions. So it can be concluded the following hypothesis:

H4: The audit committee has a significant positive effect on the acceptance of going concern audit opinions.

The Effect of Size on the Acceptance of Going Concern Audit Opinions

Based on previous research by I Dewa Made and Ni Nyoman Ayu, S (2021) showed that company size had a significant positive effect on the provision of going concern audit opinions. Meanwhile, another study from Suryani (2020) stated the opposite where the size of the company had a significant negative effect on the provision of going-concern audit opinions. So it can be concluded the following hypothesis:

H5: Firm size has a significant positive effect on going concern audit opinion acceptance

Audit Quality on Acceptance of Going Concern Audit Opinions

According to Sri, Deviyanti and Ibnu (2021) stated that the existence of audit quality does not affect the acceptance of going concern audit opinions in a company. Meanwhile, research conducted by Thomas Averio (2020) actually states the opposite where audit quality has a significant positive effect on the acceptance of going concern audit opinions. Based on the description, it can be hypothesized that:

H6: Audit quality has no significant effect on the acceptance of going-concern audit opinion

3. Research Methods

Sample selection using purposive sampling method. The secondary data in this study is the Annual Report of companies operating in the Property and Real Estate sector which is available from the S&P Capital IQ website www.capitaliq.com for the period 2016-2020. In this research, the hypothesis and model test are applied through logistic regression analysis because the dependent variable applied is dummy or nonmetric variable and the independent variable is a combination of nonmetric and metric variables.

The model I use is:

$$\text{Ln}\frac{GC}{GC-1} = \beta o + \beta 1\text{KIt} + \beta 2\text{MANt} + \beta 3\text{INSTt} + \beta 4\text{KOAt} + \beta 5\text{SIZEt} + \beta 6\text{KAt} + \text{e}$$

$\text{Ln}\frac{GC}{GC-1}$ = Audit opinion, where if going concern is marked by a value of 1 and non-going concern is marked by a value of 0
βo = Constant
$\beta 1$KIt = The percentage of Independent Commissioners through the total number of the Board of Commissioners
$\beta 2$MANt = Percentage of the number of common shares owned by members of the Board Directors
$\beta 3$INSTt = Percentage of total shares owned by the institution
$\beta 4$KOAt = Numbers of audit committee members in a company
$\beta 5$SIZEt = Company size weighed through the logo of the company's total assets
$\beta 6$KAt = The percentage of audit quality owned by the institution
e = Residual fallacy

The dependent variable used in this study are:
1. Going Concern Audit Opinion (Y)

While the independent variables used in this study are:
1. Percentage of Independent Commissioners (X1)
2. Percentage of Managerial Ownership (X2)
3. Percentage of Institutional Ownership (X3)

4. Audit Committee (X4)
5. Firm Size (X5)
6. Audit Quality (X6)

4. Results and Discussion

Based on data search results, there are 23 companies in the real estate sector listed on S&P Capital IQ in 2016–2020.

4.1 Descriptive Statistical Analysis

Table 1
Descriptive Statistics Test

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
OADC	115	0.00	1.00	0.9826	0.13130
KI	115	0.17	0.67	0.3993	0.09305
MANJ	115	0.00	0.77	0.1195	0.21474
INST	115	0.08	1.00	0.6561	0.24698
KOA	115	1.00	4.00	2.9565	0.30755
SIZE	115	11.87	17.49	15.4549	1.46438
KA	115	0.00	1.00	0.2870	0.45432
Valid N (listwise)	115				

Source: Processed data (2022)

Table 1 describes the results of the descriptive analysis for the OADC variable, the mean value is 0.9826, which means that from 115 manufacturing company data samples, the average profile sample has a going concern audit opinion of 9.8%. With a minimum value of 0.00 and a maximum of 1.00. The KI variable, namely the independent commissioner, has a mean value of 0.3993 with a minimum value of 0.17, meaning that the company with the smallest independent commissioner ratio is a company with PT. Intiland Development Tbk. Meanwhile, the maximum value obtained is 0.67, which means that the company with the highest ratio of independent commissioners is PT. Mega Tunggal Tbk. The MANJ variable is a variable for the amount of share ownership by management with a mean value of 0.1195, meaning that 11% of all companies sampled have managerial share ownership in their companies. With a minimum value of 0.00, it means that there are companies that have very little managerial ownership and a maximum value of 0.77 with the most managerial ownership of all companies that are sampled. The INST variable is the number of share ownership by institutions in the company with a mean value of 0.6561, meaning that 65% of all companies sampled have institutional share ownership in their companies. With a minimum value of 0.08 and a maximum value of 1.00 with the largest institutional share ownership of all companies that are sampled. The KOA variable is the audit committee variable with a mean value of 2.9565. Then it has a minimum value of 1.00, which means that from the entire sample of companies used as research, the company PT Bekasi Asri Pemula Tbk has the least number of audit committee members. The maximum value is 4.00, which means that there are companies that have the highest number of audit committees at the maximum value, namely PT. Agung Podomoro Tbk. The mean value of the variable SIZE or company size is 15.4549. with a minimum value of 11.87 and a maximum value of 17.49. The KA variable, namely the audit committee, has a mean value of 0.2870, which means that 28% of the companies in the sample are companies audited by KAP Big4 and the rest are audited by non-Big4. With a minimum value of 0 and a maximum value of 1.

4.2 Hosmer Test and Lemeshow Test

Table 2
Goodness of Fit Test

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	5.792	8	0.670

Source: Processed data (2022)

Based on the results of the table test, the Chi-Square value is 5.792 with a significance probability of 0.670 where if 0.670 > 0.05 Maha Ho is accepted. These results indicate that the regression model that will be used in this study is suitable for further analysis.

4.3 Prediction Accuracy Test

Table 3
Classification Table

Classification Table[a,b]					
Observed			Predicted		
			OADC		
			Tidak ada Opini	Ada Opini	Percentage Correct
Step 0	OADC	Tidak ada Opini	0	2	0.0
		Ada Opini	0	113	100.0
	Overall Percentage				98.3

Source: Processed data (2022)

The test results in the classification table above show that the regression model can correctly predict 98.3% of the actual occurrence of factors that affect audit opinion related to going concern, so this regression model is feasible to use in this study,

4.4 Simultaneous Significance Test (F Test)

Table 4
Omnibus Test of Model Coefficients

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig.
Step 1	Step	1.653	6	0.041
	Block	1.653	6	0.041
	Model	1.653	6	0.041

Source: Processed data (2022)

Based on the test results above, it shows that the Chi-Square value is 1.653 with a degree of freedom of 6 and a significant value less than 0.05, which is 0.041. This means that the hypothesis of this study shows that Ho is rejected or H1 is accepted where the independent variable used in this study has an influence on the dependent variable, namely going concern audit opinion.

4.5 Coefficient of Determination Test

Table 5
Coefficient of Determination

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	18.519[a]	0.014	0.890
a. Estimation terminated at iteration number 8 because parameter estimates changed by less than .001.			

Source: Processed data (2022)

Based on the results of data processing in the table above using logistic regression, the coefficient obtained is 0.890. This figure means that 89% of the independent variables used are able to explain their influence on the dependent variable and the remaining 11% is explained by other factors not included in the model.

4.6 Hypothesis testing

Table 6
Partial test

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	KI	4.693	8.857	0.281	1	0.035	109.144
	MANJ	-1.390	3.515	0.156	1	0.693	0.249
	INST	-2.084	3.661	0.324	1	0.569	0.124
	KOA	0.005	4.051	0.000	1	0.029	1.005
	SIZE	-0.530	0.813	0.424	1	0.015	0.589
	KA	-0.530	1.554	0.117	1	0.053	0.588
	Constant	12.502	15.879	0.620	1	0.431	268974.020

$$\textbf{Ln } \frac{GC}{GC-1} \textbf{ = 12.502 + 4.693 (KI) - 1.390 (MANJ) - 2.084 (INST) + 0.005 (KOA) - 0.530 (SIZE) - 0.530 (KA) + e}$$

Based on the results of the table below, it can be used as a reference as the acceptance or rejection of the research hypothesis, in detail explained as follows:

1. The influence of independent commissioners as proxied by KI has a positive coefficient value of 4.693 and a significance level of 0.035. This indicates that the significance value < 0.05 Maha H1 is accepted or the hypothesis is supported by the data and the results of the study show significant results. Which means, the independent commissioner variable has a partial positive effect on the acceptance of going concern audit opinions on real estate companies listed on S&P Capital.
2. The effect of managerial ownership as proxied by MAN has a negative coefficient value of -1,390 with a significance level of 0.693. This means that the significant value is > 0.05, so H2 is rejected or the hypothesis is supported by data and the results of the study show significant results. Which means, the managerial ownership variable has no partial effect on the acceptance of going concern audit opinions on real estate companies listed on S&P Capital.
3. The effect of institutional ownership as proxied by INST has a negative coefficient value of -2.084 and a significance level of 0.569. This shows that the significance value > 0.05, H3 is rejected or the hypothesis is supported by data and the results of the study show significant results. Which means, the institutional ownership variable has no partial effect on the acceptance of going concern audit opinions on real estate companies listed on S&P Capital.

4. The influence of independent commissioners as proxied by KI has a positive coefficient value of 4.693 and a significance level of 0.035. This indicates that the significance value < 0.05 Maha H1 is accepted or the hypothesis is supported by the data and the results of the study show significant results. Which means, the independent commissioner variable has a partial positive effect on the acceptance of going concern audit opinions on real estate companies listed on S&P Capital.
5. The effect of managerial ownership as proxied by MAN has a negative coefficient value of -1.390 with a significance level of 0.693. This means that the significant value is > 0.05, so H2 is rejected or the hypothesis is supported by data and the results of the study show significant results. Which means, the managerial ownership variable has no partial effect on the acceptance of going concern audit opinions on real estate companies listed on S&P Capital.
6. The effect of institutional ownership as proxied by INST has a negative coefficient value of -2.084 and a significance level of 0.569. This shows that the significance value > 0.05, H3 is rejected or the hypothesis is supported by data and the results of the study show significant results. Which means, the institutional ownership variable has no partial effect on the acceptance of going concern audit opinions on real estate companies listed on S&P Capital.

4.7 Discussion

1. Influence of Independent Commissioners on Going Concern Opinions

The existence of independent commissioners has a positive and significant effect on the provision of going concern audit opinions. This means that if there are more independent commissioners in the company, it will increase the provision of going concern audit opinions to real estate companies in Indonesia in 2016-2020. This explanation is in line with research conducted by Lutfiah, Pupung, and Mey (2018) which states that independent commissioners affect the provision of going concern audit opinions, while this study is not in line with research conducted by Sri Nor, Deviyanti and Ibnu (2021) which states that the independent commissioner does not affect the going concern audit opinion.

2. The Effect of Managerial Ownership on Going Concern Opinions

Based on the results of partial hypothesis testing that have been presented, this study shows that managerial ownership has no effect on giving going concern audit opinions. This means that the presence or absence of managerial ownership in the company will not affect the provision of going concern audit opinions to real estate companies in Indonesia in 2016-2020. This explanation is in line with research conducted by Asti Wardani and Dudy Setiawan (2021) which states that managerial ownership does not affect the provision of going concern audit opinions, while this study is not in line with research conducted by Indra and Muhammad Alim (2021) which states that ownership managerial influence giving going concern audit opinion.

3. The Effect of Institutional Ownership on Going Concern Opinions

Based on the results of partial hypothesis testing that have been presented, this study shows that institutional ownership has no effect on the provision of going concern audit opinions. This means that the presence or absence of institutional ownership in the company will not affect the provision of going concern audit opinions to real estate companies in Indonesia in 2016-2020. This explanation is in line with research conducted by Asti Wardani and Dudy Setiawan (2021) which states that institutional ownership does not affect the provision of going concern audit opinions, while this study is not in line with research conducted by Sri Nor, Deviyanti and Ibnu (2021) which states that institutional ownership affects the provision of going-concern audit opinion.

4. Influence of the Audit Committee on Going Concern Opinion

Based on the results of partial hypothesis testing that have been presented, this study shows that the existence of an audit committee has a positive and significant effect on the provision of going concern audit opinions. This means that if there are more audit committees in the company, it will increase the provision of going concern audit opinions to real estate companies in Indonesia in 2016-2020. This explanation is in line with research conducted by Albertus Karjono & Tri Ayu Sumadiya. (2021) which states that the audit committee affects the provision of going-concern audit opinions, while this study is not in line with research conducted by Izzatullaeli and Triyanto (2020) which states that the audit committee does not affect the provision of going-concern audit opinions.

5. Effect of Firm Size on Going Concern Opinion

Based on the results of partial hypothesis testing that have been presented, this study shows that the existence of company size has a negative and significant effect on the provision of going concern audit opinions. This means that the larger the size of the company, the less likely it is to give going concern audit opinions to real estate companies in Indonesia in 2016-2020. This explanation is in line with research conducted by Suryani (2020) which states that company size has a negative effect on the provision of going concern audit opinions, while this study is not in line with research conducted by I Dewa Made and Ni

Nyoman (2021) which stated that company size positive effect on the provision of going concern audit opinion.

6. **Effect of Audit Quality on Going Concern Opinion**
   Based on the results of partial hypothesis testing that have been presented, this study shows that audit quality has no effect on giving going concern audit opinions. This means that the presence or absence of audit quality in the company will not affect the provision of going concern audit opinions to real estate companies in Indonesia in 2016-2020. This explanation is in line with research conducted by Thomas Averio (2020) which states that audit quality does not affect the provision of going concern audit opinions, while this study is not in line with research conducted by Sri Nor, Deviyanti and Ibnu (2021) which states that audit quality affects the provision of going concern audit opinions.

5. Conclusion

As in the results of data analysis and discussion, it can be concluded that the independent commissioner has a positive and significant influence on the going concern opinion given by the independent auditor. The test results show that the greater the number of independent commissioners, the greater the influence on the possibility of receiving going concern opinions. Then management ownership does not affect the going concern opinion given by the independent auditor. However, the presence or absence of management ownership cannot have an impact on the provision of a going concern opinion. Because the higher share ownership by the management actually has an impact on the intervention and seriousness of the higher management in managing the company. Furthermore, institutional ownership does not affect the going concern opinion given by the independent auditor. The presence or absence of institutional involvement in company ownership cannot have an impact on the acceptance of going concern opinions, because institutional ownership actually acts as a supervisor of management performance and influences various policies made by management. The audit committee has a significant positive influence on the provision of going concern opinions from independent auditors. So, the more the number of audit committees owned by the company, the more likely it is to obtain a going concern audit opinion, because if there are too many audit committees, there will be too many parties to intervene in the company's financial reporting. Company size has a significant negative effect on the provision of going concern opinion by independent auditors. The test results show that if the company grows, it will have an impact on the opportunity to avoid going concern opinions which are also getting bigger. Companies with large sizes are considered more capable when carrying out company management with more professional management. Audit quality does not affect the going concern opinion given by the independent auditor. Because auditors with good credibility show excellent performance, provide objective assessments according to circumstances and are less likely to commit fraud regardless of whether the auditor is from the big four KAP or not.

In the process of this research, researchers experienced limitations, among others:

1) Many companies do not present complete data after the 2020 period, so the research sample becomes small.
2) With the limitation of the research sample, only those registered with S&P Capital in the 2016-2020 period, so that many closed companies cannot be sampled.
3) The study only used independent commission variables, management ownership, institutional ownership, auditor quality and firm size.
4) Based on the limitations that have been disclosed, it is hoped that for further research:
5) For further research, further research can use a longer duration so that more samples can be obtained than before
6) Subsequent research can add research variables, especially variables that describe the company's financial condition
7) Expanding the sample criteria so that more and more varied data can be obtained

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Foreign Ownership, Capital Intensity, Investment Opportunity, Tax Haven's Affiliates and Aggressive Tax Avoidance of Foreign-owned Businesses during Pandemic

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Abstract. The purpose of this research is to observe whether or not foreign ownership, capital intensity, investment opportunity, and tax haven's affiliates affect aggressive tax avoidance, especially during the pandemic time in the year 2020 and 2021. The research sample consists of 69 companies registered in Indonesia Stock Exchange with foreign ownership above 25%. This research utilizes multiple linear regression method by using WarpPLS. The result indicates that capital intensity and tax haven countries positively affects aggressive tax avoidance. Foreign ownership and investment opportunity does not affect aggressive tax avoidance.

Keywords: foreign ownership; capital intensity; investment opportunity; tax haven's affiliates; aggressive tax avoidance

1. Introduction

The COVID-19 pandemic has brought about a difficult era for the economy of every country, including Indonesia. During the pandemic time, there existed capital outflows from developing countries. The Financial Services Authority recorded that, from January 1st until April 23rd 2020, the capital flow of Indonesia's financial market, whether it be in stocks, government bonds (SBN), or Bank Indonesia Certificate (SBI), reached a negative value or a capital outflow of Rp159.6 trillion. The foreign net sell of stock markets during that period reached US$1.11 billion (Bareksa, 2020). Up until the end of 2020, the number of local investors in the capital market grew by 59% from the year 2019, becoming 3.88 million investors. In the second quarter of 2021, local investors comprised 72% of sales, while foreign investors comprised 28%. In spite of that, foreign ownership remained dominant within „blue chip" issuers or issuers with market capitalization over Rp100 trillions (CNBC Indonesia, 2021).

Companies in Indonesia Stock Exchange are divided into local ownership and foreign ownership. Foreign ownership plants its capitals in companies from developing countries because of rapid economic growth and development, causing the company's performance to be relatively ahead (Ghazali, 2010). If the foreign ownership level is high, there is a high probability that investors are interested by the better internal information quality. Companies possess accessibility, reliability, and data accuracy that are relevant with the company's strategy implementation in earning profit, including tax avoidance strategies which exploit gaps within certain taxations (Salihu, Annuar, & Obid, 2015). Foreign ownership structure positively affects tax avoidance (Suranta, Midiastuty, & Hasibuan, 2020).

Capital intensity is used to determine how much capital is required to result in profit and performed by utilizing fixed asset depreciation expense. That depreciation expense can be utilized to reduce a company's profit. The bigger the amount of fixed asset a company owns, the bigger the depreciation expense gets, causing taxable income to decrease. One research (Darsani & Sukharta, 2021) shows that capital intensity affects tax avoidance.

Companies also possess an option in investing otherwise known as investment opportunity. Firmansyah & Bayuaji's (2019) research result which states that investment opportunity has an impact towards tax avoidance. Regarding agency theory, in a circumstance with high investment opportunity, an agent possesses both a multitude of opportunities to determine investment choice and the same purpose which a principal wishing future wealth

possesses (Dewi & Noviari, 2015). For this reason, the higher investment opportunity a company has, the bigger the income gained from investment becomes, causing the company's tendency to not commit tax avoidance in an attempt to increase profit.

There is a great amount of multinational corporations which possesses affiliates in tax haven countries. A tax haven country is a country with a low taxation rate, which gives opportunities for investors to commit tax avoidance (Desai et al., 2006). On one side, this utilization of affiliates within tax haven countries is considered unethical and aggressive. On another side, this method is seen as the application of a comprehensive understanding towards international taxation laws (Kutera, 2018). Tax Justice Network released 64 jurisdictions which are included in Corporate Tax Haven Index 2019, the top 5 of which are the British Virgin Islands, Bermuda, Cayman Islands, Netherlands, and Switzerland (DDTC, 2019). The result of corporate tax avoidance in Indonesia in the year 2020 is estimated to be as high as Rp67 trillion (Tax Justice, 2020).

According to the research result obtained by Barid and Wulandari (2021), there was an increase in tax avoidance practice during the COVID-19 pandemic. For this reason, it is interesting to observe the factors which affect tax avoidance in go public companies with foreign ownership during the pandemic.

2. Literature Review and Hypotheses Development

2.1 Agency Theory

Agency theory explains the relation between a principal and an agent in determining corporate performance. There exist two perspectives in agency theory, which are the principal-agent research and positivist agency theory. Principal-agent research observes the existence of two possible agency problems, which are risk-sharing and agent monitoring. Risk-sharing will create information asymmetries which reduces the principal's ability to monitor the agent's actions. The heightened risk will cause difficulties in achieving agreement or fulfilling the contract between the principal and agent. Positivist agency theory focuses on the mechanism controlling or limiting the agent in order to avoid them prioritizing their own ends (Bendickson et al., 2016).

Opportunities and high investment return are considered to be two things which can minimalize the agency problem of a company. With a high investment return will cause a manager (agent) to possess an excellent opportunity to choose various investment options, so that they are in line with the investor's (principal's) goal to increase wealth in the long term.

2.2 Tax Avoidance

Tax avoidance is an attempt at tax reduction that is performed legally and does not violate taxation laws by reducing the taxed amount by utilizing loopholes existing in taxation laws (Dewi & Jati, 2014). Within corporate governance, the primary field which needs attention is the effect of stockholders and top executive field having corporate tax avoidance potential. According to agency principal, the owner, managers, and stockholders have the desire to gain maximum profit, causing the managers to commit tax avoidance in their names (Hanlon & Heitzman, 2010). Managers will be positively involved in committing tax avoidance to increase the company's value.

One of multinational corporations' strategies to commit aggressive tax avoidance is to transfer the tax subject and object to a tax haven country which gives a preferential taxation or a lower taxation rate. Companies make use of affiliates in tax haven countries by carrying out transfer pricing so that they may gain more benefits, because there exists an income shifting from countries with heavy taxation to countries with light taxation (Nugraha & Kristanto, 2019).

A tax haven is a country which employs a very low tax rate or zero tax rate (Mugarura, 2017). A tax haven country usually consists of smaller countries with limited natural resources and processing, causing the tax haven country to require another funding source to power the government. A tax haven country offers facilities such as security and comfort in acts of capital investment, and as such, a great number of parties are expected to be interested to invest in tax haven countries. According to OECD Report 1998, there are 4 criteria in categorizing a country as a tax haven country, which are the implementation of a low or zero tax rate, the absence of information exchange, the absence of transparency in taxation, and the absence of any substantial activity terms for companies (DDTC, 2019).

2.3 Foreign Ownership and Aggressive Tax Avoidance

A high foreign ownership percentage within an entity has a great potential in influencing the entity's policies in earning a high rate of return, including reducing the amount of tax which is supposed to be paid. Several empirical studies have shown that multinational corporations in the United States pay an amount of tax lower than what is intended in their countries despite their having a higher profitability level (Grubert & Mutti, 1991; Hines & Rice, 1994; Kinney & Lawrence, 2000). A company puts high importance in possessing a low-cost strategy,

including the lowering of income tax expense (Nainggolan & Sari, 2020). A large stock ownership possesses great control and, thus, can control corporate policies, including in performing aggressive tax avoidance.
H1: Foreign ownership positively affects aggressive tax avoidance

2.4 Capital Intensity and Aggressive Tax Avoidance

Capital intensity illustrates how much a company invests its assets in the form of fixed asset. Capital intensity becomes the measurement reference for how much capital is needed to result in a profit (Octaviana, 2014). Fixed asset investment policies remain usable for companies to perform tax avoidance through the increase of depreciation expense as deductible expenses (Ratu & Meiriasari, 2021). If capital intensity grows, then tax avoidance grows higher. As such, capital intensity has a positive impact towards aggressive tax avoidance (Noor et al., 2010).
H2: Capital intensity positively affects aggressive tax avoidance

2.5 Investment Opportunity and Aggressive Tax Avoidance

Investment opportunity shows the growth of corporate investment choice in the coming days. A company with a high investment opportunity will receive a sizable benefit from planting capitals on certain companies, so that the possibility of a company perform acts of tax avoidance diminishes. Investment opportunity is considered capable of minimizing agency problems (Firmansyah & Bayuaji, 2019). A high investment opportunity will cause a manager (agent) to possess a great opportunity to choose various investment options, so that they may be in line with the owner's (principal's) goal to receive additional wealth in the long term. A company which possesses various high investment alternatives in the future will perform acts of tax avoidance less (McGuire et al., 2014; Lubis et al., 2017).
H3: Investment opportunity positively affects aggressive tax avoidance

2.6 Tax Haven's Affiliates and Aggressive Tax Avoidance

Tax haven's affiliates refer to subsidiaries or affiliates in countries with facilities for investors in the form of a low or zero tax rate (Mugarura, 2017). A tax haven country is used as a domicile for shell companies which was formed specifically for investment or postponing the amount of tax which needs to be paid within the country for overseas income. There is a big possibility that a company whose purpose is to commit aggressive tax avoidance will establish subsidiaries or affiliates in tax haven countries to avoid their foreign income be affected by domestic corporate tax (Desai et al., 2006). Taylor and Richardson (2012) stated that a company which was founded in a tax haven country holds an important role in controlling finance for the company group, one of which is to control transfer pricing between the corporate group members by utilizing the income tax rate difference between the countries and tax treaty. A company with affiliates in tax haven countries will utilize the low tax rate to reduce the tax expense paid.
H4: Tax haven's affiliates positively affects aggressive tax avoidance

3. Method

This research utilizes a quantitative methodology. The data which is used in the research was gathered from annual financial reports from companies with foreign ownership above 25% and registered in IDX during 2020 – 2021. The reason behind the decided ownership percentage of 25% is in line with Article 18 Point (4) of Law No. 7 of 2021 regarding the Harmonization of Tax Regulations (Undang-Undang Harmonisasi Peraturan Perpajakan), that one of the criteria for the taxpayer special relation to exist is to have a direct or indirect capital participation of at least 25% (twenty-five percent) towards another taxpayer. The existing sample in this research consists of 69 companies registered in IDX with foreign ownership above 25%. The sample gathering technique was performed through purposive sampling with secondary data. The data processing was carried out using WarpPLS version 8.0.

The dependent variable in this research is aggressive tax avoidance, which is an act of tax avoidance performed to minimalize tax expense. Effective Tax Rate (ETR) is used as a measurement reference by comparing current tax expense with profit before tax. With current corporate income tax rate of 22%, an ETR value below 22% indicates the existence of a tax avoidance act. The ETR measurement is performed by using the following formula utilized by Salihu et al. (2015).

$$ETR = \frac{Current\ Tax\ Expense}{Profit\ Before\ Tax} \quad (1)$$

Foreign ownership is taken as the independent variable and the proportion of shares owned by foreign investors towards the total shares in circulation. Foreign investors are foreign institutional investors as well as individual investors with a foreign citizenship (Salihu et al., 2015).

$$Foreign\ Ownership = \frac{Proportion\ of\ Foreign{-}Owned\ Stock}{Total\ Circulating\ Stock} \quad (2)$$

Capital intensity as an independent variable is the sum of wealth of an invested company in the form of fixed asset (Darsani & Sukharta, 2021). Capital intensity is measured by comparing the total fixed asset with total asset (Lanis & Richardson, 2021; Darsani & Sukharta, 2021).

$$Capital\ Intensity = \frac{Total\ Fixed\ Asset}{Total\ Asset} \quad (3)$$

Investment opportunity as an independent variable is an investment decision made by a company to gain a high investment return. Investment opportunity is measured using market capitalization divided by total equity owned by a company. The measurement uses market to book value equity based on the rationale that this ratio reflects the market perception of future investment return value. The bigger the investment opportunity value is, the bigger the expected return is (Syardiana, Rodoni, & Putri, 2015).

$$Investment\ Opportunity = \frac{Market\ Capitalization}{Total\ Equity} \quad (4)$$

Tax haven's affiliates are used as an independent variable. Companies will make use of a low tax rate by establishing subsidiaries or affiliates in tax have countries. This variable is measured by calculating the amount of subsidiaries or affiliates which exist in tax haven countries (Gravelle, 2015; Nugraha & Kristanto, 2019).

$$Tax\ Haven's\ Affiliates = Sum\ of\ child\ companies\ or\ affiliates\ in\ tax\ haven\ countries \quad (5)$$

4. Result and Discussion

4.1 Descriptive statistics

To illustrate the variables used in this research, the following is a table presenting the data's maximum value, minimum value, mean, and standard deviation.

Table 1
Descriptive Statistic Result (max, min, mean, and SD)

Variable	N	Min	Max	Mean	Std. Dev
Foreign Share Ownership	137	0.271	0.912	0.510	0.127
Capital Intensity	137	0.000	0.936	0.372	0.259
Investment Opportunity	137	0.008	8.809	1.420	1.219
Tax Haven Country	137	0.000	12	0.569	1.666
Aggressive Tax Avoidance	137	0.000	0.952	0.237	0.192

The descriptive statistic result above shows that aggressive tax avoidance from 137 corporate data has a minimum value of 0.000 and a maximum value of 0.952. From those values, as many as 21,9% companies has an aggressive tax avoidance value of below 0.1, even reaching 0, which signifies that those companies are experiencing loss or the absence of tax expense that year. The foreign share ownership mean value show a score of 0.51, which means that the average sample company is foreign-owned by as much as 51%. Despite capital intensity's maximum value reaching 0.936, during the pandemic, a company which sold its entire fixed asset was found, causing the minimum capital intensity value to reach 0.000. Investment opportunity has a minimum value of 0.000 and a maximum value of 8.809 which indicates that during the pandemic, there existed companies which experienced quite a significant stock price increase while there also existed some which experienced a decrease. With a mean value of 1.420, it can be inferred that the average sample company did not have a considerably high investment opportunity during the pandemic time. The tax haven's affiliates variable shows a mean value of 0.569, which means that more than 50% of the sample had tax haven's affiliates. Aggressive tax avoidance has a mean value

of 0.237, which means that the sample average did not commit aggressive tax avoidance, despite the maximum value reaching 0.952.

4.2 Validity Test

4.2.1 Measurement Model Evaluation (Outer Model)

Outer model test is carried out through convergent validity, reliability, and internal consistency. The purpose of this test is to determine whether or not the research instrument consistently produces a measurement concept that is able to be evaluated. Convergent validity is measured by AVE (Average Variance Extracted) value with the criteria of it being > 0.5. Reliability is measured through loading factor with a value > 0.7. Composite reliability and Cronbach's Alpha are utilized to test internal consistency with a determined value of > 0.7.

Table 2
Convergent Validity, Reliability, and Internal Consistency

Variabel	Loading Factor	Composite Reliability	Cronbach's Alpha	AVE
X1_Foreign Share Ownership	1.000	1.000	1.000	1.000
X2_Capital Intensity	1.000	1.000	1.000	1.000
X3_Investment Opportunity	1.000	1.000	1.000	1.000
X4_Tax Haven Country	1,000	1.000	1.000	1.000
Y_Aggressive Tax Avoidance	1.000	1.000	1.000	1.000

The output of this data processing states that every variable has fulfilled the criteria and convergent validity, internal consistency, and reliability test because the resulted values in the test above have all met the implemented criteria.

Discriminant validity is utilized to measure different latent variables, which are not supposed to have a high correlation value, with other construct's cross loading value which are supposed to be lower than those constructs.

Table 3
Discriminant Validity

	X1	X2	X3	X4	Y	SE	P value
X1_Foreign Share Ownership	(1.000)	0.000	-0.000	0.000	-0.000	0.068	<0.001
X2_Capital Intensity	-0.000	(1.000)	-0.000	-0.000	-0.000	0.068	<0.001
X3_Investment Opportunity	0.000	-0.000	(1.000)	-0.000	0.000	0.068	<0.001
X4_Tax Haven Country	-0.000	-0.000	0.000	(1.000)	-0.000	0.068	<0.001
Y_Aggressive Tax Avoidance	0.000	0.000	-0.000	-0.000	(1.000)	0.068	<0.001

The data processing output of all variable has fulfilled the discriminant validity criteria.

4.2.2 Structural Model Evaluation (Inner Model)

The structural model (inner model) evaluation covers model fit test, path coefficient, and R2. In this regards, there exist three evaluative indexes, which are average path coefficient (APC), average R-squared (ARS) and average variance factor (AVIF) with the acceptable APC and ARS criteria of p value < 0.05 and AVIF <5.

Table 4
General SEM Analysis Result

	Index	P-value	Criteria	Explanation
APC	0.117	0.04	P<0.05	Acceptable
ARS	0.054	0.03	P<0.05	Acceptable
AVIF	1.039		<=5, ideal <=3.3	Acceptable

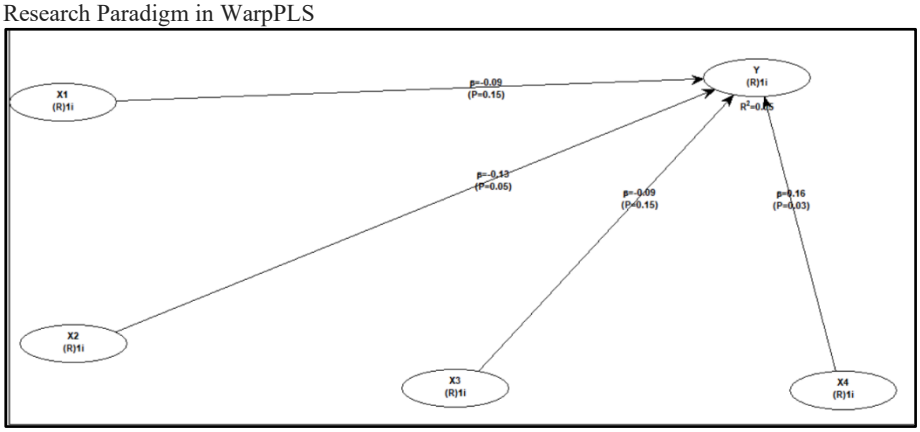
From Table 4, it is apparent that APC and ARS have fulfilled the criteria for having a p-value of 0.04 and 0.03 or < 0.05. According to the data, the 1.039 AVIF value has met the criteria for being below 5. Thus, the inner model can be accepted.

4.3 Hypothesis Test Result Discussion

This hypothesis test is meant to evaluate whether the hypothesis is accepted or rejected. The correlation result between variables is measured by observing path coefficients and the significance level. Path coefficient is observed through

whether β (Beta) value is positive or negative. The significance level is shown in p-value to determine how significant the impact between those variables are. In this research, the P-value which is used 5%.

Figure 1
Research Paradigm in WarpPLS



4.3.1 The Effects of Foreign Ownership towards Aggressive Tax Avoidance

The foreign ownership variable has a p-value of 0.15 and path coefficient value of 0.09. This research result shows that foreign ownership does not affect aggressive tax avoidance. It is in line with a research (Apriyani & Muhyarsyah, 2021) stating that foreign ownership does not affect tax avoidance. Foreign ownership may direct policies which remain to prioritize the prosperity of foreign stockholders, so that it only focuses on profit management. During the pandemic, foreign ownership holds the importance to ensure that management continues to tend to a company's assets and does not promote aggressive tax avoidance.

In a state of uncertainty, foreign ownership chooses to ensure the survival of the entity and prepare recovery. Eighty percent of multinational corporations reported the occurrence of a net profit decrease with the existence of the pandemic. Two thirds of multinational corporations reduced investment and more than 50% reduced the amount of employees in affiliate entities in developing countries (World Bank, 2020).

4.3.2. The Effects of Capital Intensity towards Aggressive Tax Avoidance

The capital intensity variable has a p-value of 0.05 and a path coefficient value of 0.14. This result is in line with the hypothesis stating that capital intensity positively affects aggressive tax avoidance. Companies make use of fixed asset depreciation expense, which is categorized as a deductible expense, to commit aggressive tax avoidance. The higher the amount of fixed asset owned by a company, the more aggressive tax avoidance a company commits. This finding is also supported by research carried out by Ratu & Meiriasari (2021).

4.3.3 The Effects of Investment Opportunity towards Aggressive Tax Avoidance

The investment opportunity variable has a p-value of 0.15 and a path coefficient value of 0.09. The result of this research shows that investment opportunity does not have any impact towards aggressive tax avoidance. In a state of uncertainty caused by the pandemic, the stock market value becomes very dynamic. Although in this research exist several companies with a high market to book value of equity, the mean value of this ratio is 1.4, which means that the stock market value was not high enough to indicate a profitable investment prospect. Due to this market inefficiency, companies tend to reevaluate every future investment decision (Saragih et al., 2021).

4.3.4 The Effects of Tax Haven's Affiliates towards Aggressive Tax Avoidance

The tax haven's affiliates variable has a p-value of 0.03 and a path coefficient value of 0.16. The result of this research shows that tax haven's affiliates positively affect aggressive tax avoidance. This is in line with Pangestuti, Sari, & Lestari's (2020) research. During the pandemic, tax havens are more commonly used as a place to postpone the tax expense which needs to be paid within the country over overseas income. Multinational corporations tend not to present the entire financial information within the country of domicile, not report the actual income, and transfer profit to affiliates in tax haven countries through the practice of transfer pricing (Campos & Tapia, 2021).

5. Conclusion, Implication, and Limitation

5.1 Conclusion

According to the data analysis result which has been performed, it can be concluded that capital intensity and tax haven's affiliates have a positive impact towards aggressive tax avoidance. Foreign ownership and investment opportunity do not have any impact towards aggressive tax avoidance.

5.2 Implication

It is interesting to discover that the average company used as the sample does not commit aggressive tax avoidance during the pandemic time. Companies would rather survive by reducing expenses which do not come from tax, knowing that tax expense will drop as profit decrease during the pandemic. Thus, foreign ownership does not promote the occurrence of tax avoidance. On another note, companies continue to keep their fixed assets and utilize tax haven's affiliates to keep tax expense at a minimum. This research is expected to be beneficial for policy makers, investors, and company management to remain aware of the variables' behaviors during a crisis caused by a pandemic as a preparation for future research when the pandemic has passed.

5.3 Limitation

The limitation of this research is the utilization of samples originating from 2020 and 2021 IDX solely from Indonesia. It is expected of future researches to be able to make use of company data from other countries, so as to get a more comprehensive picture regarding the tax behaviors of multinational corporations.

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Exploring the Competitive Advantage of B2B E-Commerce Business: Bitubi Company

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Abstract. Reflecting on the success of B2C or C2C e-commerce not only in Indonesia but also worldwide, it is a unique case that B2B e-commerce struggle to achieve the same success. However, in recent years many B2B e-commerce start-ups have emerged, showcasing their respective unique selling point to tackle the various challenges present by the industry and trying to acquire as much market share as possible before the predicted boom of B2B e-commerce industry. In this research, the researcher uses Bitubi as the study case to analyze what and how its competitive advantage work against the challenges present by the industry to the extent of its position among other competitors in the industry. This research uses qualitative method with in-depth interview as the main data collection method with subjects ranging from various level of employees and MSMEs as the e-commerce user. Experienced sales team, voucher system, logistics service, and integrated technological system are some of the most impactful competitive advantages of Bitubi compared to its competitor in B2B e-commerce business. This study allows for other potential research directions such as in the context of legal and government policy.

Keywords: business-to-business; e-commerce; competitive advantage; case study

1. Introduction

Information and communication technology have brought many positive impacts in today's business world. The internet can now be used as a tool to enhance the business's world due to the rapid advancement of information and communication technology. One can reach a wider global market to gain a greater competitive advantage with the help of the internet (Lalita et al., 2021). Furthermore, efficiency in business processes is significantly enhanced through ease of transaction, system automation, customization, monitoring, data analysis, etc. Digital business has been the new era of business, especially in Indonesia, which is shown by the number of growing e-commerce. However, the current economy shows that only B2C (business to consumer) and C2C (consumer to consumer) e-commerce are thriving significantly, leaving B2B (business to business) e-commerce behind. While B2C and C2C e-commerce are still involving end customers, B2B e-commerce only involves corporations, MSMEs, and other business entities. The market in B2B e-commerce industry is wide for grasp, and Bitubi is one of the frontrunners. With monthly Gross Merchandise Value (GMV) reaching almost 9 trillion rupiah during 2020 to 2021, Bitubi keep on providing solutions for MSMEs to upscale their business into its utmost potential.

Globally, B2B e-commerce market was valued at $14.9 trillion which is five times larger than of the B2C market. Quoted from Robertson (2018), they predict that B2B e-commerce will account for 17% of all B2B sales in the U.S. by 2023, reaching the number of $1.8 trillion. B2B e-commerce in Indonesia has been thriving with an estimated value of $1.5 billion in 2018 and is anticipated to grow at a CAGR of 50-55% to reach $30 billion by 2025. MSMEs contribute to $0.5 billion in 2018 and are expected to grow to $14 billion in 2025 (Xendit, 2022). The number of successful B2B e-commerce also rises with start-ups such as Ula, Ralali, Warung Pintar, Mbiz, Bizzy group, and Bitubi have revolutionized B2B e-commerce in the Indonesian market with the main focus of shortening the supply chain. B2B e-commerce is a highly enticing prospect for Indonesia's multi-billion-dollar general FMCG trade segment (Consultancy.asia, 2021)). The potential growth of B2B e-commerce also contributed by the rise of FMCG's sector in Indonesia as B2B e-commerce drove value by streamlining supply networks resulting in a more robust demand (Howell, 2021). The Deputy Trade Minister of Indonesia, Jerry Sambuaga forecasted the B2B e-commerce market size in Indonesia can reach $21.3 billion in 2023 mentioning the myriad of opportunities that comes with it. He went on to mention how government had been using B2B e-commerce to scale up MSMEs participation in public procurement, access to loans and mentoring. Indonesia's digital penetration has jumped from 30% since 2015 to about 75% in 2020

supported by the behavioral changes in consumers due to pandemic as B2B e-commerce become the best choice for stock replenishment for business. However, a report from the Ministry of Communication and Information in 2019 shows that in 2017, 4.7 million Indonesian MSMEs are using digital platforms, or only 7.4% of all MSMEs in Indonesia proving that the digital adoption of businesses is still low despite its evident potential in upscaling their business.

Start-up as one of the hopes in driving the industry to develop digitally, several of them had collapse due to various reasons. Spokeperson of the Ministry of Communication and Information Technology, Dedy Permadi, said one of the factors in the collapse of start-up is lack of managerial expertise (Bestari, 2022). Worsen by the landscape of Indonesia as an archipelago, a collection of 17,000 islands making it tough to build an effective logistics and supply chain ecosystem. A report from L.E.K. Consulting in 2021 stated that the key in the growth of B2B e-commerce lays on the infrastructure such as logistics in complementing the B2B e-commerce ecosystem with last-mile delivery. With that in mind, several B2B e-commerce have presented a unique model with their own competitive advantage aiming to capture the growing market. Mitra Tokopedia and GrabKios have leverage on their wide range of services while Bitubi is trying to build their own ecosystem from marketplace to logistics.

Research on B2B e-commerce has been abundant about its impact on MSMEs but there has not been any that discusses the B2B e-commerce itself using specific companies as case study for a more in-depth analysis. The research suggests the importance of B2B e-commerce to MSMEs. Lin et al. (2011) did research on key adoption challenges and issues of B2B e-commerce specific to the healthcare industry, suggesting supply chain and interoperability as one of the hurdles in maximizing the potential of B2B e-commerce. Lalita et al. (2021) also did research on the success factor of B2B e-commerce in Indonesia, suggesting further research using qualitative methods about the strategy that has been implemented by B2B e-commerce providers and the expectations of the services/goods providers companies in Indonesia.

Bitubi steps in with a digital platform that connects manufacturers with retailers and wholesalers, providing them with higher sales volume, reduced operational cost, faster turnover, and lower price, as well as transparency in transaction and documentation. However, the same as many other B2B e-commerce, one of Bitubi's first stumbling blocks in the attempts to modernize traditional retail is the reluctance to adopt technology among wholesalers and retailers. Despite having thousands of sales teams across regions to reach the wholesalers and retailers, the digital adoption rate is still very low. Agung Bezharie Hadinegoro, also the CEO of one of the leading Indonesia B2B e-commerce, mentioned the three key challenges in B2B e-commerce industry which are multi-layered processes in supply chain, asymmetric information among stakeholders, and skepticism on digital adoption (Racoma, 2021). Challenges in B2B e-commerce can also be concluded into lack of end-to-end ecosystem in the industry. Warung Pintar is one of the frontrunners in building an end-to-end ecosystem in B2B e-commerce industry, started by strengthening their business model (Racoma, 2021). Meanwhile Bhinneka, one of the oldest B2B e-commerce in Indonesia founded in 1993, has been actively strengthening its B2B services by presenting an innovation called the Business Super Ecosystem (Asti, 2021).

Bitubi has a very healthy number of orders completed growth from year-to-year basis despite the pandemic that occurs within their early founding years. In 2019, they recorded around 16 thousand orders monthly grows to around 114 thousand orders monthly in 2020, 218 thousand orders monthly in 2021, and lastly 275 thousand orders monthly in 2022 (recorded until August 2022). Having such growth in number of orders on year-to-year basis are very impressive especially despite during the pandemic, they still manage to keep the average number of orders increase. With the abundance of B2B e-commerce in Indonesia, it would be thoughtful to research or explore the competitive advantage in B2B e-commerce by using the case study of Bitubi. Based on the research problems above, below is the research question:

1. What are the strategic factors that contribute to the competitive advantage of B2B e-commerce business in Bitubi?
2. How are these strategic factors implemented by Bitubi to achieve competitive advantage in the B2B e-commerce industry?

2. Literature Review

2.1 B2B E-Commerce

E-commerce itself is defined as the process of exchanging information and transactions involving goods and services using information technology (Febriantoro, 2018). E-commerce business models or electronic commerce in general can be categorized into the following categories: B2B (Business-to-business), B2C (Business-to-consumer), C2C (Consumer-to-consumer), and B2G (Business-to-government). B2B e-commerce is an internet enabled B2B technologies used by firms to perform buying, selling, and exchange of information with their supply chain partners (Alsaad et al., 2018). B2B e-commerce in this study is defined as business

activities fulfilled through use of technology in its fulfillment activities such as from procurement, manufacturing, research and development, sales, distribution of goods, services, and information among business entities to enhance competitive advantage (Collier et al., 2003).

According to Lalita et al. (2021), B2B e-commerce has changed the way transactions cross-company are held, resulting in lower costs and a more seamless supply chain management. Furthermore, B2B e-commerce also provide sellers opportunities to acquire new customers, broadens more available options for buyers, and largely reduce transaction costs by pooling buyers with automatic transactions system. A successful B2B platform is defined to be able to reduce marketing and communication costs with easier access to buyer for the business, while also allow buyers to reach a larger market with rich information, reduces overall procurement costs by effectively searching through wide number of sellers with a wide variety of goods and services (Liu et al., 2020).

Plenty of research have been done in analyzing the adoption of B2B e-commerce in MSMEs which is one of the keys in the success of B2B e-commerce. The adoption of B2B e-commerce means the usage of B2B e-commerce in their business or MSMEs which could present them many opportunities in scaling-up their MSMEs (Alsaad et al., 2018). Mohtaramzadeh et al. (2018) and Hamad et al. (2015) have done research on B2B e-commerce topics, analyzing the driving force of B2B e-commerce adoption from the perspective of its users such as MSMEs.

2.2 Competitive Advantage

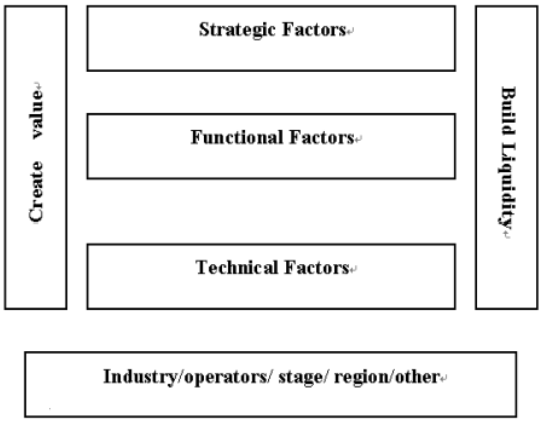
Competitive Advantage refers to the creation of value. As a result of a critical business decision, a firm can create a secured position over its competitors (Xuhua et al., 2019). Competitive advantage plays an important role in improving companies' performance (Herman et al., 2018). Zhou et al. (2005) also have done research suggesting that competitive advantage has a significant influence on firm performance. The competitive advantages can result from goods and services that exhibit outstanding differences from the typical products in the respective domain or that have a lower cost than those of the competitors (Porter, 1980).

Brunn et al. (2002) mentioned the 3C's of B2B e-commerce which is commerce, content, and collaboration are one of the most important elements in its success. It is said that those elements are inter-linked, and the challenge is in terms of how to apply them in the best possible way in a specific context and to keep pace with the development. Commerce refers to the product complexity, the available liquidity, and the maturity of trading participants towards e-commerce. Content refers to the ability to attract buyer and seller with aim on retention. Collaboration refers to how the supply chain can be streamlined by collaborating with third parties.

Li and Li (2005) mentioned three critical elements for the success of B2B e-commerce which is technical factors, functional factors, and strategic factors while also having a dynamic perspective with capturing values and building liquidity as the two important pillars. Those frameworks are to ensure profitability and the success of the marketplace.

Figure 1

A framework of the Critical Success Factors Analysis for e-Marketplace (Sourced from Li and Li, 2015)



Early propositions from above literature suggesting that B2B e-commerce such as Bitubi Company focuses on creating competitive advantage in terms of maximizing the capability of MSMEs through financing, shortening the supply chain of MSMEs through end-to-end ecosystem effort, improving the operational of MSMEs through development of Point of Sale (PoS), and/or not limited to these propositions.

2.3 Porter Generic Strategies and VRIO

According to Porter Michael (1985), there are two core competitive advantage that can be achieved by companies, low cost, and differentiation. Cost leadership strategy refers to the ability of a company to reduce costs as much as possible. Differentiation strategy refers to the ability of a company to differentiate themselves among the competitors to attract the consumers due to its uniqueness or its customization. Focus strategy refers to the ability of a company to cater the specific pool of consumers.

VRIO framework developed by Barney (2001), is a RBV or resource-based view framework used to evaluate an organization's resources and capabilities. The application of VRIO framework can answer whether the company's resources and capabilities can be considered as a strength or weakness. VRIO framework is an acronym composed of the first letters of its elements' names, namely (Barney & Wright, 1998): value, rarity, inimitability, organization. Value refers to the resource valuable in terms of neutralizing the threats and exploiting the opportunities from the environment; rarity refers to the resource rarely present among existing and potential competitor; inimitability refers to the resource expensive or impossible to imitate; organization refers to the resource used by the company, or is the company organized in a way that allows efficient usage of the resource. This study scrutinized the generic strategies and VRIO applied in Bitubi Company.

3. Methodology

The qualitative research applied one of the B2B e-commerce in Indonesia as the case study that is Bitubi Company. Case study research strategy can very well showcase the crucial parts of a business process due to its customized case on real events (Halinen & Törnroos, 2005). A case study requires an empirical analysis from recent events in real world setting with several data collection methods (Yin, 2018). The type of data collected is primary data which are obtained from semi-structured interviews (a mix of open and close ended questions), direct and indirect observations, and field notes. Using these methods of research is to achieve a more in-depth understanding of the competitive advantages and how they have positioned themselves in the market against the competitors.

Name	Position	Age	Detail
Gangga (I-1)	Associate	31-35	Mr Gangga is one of the leaders in Bitubi. He had many experiences in start-ups and a very well-known individual in start-up founder community.
Paolo (I-2)	Associate	26-30	Mr Paolo is one of the leaders in Bitubi. He handles complaints and order monitoring in Bitubi e-commerce. He had experiences in company who served e-commerce which allows him to understand a vast knowledge in terms of e-commerce.
Raka (I-3)	Officer	21-25	Mr Raka is one of the officers in Bitubi. He handles the day-to-day operation of Bitubi including order monitoring and had plenty of experiences in dealing with MSMEs as his parents are also operating MSMEs.
Arum (I-4)	Officer	21-25	Ms Arum is one of the officers in Bitubi. She also handles the day-to-day operation of Bitubi in order planning. She was recruited in Bitubi as order monitoring officer but then transferred as order planning officer. A testament to her flexibility and strong knowledge in e-commerce order management.
Aldy (I-5)	Partner MSME 1	41-45	Aldy joined Bitubi in around February 2022. He inherited this business from his parents, and he is the second generation. He admits the pressure to be successful. He is a very light and friendly person. He provides a lot of insight in terms of how Bitubi can flourish. He is one of the best sellers in Bitubi e-commerce with one of the largest transactions ever recorded in Bitubi e-commerce and known to be a very active distributor. Aldy has also supported several big companies in startup grocery industry.
Junaidi (I-6)	Partner MSME 2	31-35	Junaidi joined Bitubi in around January 2022. He is very friendly and likes to talk about business overall. He has a really great sense of business, wants to adapt to the digital world, and aims to create competitive advantage for his store. His store has been doing business since 2013. He is one of the most active seller in Bitubi and also actively give insights to Bitubi

			team.
Dewi (I-7)	Partner MSME 3	46-50	Dewi joined Bitubi in around end of January 2022. She is the to-the-point type of person. She is the largest seller in Bitubi e-commerce in Binjai area. She has been in the business for decades and have many businesses experience especially in the field of FMCG. She admits that in the recent years from 2019, the number of sales has been dropping due to the pandemic and the recession. Although, she admits Bitubi also has helped a lot in terms of surviving in this economy.
Adul (I-8)	Partner MSME 4	36	Adul joined Bitubi in around 2021 but stop for a while for unknown reason but then joined again after being approached by a salesman. He is the second generation of the MSMEs in which he inherited this business from his parents. He admires the ability of Bitubi sales team to be able to sell his products until farther district even to a large city like Makassar, since his store is in Maros. He is a friendly person and likes to provide solution during the discussion.

The sampled profile of the research will be Bitubi management ranging from non-grade level to managerial level as well as MSMEs partners to assess its competitive advantage from various point of view. The triangulation of informants and data collection methods are utilized to ensure the validity of data. Then data were analyzed using theming data and pattern coding to induce the emerging concepts contributing to the competitive advantage Bitubi Company.

4. Findings and Discussion

Latent variables are obtained through quotes from the informants. Variable refers to anything that is stipulated by the researcher as something to worked on to obtain information and data about the topic. In this case study, latent variables were obtained through interpretation from interviews, observation, and field notes.

4.1. Propositions

After defining each of the latent variable, the researcher will start making propositions to explain the contributions of the latent variables to the competitive advantage.

4.1.1 Proposition 1 (P1): Trust in the Ecosystem (V1) contributes to the Competitive Advantage (V11)

The management of Bitubi realizes the importance of trust in this industry. It is admitted by professionals that in B2B e-commerce, what is more important is trust and loyalty. Bitubi prioritize this aspect but putting a lot of effort in supporting the salesmen since they are the direct contact of Bitubi to the MSMEs. The researcher knows about this since the researcher has visit several MSMEs and see that the salesmen and the owner of the store have a very close relationship. Even the driver of Bitubi's logistical service has a tight relationship with the owner.

"In B2B e-commerce, users do not buy goods only once. Transactions in B2B are continuous though in terms of frequency B2C e-commerce is much better. B2B transactions rely a lot in trust and repetitive buying behaviour on the same seller." – Paolo (I-2)

[Field Notes 1] On June 7, 2022, I visited one of the sellers in Bitubi and witness the interaction between the owner and the salesmen. Both seem to have a close relationship. I also witness how the owner interact with the driver and put a trust with the driver to do a return task tomorrow to save the fuel of the driver. Afterwards, when I buddy-ride with the driver to drop the products to the seller, I saw that the buyer compliment how easy fast the deliver it was and believe that the driver and seller always send the right product for them.

For these reasons, Bitubi applies a trustworthy nuance for the users to create a safe environment for them to do transactions as a buyer or even as a seller. This variable is one of the important factors in the competitive advantage of Bitubi.

4.1.2 Proposition 2 (P2): Internal Management Support (V2) contributes to the Competitive Advantage (V11)

The internal management of Bitubi consists of professionals with strong background in the FMCG industry, since the B2B e-commerce is dominated by FMCG traders. With that in mind, they provide a strong support to the team and can drive the right solutions for the MSMEs. This is proven by the result

from the interview in which the employees admit that the internal management drives a lot of insight on how to tap in to the MSMEs. Other than that, the researcher also saw how the internal management creates a mindset that does not rely on money-burn in which many startups tend to do, but rather on how to be profitable despite the economic downturns.

"I think Bitubi is one of the top players in this industry, the same level with such of Bukalapak. I think this is due to the power of network because that is very crucial in this industry. From the top management and the personnel recruited in this company are very specialized in FMCG industry." – Gangga (I-1)

[Field Notes 3] On September 22, 2022, one of the top management people shared with the other employees about the progress of the Bitubi marketplace. He mentioned how it is very crucial to be assertive in what we want so that we can influence people to the goal that we aim, as long the goal is positive. He mentioned the importance of having a well-defined roadmap on where our positions right now and what we want to be, and how to achieve our goal of profitability.

The internal management also consistently provide the right solutions and develop a robust business process to support the MSMEs.

4.1.3 Proposition 3 (P3): Wholesale Pricing (V3) contributes to the Competitive Advantage (V11)

Price is certainly the key in doing business. Bitubi understands this and try to provide the cheapest price possible in the market. Principals are the key to achieve a competitive price in the market. Bitubi itself has a strong competitive advantage in terms of principals, therefore they can provide a wholesale pricing as well. Bitubi has a partnership division specifically created to hone relationships with the principals. Bitubi itself realizing its position as a B2B e-commerce displayed products by wholesaling package with wholesale price which suits the user of B2B. The researcher concludes this opinion based on the interviews but also based on the field notes when buddy-riding on deliveries to the buyer. Their connection to principals is admitted by their employees as one of their ways of achieving competitive price.

"Our price is competitive and can always adjust to the other competitors. This is due to our strong relations with our partners from our Partnership team." – Arum (I-4)

[Field Notes 2] On June 7, 2022, one of the buyers said that price in Bitubi is much cheaper than the others and they also can provide delivery service all included which is very important to minimize the cost in my business.

4.1.4 Proposition 4 (P4): Principals & Partnerships (V4) contributes to the Competitive Advantage (V11)

Principals are key in the B2B e-commerce industry that covers a lot of FMCG traders. Having a strong partnership with principals can improve the price competitiveness within Bitubi e-commerce, allowing users to buy products directly from the producers. Bitubi itself has their own dedicated partnership division to develop relationships with the principals. Furthermore, they also not only partner with multinational company, but also local company to support their products to be able to reach larger users across Indonesia. Having many experienced FMCG professional in the top management also creates a lot of advantage for them to connect with more principals. The researcher concludes this opinion based on the interviews.

"In terms of our principal, we look for local principal. Because our goal is to upscale the local business, the local MSMEs. Since we are taking product from principals, we must have the cheapest price in the market. However, we are not only selling the product but also, we introduce the product. For example, some places like Kalimantan or Papua might not have the network to supply certain products, but then we can support them. We have sent local products such as Gulavit to Papua. That is also our goal, not only profit but also, we want to introduce the local product to larger network by leveraging our strong network in Bitubi." – Gangga (I-1)

When asked about how Bitubi compares to the other competitors, one of the employees mentioned the number of principals in Bitubi is far more superior:

"But comparing to our number of principals, we are ahead." – Paolo (I-2)

4.1.5 Proposition 5 (P5): Marketing & Branding (V5) contributes to the Competitive Advantage (V11)

Bitubi understands the market that they want to tap in and customized the way they convey the message in such ways to perfectly fit into the profile of the users. The profile users of B2B e-commerce are usually entrepreneurs with a wide age range from 26 to 55. Several campaigns held were targeted to those profile users by ensuring the value of local nuance exist but still consisting of the message that tells how simple and effective when they do their business activities digitally. Seminars were also held periodically inviting sellers and buyers from Bitubi, discussing topics that revolve around digital empowerment in several cities across Indonesia. The researcher concludes this opinion based on the interviews. Admitted by employees in Bitubi e-commerce, that Bitubi has a very creative way of conveying brand message to its audiences:

"In terms of Bitubi, in terms of our branding. I think the way we put a message to our audience that is very local. Bitubi give an Indonesia nuance to our brand. It gives a lot of enthusiasm for the users, right targeted, and allow curiosity for them to want to know more about Bitubi." – Paolo (I-2)
"A creative way of socializing Bitubi apps is one of the keys (in digitalizing MSMEs). And I think that the marketing & branding team of Bitubi is very creative." – Arum (I-4)
Bitubi also making breakthrough in terms of branding which is through logistics. Bitubi put brandings on their logistics unit to improve brand awareness since the logistics unit are actively distribute the products from seller to buyer daily.
"Branding can be done in a lot of ways. Bitubi also brand themselves through our logistics unit. I am not sure about other competitors in terms of branding on their logistics. But it is proven that there are buyer or seller who register in Bitubi apps due to our logistics branding since our units travelled across cities on a daily basis." – Paolo (I-2)

4.1.6 Proposition 6 (P6): Cash-on-Delivery Payment Method (V6) contributes to the Competitive Advantage (V11)

Cash-on-delivery payment method is very important in B2B e-commerce to improve trustworthiness and to reach the MSMEs with low digital literate. Bitubi has provide this payment method to support the MSMEs in doing transactions. The implementation of COD payment method is also to fit in with the current market situation. The researcher concludes this opinion based on the interviews.
"I think that COD payment method is in a very high demand. Our target is upscaling our MSMEs, improving their demand. We need to know whether those in the urban already understand the mechanism of transfer, digital payments, etc. Hence, we are using this COD payment method to reach those markets." – Raka (1-4)
"I think this payment method is great for the business since most of our users still not digitally literate and prefer to use cash. However, it all comes back to how we manage the cases from this root itself." – Arum (1-5)

4.1.7 Proposition 7 (P7): Experienced Sales Team (V7) contributes to the Competitive Advantage (V11)

Salesmen in Bitubi is spreaded across Indonesia with quantities reaching thousands of salesmen. The goal is to provide a direct contact with the MSMEs with nationwide coverage. A direct contact to the MSMEs is to ensure the digitalization of the MSMEs are achieved since the core business of Bitubi depend on digital way of business. The researcher concludes this opinion based on the interviews.
"It is not possible (to not have sales team in a B2B e-commerce). They need sales team. Even e-commerce such as Lazada and Shopee also need sales team. Especially B2B e-commerce such as Bitubi, it is more crucial for us to have sales team because they are not digitally mature, and they need to be guided. Then they can stand on themselves." – Gangga (I-1)
Furthermore, having salesmen dedicated to sellers are also part of the effort to warrant trust for the MSMEs since it is a challenge for MSMEs to pivot their way of doing business from traditional to a digital way. Salesmen in Bitubi are said to be very helpful to the sellers by providing range of solutions to different challenges. These are acknowledgement from the MSMEs and our employees about the salesmen of Bitubi.
"Sales in Bitubi visits frequently. I think, he would visit around twice or thrice in a month. But on a busy month, they could visit almost every day. However, compared to salesmen in SRC, they only visit in the beginning to ensure the registration. Afterwards, they would only call once a month usually." – Aldy (I-5)
"Salesmen from Bitubi is very helpful for my business. With them, I can reach buyer from different city and basically increase my coverage." – Dewi (I-7)
The salesmen not only act as a salesperson that sells the product but also provides solutions to fulfill the transactions from the buyer. It is said the salesmen even go extra miles by sourcing for logistics requirement for the MSMEs.
"Our salesmen do not only promote Bitubi as a brand and help them selling product but also our application how to conduct business digitally." – Gangga (I-1)

4.1.8 Proposition 8 (P8): Strategic Voucher System (V8) contributes to the Competitive Advantage (V11)

Every e-commerce relies on voucher to create traction or demand from the users. The rule is not exception for B2B e-commerce. The main goal is to spur growth. Bitubi has a very specific way of setting voucher to meet certain terms and conditions to improve the growth and fit the buying behavior. Bitubi also presents voucher not only for the buyer but also for the seller as the provider of the goods. The researcher concludes this opinion based on the interviews. Proven by several sayings from the employees
"Voucher system I think is part of our competitive advantage. It is normal for users to expect voucher and promo when they make a purchase. Since the delivery fee charged will be a huge consideration in a

purchase decision. And as far as I see, voucher from Bitubi is always exist and targeting the right segment market. Perhaps the nominal is variative depend on the GMV ordered or the product check-out. Sometimes we can also charge a delivery fee cheaper than those in B2C e-commerce despite loading bulkier goods. This is what makes the buyer more loyal." – Paolo (I-2)

The voucher system of Bitubi also supported by the MSMEs since they can get greater benefit from it.

"Voucher is helpful. With cheaper price, I can gain profit much faster." – Dewi (1-7)

"In terms of voucher, it is very effective. Those discounts are very helpful." – Adul (1-8)

4.1.9 Proposition 9 (P9): Logistics Service (V9) contributes to the Competitive Advantage (V11)

In a business, there is always a necessity to have a logistics service involved as one of the requirements in completing a transaction, especially in the FMCG industry where the products are usually distributed in bulk quantity and in the state of physical goods.

Bitubi has launched their own logistical service to support for such conditions. The logistics are specialized in several type of large units to support bulk shipment and specified to delivery within hours to ensure the safety of the product. Having their own logistics in a B2B e-commerce is an advantage admitted by the employees as well as the sellers since seller do not have to find ways on how to deliver the product and with integrated system, Bitubi can easily fulfill the delivery demand from the e-commerce. The researcher concludes this opinion based on the interviews.

There are also sayings from the seller, claiming that logistics being the key in the competitive advantage of Bitubi. It gives the seller a more seamless business process, so that they can focus only on procurement and selling the products while Bitubi e-commerce can handle the logistics. Here are several comments from the seller:

"Logistics is the key in the competitive advantage of Bitubi. It creates a much better image for Bitubi. It can be said having logistics, create a much better business model." – Aldy (I-5)

"Logistics is the key in the competitive advantage of Bitubi. It creates a much better image for Bitubi. It can be said having logistics, create a much better business model." – Junaidi (I-6)

"Logistics (answer on what makes Bitubi standout compared to other competitors). I think Bitubi is very helpful since they not only help you sell your products with the sales team, but also provide logistics to support the distribution of my product to my buyer." – Dewi (I-7)

For these reasons, Bitubi has a leverage in terms of their logistical service. It allows them to serve the seller with much better solutions. This variable is one of the important factors in the competitive advantage of Bitubi.

4.1.10 Proposition 10 (P10): Integrated Technological System (V10) contributes to the Competitive Advantage (V11)

One of Bitubi core business is to develop digitally. They have a strong willingness to build an end-to-end ecosystem digitally to support the business process of MSMEs. Bitubi believes that it is only through transitioning to the digital, is that MSMEs can reach higher level of accomplishment. Bitubi has provided a lot of digital solutions for the MSMEs through free point-of-sale service, advanced logistics fulfillment, and many others. The researcher knows about this through interview sessions with the employees and the partner MSMEs where they admit the digital aspect is very important to the sustainability of the business. Field observations also serve several insights in this proposition.

"Our salesmen do not only promote Bitubi as a brand and help them selling product but also our application how to conduct business digitally. If we talked about self-pickup or store courier delivery method, it must be easy for any B2B e-commerce, but the challenge is to adopt business process digitally." – Gangga (I-1)

It is also supported by the Partner MSMEs, claiming its importance:

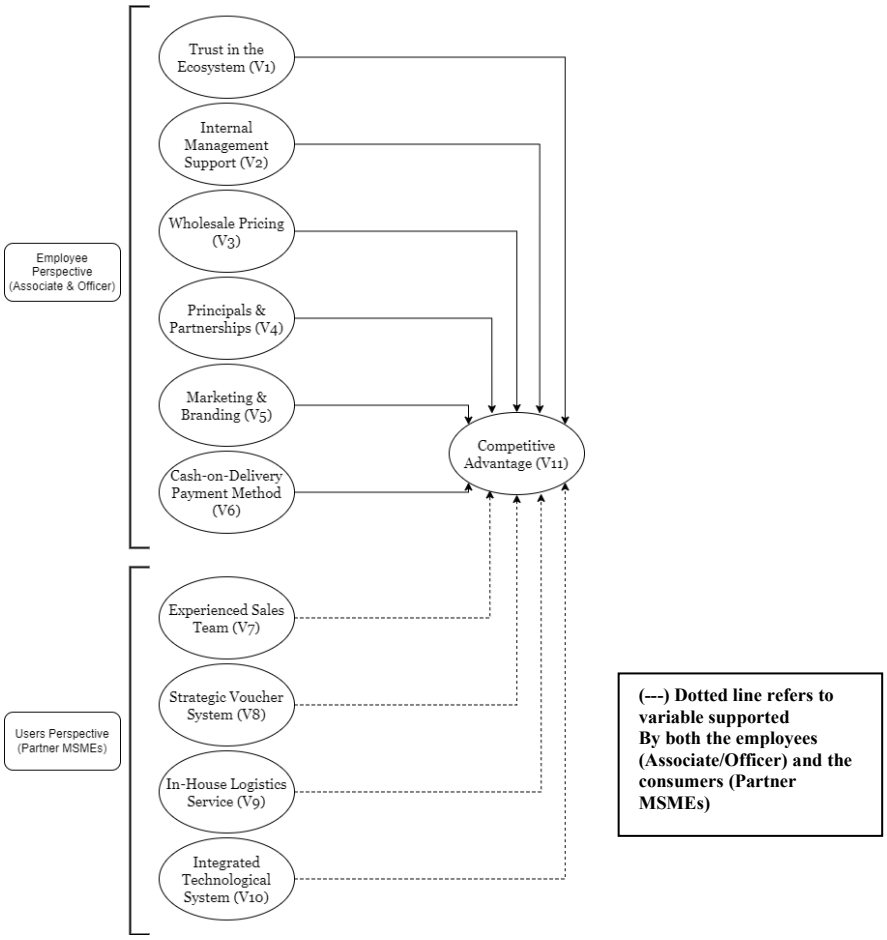
"The key is to adapt, adapt, and adapt. Technology is one of the solutions resulted from our willingness to adapt. And I think Bitubi is quite successful in that aspect." – Aldy (I-5)

[Field Notes 4] On September 22, 2022, employees of Bitubi are on a biweekly meeting with the product team to discuss how the progress of their digital feature to support their business process.

5. Conclusion, Recommendations, and Implications

There are several factors or variables that are essential for the competitive advantage of Bitubi in B2B e-commerce industry. The number of latent variables induced from the analysis are 10 variables with 10 propositions as aforementioned in the discussed findings, and the mini-model theory is illustrated as follows in Fig. 2:

Figure 2
Mini Model Theory of the Competitive Advantage of Bitubi Company in B2B e-commerce Industry



There were several limitations during the process of completing this research. First, several interviews were cut short due to urgent matters from some informants causing less optimal interview session. These informants could be revisited for further interviews. Second, some data alluding to the company's trade secrets cannot be disclosed in this study even such as the company's real name; nevertheless, this research is able to elucidate the conceptual abstracts of competitive advantage in this B2B business. Third, this research is a single instrumental case study which is limited to generalizability. Thus, further study in B2B e-commerce MSME businesses can be extended to other cases in this industry to enrich further insights.

Researchers can also engage in quantitative research with these qualitative results. This knowledge can better serve to provide further insights for B2B e-commerce businesses in the industry landscape. For practical implications, the theory constructed in this study enable Bitubi management to consider enhancing the elements that contribute essentially to the competitive advantage of the firm. With this theory, government and policy makers are also shown their influence in the B2B e-commerce ecosystem, and they can support by strengthening the trust in their institutions. Thus, this research opens up avenues for further research not only in the business segment but also in the legal and public service sector that contribute to the ecosystem.

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The Influence of Social Media Marketing, Electronic Word of Mouth and Consumer Engagement to Brand Loyalty: Study Case at the DOTA 2

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Abstract. Online gaming is a new phenomenon in the era of internet information technology. Indonesia has a very big opportunity in the gaming industry. But unfortunately, Indonesian game developers have difficulty competing in the local market. This research will be conducted on the analysis of the gaming industry, particularly on the multiplayer online battle arena (MOBA) category of games. The problem in this study is the gap between the online gaming industry and the decline of DOTA2. This study examined 120 respondents of the online games customers using online questionaires. This research using the PLS-SEM data analysis method. Based on the results of data processing, it was found that the hypothesis of social media marketing variable has positive influence on the customer engagement was rejected, the electronic word of mouth variable has a positive influence on customer engagement was rejected, the social media marketing variable has positive influence on the brand loyalty variable was rejected, the electronic word of mouth variable has a positive influence on the brand loyalty was rejected, and the customer engagement variable has a positive influence on the brand loyalty.

Keywords: social media marketing; customer engagement; e-wom; brand loyalty; dota-2; moba game

1. Introduction

The video game industry is growing through substantial growth in innovation. The gaming industry is one of the fastest growing industries in the world. The gaming industry globally is growing by about 10% every year, in 2019 total revenue reached 152.1 billion USD and is expected to increase by about 10% every year (newzoo.com). According to data taken from Harianjogja.com, the gaming industry in Indonesia generated revenues of up to 190 million USD throughout 2013 with a growth rate of 35% compared to the previous year.

By 2020, Indonesia's gamer population spent $1.1 billion on gaming, making it the largest gaming market in Southeast Asia. According to Newzoo.com, in the online population in selected major cities in Indonesia, 74% of men and 70% of women play mobile games, and 62% of men and 50% of women play console games. When viewed from Indonesia's gaming market share in 2017 which amounted to 61% of gamers who play games on PC and mobile phones, this shows that Indonesia has a very big opportunity in the gaming industry. But unfortunately, Indonesian game developers themselves have difficulty competing in the local market. Compared to 2013, revenue increased by up to 1000% in terms of online purchases. In general, mobile gaming makes a huge contribution to the gaming industry. Online gaming is a new phenomenon in the era of internet information technology. This phenomenon occurs in many countries, crossing geographical boundaries, age and gender.

This research will be conducted on the analysis of the gaming industry, particularly on the multiplayer online battle arena (MOBA) category of games. Analyze on dota 2 games developed by valve corporation brand. For this type of game that adopts the Battle-Royale concept, game developers have incorporated real-world construction features into the gameplay itself, where characters created in online games can be described as themselves in the real world. MOBA games adopt this built-in feature by incorporating real-life strategic actions that in-game characters need to take, of course according to the different specifications and encrypted needs between characters. For example, DOTA 2 players must "farm" their characters to raise money to buy upgrades. Communication between players is also encouraged with voice chat and chat boxes available in the game. It supports the humanitarian features of constructive teamwork where combos and mutual support will be

needed to achieve 'victory' in the game. In addition to gameplay features, DOTA 2 offers season battle tickets and lucky chests to players, but skins and "emblems" to enhance characters are not programmed in DOTA 2.

It appears that unlike Mobile Legends, DOTA 2 game account players number in the hundreds of thousands. Analyzing the most updated Average Monthly Players, it was noted that DOTA 2 had 413,785 thousand active players as of April 2021. Looking at the one-year span statistics, it can be observed that DOTA 2 started with 493,300 thousand players in April. 2020 and has faced an overall decline within a year. Dota 2's active player count pattern throughout the year is relatively unstable, where there is no consistent decline, somewhat the ups and downs of player counts between months can vary. Nevertheless, DOTA 2 specifically recorded an accumulated decline in the average monthly player overall in the past year.

From 2013 to 2021, the population of DOTA 2 decreased to about 413,785 active players today, with a total peak player of about 709,178 players as of February 2016. DOTA 2 gradually lost a total accumulated 295,393 players monthly on average from its breaking point. According to several gaming news sources available in Indonesia such as indoesports.com, indogamers.id, revivaltv.id, lotechbdg.com and many more. They publicized the decline in popularity in Dota 2 due to several major factors affecting the competitiveness and awareness of the game. Revivaltv.id made an analysis of this declining phenomenon that this decline may have been due to the cancellation of The International 2020 due to the covid-19 pandemic and the lack of a DOTA 2 marketing strategy that was inferior to the hyped new games available and launched from the beginning of the global pandemic. This phenomenon is a problem that can be faced by all types of brands other than gaming brands. Therefore, in this research an analysis of the downside factors through marketing strategies will be discussed and tested according to a population that understands social media and the video game industry.

2. Literature Review

2.1 Online Marketing

According to Boone and Kurtz (2005) online marketing is a component in e-commerce. Where e-commerce is an online buying and selling system. Online marketing as a component in e-commerce, namely as a strategy for production, distribution, pricing, and promotion through digital media. It can be interpreted that all kinds of marketing processes from a product or service to the hands of buyers all use digital media.

2.2 Social Media Marketing

With current innovative turns of events, changes in promoting systems have started to shift to a more present day bearing. Previously, advancement was brought out through papers, magazines, radio and TV. Be that as it may, presently promoting is more evolved utilizing web innovation and is otherwise called advanced advertising (Tresnawati and Prasetyo, 2018). Advanced showcasing is an action to advance and find a market through computerized media utilizing different means like informal organizations (Purwana, 2017). Computerized promoting is one of the advertising media that is as of now in extraordinary interest by people in general in supporting numerous exercises (Pradiani, 2017). A more extensive objective can be reached by computerized showcasing to arrive at the global world. Any place it is currently, showcasing should be possible on the grounds that wherever the web network is open and everybody has a gadget, specifically a versatile cell phone.

Dianawati (2007) stated web based promotion is a correspondence action utilizing the web media. As per its turn of events, web based promoting doesn't just utilize site media, yet additionally email and different applications that sudden spike in demand for web conventions like the web, web (publicizing on the web) is an appealing decision for advertisers specifically and the business world overall. Web-based media is a web-based media, where clients can without much of a stretch take part, share, and make content covering web journals, interpersonal organizations, wikis, discussions and virtual universes. Web journals, informal organizations and wikis are the most widely recognized types of web-based media utilized by individuals all throughout the planet. Andreas Kaplan and Michael Haenlein (2010) characterize online media as "a gathering of web put together applications that form with respect to the establishment of the philosophy and innovation of Web 2.0, and which permits the creation and trade of client produced content.

David Evans and Jake McKee (2010) quoted by Sari (2012) says that social media marketing is practiced to engage customers in online social locations where customers naturally spend time. According to Santoso (2017) social media marketing is a form of marketing that is used to create awareness, recognition, memory and even action against a brand, product, business, individual, or group either directly or indirectly by using tools from the social web such as blogging, microblogging, and social networking.

With the presence of web-based media advertising makes it more straightforward for organizations to cooperate with their clients on the web. The expenses caused are not very enormous and there is no time limit as long as they are associated with the web. Online media assumes a part when showcasing organization exercises to frame individual associations with clients and furnish organizations with freedoms to get to clients (Kelly et

al., 2010). By summing up online media across social orders, analysts have concentrated via web-based media use by examining the reason why they utilize web-based media, how long they spend, and the sum utilized in a given timeframe (Bolton Et Al., 2013; Rosen Et Al., 2013)

2.3 Customer Engagement

Engagement involves turning on a prospect to brand ideas enhanced by the surrounding context which, if interpreted, means engagement is to connect with people emotionally and cognitively. When customers connect emotionally and cognitively with the content of a brand, they become more attentive and prefer the brand. (Strauss & Frost, 2011: 39) Meanwhile, Customer Engagement itself is developing a customer portfolio (a special set for valuable customers) and maintaining relationships with these customers. (Kumar, 2013: 2).

Customer engagement influences the showcasing relationship and purchaser experience with brand administrations (Brodie et al., 2011). Then, at that point, other examination expresses that client commitment is a variable that depicts the encapsulation idea of client conduct towards brands, coming about because of showcasing exercises: informal, suggestions, association among customers, contributing to a blog, composing audits, and other comparative exercises (Promoting Science Foundation , 2010: 4). It can likewise be reasoned that customer engagement via web-based media can further develop brand connections and shopper goals of brands (Hollebeek et al., 2011).

With customer engagement, brands center around fulfilling clients by giving them more or better worth than contenders than fabricating trust and obligation to long haul connections. (Sashi, 2012: 260) So it tends to be reasoned that customer engagement is a cycle that includes the physical, intellectual and passionate presence of the client in a relationship with the brand, where this relationship can be started either by the client or by the brand. Customer engagement won't be framed in the event that the brand doesn't welcome clients to participate in brand exercises. Something else is in case the brand doesn't present web-based media content that is intriguing and pertinent to clients, then, at that point, clients won't see and interface with web-based media.

Customer engagement is a technique used to fabricate a connection between an organization and its imminent purchasers so that there is information on the items or administrations offered and steadfastness from past purchasers. Sashi (2012) additionally contends that customer engagement is something beyond mindfulness, purchasing, fulfilling, recalling, and client steadfastness. As indicated by him, customer engagement is a connection among dealers and purchasers that requires responsibility and trust. Where in this specific circumstance, trust implies the presence of fearlessness from one party to be traded for a feeling of trust and respectability. This discusses the purchaser's confidence in the dealer of the help or item being advertised. In view of the statement above, one might say that customer engagement is an enthusiastic relationship that includes the shopper's mental and actual associations with the organization. This requires the two players to take an interest effectively. Where organizations offer items and administrations as well as the other way around customers give criticism and faithfulness.

2.4 Electronic Word Of Mouth

Word of mouth communication is one communication channel that is often used from other channels, because it is considered to be more effective. This kind of communication does not require a large amount of money because consumers who are satisfied with the product are easier to spread to other consumers. According to Hasan, (2014: 32) "WoM is an effort to provide an excuse for people to talk about brands, products and services and to make the conversation easier.

According to Sunyoto (2013: 159), customers will talk to other customers or other people about their experiences using the products they buy. So this ad is a reference from other people, and this reference is made by word of mouth. So seen physically, this advertising activity is very simple, but it is a surefire way to sell products. According to Hasan, (2014: 152) “Word Of Mouth is a form of praise, recommendation, and customer comments about their experience of services or products that really influence customer decisions or their buying behavior. Word of mouth can build customer’s trust.

The Word of Mouth has a major impact on consumer purchasing behavior. Recommendations from trusted friends, associates, and other consumers have the potential to be trusted more than from commercial sources, such as advertisements and salespeople. For the most part, word of mouth occurs naturally, consumers start by talking about a brand that they use to other people (Kotler, & Armstrong, 2012: 139).

2.5 Brand Loyalty

Brand loyalty is defined as a positive attitude of a consumer towards a brand, consumers have a strong desire to repurchase the same brand now and in the future. This strong desire is proven by always buying the same brand. Brand loyalty is closely related to customer satisfaction. The level of customer satisfaction will affect the degree of a person's brand loyalty. The more satisfied a consumer is with a brand, the more loyal consumers will be to that brand. However, it could be that brand loyalty is not caused by customer satisfaction, but because of compulsion and lack of choice (Sumarwan, 2011).

Brand loyalty implements a commitment more than just a repeat purchase. The facts show that attitudes and behavior will produce an image of brand loyalty that will be received (Assael, 1992). According to Dick and Basu (1994) brand loyalty is understood as a concept that emphasizes the sequence of purchases. Brand loyalty can be explained through attitudinal and behavioral approaches as it is understood that brand loyalty is the result of a positive attitude towards an object (brand) which then results in consistent repetitive buying behavior. Loudon and Bitta (1993) stated that brand loyalty is a pattern of repeated buying because there is a commitment to a particular brand. They also define brand loyalty as something that is unpredictable, produces a response to purchasing behavior, can be expressed over time with a decision-making process to buy a product with regard to one or more choices of brands outside the brands that have been used and is a function of the psychological process in the consumer himself.

According to Sutisna (2001) brand loyalty is a happy attitude towards a brand which is presented in a consistent purchase of that brand all the time. Whereas Oliver (1988) argues that brand loyalty is a firmly held commitment to repurchasing or subscribing to products or services that are liked consistently in the future, resulting in repeated purchases of the same brand even though situational influences and marketing efforts have the potential to cause brand switching behavior.

According to (Griffin, 2005; in Mamang, 2014) states "Loyalty is defined as a non random purchase expressed over by some decision making unit". Based on this definition, it can be explained that loyalty refers more to the form of behavior of decision-making units to make continuous purchases of goods or services from a selected company. Consumers who are said to be loyal are consumers who will use the same goods or services many times. According to Schiffman, et al (in Yudianto, 2010) brand loyalty is a form of consumer attitudes and behavior towards a brand, besides that there is also a definition that brand loyalty is the commitment of consumers to repurchase certain brands consistently in the future. Customer loyalty to a product brand will determine the survival of the company.

3. Research Hypothesis

Based on the formulation of the problem that has been stated, the research hypothesis can be formulated as follows:

1. Relationship between Social Media Marketing towards Customer Engagement

   Building customer engagement in business and consumer markets requires adapting the marketing mix to take advantage of new technologies and tools to better understand and serve customers. Social media provides an opportunity to be able to connect with customers using a larger medium because the interactive nature of social media not only allows brands to share information with customers but also allows customers to share information with other customers. Using social media brands can build relationships with existing customers as well as new customers who will form a community, where the community will collaborate interactively to identify and understand problems and develop solutions for them. (Sashi, 2012: 254 - 255)

   Customer Engagement focuses on customers and their needs according to the marketing concept. Through customer engagement the brand aims to provide superior value compared to competitors by generating, disseminating, and responding intelligently to customer needs according to market orientation, and seeking to build trust and commitment in customer relationships as suggested by the relationship. With the nature of social media that is not only interactive but also open where anyone who is interested in interacting can easily contribute and input and share information, brands can use social media as a tool to build customer engagement. So there is a relationship between social media management and customer engagement. (Sashi, 2012:255)

   H1: Social Media Marketing has a positive influence towards Customer Engagement in Dota 2 around Indonesian society.

2. Relationship between Electronic Word of Mouth towards Customer Engagement

   Electronic word of mouth is a step that has a very significant impact in shaping interest in consumer purchasing decisions in the midst of the rise of digital platforms that are increasingly easy to access anytime and anywhere. Selvi and Thomson, (2016) showed a research result that online review, which is a form of E-WOM, has a percentage of 72%. This percentage shows the great influence of E-WOM in the process of buying a consumer against a brand. Meanwhile, brand experience can influence the consumer purchasing decision process (Brakus et al., 2009). Meanwhile, Hans Willems (2011) says customer engagement is a process to involve customers by interacting with them in a dialogue and experience to support their decision to make a purchase. So the experience (brand experience) is the basis in the formation of customer engagement. Customer engagement is very important for companies because in digital marketing, creating an impressive brand is the key to successful customer engagement in the digital world. Likewise with the research of Haekal et al (2016) which states that there is an influence between E-WOM on purchasing

decisions which is also in line with Peter and Olson (2000) who assert that engagement directs consumers when making decisions. According to Vivek et al (2012) customer engagement is an activity that involves consumers in it which is indirectly related to information seeking, alternative evaluation, and decision making involving brand selection. So there is also visual brand communication and E-WOM in the process of forming customer engagement

H2: Electronic Word of Mouth has a positive influence towards Customer Engagement in Dota2 around Indonesian Society.

3. Relationship between Social Media Marketing towards Brand Loyalty

The impact of perceived social media marketing activities on brand loyalty is relatively unknown. Previous research has shown that traditional instruments (TV, radio, magazines, etc.) of marketing communication have a positive impact on constructs such as brand loyalty, brand association and brand awareness (Yoo et al., 2000). Consumers are currently switching from traditional media and increasingly using social media to find information because it is considered a more reliable source (Foux, 2006). An example of one of the many social media that has received a lot of attention is Instagram, where members of the Instagram community can share photos and videos. Sharing photos can be a good way to attract followers' attention and inspire discussion from users to finally generate a sense of brand awareness from consumers. Previous research conducted by Ismail (2016) also stated that Social Media Marketing can increase the awareness value of a brand, companies can provide interesting content on social media to attract consumers' attention that could end up being a loyal customer to the company. Therefore, social media marketing affects Brand Loyalty

H3: Social Media Marketing has a positive influence towards Brand Loyalty Dota 2 around Indonesian society.

4. Relationship between Electronic Word of Mouth towards Brand Loyalty

Higher brand loyalty leads to higher perceived quality and lower brand loyalty leads to a decrease in perceived quality. More positive word of mouth also causes a high perception of quality, and vice versa will lead to a decrease in perceived quality (Herr et al., 1991 in Semuel & Lianto, 2014). Previous research conducted by Jalilvand (2012) with the title "The Effect of Electronic Word of Mouth on Brand Image and Purchase Intention (An empirical study in the automobile industry in Iran)" explains that e-WOM has a positive impact on Brand Loyalty in the automobile industry in Iran. The research conducted by Semuel & Lianto (2014) with the title "The analysis of eWOM, Brand Image, Brand Trust and Mint Buying Smartphone Products in Surabaya also shows that eWOM has a direct effect on Brand Image. Based on the thoughts and concepts above, the researchers formulated the following hypotheses

H4: Electronic Word of Mouth has a positive influence towards Brand Loyalty in the video games industry around Indonesian society.

5. Relationship Between Customer Engagement and Brand Loyalty

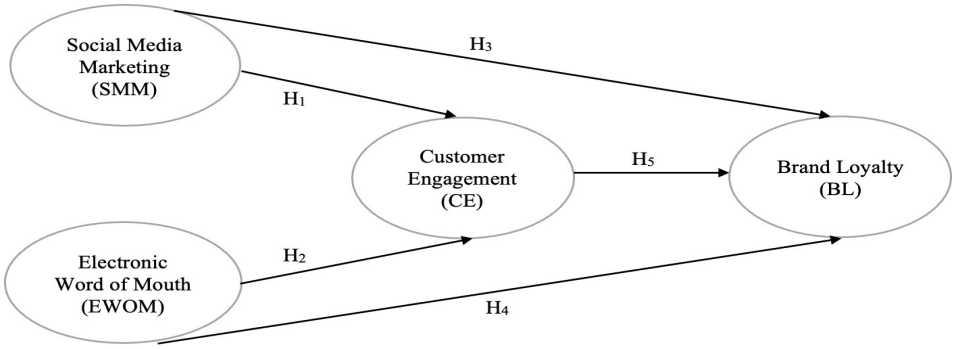
The existence of a mutually beneficial reciprocal relationship in an engagement interaction between customers and the company is able to stimulate mutual trust between the two, the interaction is outside of purchasing activities (So et al., 2014b). Customers feel trust because they believe in the reliability or ability and integrity of the company in providing a good response when interacting (Morgan and Hunt, 1994; Intan, 2012). Thus, customers will feel that the company cares about the interests and needs of customers and has an interest in the hearts of customers (Vivek et al., 2012). So that customers who are more engaged tend to be more trusting, because they have a high quality loyality relationship with the company (So et al., 2014b). This means that high engagement shows the higher the customer's trust in the company in an interaction relationship (So et al., 2014b). Therefore, brand loyalty is a potential consequence of customer engagement activities with the company (Mosavi and Kenarehfard, 2013).

H5: Customer Engagement has a positive influence towards brand loyalty in Dota 2 around Indonesian society.

4. Research Model

The paradigm in this study is to see the influence of social media marketing, Electronic Word Of Mouth on customer engagement, its impact on customer brand loyalty and also the influence of social media marketing towards electronic word of mouth of the video games industry in Indonesian society. In the form of a research paradigm, the frame of mind above is described as follows:

Figure 1
Research Model



5. Research Methodology

The respondents fill out questionnaires. Online searches were carried out using google form and distributed via social media, while interviews were conducted face-to-face with equipment in accordance with applicable health protocols. Furthermore, from the data collected, processing is carried out using the Structural Equation Model (SEM) approach based on Partial Least Square (PLS). PLS is a component or variant based structural equation model (SEM). Structural Equation Model (SEM) is a field of statistical studies that can test a series of relationships that are relatively difficult to measure simultaneously.

In this study the sampling technique uses non-probability sampling because the number of respondents in this study is unknown, and there are certain criteria prefered to be examined in this research. The method used is purposive sampling, in which the researcher uses his own judgment deliberately in selecting members of the population who are considered to be able to provide the necessary information or sample units that match certain criteria desired by the researcher. The sampling criteria are as follows:

a) Respondents use social media.
b) Respondents are DOTA 2 users that play games

Because the number of population is undefined, the researcher is going to use a calculation method from Hair et al. (2017). The minimum of the samples that are needed are five times the amount of the research indicators. In this research, there are 24 indicators, so the minimum sampling size for this research is: 5 x 24 indicators=120 respondents.

6. Results and Discussions

The analysis is carried out by evaluating the measurement results of the outer model and evaluating the structural model (inner model). Measuring the outer model Partial Least Square (PLS) to determine the validity and reliability of indicators measuring latent variables. The criterion for testing the validity of a study refers to the size of the outer loading of each indicator on its latent variable. Researchers used SmartPLS 3.0 to process data on the results of this study where the data collected had gone through a screening so that no questionnaire results were missing the value of filling it outside the predetermined measurement scale.

The respondents based on the age of the respondents are presented in the following table:

Table 1
Respondent's Frequency of Playing DOTA 2

Age Group	Number of Respondents	Percentage
17-20 years old	86	71.67%
21-25 years old	13	10.83%
26-30 years old	11	9.17%
> 30 years old	10	8.33%
Total	120	100%

Source: Researcher's Data (2021)

Table 2
Respondent's Frequency of Playing DOTA 2

Time Range	Number of Respondents	Percentage
Less than 1 hour	34	28.3%
1-3 hours	57	47.5%
More than 3 Hours	29	24.2%
Total	120	100%

Source: Researcher's Data (2021)

6.1. Outer Model Evaluation

External model evaluation is related to the reliability and validity of the model build. Measurement metrics for PLS-SEM generally focus on convergent validity, discriminant validity, and reliability (Hair et al., 2014). The tests carried out on the outer model include:

Table 3
Average Variance Extracted Test Result

Variables	Average Variance Extracted (AVE)	Result
Brand Loyalty	0.746	Valid
Customer Engagement	0.804	Valid
Electronic Word of Mouth	0.572	Valid
Social Media Marketing	0.796	Valid

Source: Researcher's Data (2021)

The measurement will be considered valid if the loading factors are above 0.70 and AVE above 0.50 for each variable (Hair et al., 2014). The results of outer loading are as follows:

Table 4
Outer Loading Test Result

Variables	Indicator	Outer Loading	Result
Brand Loyalty	BL1	0,865	Valid
	BL2	0.791	Valid
	BL3	0,880	Valid
	BL4	0,887	Valid
	BL5	0,890	Valid
Customer Engagement	CE1	0,828	Valid
	CE3	0.910	Valid
	CE4	0.917	Valid
	CE5	0.928	Valid
Electronic Word of Mouth	EWOM1	0.706	Valid
	EWOM2	0.796	Valid
	EWOM3	0.766	Valid
	EWOM4	0.710	Valid
	EWOM6	0.790	Valid
	EWOM7	0.764	Valid
Social Media	SMM1	0.943	Valid

Marketing	SMM2	0.916	Valid
	SMM3	0.813	Valid

Source: Researcher's Data (2021)

Table 5
Fornell Larcker Criterion

	Brand Loyalty	Customer Engagement	Electronic Word of Mouth	Social Media Marketing
Brand Loyalty	**0.864**			
Customer Engagement	0.799	**0.897**		
Electronic Word of Mouth	0.017	0.199	**0.756**	
Social Media Marketing	0.041	0.172	0.693	**0.892**

Source: Researcher's Data (2021)

The outer model is not only measured by assessing the convergent validity and discriminant validity, but also by looking at the construct reliability or latent variables measured by looking at the composite reliability value of the indicator block measuringthe construct. The PLS output results for the composite reliability values can be seen in the following table:

Table 6
Composite Reliability Test Result

Variables	Composite Reliability	Result
Brand Loyalty	0.936	Reliable
Customer Engagement	0.942	Reliable
Electronic Word of Mouth	0.889	Reliable
Social Media Marketing	0.921	Reliable

Source: Researcher's Data (2021)

The table 6 shows the composite reliability value for all constructs is above the value of 0.70. Thus it can be concluded that all constructs have good reliability in accordance with the required minimum value limits.

The outer model is not only measured by assessing convergent validity and discriminant validity but also by looking at the construct reliability or latent variables measured by looking at the Cronbach alpha value of the indicator block measuring the construct. The construct is declared reliable if the Cronbach alpha value is greater than 0.60. Table 7 shows that the Cronbach alpha value for all constructs is above 0.60. Thus it can be concluded that all constructs have good reliability inaccordance with the required drinking value limits.

Table 7
Cronbach's Alpha Test Result

Variables	Cronbach's Alpha	Result
Brand Loyalty	0.914	Reliable
Customer Engagement	0.918	Reliable
Electronic Word of Mouth	0.855	Reliable
Social Media Marketing	0.889	Reliable

Source: Researcher's Data (2021)

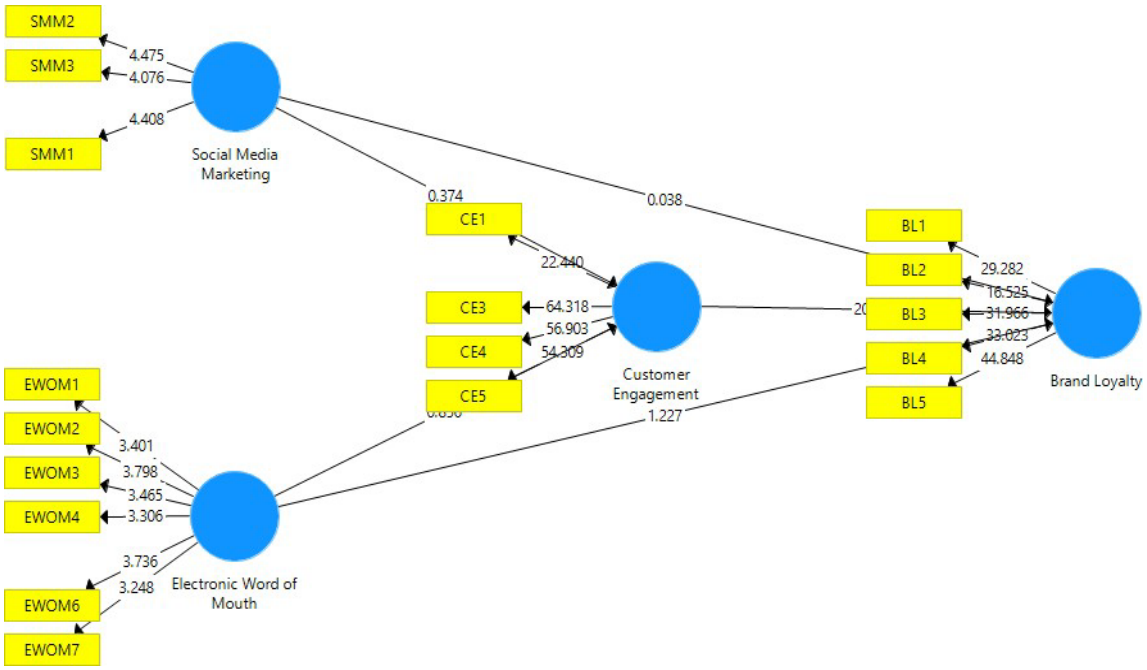
6.2. Inner Model Analysis

According to Wong, Ken. (2013), the inner model specifies the relationships between the variables, and it's also known as a structural model. This inner model can show researchers about the directions of the relationships of the variable, be it positive, negative which is called directional hypothesis, or no direction at all, called non-directional hypothesis (Sekaran and Bougie, 2016).

In this research, the figure 2. represents the relationship between each variable and shows the final result of

the hypothesis testing in the actual test after modification.

Figure 2
Inner Model Test Result



Source: Processed Data (2021)

The value of R2 shows the level of determination of the exogenous variable on its endogenous. When R2 value is greater, indicating the level of determination is getting better.

Table 8
R-Squared Table

	R-Squared Adjusted Value
Brand Loyalty	0.651
Customer Engagement	0.025

Source: Researcher's Data (2021)

R-squared are usually used to measure the predictive accuracy of each change in the independent variable towards the dependent variables, with the value of this R-squared being 0.75, 0.50, and 0.25, with them being substantial, moderate, and weak respectively in terms of their predictive accuracy. The results of R2 calculations for eachendogenous latent variable in Table 4.18 show that the R2 value for brand loyalty is 0.651 which can be concluded as quite strong and R-Squared value for customerengagement is 0.025 which is weak, but it could still cover the representation of the mean change of the predictor.

6.3 Hypothesis Testing Result

In PLS, testing of each relationship is carried out using a simulation with the bootstrapping method of the sample. This test aims to minimize the problem of research data abnormality. Based on the results of the bootstrapping, it can be summarized in the table 9 below. As for testing the hypothesis, it can be done by looking at the t-statistical value and the probability value. To test the hypothesis using statistical values, for alpha 5% the t-statistic value used is 1.96. So that the criteria for acceptance of the hypothesis are when either P-Value is <0.05 and when the t-statistic is > 1.96. The test results with the bootstrapping method from the SEM PLS analysis are as follows:

Table 9
Hypothesis Testing Result

Hypothesis	Regression	Path Coefficient	T-Value	P-Value	Status

H_1	Social Media Marketing → Customer Engagement	0.065	0,359	0,347	Rejected
H_2	Electronic-Word of Mouth → Customer Engagement	0.154	0,842	0,177	Rejected
H_3	Social Media Marketing → Brand Loyalty	0.003	0,038	0,484	Rejected
H_4	Electronic – Word of Mouth → Brand Loyalty	-0.150	1,281	0,104	Rejected
H_5	Customer Engagement → Brand Loyalty	0.7031	18,673	0,000	Accepted

Source: Researcher's Processed Data (2021)

7. Discussions

Based on the results of the analysis presented in Table 9, it shows that the p-value is 0.347 > 0.05, which means that H1 is rejected. This means that Social Media Marketing does not have a positive effect on Customer Engagement in Dota 2 in Indonesian society. This shows that social media as a marketing strategy tool cannot create a strong relationship with consumers which will have an impact on consumer loyalty to the brand, this is because consumer loyalty can not only be formed because satisfaction while browsing their websites.

Based on the result of the analysis presented in the table 9, it shows that the p-value is 0.484 > 0.05, which means H2 is rejected. This means that E-WOM does not have a positive effect on Customer Engagement in Dota 2 in Indonesian society. This is because sometimes the opinions found on social media are not always the same as the reality and the comments are also varied so that sometimes it makes consumers confused to believe in good or bad comments, so that the presence of electronic word of mouth may not necessarily influence consumers. This research is supported by research by Torlak, et.al (2014) which reveals that E-WOM does not have a positive effect on purchase intention and research by Kala and Chaubey (2018) which states that E-WOM has no significant effect on purchase intention. which then has no effect on Customer Engagement. When someone uses the internet to find information about a product through social media and finds positive or negative opinions from other people about the product or brand that is being considered for purchase, it can be said as Electronic word of mouth. E-WOM is a transformation from traditional word of mouth where electronic word of mouth is more effective because it is easily accessible and has a very wide reach. The results of this study indicate that E-WOM will not affect Customer Engagement.

Based on the results of the analysis presented in the table above, it shows that the p-value is 0.484 > 0.05, which means H3 is rejected. This shows that in Indonesian switching from conventional media and increasingly turning to social media to get loyalty, because consumer loyalty cannot be measured by the company's social media marketing. This is supported by research by Radhitama (2018) which finds that social media marketing does not have a direct impact on brand loyalty on Instagram accounts.

Based on the results of the analysis presented in the table, it shows that the p-value is 0.104 > 0.05, which means H4 is rejected. This shows that in the video game sector in Indonesian society, electronic word of mouth has little effect on brand loyalty. The reason for the rejection of the results of this study is because there are still many consumers who do not believe the reviews on social media. This study supports the findings of Mehyar et al. (2020), who found that eWOM trust had no impact on purchase intention. Furthermore, these findings are novel in the eWOM literature and could be tested in the future by other researchers. As a result, individuals can benefit from online reviews/comments via eWOM as it can enhance their impressions and further justify their purchase intentions. Next, reviews/comments that are understandable, useful, and persuasive (as an indicator of quality).

Based on the results of the analysis presented in the table, it shows that the p-value is 0.000 < 0.05, which means that H5 is accepted. This means that Customer Engagement has a positive influence towards brand loyalty in Dota 2 around Indonesian society. Customers trust a firm because they believe in its capacity and integrity to provide a favorable answer when engaging with it (Intan, 2012). Customers will believe that the firm is concerned about their interests and requirements, and that it is interested in their hearts. Because they have a high-quality loyalty relationship with the brand, consumers who are more engaged tend to be more trustworthy (So et al., 2014).

8. Research Conclusion

Based on the things that are written above regarding the results of the analysis and discussion, the writer will draw conclusions from the results of the research or writing of this thesis. The conclusions from the results of this study are as follows:

1. The social media marketing variable has no positive influence on the customer engagement variable with a p-value of 0.347> 0.05. This means that H1 is rejected
2. The electronic word of mouth variable does not have a positive influence on customer engagement with a p-value of 0.177 <0.05. This means that H2 is rejected.
3. The social media marketing variable has no positive influence on the brand loyalty variable with a p-value of 0.484 <0.05. This means that H3 is rejected
4. The electronic word of mouth variable does not have a positive influence on the brand loyalty variable with a p-value of 0.104> 0.05. This means that H4 is rejected.
5. The customer engagement variable has a positive influence on the brand loyalty variable with a p-value of 0.000> 0.05. This means that H5 is accepted.

Advice for the Future Research

From the conclusion of the research results as described above. Some of the efforts that need to be made includes the following:

1. The results of the study show that customer engagement plays an important role in building brand loyalty with customers. Judging from this research, the customer engagement has a positive influence on brand loyalty through customer engagement, therefore to increase customer loyalty to brands, developing customer engagement needs to be enforced in order for increasing performance. Future researchers might want to focus more on why social media marketing does not always trigger customer engagement, because in the previous journal which this research is being replicated from, these variables should be interconnecting and have impact.
2. Increase the sample size of the research as there are only 120 total sample in this research. A greater number of samples would most likely generate more accurate results of the research.
3. Use different types of games, but still in the MOBA types games industry for future research.
4. Addressing different types of approaches towards the same research problem, in this case it is the downfall of DOTA 2 in the fast growing gaming industry.
5. Emerge on new theories and facts about the gaming world as in the future there will be more better scholarly journals available for the research.

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Family Firm Innovation: A Bibliometric Analysis

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Abstract. This study aims to identify the emerging themes in the family firm innovation (FFI) through retrospection of FFI research and propose the way forward for the FFI domain. Based on 666 journal articles indexed in the Scopus database till 10 July 2022, we performed the performance and intellectual structure analysis using VOSviewer and Bibliometrix-R. This study sheds light on the main themes through thematic mapping. A possible future research avenue to advance FFI knowledge is proposed. We expect our findings to open up many more opportunities for FFI to stay competitive and sustain post-COVID-19 pandemic recovery. We believe this study represents the first few complementary bibliometric reviews on FFI, including the publications since the COVID-19 pandemic. Thus, this study contributes to redirecting the FFI research post-COVID-19 pandemic.

Keywords: Family Firm Innovation; COVID-19; Bibliometric Analysis

1. Introduction

Family firm (FF) contributes significantly to the socio-economic globally (PwC, 2021). Traditional influential in the United States of America and Germany, FF has started gaining its foothold in the Asia Pacific, including Australia, Malaysia, and Indonesia, supported by the new entrants of FF entrepreneurs (Family Capital, 2022). While scholars continuously debated the definition, this study described FF as an organisation in which multiple family members are owners or managers, either contemporaneously or over time, spanning different generations (Miller et al., 2007).

Despite extant studies on FF, scholars (Aparicio et al., 2019, De Massis et al., 2022) highlighted family firm innovation (FFI) as an essential research agenda because innovation is a means to stay relevant and competitive (De Massis et al., 2022). It is noteworthy that FF remains the backbone of the economy and is expected to recover post-COVID-19 pandemic (KPMG, 2021), making innovations even more prevalent.

FFI refers to the intentional generation or introduction of novel processes or products resulting from family firm members' autonomous and interactive efforts (Padilla-Meléndez et al., 2015). FFI encompasses service, process, organisational, or business model innovation, can be continuous/discontinuous, incremental/radical, sustaining/disruptive, and flexible/inflexible (De Massis et al., 2016). FF entrepreneurs remain mixed in pursuing innovations and possibly risk losing control and emotional endowment (Casado-Belmonte et al., 2021).

Thus far, FFI research offers mixed findings (Chrisman et al., 2015; De Massis et al., 2022; Lorenzo et al., 2019), fragmented and multidisciplinary, resulting in vague directions ahead, indicates a need for consolidated review to better position the knowledge contribution and justify future research's novelty. We argue that the existing FFI reviews (e.g., Aparicio et al., 2019; Casado-Belmonte et al., 2021; Padilla-Meléndez et al., 2015) are limited to a modest review sample or less methodology rigorous, thus motivates the development of our present study (Lim et al., 2022).

Specifically, this study undertakes a bibliometric approach to review the literature in the FFI domain. A bibliometric review is a quantitative and statistical measure that can handle a large data set with mitigated bias risk (Mukherjee et al., 2022). This study aims to address: 1) the publication and citation trends of FFI, 2) the top contributing authors, countries, and journals, and 3) the major themes and topics in the intellectual structure of FFI to propose the way forward. More importantly, this study includes publications after the COVID-19 pandemic, which can provide a new reflection of FFI to understand innovation-related development (Wang et al., 2022).

This review will provide an overview of the performance and intellectual structure of FFI research and propose ways to advance FFI research. In terms of practical contributions, this present bibliometric study offers

an objective assessment of research productivity and its impact for equitable decision-making (Mukherjee et al., 2022).

2. Methodology

Our data collection and analysis are guided by the considerations in existing rigorous review protocols (Lim et al., 2021): the Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4-SLR) (Paul et al., 2021) and PRISMA (Moher et al., 2015). We obtained the bibliometric data from the Scopus database, which offers a broader range of high-quality journals. (Kumar et al., 2022). By limiting the search to the article title, abstract, and keywords, we employed the following search string: ("family business*" OR "family firm*" OR "family enterprise" OR "family own*" OR "family control*" OR "family entrepreneur*") AND ("innovat*")). This review includes "English" (language) "final" (publication stage) "articles" (document type) published in "journals" (source type) in "business, management, and accounting"; "economics, econometrics, and finance" and "social sciences" (subject area). A total of 666 publications were returned as of 10 July 2022.

This study conducted two sets of analysis: performance analysis (by using Microsoft Excel and Bibliometrix-R) and science mapping (using Bibliometrix-R and VOSviewer). The performance analysis is akin to demographic data in empirical studies. Following Kumar et al. (2022) and Lim et al. (2021), this study analysed the publication (productivity) and citation (impact) trend of FFI, as well as the most productive (publication) and impactful (citation) contributors in terms of authors, countries, and journals. In science mapping, which presents the intellectual structure of FFI (Donthu et al., 2021), this study performed a thematic mapping using a strategic diagram to propose the way forward themes and topics in FBI. The results of the bibliometric analysis are presented in the next section.

3. Results

3.1 Performance analysis

Publication and citation trends. Our analysis showed that before the year 2008, there were only five FFI articles published annually, with some years did not produce any articles (e.g., 1988, 1989, 1991 to 1993, 1995, and 2002). FFI publications started growing in 2008 and peaked in 2020 (n: 97). In terms of citations, up to 2004, FFI publications had relatively low citations (n: 7 to 231), possibly due to the low number of publications. The FBI domain emerged as active in 2005 to exceed 1000 citations in 2010, reaching its peak in 2015 (n: 2,355). The growing publication and citation trends suggest that the FFI domain was gaining attention in 2000.

Top contributing authors. Of the 1,242 contributing authors, De Massis, Kraus, Kotlar, Kammerlander, and Frattini topped the list as the most productive FFI authors based on the number of publications (Donthu et al., 2021). These authors mostly started publishing in 2013-2014, with Kraus in 2010. De Massis, Frattini, Nordqvist, Chrisman, and Kellermanns made up the top ten percent of most impactful authors with the highest citations (Donthu et al., 2021). De Massis emerges as the most productive and impactful author (26 articles, 2,220 citations), focusing on product innovations (De Massis et al., 2015) and the influences of family involvement on innovation management (Chrisman et al., 2015).

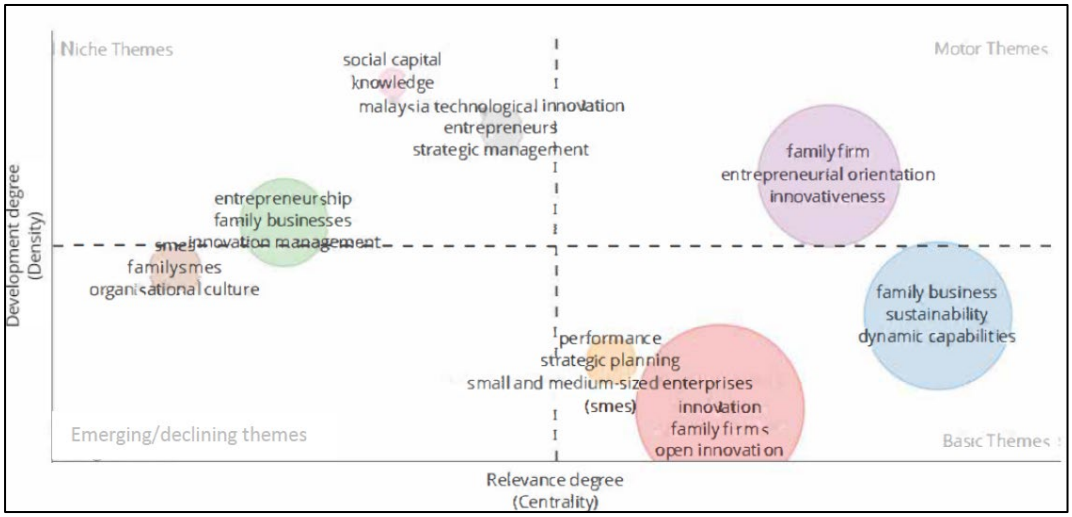
Top contributing countries. Of the 63 contributing countries, Italy (n: 246), the United States (n: 213), Spain (n: 200), China, and the United Kingdom contributed 50 percent of the total articles in the FFI corpus. Regarding citations, the United States (n: 4,500), Italy, the United Kingdom, China, and Sweden topped the list, contributing 60 percent of total citations. The United States was supported by several prominent scholars, such as Zahra in Zahra (2005) and Wiklund in Naldi et al. (2007). From the analysis, only China from the Asia Pacific countries produced at least 100 articles, with an average citation of 9.20 per article, suggesting more studies in the Asia Pacific context because of the FF growing prominence (Family Capital, 2022).

Top contributing journals. Of the 272 journals in the review corpus, the top five journals contributed 18 percent of total publications, led by the Journal of Family Business Strategy (n: 32), Journal of Family Business Management (n: 26), and Family Business Review (n: 26). In terms of citations, the top five journals contributed 37 percent of total citations, led by Family Business Review (3,000 citations), Journal of Product Innovation Management (1,148 citations) and Journal of Family Business Strategy (1,147 citations). It is observed that journals that appeared less productive were capable of producing high-impact articles, thus motivating high-impact FFI research.

3.2 Intellectual structure

This study investigates the intellectual structure of FFI using a thematic diagram. Using author keywords as inputs, we generated a strategic diagram with a graphical representation of the impact (influence) and centrality (importance) using Bibliometrix-R. The thematic diagram (Figure 1) clustered the key themes in FFI into four quadrants: motor themes, basic themes. niche themes, and emerging/declining themes. It serves as a guide to propose the ways forward for FFI research.

Figure 1
Thematic diagram of FFI research



Motor themes (upper-right quadrant). Keywords include family firm, entrepreneurial orientation, and innovativeness, representing high centrality and high-impact topics as mainstream foundational insights guiding FFI research over the period. Several scholars examined entrepreneurial orientation to innovate for competitive advantage. For instance, Zahra (2005) proposed that family ownership and involvement promote entrepreneurship, including risk-taking for innovations, but long-tenure founders have the opposite effect. Cruz and Nordqvist (2012) evident that the founder's influence on entrepreneurial orientation is vital in the first generation and weaker moving down the generations. We recommend that future FFI studies build on the foundation of innovativeness through entrepreneurial orientation. Given the heterogeneous family business, future studies may investigate from different angles to generate fresh ideas, such as individual-firm-nation level comparisons and across various innovations.

Basic themes (bottom-right quadrant). Keywords include "performance, strategic planning and small and medium-sized enterprises (SMEs)," "innovation, family firms, and open innovation," together with "family business, sustainability, and dynamic capabilities," are central to dynamic capabilities through open innovation. These keywords represent high centrality but low-impact topics, suggesting that the topics are relatively under-explored. Indeed, scholars (e.g., Casado-Belmonte et al., 2021) propose more literature on open innovation, which remains under-explored, to facilitate FF in resolving the paradox of carrying out distinct aspects of the innovation. We recommend future studies may dwell on the dimensions of dynamic capabilities of the different types of open innovations, including digital, green, and environmental-related innovations.

Niche themes (upper-left quadrant). Keywords include "entrepreneurship, family businesses, and innovation management," "technological innovation, entrepreneurs, and strategic management," as well as "social capital, knowledge, and Malaysia." These keywords represent low centrality but high impact topics, implying highly developed topics yet low impact in the FFI domain. We recommend that future studies consider diving into topics relevant to these keywords to complement the mainstream themes to provide more niche insights on FFI. Indeed, the prolonged COVID-19 pandemic has called for business model innovations and technological innovations through digitalisation and internationalisation (Leppäaho and Ritala, 2022).

Emerging/declining themes (lower-left quadrant). Keywords include SMEs, family SMEs, and organisational culture. These keywords represent low centrality and low impact, indicating future research opportunities to increase the depth and breadth of the FFI domain. Indeed, scholars have called for more examinations of the

influence of organisational culture (e.g., Alos-Simo et al., 2017) in the digital age. We hope this quadrant offers novel ideas for future studies to take FFI further.

4. Conclusion

This study offers several key takeaways. Firstly, our study complements existing work (e.g., Aparicio et al., 2019; Casado-Belmonte et al., 2021; Padilla-Meléndez et al., 2015) by using up-to-date bibliometric data and more scholarly-rigorous coverage by presenting up-to-date quantitative publication and citation trends for FFI. Our study consolidated the final English academic journal articles in most of the disciplines indexed in Scopus to provide a more comprehensive bird's eye view of the FFI domain, which is fragmented. More importantly, we offer a refreshed analysis covering the publications after the COVID-19 pandemic, which we argue are more relevant given that the COVID-19 pandemic has created a unique situation that urges FFI to innovate in making a recovery post-COVID-19 pandemic. We hope our study motivates future studies to continue reviewing large research domains hovering over FFI to extend insights beyond that of our study.

Second, this study highlights the contributions of FFI research constituents (namely, the productivity and influence of authors, countries, and journals). An interesting yet motivating key finding from the productivity-impact analysis suggests that besides the number of publications, authors could contribute to shaping FFI literature through high-impact multidisciplinary journals. Further, with the social-economic dominance of FF worldwide, scholars from all over the world are encouraged to participate in the FFI research journey to enrich the international contents of FFI research.

Lastly, this study unveils the main themes in the intellectual structure of FFI through the thematic diagram. We hope that clustering the motor, basic, niche, and emerging/declining themes offers a starting point regarding keywords' centrality and impact to guide future FFI research into various FFI topics. The motor themes, such as entrepreneurial orientation to innovate, serve as the fundamental foundational insights driving FFI research over time. Perhaps, this intellectual structure could help future FFI studies better position the study's novelty against the past and attempt to bridge the knowledge gaps in advancing the field, such as missing/under-explored topics and missing links between topics.

4.1 Real-world implications

This study offers up-to-date insights to FF entrepreneurs who wish to understand the permissible innovation areas to stay competitive in the uncertain business climate, which remains relevant in the COVID-19 pandemic aftermath. Firstly, FF could consider accelerating open innovation to improve FF performance and sustain long-term. Perhaps FF can explore open innovations relating to technological, green, and even disruptive through external collaborations in facilitating internationalisation beyond the home country to establish a stronger foothold.

Besides this, our findings suggest that FF leadership can consider nurturing organisational culture that effectively guides the organisational beliefs and values of the FFI they are pursuing. Specifically, scholars found that innovative culture that inspires risky behaviour and creativity (Mohelska and Sokolova, 2018) can enhance innovative behaviour and stimulate innovation. We anticipate that the right culture is crucial to keep up the entrepreneurial-oriented mindset to innovate**.**

4.2 Study limitations

This study remains limited in several ways. Firstly, this study collected bibliometric data from only the Scopus database. Although we argue that Scopus offers broader coverage, using a single database may not have covered other sources, which could vary our findings. Future studies can consider different or multiple databases to validate our results.

Secondly, this bibliometric analysis inherently outlines a bird's eye view of the FFI through the performance analysis and intellectual structure of the extensive FFI articles in the review corpus. Future studies can consider deep diving into the specific intellectual structure to uncover advanced pertinent theories, constructs, characteristics, contexts, and methods for FFI knowledge development.

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Encouraging Innovation Capability through Entrepreneurship Orientation: The Role of Absorptive Capacity and Improvisation as Mediation

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Abstract. Uncertainty arises as a result of changing environmental conditions, and the company must be able to adapt to these changes by encouraging innovation. Innovation capability is required in order to encourage innovation, because innovation capability is a company's ability to innovate. Several previous studies examined the role of entrepreneurial orientation, absorptive capacity, and improvisation on innovation capability; however, in previous studies, entrepreneurial orientation was tested at the organizational level with the dimensions of risk taking, proactiveness, and innovativeness, whereas in this study, we attempted to examine entrepreneurial orientation at the individual level by adding passion and perseverance as a dimension. The context of this research is also carried out in one of the companies, which is a State-Owned Enterprise (SOEs), where several studies have views on the low innovation capability of SOEs. In this study, we attempt to investigate empirically the effect of individual entrepreneurial orientation on innovation capability in the business unit at PT Kawasan Berikat Nusantara (Persero), a state-owned enterprise engaged in industrial estate services. The study's findings show that an individual entrepreneurial orientation, as mediated by absorptive and improvisational abilities, can influence innovation capability. This research is expected to benefit the company by maximizing its absorptive capacity and improvisation ability, as well as paying attention to the entrepreneurial orientation of the individual in the company.

Keyword: Individual entrepreneurial orientation; Absorptive capacity; Improvisation; Innovation capability; SOEs

1. Introduction

Organizations today are frequently confronted with formidable challenges. Demographic changes, financial reforms, market changes, technology, and consumer behaviour all have an impact on efficiency, productivity, and industrial structure. Coupled with the existence of a dynamic business environment that can create uncertainty in the organization, companies are required to pay attention to innovation (Wang et al., 2019).

Innovation is frequently associated with the use of high-quality technology and resources, as well as relying on disparate knowledge. Several studies have found that innovation in the service sector differs from innovation in the manufacturing sector (Drejer, 2004). Typically, innovation in the service sector is more concerned with providing new products or services to other individuals or businesses, as well as reconfiguring and improving existing services (Miles, 2008). If a company has ability to innovate, it can innovate (Rahapathirana & Hui, 2018)

According to Wang et al (2019), innovation capability can encourage innovation in companies. Innovation capability also shows that it will help companies cope with very complex environmental changes in the company. Meanwhile, Lawson and Samson (2001) define innovation capability as the ability to transform knowledge and ideas on an ongoing basis in order to generate corporate profits.

According to Zhang and Merchant (2020), innovation capability is the ability to create better or more effective products, processes, and services. Many researchers have studied innovation capabilities, but they

typically do so in the context of SMEs (Zhang & Merchant, 2020; Saunila, 2020). (Wang et al., 2019; Yusheng & Ibrahim, 2020). So, in this study, we will look at innovation capabilities in various contexts, specifically at PT Kawasan Berikat Nusantara (Persero), a state-owned enterprise.

According to Chang et al (2019), SOEs frequently face the problem of innovation capability. There are studies that show that there is a lack of innovation in SOEs because managers tend to prioritize their personal interests over the interests of the organization (Tan, 2001; Zhang & Li, 2010 in Chang et al, 2019). Furthermore, many assumptions hold that SOEs' innovation capability is lower than that of private companies because SOEs do not dare to take risks in competing (Belloc, 2014). Belloc's (2014) research also explains several issues that arise in relation to BUMN's innovation activities, one of which is the role of human resources in encouraging innovation.

In 2020, PT KBN (Persero) had to revise its 2020 RKAP due to the Covid-19 pandemic, which resulted in a 38.0% decrease in revenue and an 87.2% decrease in profit (Report Annual PT KBN (Persero), 2020). Furthermore, property tenants' interest in PT KBN (Persero) has decreased, forcing PT KBN (Persero) to strive to create innovations in both products and services. Based on this, the company will continue to innovate in order to improve the company's performance.

Several researchers see the role of entrepreneurial orientation in solving problems related to innovation capability (Mantok et al 2019; Chang et al., 2019; Ferreira & Coelho, 2020; Makhloufi et al 2021). Entrepreneurial orientation is a corporate construct used to proactively capture and exploit existing opportunities (Makhloufi et al., 2021). However, the research conducted by Covin et al (2020) provides a view of entrepreneurial orientation at a different level, namely the individual level.

Covin et al. (2020) demonstrated in his study that entrepreneurial orientation at the individual level influences company performance, whereas other studies show that entrepreneurial orientation at the individual level influences innovation (Gupta et al., 2016; Kraus et al., 2019; Ritala et al., 2016). As a result, the purpose of this study is to examine how human resources, with their entrepreneurial orientation, can foster innovation capabilities in SOEs.

Furthermore, there is a knowledge management process that can configure the organization's resources because innovation in the organization must be based on knowledge, and knowledge in the organization comes from both internal and external sources. Organizations foster innovation capabilities by relying on external knowledge sources, which involve absorptive capacity in the process of absorbing these external knowledge sources. Several empirical studies have found that absorptive capacity can promote innovation capability (Aliasgar et al., 2019; Stelmaszczyk, 2020; Zhang & Merchant., 2020).

Companies that encourage their employees to act proactively in seeking opportunities, on the other hand, will require the role of the organization's absorptive capacity to acquire, assimilate, transform, and exploit knowledge in order to easily identify and capture these opportunities (Kohtamaki, 2020). As a result, this study employs the concept of absorptive capacity as a mediator of entrepreneurial orientation in individuals with innovation abilities.

However, encouraging innovation capability requires more than just absorbing knowledge resources; it also requires improvisation. Companies are expected to be able to face all conditions and changes in the business environment in order to improve their innovation capabilities through improvisation. Because improvisation is considered a dynamic ability to reconfigure existing resources creatively, efficiently, effectively, and spontaneously, it is also important in organizational innovation (Zhang and Merchant, 2020).

2. Literature Review & Conceptual Development

2.1 Individual Entrepreneurial Orientation in the Direction of Innovation Capability

Entrepreneurial orientation is regarded as a necessary organizational resource for enhancing an organization's competitive advantage through innovation (Ireland, Hitt, & Simon, 2003). Proactive individuals are more active in seeking opportunities and responding to market demands and customer needs. Proactive attitudes encourage businesses to be proactive in responding to market demands and customer needs by developing new products, processes, or technologies (Makhloufi et al., 2021).

Meanwhile, risk taking is thought to be able to encourage a company's ability to produce new products and processes (Cheng et al., 2013), as well as encourage companies to explore the resources required to meet market demands and customer needs (Zhou and Tse, 2005). As a result of the innovative element, innovative individuals

will tend to seek new ideas, learn something new, and adopt innovations in order to encourage innovation outcomes (Verhees, 2004), which strongly explains why the innovative element has a strong relationship with innovation capability (Baker and Sinkula, 2009; Ferreira et al., 2020).

According to the research of Ataullah et al (2020), passion for entrepreneurial orientation has a positive relationship with innovation. Passion can increase individual confidence to achieve success in innovation. Similarly, to perseverance, individuals' persistence will encourage them to constantly learn new things, which will have an impact on the company's innovation capabilities (Arranz et al., 2019). Furthermore, several researchers (Alegre & Chiva, 2013; Otero-Neira et al., 2013) believe that individual entrepreneurial behavior can influence product, process, and management innovation activities.

Furthermore, Rebelo et al. (2021) found that there are cognitive factors that influence the formation of entrepreneurial orientation at the individual level involved in creating innovation. According to him, the entrepreneurial mindset is ingrained at the individual level because many small and medium-sized businesses are led by single owners, which means that decisions and planning are made by individuals. Then, according to the literature, individual behaviour can influence willingness to engage in innovative behaviour, thereby influencing the company's innovation capability (Calantone et al., 2002; Santos et al., 2020).

H1: Individual Entrepreneurial Orientation has a direct positive impact on Innovation Capability.

2.2 Individual Entrepreneurial Attitude toward Absorptive Capacity

The ability to recognize the value of new information and then assimilate and apply it is defined as absorptive capacity (Cohen and Levinthal, 1990), whereas entrepreneurial orientation refers to strategic decision-making practices, management philosophy, and corporate behavior (Covin and Slevin, 1991). According to Wales et al (2011), absorbtive capacity modifies the relationship between entrepreneurial orientation and firm performance.

According to Lisboa et al (2011), one aspect of entrepreneurial orientation, risk taking, will help businesses control and utilize unknown external sources of knowledge. Furthermore, proactive companies will tend to focus on developing new competencies rather than maintaining the existing status quo, requiring companies to seek and exploit existing knowledge outside the company (Cui et al., 2018), whereas if it is linked at the individual level, someone who is proactive can help companies anticipate current and future market needs, encouraging information seeking outside the company (Cui et al., 2018). (Sancho-Zamora et al., 2021).

According to Ye et al (2021), someone with a passion for innovation will have a positive impact on the company's absorptive capacity, where someone with passion will tend to increase their dedication and commitment to achieving business excellence, they will also tend to show their persistence towards the pursuit of goals, including obtaining all sources of knowledge that can support them to achieve excellence.

Hughes et al (2018) discovered that absorptive capacity can mediate the relationship between entrepreneurial orientation and company performance, whereas Aljanabi (2017) empirically tested the relationship between entrepreneurial orientation and technological innovation capability mediated by absorptive capacity, finding that entrepreneurial orientation will affect utilization knowledge that is absorbed to determine attitudes, anticipate threats, and obtain opportunities. Along with an increase in entrepreneurial orientation, there will be an increase in the desire to acquire relevant knowledge (Al Hakimi et al., 2021).

H2: The impact of Entrepreneurial Orientation on Absorptive Capacity.

2.3 Individual Entrepreneurial Orientation to Improvisation

Tajeddini and Trueman (2016) empirical study in the context of SOEs in Iran explains that the innovativeness in entrepreneurial orientation activities can help companies survive in the face of competition and dynamic business environment conditions, demonstrating that the more innovative individuals in the organization are, the more innovative they are. Companies can easily anticipate and manage changing environmental conditions. Furthermore, entrepreneurial orientation will encourage organizations to compete more aggressively and riskily, necessitating the ability of organizations to deal with complex, rapidly changing, and unpredictable situations more frequently (Real et al., 2014).

Hughes et al (2018) concludes that improvisation is a learning mode in which improvisation can mediate entrepreneurial orientation to achieve company performance, even though the research findings show that there is no significant relationship between improvisation as a mediator between entrepreneurial orientation and

company performance, but improvisation acts as a moderator between entrepreneurial orientation and company performance in Malaysian SMEs.
H3: The impact Individual Entrepreneurship Orientation on Improvisation.

2.4 Absorptive Capability to Innovation Capability

Several previous studies have found that absorptive capacity is a type of learning that can promote innovation (Cohen and Levinthal, 1990; Tsai, 2001; Aljanabi, 2017). Meanwhile, Lewin et al (2011) indicates that absorptive capacity which was previously seen as a factor that mediates or moderates innovation, recently evolved as a variable that has a direct effect on innovation.

This is also supported by research by Al Hakimi et al. (2020), which explains that absorptive capacity has a positive and significant influence on innovation, in line with previous research by Zahra and George (2002), where the results of research by Al Hakimi et al. (2020) imply that firms with high absorptive capacity have a better chance of successfully leveraging new knowledge to adopt or introduce more innovations.

Furthermore, Stelmaszczyk's (2020) research explains how the role of absorptive capacity in activating innovation capabilities is that organizations that increase their ability to acquire and increase external knowledge will make it easier for companies to innovate. Furthermore, the empirical study conducted by Makhloufi et al (2021) in the context of companies in Algeria explains that absorptive capacity is highly dependent on innovation activity, where this can bridge external resources with internal resources, so the research results support that absorptive capacity is a dynamic capability and essential to support the company's innovation capabilities.
H4: Absorptive Capacity influences Innovation Capability positively.

2.5 Innovation Capability Improvement

Given its dynamic movement, the business environment is one of the most widely discussed topics. Crossan et al (1996) conducted a study on improvisation, claiming that it is a managerial technique required to deal with environmental conditions that are difficult to predict due to their movement. According to Crossan et al. (2005), improvisation is also a time-related incident. According to empirical research conducted by Bingham (2009), companies that implement entrepreneurship have improvisational abilities that can promote growth in company performance.

Meanwhile, Vera and Crossan (2005) discovered that improvisation has a positive effect on innovation because it is a learning mode that can improve organizational members' ability to innovate. According to Pavlou and El Sawy (2010), improvisation skills are required to achieve technological innovation in turbulent business environments. Smith and Blundel (2014) conducted an exploratory study that revealed that improvisation is also essential for innovation.

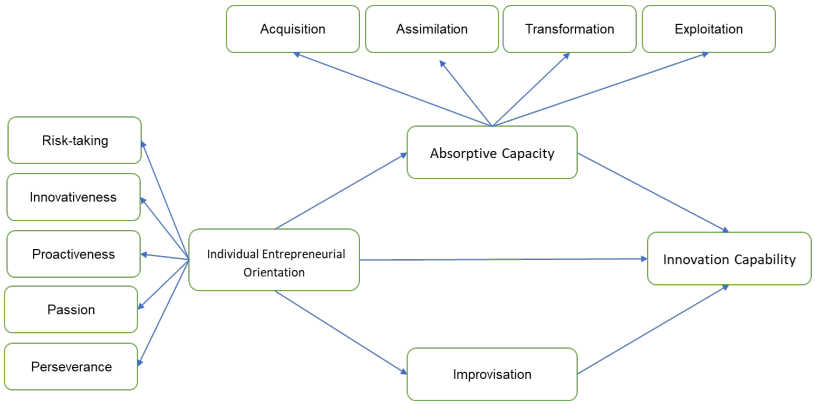
According to Zbierowska and Zbirowski's (2021) research, improvisation is a demand from an innovative process with an entrepreneurial orientation. According to Zenk et al. (2022), the ability to improvise is a response to uncertainty, adaptation to change, creation of new ideas, and experimentation with new ideas that promote the organization's ability to innovate.
H5: Improvisation influences Innovation Capability positively.

3. Research Method

This study was conducted at one of the state-owned enterprises (SOEs), namely PT KBN (Persero), because PT KBN (Persero) is one of the SOEs that is struggling to survive in the face of dynamic environmental conditions and changes in market orientation that have reduced interest in warehousing property rentals, land, factories, and so on. The quantitative research method used in this study was questionnaire distribution to the target respondents.

The research sample is determined by the number of representative samples for the method used in this study, namely SEM PLS. According to Hair et al. (2014), the number of representative samples for the PLS SEM method is 30 to 100 or more. This is because research using the SEM PLS method has a basis on variance, thus the number of samples used does not need to be large. The SEM PLS statistical method is used in this study in testing each hypothesis to obtain the results of the analysis of the relationship variables based on the model used in this research.

Figure 1
Research Model



Regarding the research population, we will observe the managerial level of the company, because the company's decision making is made in this level, while the unit of analysis is the business unit at PT KBN (Persero) such as Senior Chief Specialist, Junior Chief Specialist, Senior Specialist, Junior Specialist, Senior Staff Analyst, and Junior Staff Analyst. PT KBN (Persero) has 13 divisions and 9 business units (including subsidiaries). As a result, this study was carried out on the 22 work units.

Meanwhile, the measuring instrument used in this study was obtained from the indicators of the variables based on previous research. The individual entrepreneurial orientation variable uses the indicators that used by Santos et al (2020), the absorptive capacity variable adopts the indicators of the research by Flatten et al (2011), then the improvisation variable adopts the indicators which compiled in the Vera and Crossan (2005) and the innovation capability variable adopted the research indicators of Akman and Yilmaz (2008). Each question item uses a Likert scale of 1-6, while the use of a Likert scale of 1-6 is because the authors chose not to use a neutral point as an effort to avoid social desirability bias that might affect the results (Leung, 2011). A scale with a value of 1 represents “Strongly Disagree” and a value of 6 represents the expression “Strongly Agree”.

4. Result and Discussion

The survey was distributed to 122 respondents, but only 102 empirical data were collected (response rate 83%). After an examination of answers, it was concluded that the entire incoming respondents were considered to meet the criteria as respondents.

Table 1
Profile of Research Samples

Variable	Amount	Percentage
Department		
Division	52	51,49%
Unit	49	48,51%
Job Level		
Vice President	8	7,9%
Deputy	28	27,72%
Assistant Deputy	65	64,36%
Length of work		
>15 Years	28	27,72%

11 Years until 15 Years	30	29,70%
6 Years until 10 Years	39	38,61%
1 Year until 5 Years	4	3,96%

Based on the results of the research data processed, all the indicators that used are valid and ideal because they have met the qualification of outer model analysis criteria, all indicators have the loading factor ≥0.5, the average variance extract (AVE) value > 0.5, the cross loading of each indicator the highest value, Cronbach's Alpha (CA) > 0.6, and the value of composite reliability (CR) on each indicator > 0.7. Furthermore, we testing the inner model to determine the relationship between research variables, and the test results obtained T-statistic values and P Value to determine the relationship and significance between variables from the research model.

Table 2
Coefficient Pathway

Hipotesis	T-statistik	P Value	Significance	Conclusion
IEO → INOCAP	1,306	0,192	Not significant	Rejected
IEO → ACAP	5,669	0,000	Significant	Accepted
IEO → IMP	5,177	0,000	Significant	Accepted
ACAP → INOCAP	3,578	0,000	Significant	Accepted
IEO → ACAP → INOCAP	2,718	0,007	Significant	Accepted
IMP → INOCAP	6,903	0,000	Significant	Accepted
IEO → IMP → INOCAP	4,257	0,000	Significant	Accepted

Based on the test results, H1 has a t-statistic value of 1.306 for individual entrepreneurial orientation towards innovation capability and a p value of 0.192. This demonstrates that individual entrepreneurial orientation variable has no significant effect on innovation capability, so this study is rejected for H1. The findings of this study do not support the findings of Makhloufi et al (2021), who conducted research on 194 managerial and entrepreneurial zones in the Algerian industrial zone and discovered that entrepreneurial orientation has a significant positive effect on innovation capability. However, Ritala et al. (2021) discovered that one of the dimensions of entrepreneurial orientation, namely innovativeness, has no relationship with innovation capability, whereas two other dimensions, such as risk taking and proactiveness has relationship with innovation capability. There is positive relationship between individual entrepreneurial orientation and absorptive capacity (H2 t value 5,669 and p value is 0,000). The result of H2 demonstrates that individual entrepreneurial orientation variable has no significant effect on absorptive capacity, thus the second hypothesis is accepted. According to Aljanabi (2017), entrepreneurial orientation at the individual level has a positive impact on absorptive capacity because entrepreneurial orientation can contribute to the creation of the ability to learn and absorb knowledge. While H3 shows the t-statistic value of individual entrepreneurial orientation towards improvisation of 5.177 with p value of 0.000. The t-statistic value states that individual entrepreneurial orientation towards improvisation has a significant positive effect, thus the third hypothesis of this study is accepted. The result also supports the research of Peschl et al (2021) which explains that entrepreneurial orientation will create entrepreneurial thinking that can encourage problem solving abilities. Furthermore, for H4 shows the t-statistic value of absorptive capacity to innovation capability of 3.578 with a p value of 0.000. The t-statistic value states that the absorptive capacity of innovation capability has a significant positive effect, so the fourth hypothesis of this study is accepted. The findings of this study can support research conducted by Stelmaszczyk (2020), which sees a relationship between absorptive capacity and innovation capability, as well as research conducted by Tavani et al (2018), which shows that absorptive capacity positively affects innovation capability. The last hypothesis shows the t-statistic value of improvisation on innovation capability of 6.903 with p value of 0.000. The t-statistic value states that improvisation on innovation capability has a significant positive effect, thus the fifth hypothesis from this study is accepted, this is in line with Liu et al (2018) research which conduct on the manufacturing industry in China, and the results of the research shows that improvisation ability is enable contribute to innovation capabilities.

Furthermore, the findings of this study show how absorptive and improvisational capacity play a role in mediating IEO on innovation capability. Based on the t-statistic value of IEO → ACAP → INOCAP, which is

2.718 with p value of 0.007, the results show that absorptive capacity can mediate between individual entrepreneurial orientation and innovation capability. This implies that there is a desire at the managerial level to find better business opportunities, which encourages the exploration of new things such as trying new activities to anticipate market needs and changes. This can have an impact on organizational learning, particularly the ability to absorb knowledge and information resources related to the industry. And then absorbs knowledge resources, which are then assimilated, integrated, and utilized to encourage innovation capabilities so that the company can generate new ideas to assist product development or innovation.

The second path is the influence of individual entrepreneurial orientation through improvisational mediation. The results of research show that improvisation is able to mediate between individual entrepreneurial orientation and innovation capability, it proven by t-statistic value of IEO → IMP → INOCAP (4.257) with p value 0.000. In terms of encouraging innovation capability at PT KBN (Persero), individual entrepreneurial orientation at the managerial level is able to emphasize entrepreneurial principles to develop the company's business.

5. Conclusion and Implication

Previous research has found that State-Owned Enterprises (SOEs) has a negative impact on innovation capability (Zhou et al., 2017; Chang et al., 2019) As a result, in this study, we attempt to investigate empirically the role of variables that would encouraging innovation capability, such as individual entrepreneurial orientation, absorptive capacity, and improvisation. Because agents of entrepreneurial orientation are individuals, this study focuses on the variables of entrepreneurial orientation at the individual level. However, the findings of this study do not provide empirical evidence that individual entrepreneurial orientation can have a direct impact on organizational capability. On the other hand, Individual entrepreneurial orientation has an impact on the company absorption capacity and improvisational ability. This is because the concept of individual entrepreneurial orientation will involve cognitive resources that can influence learning modes (Hughes et al., 2018). Individual entrepreneurial orientation and innovation capability can be mediated by absorptive capacity and improvisation. Individual entrepreneurial orientation also can motivate someone to absorb the sources of knowledge required to carry out product development. Furthermore, individual entrepreneurial orientation can help management improve by producing intangible assets that can be used to take management steps when confronted with a problem or uncertainty. This study can shed light on efforts to foster innovation capabilities in SOEs. To be able to improve its innovation capability, companies must pay attention to entrepreneurial orientation holistically, namely at the individual level, because individual characteristics have implications for the company's business management practices, then the capacity to absorb knowledge, and finally the ability to improvise.

Managerial Implication

The company should focus on aspects that shape the entrepreneurial orientation of individuals at the managerial level because this can affect various decision processes, take advantage of opportunities, absorb knowledge, and improvise. In addition, companies also need to facilitate communication between employees and even units to share information, ideas, and concepts they have, so that these steps can be expanded to be applicable for the development of new things. To encourage improvisation capabilities in the company, the managers in each business unit need to be trained to be able to anticipate or respond to the condition by increasing knowledge sharing between employees and units in the company.

Limitation and Suggestion

This study still has limitations which are expected to pave the way for future research. Limitation of this research because this research has focus on the context of SOEs and can only be generalized to work units within the company and may not necessarily be applied to business units in different types of companies. This research also used indicators of individual entrepreneurial orientation which have only been tested at the managerial level and only examines factors that can affect the innovation process and has not yet measured the impact of the innovation process on performance. Future studies are expected to investigate indicators of individual entrepreneurial orientation applied at the employee level in each business unit and see their effect on the organizational level, and can test whether the factors of the innovation process in this study can affect innovation or performance in the work unit.

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The Influence of Return on Assets, Return on Equity and Current Ratio on Capital Structure in Consumer Goods Companies Listed on the Indonesia Stock Exchange

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Abstract. The objective of this research is to analyze the influence of return on assets, return on equity, and current ratio toward capital structure in consumer goods companies listed on the Indonesia Stock Exchange. The population of this research is the consumer goods companies listed in Indonesia Stock Exchange during 2013-2017. Further, with the employed purposive sampling and determined criteria, 20 companies are chosen as the samples. The data analysis method applied is multiple linear regression which is processed through SPSS 25. The result of this research shows that return on assets and current ratio have a significant negative impact toward capital structure partially, return on equity have a significant negative impact toward capital structure partially. On the other hand, return on assets, return on equity, and current ratio have significant simultaneous impact toward capital structure. Meanwhile, Institutional Ownership, Profitability, and Independent Commissioner do not have a significant impact toward Tax Avoidance.

Keywords: Return on Assets; Return on Equity; Current Ratio; Capital Structure; Consumer Goods Companies

1. Introduction

Companies need capital in the form of cash in the company. if the company does not have enough cash. the company will be difficult to develop because of the small amount of cash so that it is difficult to pay off debt. Company cash includes liquidity ratios. The higher the liquidity ratio. the more likely the debt can be paid and vice versa. In this study liquidity uses the current ratio.

The companies chosen in this study were industrial companies, especially the consumer goods sector listed on the Indonesia Stock Exchange. Industrial companies were chosen because industrial companies have the largest number of companies compared to other industries and are the largest issuers compared to other industries, especially in the consumer goods sector where the consumer goods sector is one sector with many companies able to withstand the pressure of the crisis so that companies in this sector tend to be more stable and continue to increase. This condition is the reason for this research. Besides that, another reason is to find out whether this research is consistent with previous research.

As for consumer goods companies on the Indonesia Stock Exchange Period 2013-2017 profit after tax (return on assets and return on equity). current assets (current ratio) and total liabilities (capital structure) data during the year 2013-2017 can be presented in table I.1 as follows:

Table 1.1
Profit After Tax (Return On Assets and Return on Equity). Current Assets (Current Ratio) And Total Liabilities (Capital Structure) Data During The Year 2013-2017

Company	Year	Profit After Tax (in mil Rupiah)	Current Assets (in mil Rupiah)	Total Liabilities (in mil Rupiah)
PT. Indofood CBP Sukses Makmur. Tbk	2013	2.235.040.000.000	11.321.715.000.000	8.621.314
	2014	**2.513.681.000.000**	**13.603.527.000.000**	**10.445.187**
	2015	**2.923.148.000.000**	**13.961.500.000.000**	**10.173.713**

	2016	3.631.301.000.000	15.571.362.000.000	10.401.125
	2017	3.543.173.000.000	16.579.331.000.000	11.295.184
PT. Mayora Indah. Tbk	2013	1.058.418.939.252	6.430.065.428.871	5.816.323
	2014	**409.824.768.594**	**6.508.768.623.440**	**6.190.553**
	2015	**1.250.233.128.560**	**7.454.347.029.087**	**6.148.255**
	2016	1.388.676.127.665	8.739.782.750.141	6.657.165.872.077
	2017	1.630.953.830.893	10.674.199.571.313	7.051.998.068.445
PT. HM Sampoerna. Tbk	2013	10.818.486	21.247.830	13.249.559
	2014	**10.181.083**	**20.777.514**	**14.882.516**
	2015	**10.363.308**	**29.807.330**	**5.994.664**
	2016	12.762.229	33.647.496	8.333.263
	2017	12.670.534	34.180.353	9.028.078

Source: Indonesia Stock Exchange (2022)

From table 1.1 it can be seen that the increase of profit after tax and current assets are not always followed by increased debt.

Companies with high levels of profitability tend to have low debt levels. This can be explained through a pecking order theory which states that companies with high levels of profitability have abundant internal funding sources. Sawir (2015: 8) claims that the current ratio is the most commonly used measure to gauge a company's ability to satisfy short-term obligations since it reveals how far short-term creditors' demands are covered by assets that are expected to be cash in the same period as debt maturity. Based on the background above. the researcher is interested in choosing the title **"The Influence of Return on Assets and Return on Equity and Current Ratio on Capital Structure in Consumer Goods Companies listed on the Indonesia Stock Exchange".**

2. Literature Review

2.1 Profitability

According to Sartono (2010: 122), profitability is a company's ability to produce a profit relative to its sales, total assets, and own capital. Profitability, according to Riyanto (2009: 36), is the capacity of a bank to make operating profits with its own capital and foreign capital. In addition, according to Harahap (2015: 304), profitability is the capacity of a business to generate profits from all available capabilities and resources, including sales activities, cash, and capital. From the preceding definitions, it can be determined that profitability is the company's ability to earn profits in relation to total assets, sales, and its own capital, in order to determine the company's ability to pursue profits.

According to Kasmir (2012: 196), a company's profitability demonstrates how efficiently it runs in order to generate benefits. Profitability of a firm can be determined by correlating earnings or profits from the company's principal activities with assets or assets owned to generate corporate profits (operating assets). Profitability analysis is crucial for long-term investors because it enables shareholders to determine the proportion of profits that will be distributed as dividends (Munawir, 2014: 77). According to Kasmir, Hanafi, and Halim (2016: 81), profitability is a ratio that measures a company's potential to earn profits given a specific amount of sales, assets, and capital. From the three aforementioned points of view, it can be stated that the examination of profitability is crucial for long-term investors, as it allows shareholders to determine how much profit will be distributed as dividends. This profitability indicates how efficiently the company runs in order to generate benefits.

2.2 Liquidity

According to Fahmi (2016: 65), a company's liquidity ratio can be defined as the extent to which it is able to meet its short-term obligations in a timely way. According to Hery (2015: 166), liquidity ratios are ratios that represent the company's ability to satisfy its short-term obligations that are shortly due. In other words, liquidity ratios measure a company's liquidity. The liquidity ratio of a corporation is the ratio that describes how well the company can satisfy its short-term obligations. (Kasmir, 2012: 110).

It is possible to draw the conclusion from the three explanations that were presented earlier that the liquidity ratio is a ratio that describes the company's capacity to satisfy its short-term obligations that are quickly approaching their due dates.

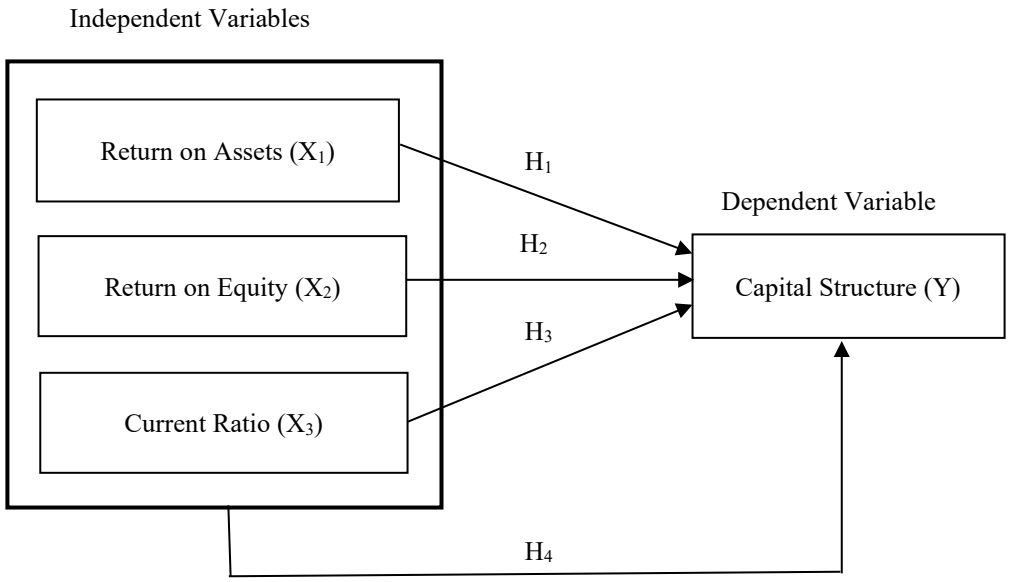
Before the analyst takes final conclusion from the analysis of the current ratio, it is necessary to consider the following factors: (Fahmi, 2015: 69–70)

1. Distribution of current assets posts.
2. Trend data from current assets and short-term debt for a period of 5 or 10 years.
3. Credit terms given by creditors to companies in returning goods, credit terms given by companies to customers in the sale of goods.
4. Current value or market value or change value of merchandise and the level of collection of receivables.
5. Possible changes in the value of current assets
6. Changes in inventory in relation to current and future sales volumes.
7. The size of working capital requirements for the coming year.
8. The size of the amount of cash and securities in relation to working capital needs.
9. Corporate credit rating in general.
10. The size of the receivables in relation to sales volume.
11. Types of companies, whether they are industrial companies, trading companies, or public utilities.

The objectives and benefits that can be derived from the results of the liquidity ratio (Kasmir, 2012: 132-133):

1. To measure the ability of a company to pay obligations or debts that are immediately due when billed. That is, the ability to pay obligations that are already due is paid in accordance with a predetermined time limit schedule (specific date and month).
2. To measure a company's ability to pay short-term liabilities with overall current assets. This means that the number of obligations under one year or equal to one year, compared to total current assets.
3. To measure the company's ability to pay short-term liabilities with current assets without taking into account stocks or receivables. In this case, current assets minus stocks and debts which are considered to be lower in liquidity.
4. To measure or compare the number of available stocks with the company's working capital.
5. To measure how much cash is available to pay off debt.
6. As a planning tool for the future, especially relating to cash and debt planning.
7. To see the condition and position of the company's liquidity from time to time by comparing for several periods.
8. To see weaknesses owned by the company, from each component in current assets and current debt.
9. Become a trigger for management to improve its performance, by looking at the current liquidity ratio.

2.3 **Research Model**



2.4 **Hypothesis Development**

1. ROA has significant influence on Capital structure in Consume Goods Companies
2. ROE has significant influence on Capital structure in Consume Goods Companies

3. Current ratiao has significant influence on Capital structure in Consume Goods Companies
4. ROA,ROE, Current ratios has significant influence on Capital structure in Consume Goods Companies

3. Research Methods

3.1 Research Design

In this study, the writer employs the quantitative method and causal research design, in which the influence of one variable on another variable is demonstrated empirically using acquired data and facts. Studies of causation examine whether one variable influences another (Sekaran & Bougie, 2016). The purpose of the writer's causal research is to determine whether the independent variables of return on assets, return on equity, and current ratio influence the dependent variable of capital structure for consumer goods companies listed on the Indonesia Stock Exchange for the period 2013-2017.

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3.2 Population, Sample, and Sampling Technique

In this research, the population is consumer goods companies that are listed in Indonesia Stock Exchange from the year 2013-2017 with a total of 40 companies. The sampling method used in this research is purposive sampling method,

Table 3.1
Sample Determination

No	Benchmark	Amount
1	Consumer Goods companies that listed in Indonesia Stock Exchange during the period 2013-2017	40
2	Consumer Goods companies that do not consistently published annual report during the period 2013-2017	(10)
3	Consumer Goods companies that do not generate profit during the period 2013-2017	(10)
Amount of Consumer Goods companies chosen as research sample		20
Total Data		100
Data Outliers		(10)
Total Sample		90

Source: Indonesia Stock Exchange (2021)

3.3 Data Analysis Method

In this study, the writer selects samples based on financial statements of consumer goods companies published on the Indonesia Stock Exchange website or the respective companies' websites between 2013 to 2017. This method of data collection is known as secondary data. Secondary data are records gathered by others for purposes other than the current investigation. Furthermore, for this research's data collection procedure, the documentation approach was used to investigate and collect data or information contained in financial statements. The library study approach is also used in this research, as it examines a variety of literatures, journals, articles, and other forms of written media that are related to the research problem and objective (Sekaran & Bougie, 2016)

4. Findings and Results

4.1 Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.131	100	.000	.866	100	.000

a. Lilliefors Significance Correction

4.2 Multicollinearity Test

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.745	.049		15.254	.000		
	ROA	-10.201	.784	-1.677	-13.007	.000	.909	1.005
	ROE	7.239	.521	1.558	13.901	.000	.120	8.317
	CR	-.079	.017	-.271	-4.649	.000	.445	2.246

a. Dependent Variable: DER

4.3 Autocorrelation Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.933[a]	.870	.866	.12824	1.881

a. Predictors: (Constant), CR, ROE, ROA
b. Dependent Variable: DER

5. Discussion

The simultaneous test result shows that return on assets, return on equity, and current ratio simultaneously impact capital structure which is shown through the result of f-test where the value of F_{count} is more than F_{table} (192.081 > 3.10), significance value of 0.000 that is more than 0.05. Through this result, it indicates that the fourth hypothesis of this research (H_4) is accepted.

In addition, coefficient determination which is shown from the value of adjusted R^2 is amounted 0.866 or equals to 86.6% which implies that the multiple linear regression model explains for 86.6% of the total variance. This indicates that the independent variables, namely that return on assets, return on equity, and current ratio impact 86.6% of the dependent variable, capital structure, while the remaining 13.4% is impacted by additional variables not discussed in this study

6. Conclusion

This study examines the impact of return on assets, return on equity, and current ratio on capital structures with return on assets, return on equity, and current ratio as the independent variables and capital structure as the dependent variable. Consumer Goods Companies listed on the Indonesia Stock Exchanges (IDX) between 2013 and 2017 are the subject of this research. Purposive sampling was employed, with 20 companies eligible and taken as samples, resulting in a total of 90 observations used in this study. The data attained is secondary data derived from annual financial reports of consumer goods companies listed on the Indonesia Stock Exchange from 2013 to 2017. The following conclusions can be derived through data analysis (multiple linear regression) and hypothesis testing:

1. Return on Assets has significant partial impact toward capital structure on consumer goods companies listed at Indonesia Stock Exchange during the period 2013 to 2017. Therefore, H1 is accepted.
2. Return on Equity has significant partial impact toward capital structure on consumer goods companies listed at Indonesia Stock Exchange during the period 2013 to 2017. Therefore, H2 is accepted.
3. Current Ratio has significant partial impact toward capital structure on consumer goods companies listed at Indonesia Stock Exchange during the period 2013 to 2017. Therefore, H3 is accepted.
4. Return on Assets, Return on Equity and Current Ratio has a significant simultaneous impact toward capital structure on consumer goods companies listed at Indonesia Stock Exchange during the period 2013 to 2017. Therefore, H4 is accepted.

In addition, adjusted R2 (adjusted coefficient of determination) is amounted 0.866 or equal to 86.6% which implies that the multiple linear regression model explains for 86.6% of the total variance. This indicates that the independent variables, namely Return on Assets, Return on Equity and Current Ratio, impact 86.6% of the dependent variable, capital structure on consumer goods companies listed at Indonesia Stock Exchange during the period 2013 to 2017, while the remaining 13.4% is impacted by additional variables not discussed in this study.

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Warehouse Management System to Improve Work Efficiency at an Apparel Company

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Abstract. Efficiency and Productivity Improvement have been compulsory to all companies in garment industry, to be more competitive and become sustainable in the business. The focus of this study is in warehouse area where people are struggling with inaccurate data therefore creating inefficiency in working practices. Authors created questionnaires and interviews with users to understand on current working practices with required time to complete. The result of this study will be used to develop a software which is combined with RFID to help companies in managing all activities in warehouse. This study can also be used to give clear picture of problems/challenges that are being faced by factories, solution that can be implemented and potential benefits that can be gained from this solution. The companies will then need to prepare themselves for digital transformation, change the work methods from manual to digital, firmer SOP and be open-minded to new technologies.

Keywords: efficiency; productivity; warehouse management system

1. Introduction

Digital Transformation has become key success factor to many companies in winning the competition, as it can improve efficiency and being closer to customers (Tabrizi et al., 2019) and at the same time require companies to adopt to the changes on strategic, organization, information technology, supply chain until marketing (Verhoef et al., 2021) which require commitment from all stakeholders.

Warehouse is one of areas where inefficiency and inaccuracy of data occur and the problem is mainly because data is still managed manually so it becomes very time consuming to look for information as well as generating reports. The systematic approach in managing warehouse area will help to give significant improvement from materials receipt, storage, finding and transfer to production (Atieh et al., 2016). This will help to eliminate waste (Lal Sharma et al., 2018) and help factories to be sustainable in the business.

By using Lean Manufacturing methodology we can identify where the wastes occur, why the wastes happen and how to solve them. Below is the description on situation:

- Transportation, it is difficult to locate and find the required materials as there is no clarity where are the materials stored.
- Inventory, it is difficult to know the inventory level in detail and their allocation to production orders.
- Defects, improper storage will cause to materials broken or even loss.
- Motion, no clear information on where the storage of the materials has caused users to keep looking for the required materials, repetition works.
- Over processing, no visual data and systematic method in materials storage have caused to unnecessary movement/transfer of materials from one location to the others.
- Waiting, most of the time production need to wait in a long time to get the required materials.

The above situation is caused by the manual works of the users in recording the information, manual way of locating and storage the materials.

This study is to identify the problems in warehouse, find the root cause, propose the solution and try to measure the potential benefits after implementation of the solution.

2. Research Methodology

The method used is by considering key factors (i) Management; (ii) Material flow; (iii) Information flow which are then becoming the base in defining Maturity Level which are (i) Ignoring; (ii) Defining; (iii) Adopting; (iv) Managing; (v) Integrated (Facchini et al., 2020) (Batz et al., 2020).

The research is using questionnaire and interviews to key users to identify current problems and expectations for improvement. This is then tested using Cronbach Alpha to provide unique estimation on the testing reliability (Gliem & Gliem, 2003), and using scale 1 – 5 where 1 (Integrated), 2 (Managing), 3 (Adopting), 4 (Defining) and 5 (Ignoring) to understand the Digital Maturity.

Table 1 explains on the stage of where a company can accept digital technology and to identify where to start as well as the approach during implementation. The awareness of a company in digital technology solutions can be measured by using this model.

Table 1
Digital Maturity Model

Ignoring	Defining	Adopting	Managing	Integrated
Not aware of the needs for integration	See the needs for integration but do not know how to manage	Already start integration	Integration in most level	Full integration and create synergy
Not aware on solution to correct information flow and materials	Aware on solution to correct information flow and materials but not use yet	Some solutions to correct information flow and materials have already been implemented	Many solutions to correct information flow and materials which have been implemented	All available solutions to correct information flow and materials have been implemented already

Table 2 describes on the characteristic of respondents who will be actively involved during the digital transformation period and continue as the key users. It is very important to understand who are the key users of the system, what are the challenges they are facing on the current working practices and what are their expectations should the digital technology is implemented in the company.

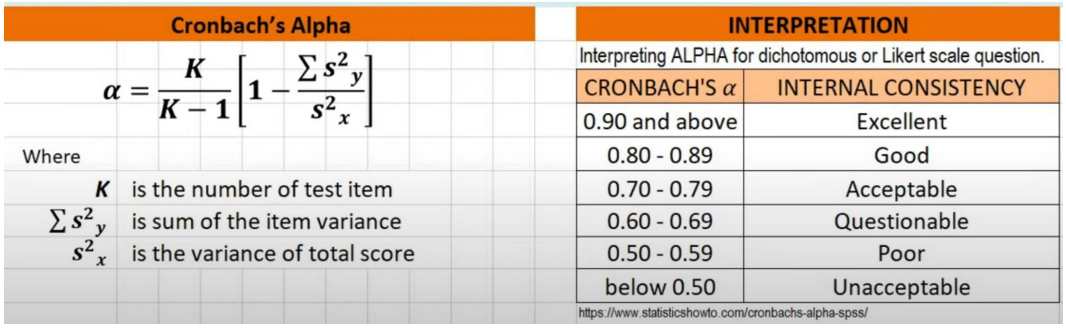
Table 2
Characteristic on respondents and objectives of Digital Transformation

Respondent	Defining Future state of Digital Maturity Model
Marketing – Manager, Spv & Staff	Marketing Department need to understand material status to ensure sales orders can be produced and delivered as per request from buyers
Procurement – Manager, Spv & Staff	Procurement Department need to ensure that the materials from suppliers are delivered as per issued PO (quantity, quality and receipt date)
Warehouse – Manager, Spv & Staff	Warehouse Department need to manage and monitor all activities, and coordinate with all related departments
Production – Manager, Spv & Staff	Production Department need to ensure the requested goods to be available on time and not causing to stoppages in production

Shipping – Manager, Spv & Staff	Shipping Department need to have enough time to book shipment to fulfil delivery date
Finance – Manager, Spv & Staff	Finance Department need to ensure there is no claim/penalty from buyers due to late delivery. They also need to ensure the procurement costs and material consumption is still within the budget as this will affect to the COGS

Figure 1 describes on how the calculation is made based on the collected data by using formula and certain parameters to decide whether the result is valid. The Cronbach Alpha is the method to measure internal consistency and how closely related a set of items as a group. In this study we try to correlate the stage of where a company adopting digital technology in warehouse area.

Figure 1
Cronbach Alpha



3. Theoretical Framework

Improper ways in handling activities in warehouse will cause to high cost that lead to eroding profitability of the company (Faber et al., 2013). By using the approach of Lean Manufacturing to identify waste we can see problems that are related to activities in warehouse, from conceptual, implementation design, implementation and evaluation until the completion of Lean transformation process (Mostafa et al., 2013).

Based on this we have created questionnaires related to tasks of day to day operations of all related departments and tried to get information on how much time required to complete those tasks. We then compared with time required to complete if using WMS and see the variance. This is explained on table 3.

Table 3
Calculation on potential savings on WMS implementation

No	Department in charge	Activities	Unit time (in minutes)				
			Manual	WMS	Variance	Transaction per day (unit)	Total Saving
1	Marketing	Checking materials availability from running orders, to ensure materials can satisfy demand	10	1	9	10	90
2		Checking materials availability before receiving new orders	30	1	29	5	145
3	Warehouse	Data input on materials receipt	5	3	2	20	40
4		Matching data between PO with GRN (Goods Received Notes)	15	5	10	50	500
5		Define storage location on new incoming materials, as per required space (material dimension vs space availability)	30	1	29	10	290
6		Record data transaction on materials movement (location transfer or materials issued)	5	1	4	5	20
7		Searching materials storage location	30	5	25	10	250

8		Stock checking, compare data and physical materials	30	1	29	10	290
9	Production	Request and pick up materials (fabrics/accessories) to warehouse	60	1	59	15	885
10		Process materials transfer to different work order	20	10	10	3	30
11		Return on reject and replacement with new materials (notes: rejects can be due to quality issue or defects during production)	60	10	50	8	400
12	All Departments	Data reporting for analysis	40	10	30	18	540
		TOTAL (in minutes)	335	49	286	164	3480
		TOTAL SAVING per day (in hours)			**4,77**		**58**
		TOTAL SAVING per month (in hours) - 22 work days					**1.276**

4. Results and Discussions

The questionnaires and interviews were conducted with 32 respondents with 13 questions, and these have fulfilled minimum sampling (Bujang et al., 2018) (Cicchetti, 1999).

Table 4

Stage on Digital Maturity

No	Departement	Activities	Data recording Method	Stage in Digital Maturity				
				Ignoring	Defining	Adopting	Managing	Integrated
1	Marketing	Check on material availability from running orders, to ensure materials can satisfy demand	Excel			√		
2	Procurement		Excel			√		
3	Production		Excel		√			
4	Warehouse		Excel		√			
5	Marketing	To ensure materials availability before accepting any new orders, related to confirmation/promise on delivery date	Email			√		
6	Procurement		Email			√		
7	Warehouse		Excel		√			
8	Warehouse	Data recording on materials receipt	Excel		√			
9	Procurement	Data matching between procurement (PO) with GRN (Goods Received Notes)	Excel		√			
10	Warehouse		Excel		√			
11	Procurement	Claim process if quantity and quality of materials do not meet the requirement as per procurement	Email		√			
12	Warehouse		Excel		√			
13	Production		Excel		√			

14	Finance		Excel			√		
15	Warehouse	Locate the storage location of incoming materials, as per required space (material dimension and space availability)	Excel		√			
16		Record on data transaction of materials movement (change location or transfer/issued to production)	Excel		√			
17		Finding materials location	Manual		√			
18		Stock check, compare between data and physical of materials	Manual & Excel		√			
19	Finance					√		
20	Production	Request on materials to warehouse	Email, Paper		√			
21		Process on materials transfer from different work order	Email, Paper		√			
22		Return on *reject* and replace with new materials (note: rejects can be due to quality problem or defects in production)	Email, Paper		√			
23	Warehouse		Paper		√			
24	Marketing		Paper		√			
25	Procurement		Paper		√			
26	Finance		Paper			√		
27	Marketing	Data reporting for analysis	Excel, Paper			√		
28	Procurement		Excel, Paper			√		
29	Warehouse		Excel, Paper		√			
30	Production		Excel, Paper		√			
31	Shipping		Excel, Paper		√			
32	Finance		Excel, Paper			√		

The result was then converted to get data with Cronbach Alpha method and get the result as follow:

Table 5
Result with Cronbach Alpha method

Variables	Description	Value	Internal Consistency
K	Number of respondents	32	**Acceptable**
$\sum s^2y$	Total variant	3.753906	
s^2x	Variance from total	12.74609	
α	**Cronbach Alpha**	**0.728243**	

The result shows consistency in the Digital Maturity Model and questionnaires that have been built. We then did further analysis on potential benefits in warehouse area by investigating on how much time required on current method of manual and compare with the time spent by users once the WMS has been implemented. The result is in minutes as the potential savings, and this can be used as justification for a company to do digital transformation.

5. Conclusions

Digital Transformation must give positive impact to the business from both operational and financial benefits, and they are all measurable. From the study we have proven that digital transformation can bring benefits to the company by enabling them to gain time savings in their works. The accuracy in data will also help users to analyse and make correct decisions so the company can perform better and become more competitive.

Implementation on WMS (Warehouse Management System) will definitely bring benefits to users as to help them in speed (time savings) and data accuracy. Speed means efficiency and data accuracy means effectiveness in completing the works.

6. Declarations

6.1 Limitations and Future Research

The study is limited to one company with limited number of respondents, and the main focus is on potential time savings to complete routine tasks. Future studies may look at larger sample from more companies in different industries. Future studies can also look at the knock on effects after time savings can be gained, ie. users have more time to do more analytical jobs for better decision making, more tasks can be assigned to users to enable them to be multi-tasking employees etc.

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Relationship Quality and Flexibility of Partnering with Suppliers on the Performance of Innovations Mediated by Knowledge Sharing (Case Study on the Steel Industry in Indonesia)

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Abstract. Given that most of the operational costs of steel companies are in the main raw materials, steel companies need to pay attention to how they relate to suppliers to improve innovation performance. Thus, this study aims to determine whether the relationship quality and flexibility of partnering with suppliers can affect innovation performance, namely the quality and innovation speed through knowledge sharing. Data was collected through a questionnaire obtained from the national steel company association IISIA and obtained 107 company respondents. The data were processed and analyzed using structural equation modeling (SEM) to test the overall fit of the model and test the causality relationship between variables. The results of this study indicate that the relationship quality has a significant effect on the innovation quality only through knowledge sharing. On the other hand, the quality of the relationship can increase the innovation speed directly without sharing knowledge. The next result is that partner flexibility can increase the innovation speed significantly and also the innovation quality without knowledge sharing. Several managerial implications and suggestions for further research are also presented in this study.

Keywords: Relationship Quality; Flexibility of Partnering; Knowledge Sharing; Innovation speed; innovation quality

1. Introduction

National Steel demand is recorded to be greater than the supply that can be carried out by the domestic industry. In early 2020, the Minister of Industry, Agus Gumiwang Kartasasmita , said that the national steel company supplies only 40% of domestic steel needs and the rest is imported [1]. Of the 60% supplied from imports, half are products that cannot be supplied domestically at all, while the remaining 30% can be produced domestically so that the national steel contribution should reach around 70% [2]. Not only that, *the supply-demand* of steel is also very dependent on the size of the government's development projects that are planned every year . In 2021, the demand for steel will increase from the previous year due to the large number of development projects carried out by the government, namely as many as 25 projects with a value of 278.35 trillion rupiah. In this case, the potential for absorption of national steel consumption by domestic steel companies can still be maximized.

National steel companies need to innovate to increase their competitiveness and then maximize the absorption of steel consumption. In general, companies can increase their competitiveness by developing the core and specific competencies of the company [3]. The most influential core competence in steel companies is in the upstream process, namely regarding the raw materials, considering that raw materials have a portion of 65-70% of the total cost. The importance of raw materials in the steel industry implies that, in innovating, the role of suppliers can be said to be significant. On the other hand , the physical investment value of a steel company is very large so it is not easy for a steel company to develop independently, especially in production and

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technology [4]. So that one of the other efforts that can be done in innovating is to collaborate with other companies, especially suppliers.

Relationships with suppliers can be one of the strategies in developing company innovation both in terms of quality and speed[5]. Several studies have revealed that the relationship between suppliers and consumers can effectively increase the competitiveness of companies [6]. The relationship that results from this supplier-consumer relationship provides a more focused development of innovation to increase the competitiveness of a company considering that both are in a related business[7]. The activity of exchanging information between suppliers and consumers will certainly help companies in adjusting to market needs [8]. Apart from that, the relationship between the two in both business and social contexts can be a good preparation in forming a new advantage [9].

An important part of establishing a relationship with a supplier is the sharing of knowledge. Through relationships with suppliers, companies can increase the knowledge needed to run their business [10]. This knowledge then becomes a valuable asset for the company in determining the direction of innovation and reconfiguring its capabilities to adapt to market needs [11]. In innovation with the context of new product creation and production efficiency, knowledge sharing can provide insight for companies in determining which products can be developed and which production lines can be further optimized so that they become more efficient. Investment in new equipment and technology can be maximized with the addition of new knowledge. On the other hand, in terms of production speed, the company will gain experience and knowledge from its partners on how to carry out production management to be more adaptive in adjusting production capabilities and consumer needs [12]. Matters related to this innovation in production speed are the need for knowledge on how to manage the supply of raw materials to product management. In the context of raw material management , how do companies find it easy to get raw materials in the right quantity and at the right time.

Relationships with suppliers can be seen from the quality of their relationships with certain suppliers or the flexibility of partnering with several suppliers. Both the quality of the relationship or the flexibility of partnering, both are needed by companies to increase their competitiveness. On the other hand, these two variables also have their respective advantages. The relationship quality with suppliers in this context is how far a company cooperates and is bound by one of its suppliers [13]. Broadly speaking, with a quality relationship between the company and its suppliers , it can improve the quality of information exchange, direct mutually beneficial transactions, give birth to new collaborations and get special benefits [14]. However, the relationship qualitys with suppliers makes companies tend to depend on most of their raw material needs to one particular supplier because of the attachment given that in the relationship quality variable there is a commitment parameter. For example, there is a long-term contract made by the two companies in the next few years that binds a certain quantity of raw material needs to a particular supplier. This becomes unprofitable if the needs or market competition change, so that the current long-term cooperation will feel less competitive. Thus companies need to have flexibility in partnering with other companies. Through the flexibility of partnering, the company will be able to adapt to changing market needs considering that each supplier has different capabilities and

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characters [15]. However, the flexibility of partnering tends not to be able to exploit the depth of cooperation with certain suppliers, especially in *research and development programs* or joint innovations.

The relationship quality with the supplier is judged by the presence of trust, commitment and good communication in the relationship [16]. The quality of good supplier relationships can be indicated by the extent to which the company cooperates with its suppliers in terms of sharing knowledge and technology, and is bound by a long-term contract [17]. In the context of the relationship quality with suppliers, the majority of raw material needs are supplied from the supplier company. As for the existence of a good quality relationship with one particular supplier, it is possible for the company to get special facilities from that supplier so that it can increase its competitiveness [18]. With a good quality relationship, the company will be able to get to know the character of its suppliers and exploit the advantages of cooperation both commercially and technically.

From some of the descriptions above, it can be said that building relationships with suppliers can be an option for companies in the steel industry to survive in the face of market competition. In this article, an empirical study will be presented on whether relationship quality and flexibility in partnering with suppliers can improve innovation performance through knowledge sharing. On the other hand, this study will also examine whether directly, relationship quality and partner flexibility can improve innovation performance.

2. Literature Review

Previous researchers have conducted studies of several theoretical frameworks to explain the importance of supplier relationships[19]. One of the theories used is resource based theory, which is then linked to social capital theory, as well as transactional cost theory[20]. Resource based theory emphasizes that the basic strength of a company is in the capabilities and resources of the company[21]. Thus the company will tend to seek to obtain strategic and unique resources to increase the company's capabilities[22].

Regarding raw material resources, resourced based theory explains that companies need a good relationship with their suppliers[23]. Moreover, related to steel companies, where as much as 65-70% of production costs are from raw materials[24], then matters relating to the supply of raw materials are strategic matters. Not only costs, other technical matters to carry out product development, production efficiency and even production speed can also be affected by the supply of raw materials. This implies that companies need to get closer to the owners of these raw material resources[25]. By building a relationship system with suppliers, companies have the opportunity to get easy supply of raw materials[26]. Some of these conveniences are the flexibility of variations in raw materials, ease of payment, speed of supply, and certainty of availability or continuity of supply of raw materials. Thus, companies need to develop their social capital which is in accordance with Social capital theory. The social capital in question is regarding the network structure of the company's relationship with its suppliers, that is whether the company needs to strengthen relations with a particular supplier or emphasize the flexibility of partnering with several suppliers.

Based on Social capital theory, one of the reasons companies increase their social capital is an increase in knowledge[27]. By improving the relationship qualitys with suppliers, companies will tend to share knowledge with their suppliers[28]. The existence of knowledge sharing between companies and their suppliers will be able to increase the company's ability to innovate. Based on the relational view, collaborative innovation with the

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supply chain will result in joint value creation that cannot be achieved by individual and independent innovation. In addition, based on resource based theory, with a quality relationship with suppliers, it will be easier for the company to ensure the smooth supply of raw materials so that it can ensure the continuity of the production process or operation and then can also assist in achieving better innovation performance. Thus, it can be said that the stronger the company's relationship with a supplier, the more likely it is to share knowledge and get easy supply of raw materials so that it can improve innovation performance.

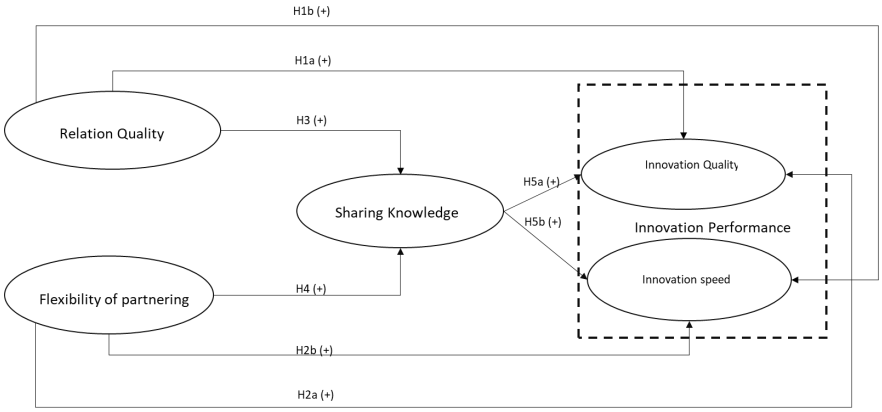
However, increasing the quality of the company's relationship with a supplier allows for dependence on that supplier. Thus, the company does not become flexible in its transaction activities, especially to get the lowest possible transaction costs and the capability to adapt to changing needs. The need for company flexibility in obtaining raw materials can be based on two theories, namely transaction cost theory and dynamic capabilities.

First, in accordance with the transaction cost theory, in establishing relationships with suppliers, companies also need to obtain a transaction structure with the lowest possible costs. This can be obtained by the flexibility of partnering, where companies can obtain a variety of transactions from different suppliers. The existence of this variation allows the company to get low costs in certain contexts and opportunities. The existence of the advantages of these suppliers allows modifications such as adjustments to payment methods or modification of raw materials specifically to adjust the company's production capabilities so that through these two companies get costs that are lower. low. Second, is about the dynamic capability that the company gets from the flexibility of partnering where the company can obtain a variety of raw materials that can match the needs of a project or market. Thus it can be said that through the flexibility of partnering, the company has gained dynamic capabilities (Mandal, 2015). For example, if a project requires certain material specifications, then through the flexibility of partnering, the company can find a supplier that excels in producing the related raw materials. Thus, it can be said that through the flexibility of partnering, companies get low operating costs and dynamic capabilities so that they can improve innovation performance both in terms of quality and speed.

On the other hand, through the flexibility of partnering, companies will be able to relate to many suppliers so that they can share knowledge with some of these suppliers[29]. Given that each supplier has a different character, the knowledge gained by the company is varied. The variety of knowledge obtained by the company will certainly increase the information capacity it has to improve its innovation performance[30]. Thus, it can also be said that the flexibility of partnering can increase the knowledge gained by the company to improve innovation performance.

Figure 1

Research Model



Relationship Quality to Innovation Performance

The relationship quality with suppliers is defined as a level of engagement between a company and one of its suppliers in an active relationship and in a long-term working relationship[31]. explains that if the two companies, especially in supply chain relationships, already have strategic interactions, the relationship between the companies is not only limited to buying and selling contracts. Through relationships with quality suppliers, it will reduce the tendency to take their own profits, so can increase the value creation between the two related companies. The relationship qualitys with suppliers can also be assessed from how high a company's experience

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in alliances with its suppliers is[32]. Also explains that this experience is related to the high intensity of the relationship between the company and its suppliers.

Innovation can be defined as an adoption or creation of creating and developing new ideas, services, work processes and management which then results in a competitive advantage. As previously explained, the context of innovation in the steel industry is as described in[33], namely in managerial development and product and production process improvisation. The success of collaboration between the company and its suppliers can be judged from the extent to which the relationship can create sustainable innovation and have a competitive advantage[34]. Specifically, the cooperation between the company and its suppliers will make the exchange of information and knowledge so that it can improve the company's innovation performance[35]. Explained that the company's performance can be seen from the extent to which a company's innovation can develop a higher market share, quickly open new markets, can adjust customer needs and add higher product and service capabilities. On the other hand, given that innovation is closely related to capabilities, companies that want to innovate must increase their capabilities[36]. However, in industries with large working capital, such as the steel industry, this is not easy to do. Therefore, cooperation, especially with suppliers, can be an option in improving innovation performance.

H1a: Relationship quality has a positive effect on the innovation quality.
H1b: Relationship Quality has a positive effect on the innovation speed

Partner Flexibility and Innovation Performance

In general, there is some flexibility in the supply of raw materials, namely in operating systems, logistics processes, supplier partnerships, organizational design, information systems, customer satisfaction and supply assets. However, this study will only focus on the flexibility of partnering with suppliers. Partner flexibility is defined as how freely a company deals with various supplier partners to form a profitable partnership[37]. Partner flexibility is a dimension of the supply chain flexibility construct. The flexibility of partnering with suppliers can be assessed from the company's ability to reconfigure relationships with suppliers, to coordinate quickly all activities of various suppliers, to have an effective ability to maintain a network of supply chain shifts[38].

H2a: Partnering flexibility has a positive effect on the innovation quality
H2b: Partnering flexibility has a positive effect on the innovation speed

Quality Relationships and Knowledge Sharing

Several things that describe the relationship qualitys with suppliers are the existence of trust, communication, adaptation, dependence, commitment and cooperation[39]. Of these several dimensions, which can affect the sharing of information is the existence of trust and communication. The first is trust, the higher the level of trust between the companies involved in the alliance, the more open the actual sharing of information. Trust between allied companies describes the quality of the alliance's relationship. The quality of relations between companies will encourage the two companies to share information, both tacit and explicit information[40].

H3: The quality of relations with suppliers has a positive effect on information sharing.

Flexibility of partnering and Knowledge Sharing

With the presence of new partnerships, as well as maintaining relationships with previous partners, companies will gain a lot of knowledge from their partners[41]. There are studies which state that most suppliers develop their knowledge in the midst of their supply activities. In other words, information transactions will occur effectively between the company and its suppliers. One of the disadvantages of the flexibility of supplier

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partnerships is the weakness of alliance relationships. However, there are studies that say that in the steel industry, companies tend to take advantage of this weak contractual alliance relationship to get a lot of information so that the information obtained can be more comprehensive. Given that the segmentation of needs in the steel industry is very diverse, the more information obtained, the more comprehensive the information. It is known that each supplier has its own character and uniqueness as well as the information knowledge and experience it has. When a company has the flexibility to partner with, the company will be richer in transaction information.
H4: The flexibility of partnering has a positive effect on information sharing.

Knowledge Sharing with innovation performance

Knowledge sharing is one of the keys in developing innovation[42]. In other words, knowledge sharing can be a big capital for companies in producing innovation[43]. The discovery of new knowledge and organizational learning can be a fundamental capital for companies that will innovate[44].

With knowledge sharing, companies can add the knowledge needed for an innovation quickly and effectively. An information and knowledge is very important for companies or individuals in developing innovation. The need for knowledge or information can strengthen the positive relationship between innovation and corporate learning. For example, there is information that in the next quarter, the stock of steel in the market of certain specifications and sizes will be depleted so that it is a good opportunity for the company to prepare ready stock for the material. However, companies need to innovate to fill the market void. If this information is wrong, the innovation produced by the company will be of less quality and vice versa.

Companies obviously incur a number of costs in innovation, and this has a risk if innovation is not on target. Mitigation of this risk is one of the reasons for delaying an innovation. In addition, quality information will trigger companies to make frequent innovations[45]. By sharing knowledge, companies can also effectively reduce risks, complexity and conditions for companies that will innovate[46], so that this can encourage companies to innovate faster.
H5a: Knowledge sharing has a positive effect on the innovation quality
H5b: Knowledge sharing has a positive effect on the innovation speed

3. Research Methods

Model study is depiction to something phenomenon which researched with describe the relationship between variables to explain the overall process of research [47]. The research model can serve as a visualization of theories and variables which explain whole contents from a phenomenon which will researched. On In this study, the population in question is the steel industry players in Indonesia. Data was collected through a questionnaire obtained from the national steel company association IISIA and obtained 107 company respondents. This study will use a 7-item Likert scale because the answer choices are more varied so that respondents will have a wider range of answer options. The data were processed and analyzed using structural equation modeling (SEM) to test the overall fit of the model and test the causality relationship between variables. This study has 20 indicators, so the minimum number of samples required is 100 respondents. In addition, the sample criteria used in this study are representatives of steel companies with a minimum level of middle management to business owners. Respondents must have a business that has been running for at least three years to indicate that they have experienced the dynamics of market competition in the steel industry. The respondents in this study were Indonesian steel companies in general, either in the manufacturing industry category or trading company.

4. Results and Discussion

4.1 Explanation of the results of testing the research hypothesis

Pre-testing is done by testing the validity and reliability of the research questionnaire. Validity and reliability tests are carried out to ensure that the research measuring instrument has measured what it is supposed

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to measure (valid) and has good consistency or is known as reliable. The validity of the indicator is shown through the value of Kaiser Meyer Olkin Measures of Sampling Adequacy (KMO-MSA) and factor loading or component matrix. Question indicators are said to be valid if the KMO value and factor loadings are 0.5 (Malhotra, 2010). Meanwhile, the reliability test was carried out to measure the level of consistency of the measurement indicators when repeated measurements were made (Malhotra, 2010). A result can be said to be reliable if it has a coefficient value of Cronbach's Alpha 0.6. Based on the measurement above, all indicators are found to ne valid and reliable.

In examining the causal relationship between variables of the entire research model, an analysis of causal relationships was carried out. The causal relationship in Structural Equation Modeling shows whether there is a relationship or influence between one variable and another. Researchers conducted a two-tailed test with a significance of 5%. Thus, a T-Value value greater than 1.96 will prove that there is a significant positive effect. On the other hand, a T-Value that is smaller than -1.960 will prove that there is a significant negative effect on a hypothesis. The following is an overview of the results of the causal relationship analysis processed with LISRELby table 2.

Table 2

Causal relationship beetween variables

Structural Model	SLF	T-value	T table	Conclusion
KR to KUA	-0,15	-0,61	1,96	No Significant effect
KR to KEC	0,72	2,41	1,96	Positively significant
FB to KUA	0,12	2,44	1,96	Positively significant
FB to KEC	0,92	7,41	1,96	Positively significant
KR to BP	1,06	11,33	1,96	Positively significant
FB to BP	-0,09	-1,82	1,96	No Significant effect
BP to KUA	1,12	4,56	1,96	Positively significant
BP to KEC	-0,72	-2,42	1,96	No Significant effect

1. **H1a- Relationship quality has a positive effect on the innovation quality.**
   Based on the results of hypothesis testing listed in table 2, it can be concluded that that hypothesis 1a rejected. Thing this could supported by findings *T-Value* as big as -0.61 and has a negative direction that can be seen from the SLF value of -0.15. Since *the T-Value* is not less than -1.96 and not greater than 1.96, then the hypothesis is rejected. The results of the study prove that the quality of relations with suppliers does not have a significant effect on the innovation quality in the Indonesian steel industry. This is different from the results obtained in previous research which states that the relationship qualitys can improve the innovation quality of a company. Thus, the positive influence of relationship quality on innovation quality needs to be re-examined in a specific context.
2. **H1b- Relationship Quality has a positive effect on the innovation speed**
   Based on the results of hypothesis testing listed in table 2, it can be concluded that that hypothesis 1b received. Thing this could supported by findings *T-Value* as big as 2,41 and the SLF value is 0,72. Since *the T-Value* is greater than 1.96, then the hypothesis is accepted. The results of the study prove that the quality of relations with suppliers can directly increase the innovation speed in the steel industry in Indonesia. This is in accordance with the resourced based theory where the increase in the company's innovation ability depends on the supply of raw materials. Thus, steel companies in Indonesia need to improve the quality of relations with their suppliers to create a number of innovations in a short time.
3. **H2a- Partnering Flexibility has a positive effect on the innovation quality**
   Based on the results of hypothesis testing listed in table 2, it can be concluded that that hypothesis 2a received. Thing this could supported by findings *T-Value* as big as 2,44 and the SLF value of 0.12. Since *the T-Value* is greater than 1.96, then the hypothesis is accepted. The results of the study prove that the flexibility of partnering with suppliers directly can improve the innovation quality in the steel industry in Indonesia. Thus, steel companies in Indonesia need to be flexible in partnering with suppliers to improve the quality of their innovations to outperform competitors.
4. **H2b- Partnering Flexibility has a positive effect on the innovation speed**
   Based on the results of hypothesis testing listed in table 2, it can be concluded that that hypothesis 2a received. Thing this could supported by findings *T-Value* as big as 7,41 and the SLF value of 0,92. Since *the T-Value* is greater than 1.96, then the hypothesis is accepted. The results of the study prove that the flexibility of partnering with suppliers directly can increase the innovation speed in the steel industry in Indonesia. Thus, steel companies in Indonesia need to be flexible in partnering with suppliers to create a

number of innovations in a short time to outperform competitors.

5. **H3- The quality of relations with suppliers has a positive effect on knowledge sharing.**
   Based on the results of hypothesis testing listed in table 2, it can be concluded that that hypothesis 2a received. Thing this could supported by findings *T-Value* as big as 11,33 and the SLF value of 1,06. Since *the T-Value* is greater than 1.96, then the hypothesis is accepted. The results of the study prove that the quality of direct relationships with suppliers can significantly increase knowledge sharing in the steel industry in Indonesia. This is in accordance with previous research which shows that the quality of relations between companies and their suppliers can directly increase knowledge sharing, either *tacit knowledge* or *explicit knowledge*. Thus, steel companies in Indonesia need to improve the quality of relations with suppliers to increase the level of knowledge sharing with these suppliers.
6. **H4- Partnership flexibility has a positive effect on knowledge sharing**
   Based on the results of hypothesis testing listed in table 2, it can be concluded that that hypothesis H4 rejected. Thing this could supported by findings *T-Value* as big as –1.82 and has a negative direction which can be seen from the SLF value of -0.09. Since *the T-Value* is not less than -1.96 and not greater than 1.96, then the hypothesis is rejected. The results of the study prove that the flexibility of partnering with suppliers does not have a significant effect on knowledge sharing in the context of the Indonesian Steel industry. Thus, it can be said that the increasing number of suppliers who can cooperate with a steel company, does not necessarily increase their knowledge sharing activities.
7. **H5a- Knowledge sharing has a positive effect on the innovation quality**
   Based on the results of hypothesis testing listed in table 2, it can be concluded that that hypothesis 5a received. Thing this could supported by findings *T-Value* as big as 4.56 and the SLF value of 1.12. Since *the T-Value* is greater than 1.96, then the hypothesis is accepted. The results of the study prove that sharing knowledge with suppliers can directly improve the innovation quality in the steel industry in Indonesia significantly. This is in accordance with previous research which shows that sharing knowledge between companies and their suppliers can directly increase the innovation quality. Thus, steel companies in Indonesia need to increase knowledge sharing with suppliers to create or develop innovations that are of higher quality and have a positive impact.
8. **H5b- Knowledge sharing has a positive effect on the innovation speed**
   Based on the results of hypothesis testing listed in table 2, it can be concluded that that hypothesis H5b rejected. Thing this could supported by findings *T-Value* as big as –2,42 and has a negative direction which can be seen from the SLF value of -0.72. Although the T value is smaller than -1.96, the value of the SLF is negative so that the hypothesis is rejected. The results of the study prove that sharing knowledge with suppliers does not have a positive effect on the innovation speed in the context of the Indonesian Steel industry.

Table 3
Goodness of fit

Goodness Of fit Indeks	Estimated Value / *Cut off Value*	Default model	Evaluation
CFI	CFI ≥ 0,95	0,95	Model fit
RMSEA	RMSEA ≤ 0,08	0,07	Model fit
IFI	IFI ≥ 0,9	0,95	Model fit
NNFI	NNFI ≥ 0,9	0,94	Model fit
NFI	NFI ≥ 0,90	0,92	Model fit
RFI	RFI ≥ 0,90	0,90	Model fit

In table 3 it can be seen that the conformity measurement index of the CFI model (0.95), RMSEA (0.07), IFI (0.95), NNFI (0.94), NFI (0.92), RFI (0.9) is within the range of expected values. Thus, the results of the model suitability test in the table above show that the structural model can be said to be fit. This states that the overall measurement model has correlation and covariance.

4.2 Research Discussion

In the research that has been done, the relationship quality is not proven to have a direct positive effect on the innovation quality in the steel industry in Indonesia. Although based on *resourced based theory* , that the existence of quality relationships with suppliers will make it easier for steel companies to improve their company performance, in terms of innovation, this needs to be reviewed specifically. In this study, the quality of the relationship is measured by trust, communication and commitment where all three are proven to provide

convenience for companies in transactional or commercial terms that can improve the company's innovation performance. For example, if one of the customers requires ease of payment, then with the quality of the relationship with the supplier, the company will be able to adjust its payment method to payment for the supply of raw materials. However, in this study it was found that in terms of innovation in the steel industry in Indonesia, a learning process is needed to achieve quality innovation. The learning process in question is the occurrence of knowledge sharing between companies and their suppliers. In other words, it is the relationship qualitys that can improve the company's learning process that can improve the innovation quality. Thus the company must be able to ensure knowledge sharing if it wants to improve the quality of its innovation from the quality of its relationships with its suppliers.

On the other hand, in this study it is proven that the quality of the relationship can directly have a positive influence on the innovation speed. To increase the innovation speed, companies need transactional convenience from their suppliers. According to resource-based theory, the existence of quality relationships with suppliers will be able to provide transactional convenience which can then increase the innovation speed. Relationship quality has a direct positive effect on innovation performance. However, in this study, the innovation performance that can be directly affected by the quality of the relationship is only the innovation speed [48].

In this study, the flexibility of partnering between the company and its suppliers proved to be very strong in influencing the innovation speed. A flexible company that can relate to various suppliers will get convenience in supplying varied raw materials. The variation in question can be in the form of raw material specifications, dimensions or sizes of raw materials, ease of payment methods, and variations in business processes. Thus the flexibility of partnering is very important for steel companies to create a number of innovations in a relatively short time. Coupled with the flexibility of partnering with suppliers, the company's ability to innovate is not limited to the ability of one supplier only. If a supplier takes a long time to fulfill an innovation, then the company with the flexibility of partnering can replace the supplier with the appropriate capability.

However, this study also finds that corporate flexibility does not directly have a positive effect on knowledge sharing. On the other hand, given the previous explanation that partnering flexibility can have a positive effect on the innovation quality and greatly affects the innovation speed, the researcher concludes that the effect of partnering flexibility on innovation is not through knowledge sharing. As for other things that affect the flexibility of partnering on innovation, it needs to be investigated further considering that there are not many studies that study this.

In the relationship of the effect of knowledge sharing on the quality and innovation speed, knowledge sharing was found to have a positive effect on the innovation quality, but had no effect on the innovation speed. First, the positive influence of knowledge sharing on the innovation quality proves that knowledge is one of the capitals for companies to be able to innovate to outperform their competitors. With the sharing of knowledge between companies and their suppliers, innovation can be more directed to match market needs. For example, in the steel industry, steel with special abilities is needed, so by sharing knowledge between steel companies and their suppliers, companies can find out how to create innovations in the production treatment of steel raw materials that can be obtained. Second, the ineffectiveness of knowledge sharing on innovation performance shows that to create a number of innovations in a short time it is not enough to only have knowledge. It is necessary to conduct further studies of what variables can increase the innovation speed. Thus it can be said that with knowledge sharing, companies can find out how to direct an innovation to be of high quality but knowledge is not a significant variable in realizing the innovation speed.

5. Closing

5.1 Conclusion

In this study it can be concluded that, the quality of the relationship does not have a direct positive effect on the innovation quality but has a direct positive effect on the innovation speed. On the other hand , knowledge sharing has a positive effect on the innovation quality but does not significantly affect the innovation speed. Thus knowledge sharing can mediate the relationship between the quality of the relationship to the innovation quality so that it becomes significant. However, knowledge sharing also cannot significantly mediate the effect of relationship quality on the innovation speed.

The next thing that can be concluded in this study is that the flexibility of partnering has a very positive effect on the innovation speed and also affects the innovation quality. However, the flexibility of partnering has no significant effect on knowledge sharing. On the other hand, the flexibility of partnering also has no significant effect on the innovation speed. So that knowledge sharing cannot be a mediator to strengthen the relationship of flexibility partnering innovation speed. However, because knowledge sharing also has a positive

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effect on the innovation quality. Then knowledge sharing can mediate the positive effect of partner flexibility on innovation quality

5.2 Suggestion

Due to the limitations of this study, there are several suggestions for further research. First, further research is suggested to carry out this research in a larger context. For example, this research was conducted on all industry segments such as the food industry, petrochemical, oil and gas, automotive, and so on in order to obtain more universal results. Another example is to re-examine in different countries where there may be cultural differences with Indonesia, given that this study deals with relationships between companies.

Second, in measuring the relationship quality variable, the next research needs to be carried out on two related company perspectives. This aims to ensure that measurement tools on relationship quality variables such as communication, trust and commitment, can be confirmed more precisely. To do this, further research can determine the name of the supplier company on the questionnaire, and then conduct a survey or confirmation on the supplier.

Third, in future research, it is necessary to analyze the demographics of the companies involved in the study. By analyzing the demographics of the respondents, it is possible to obtain a descriptive picture of the effect of these demographic differences on the results. As for this demographic analysis, one of them can be done with the ANOVA method.

Fourth, in further research, it is necessary to obtain secondary data that can strengthen the measurement results. As explained earlier, this secondary data can be in the form of a description of the innovation and the number of innovations that have been carried out by the company in one period of time. This secondary data can be obtained from company websites, associations, or social media

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Low Carbon Economy and Green Financing

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Abstract. Low carbon economy and Green financing need urgent actions and collaborations from all countries in the world. In 2015 United Nations call for action with the introduction of 17 Sustainable Development Goals (SDGs) and since then all countries have begun their journey to achieve the goals set by 2030. USA, EU are developed countries and market leaders in setting a high bar in progressing along the way, in contrary to developing countries. Regulations and framework in developing countries create gaps that could be easily spotted compared with developed countries. Other obstacles come from lagging in the sustainable agenda implementation in developing countries caused by combination of capabilities building, low awareness, and availability of solid framework. This research use panel unit root analysis, Johansen's co-integration analysis and Granger causality test based on error correction model for the dataset from 1971 to 2014. The result indicates that in the short run, there is one-way causality from energy consumption to CO2 emission. While in the long run the result supports the presence of cointegration relationships between variables.

Keywords: CO2 emission; Energy Consumption; GDP per capita; UN 17 SDGs

1. Introduction

Low carbon economy and Green financing need urgent actions and collaborations from all countries in the world to solve the environment, pollution, and global warming worsening problems. The 17 Sustainable Development Goals (SDGs), which are an urgent call for action adopted by all United Nations member in 2015. Developed and developing or emerging countries acknowledge that to end poverty and other deprivations are collective efforts from all. Strategies to improve health and education, reduce inequality, and prompt economic growth while tackling climate change are elaborated in 17 SGDs. Climate risk is real, we all know and unfortunately some of us had first-hand experienced on the impact of Climate risk such as physical impact from increasing natural disaster, flood, forest fire, increased damaged to crops/rice production due to prolonged drought, warmer global temperature. Report shows that the average world's surface temperature has risen about 2.12 degrees Celsius since the late 19th century, which driven mainly by the increased carbon dioxide (CO2) emission and other human activities. Based on the Climate Risk Country profile issued by USAID in 2017, Indonesia facing a future climate risk such as projected climate change in 2050 which includes increased temperature of 0.8 – 2 degrees Celsius, with greater warming over large western islands i.e Sumatra, Java, Borneo; sea level rise of 150-450 mm by 2056.

On Climate risk, this is related to the SDG number 13, "Take urgent action to combat climate change and its impact" and The Paris Agreement (legally binding international treaty on climate change) adopted by 196 parties in Paris in 2015 and later came into force in 2016. With the goal to limit global warming below 2 degrees Celsius (preferably to 1.5 degrees Celsius compared to pre-industrial level), this is a journey that require collective effort globally from countries in the world. Under Paris Agreement, countries are required to submit their plans in tackling climate action known as Nationally Determined Contributions (NDCs). In the NDCs document, countries outline actions that they will undertake to reduce the Green House Gas (GHG) emission as part of the contribution to reach the goal of Paris Agreement as well as actions undertake to build resilience to adapt to climate change. It is of great significance, motivating, and beneficial to investigate if there is any relationship between GDP per capita, Energy Consumption and CO2 emission. Put these variables altogether, this research is meant to test and answer the question of whether there is any relation between GDP per capita, energy consumption and CO2 emission both in short-term and long-term. And subsequently the potential financing opportunities that are available as part of action in tackling the Climate Risk. Some of the foreseen opportunities are the project financing where Corporation, especially those in high-intensive carbon sectors such as Mining, Oil and Gas, Power, Infrastructure, need capital and specialized financing in transformation journey

to the low carbon economy e.g Project finance, Green Bond issuance, Carbon Credit offsetting. Hence while economic in vast growth mode, there is a need of comprehensive way and real action to promote sustainable development.

1.1 Problem Statement

Problem statement in the study elaborated as follow:

- Is there causal relationship between GDP per capita, Energy Consumption and CO2 Emission.

1.2 Research Objective

The objective of this research is to test whether there is a causal relationship between GDP per capita, Energy Consumption, and the CO2 emissions. The research is also aimed to build awareness on the real Climate risk that we are facing as a nation that is in emerging or growth mode. Energy plays a vital role in economic development and also a potential key for sustainable development going forward.

2. Literature Review

2.1 Relationship between GDP per capita, Energy Consumption and CO2 emissions

The relationship between GDP per capita, energy consumption and the CO2 emission have been discussed by many researchers globally in various scopes and angles. Based on the literature review there are a wide range of mixed result from the precedent studies on economic growth, energy consumption and CO2 emission.

(Jun et al., 2021) conducted research on the impact of globalization, non-renewable energy consumption, and economic growth on CO2 emission for selected South Asian economies during 1985–2018 under the EKC framework. The results identified that globalization is positively associated with CO2 emission. (Akbostanci et al., 2009) studied the relationship between income and environment in Turkey using time series and panel data for the periods1968–2003 and 1992–2001 respectively. Increasing relationship between CO2 emissions and income indicated in their research. (Kasperowicz, 2015) examined the relationship between CO2 emissions and economic growth for 18 EU Member Countries from 1995 to 2012 using data panel approach and basic ECM estimation to verified short and long-run relationship between GDP and CO2 emissions. The result for the short-run is positive due to the fast increase in production, energy use hence increases CO2 emissions. While in the long-run the relationship is negative, this in the back of development of new low-carbon technologies which enables lower CO2 emissions at the same production level.

2.3 Carbon Credit

Under Kyoto protocol on Clean Development Mechanism (CDM), allow Annex I countries to implement emission-reduction projects in developing countries. This project will be able to produce Certified Emissions Reductions (CER) credits, each equivalent to one tonne of CO2. In a nutshell, the projects must provide an emission reduction to be considered under CDM. The other market-based mechanism under Kyoto Protocol is the Emission Trading System (ETS), in which allows countries that have emission units to spare to sell this excess capacity to countries that are over their targets[1]. Thus, a new commodity was created in the form of emission reductions or removals (carbon offset). Carbon is now tracked and traded like any other commodity, this supply and demand for emission units establishes the market price, also known as the "carbon market".

According to article published by McKinsey (*How the Voluntary Carbon Market Can Help Address Climate Change | McKinsey*, n.d.)[2], Carbon credits or Carbon offsets have an important role to play in tackling the climate risk. This mechanism enables individual, corporations to support decarbonization beyond their own carbon footprint, hence could help in accelerating transition to a lower carbon economy. With this, it could also support financing of projects for CO2 removal, to balance out the CO2 emissions that will remain in decarbonization journey. While the voluntary carbon credit market has been experiencing significant momentum, it is still relatively small. McKinsey estimates that annual global demand for carbon credits could reach up to 1.5 to 2.0 gigatons of carbon dioxide (GtCO2) by 2030 (i.e 15 times from 2020 which is only 0.1 GtCO2) and up to 7 to 13 GtCO2 by 2050. Translated to a $5 billion to $30 billion market size in 2030 at the low end and more than $50 billion at the high end. (*A Blueprint for Scaling Voluntary Carbon Markets | McKinsey*, n.d.)[3]. In Indonesia context, the carbon credits opportunity lies in introduction or improvement of sustainable forest management in reducing emissions from deforestation and forest degradation, at the same time developing forest conservation and enhancement of forest carbon stocks. (Tomich et al., 2002) in their research on Carbon offsets for conservation and development in Indonesia, concluded that carbon offsets through agroforestation deemed

[1] https://unfccc.int/kyoto_protocol
[2] How the Voluntary Carbon Market Can Help Address Climate Change | McKinsey, n.d
[3] A Blueprint for Scaling Voluntary Carbon Markets | McKinsey, n.d.

more feasible as alternative of carbon offset with relatively lower cost.

With reference to precedent studies, in the context for Indonesia economy as a developing country, economic and human activities have increasing negative effects on the environment. It is also noted that energy consumption is positively correlated to CO2 emission. Thus, developing countries must determine the feasible options how to reduce carbon emissions as the economy grow (sustainable development).

3. Data dan Research Methods

3.1 Data

Data used in this research are Indonesia GDP per capita (current USD), energy consumption (kg of oil equivalent per capita) and CO2 emissions (kt) data for the period of 1975 to 2018 (44 years). Source of data is taken from World Bank database.

GDP per capita is gross domestic product divided by mid year population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars. Energy Consumption refers to energy use of primary energy before transformation to other end-use fuels, which is equal to indigenous production plus imports and stock changes, minus exports and fuels supplied to ships and aircraft engaged in international transport. Energy use is measured per kg of oil equivalent per capita. CO2 emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring.

3.2 Research Methods

The method use in this research is descriptive analysis, error correction model, panel unit root analysis, panel co-integration analysis (Johansen's co-integration test), panel causality analysis (Granger Causality test). The relationship between cointegration and error correction models, first suggested by Granger (Engle & Granger, 1987).

4. Discussion

4.1 Panel Unit Root Analysis

Panel unit root analysis is undertaken as the initial step to estimate the model using vector error correction model, this to test whether the data is stationary in order to do subsequent cointegration test. In this research, unit root analysis is tested using three different unit root tests including Levin, Lin & Chu Test (Levin et al., 2002), IPS-W-statistic (Im et al., 2003), ADF-Fisher Chi-square (Augmented Dickey Fuller, 1979), and PP-Fisher Chi-square tests (Phillips and Perron, 1988).

4.2 Descriptive Analysis

Descriptive analysis conducted on the data set to provide a description or summarize the data. Descriptive analysis is often used when reviewing any past or present data. This is because raw data is difficult to interpret, while the metrics offered by descriptive analysis are much more focused. The below is the descriptive analysis result from dependent and independent variables conducted using Eviews.

Table 1
Descriptive Analysis Result

	DEPENDENT_Y	INDEPENDENT_1_X1	INDEPENDENT_2_X2
Mean	217965.3	1058.179	578.4736
Median	178195.0	651.4407	593.1801
Maximum	490050.0	3694.359	883.9215
Minimum	38987.54	79.17819	297.3061
Std. Dev.	138530.4	1018.927	201.5920
Skewness	0.495527	1.598485	0.025950
Kurtosis	1.981585	4.402868	1.454651
Jarque-Bera	3.702153	22.34586	4.383130
Probability	0.157068	0.000014	0.111742
Sum	9590474.	46559.89	25452.84
Sum Sq. Dev.	8.25E+11	44643140	1747491.
Observations	44	44	44

Dependent variable (Y) is the CO2 emission, independent variable 1 (X1) is GDP per capita growth and independent variable 2 (X2) is Energy Consumption.

- CO2 emission data has mean 217.965, median 178.195, data range from 38.987 (min) to 490.050 (max)
- GDP per capita growth has mean 1.058, median 651, data range from 79 (min) to 3.694 (max)
- Energy Consumption has mean 578, median 593, data range from 297 (min) to 883 (max)

4.4 Panel Unit Root Test Result

As the basic step to estimate Vector Error Correction Model (VECM), panel unit root test is undertaken. This to ensure that the data is stationary. Panel unit root analysis is tested using three different unit root tests including Levin, Lin & Chu Test (Levin et al., 2002), IPS-W-statistic (Im et al., 2003), ADF-Fisher Chi-square (Augmented Dickey Fuller, 1979), and PP-Fisher Chi-square tests (Phillips and Perron, 1988).

Table 4.4.1 shows the results of the panel unit root tests for all the variables (GDP, Energy Consumption, and CO2) at Level. All the variables are not significant (prob > 0.05) under individual unit root result, meaning that they are stationary at level under Levin, Lin & Chu (LLC) for common unit root test; While in Table 4.2.2 where panel unit root test is performed at the first difference, results suggest that all the variables are statistically significant (prob < 0.05) which means the variables are stationary in the First Difference under all the tests (LLC, IPS and Fisher). Individual unit root test on the variables also tested and shows the same result at Level and at First difference. Thus, it can be concluded that every variable is integrated of order one, this mean that the data is stationary and meet the condition for subsequent step, which is to test the co-integration using Johansen co-integration. Johansen co-integration test will be performed to test the long run relationship between variables.

Table 2
Result of Unit Root Test (First difference)

Group unit root test: Summary
Series: DEPENDENT, INDEPENDENT_1, INDEPENDENT_2
Date: 01/16/22 Time: 01:27
Sample: 1971 2014
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-9.68787	0.0000	3	126
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-8.54209	0.0000	3	126
ADF - Fisher Chi-square	67.4682	0.0000	3	126
PP - Fisher Chi-square	67.4081	0.0000	3	126

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

Source: Eview 12 calculation

4.5 Johansen co-integration test

Johansen co-integration test is undertaken to test the long run direction of the cointegrating relationship. Under Johansen co-integration test, null hypothesis defined as there is no co-integration between variables.

Table 3
Panel cointegration test result using Johansen's co-integration methodology
Date: 01/16/22 Time: 22:46
Sample (adjusted): 1976 2014
Included observations: 39 after adjustments
Trend assumption: Linear deterministic trend
Series: DEPENDENT INDEPENDENT_1 INDEPENDENT_2
Lags interval (in first differences): 1 to 4

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.488004	37.95130	29.79707	0.0046
At most 1	0.179288	11.84318	15.49471	0.1646
At most 2 *	0.100655	4.137448	3.841465	0.0419

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.488004	26.10812	21.13162	0.0092
At most 1	0.179288	7.705736	14.26460	0.4094
At most 2 *	0.100655	4.137448	3.841465	0.0419

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: Eview 12 calculation

Based on Trace test result (the first block presented in Table 4.3.1) and Max-eigenvalue test (the second block presented in Table 4.3.1), each result denotes rejection of hypothesis null. In other words, the result supports the presence of co-integration relationships at the 5% significance level. This concludes that in the long run the variables are moving into the same direction.

4.6 Managerial Implication

Based on the study, there are some managerial implications that can be outline as follow:

1. It is noted that in the short run there is one-way or unidirectional causal relationship from Energy Consumption to CO2 Emission. Energy plays a vital role in economic growth, and we can't stop the energy consumption while the economy continues to grow. This condition creates the drive and urge the importance to switch from conventional energy to renewable or more green and clean energy. This is a space where room for improvement need to be accelerated such as via transfer knowledge from other countries with more advanced technology or knowledge of renewable energy source.
2. Given the direction going forward is low-carbon economy, there is a lot of opportunities for Corporation (especially those who are operate in high carbon intensive industry) to transform to more clean or green or sustainable energy. Where at this stage this is still rare, and not many Corporations has the capital or investment to transform their business toward this direction. This should be seen as an opportunity for Financial Institution to support the financing part in the transformation.

5. Closing

5.1 Conclusion

Based on the analysis conducted to test the relationship between Indonesia economic growth (GDP per capita), energy consumption and CO2 emission. The result indicates that in the short run, there is one-way or unidirectional relationship of energy consumption to CO2 emission and in the long run, Johansen's cointegration test supports the presence of cointegration relationships within the variables. Therefore, the needs to accelerate the energy transformation as well as technology and financial innovation are imperative for Indonesia to be able to meet the demand of sustainable development towards low carbon economy in the long run.

With the fact that Indonesia is the 4th populous country in the world and the economy is in developing mode (GDP per capita and energy consumption will continue to grow), the question is how the country can provide a sustainable grow meaning as the economy growing to ensure it will not be deteriorating the environment (in the form of CO2 emissions). Hence the urgency on the availability of clean or green or renewable energy source need to be accelerated (as of 2018, renewable energy consumption in Indonesia is at the lower end, only 21 percent of total energy consumption[4]). Energy conservation and framework or policies with focus on clean or green energy technologies should be a priority as part of the sustainable development planning in Indonesia, particularly with aim to reduce CO2 emissions while accelerating economic growth.

The Carbon Credit or Carbon offset can also be considered as one of the feasible options to help decarbonize, Indonesia can leverage or learn from the existing or established Carbon Markets in other countries. Indonesia has a geographical condition where almost 50 percent of the land area is forest and reforestation has been ongoing in the past few years. This geographical condition by default give Indonesia a huge potential for nature-based solution as a producer of carbon credit stock. This is another white space which is still new for Indonesia but have a huge potential to be explored. Finally incentives, green financing is also crucial to low carbon economy.

5.2 Suggestion

Some suggestion based on the study can be provided from two angles, one is for subsequent or further study on the similar topic where it could provide more extensive and in-depth analysis or research. And suggestion for respective parties i.e policy maker, Financials Institutions, Regulator, etc.

5.2.1 For Further Research

Some suggestion that can be considered for further research as follow :

- This research is conducted specifically for one country (Indonesia), subsequent research can consider extending this to more than one country in-scope for research. For example, the scope can be further extended up to region level (more than one country within the same region) or research for countries

[4] Source : Worldbank Data

categorized as Developed and Developing countries. This in order to provide a comparison of the result between these two groups.

- In relation to the data limitation, it can be suggested once the recent data is available the study can be conducted with more recent data in order to provide more relevant situation as there is a three years time difference between the last data available (2018) and the year when the study is conducted (2022).
- Variables such as incentives for firms that create less environment pollution should also be explored.

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Cultivating the Spirit of Servant Leadership in Christian Teachers through Technology-Based Teacher Performance Appraisals: Preliminary Studies at Christian Schools in Jakarta

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Abstract. The Servant Leadership (SL) model is a leadership model that is applied in the context of a Christian school. Efforts to develop the spirit of Servant Leadership integrated into the technology-based Teacher Performance Appraisal (TPA) become an interesting study to be studied further. The method used in this research is a case study where the participants involved are in the Christian school community in Jakarta. The literature review is used to see a series of efforts to develop the spirit of Servant Leadership in each teacher's personality, which is measured through a technology-based Teacher Performance Appraisal. The results of efforts to develop the leadership model of Servant Leadership will strengthen the application of the spirit of Servant Leadership in every teacher in Christian schools.

Keywords: servant leadership; Christian teacher; teacher performance appraisal; Christian School

1. Introduction

Servant Leadership is one form of modern leadership that has resulted in much research conducted worldwide. Research related to empirical and conceptual Servant Leadership is the main attraction in this type of servant leadership (Eva *et al.*, 2019, p. 2). This kind of management has also been used in numerous large corporations and Christian institutions like Christian schools. Servant leadership is interesting to apply because the type of leadership has the keyword "servant" and the implication is "service" where the leader has a role as a servant who serves others. Servant Leadership is also seen as suitable for use as a model for contemporary kinds of leadership. (Schroeder, 2016, p. 13). Leaders in schools, such as principals, use the Servant Leadership (SL) model to look at various aspects such as teacher effectiveness and so forth. This SL model will be related to its relationship with Teacher Performance Appraisal (TPA). Developing the spirit of Servant Leadership (SL) in each teacher's personality through Teacher Performance Appraisal is one of the exciting things to be raised in Christian schools. Teacher Performance Appraisal (TPA) is essential to a teacher's professionalism. The performance shown covers various aspects ranging from pedagogy, professionalism, communication, intrapersonal relations and so on (Kuncoro and Dardiri, 2017, p. 2). Measurement tools can use technology through various management platforms in the world of education to effectively get an accurate picture and have evidence recorded in cyberspace.

Measurement of teacher performance is certainly not solely aimed at rewarding or disciplining, but rather a process that is valued as individuals with their uniqueness and talents. Concerning the context of a Christian school, this research combines the Servant Leadership model through the Teacher Performance Appraisal process, which raises the spirit of serving as a Christian teacher in a Christian school. Technology is used to help measure teacher performance and make detailed, measurable, practical measurements.

2. Research Methods

This research refers to a qualitative form using case studies in Christian schools in Jakarta. The qualitative method approach in the case study will focus on efforts to describe, understand and predict. The understanding of the case study itself, according to Yin (1994), is a form of empirical investigation by examining contemporary phenomena in real-life contexts, especially when the boundaries between phenomena and contexts are unclear (Woodside, 2010, p. 1). Case study research will also focus on individuals, groups or

communities of interest to researchers (Sekaran, 2016, p. 98), and in this case, the community under study is a Christian school located in Jakarta. Participants in the study were leaders at the head office, specifically in the Education and HR (Human Resources) fields, considering that the topic of Performance Management and, in this case, Performance Appraisal is an essential tool in realizing management within the scope of HR development (Dal Corso et al., 2019, p. 1). The Head of the HR Division collaborates with the Head of the Education Sector to make policies related to Teacher Performance Appraisal for educators and, in this context, are teachers from kindergarten, elementary, junior high and high school levels. Interviews with the level leaders served as the basis for data triangulation, namely the Kindergarten School Principal, Elementary School Principal, Junior High School Principal and Senior High School Principal, to obtain comprehensive data.

3. Literature Review

Cultivating the Spirit of Servant Leadership

Leadership is a skill that every individual must possess in all types of professions or roles and including the teaching profession. As the front fence in education, the teacher is a leading figure for the students taught and taught in the classroom. A teacher practices leadership in all activities he does in the school environment. Teaching and learning activities in the classroom, accompanying students to participate in competitions, counselling students, providing consulting services to parents, require leadership skills.

The Servant Leadership Model is one of the reference leadership models practised in Christian schools. Christian organizations frequently practice servant leadership, which has grown in popularity over the past 40 years in the context of the Western and global world. (Singfiel, 2018, p. 1). This leadership model refers to the Christian concept that to be a leader, one must first serve (Savel and Munro, 2017, p. 97). This leadership model refers to the figure of Jesus Christ (Krumrei-Mancuso, 2018, p. 256). Christ is described as a “servant-leader” who asks His followers to be “servant-leaders” (Song, 2019, p. 3). Christ has set the example of a “servant” where He came into the world to serve sinners.

The focus of the Servant Leadership model is the people served. The people who are served are the followers. The motivation of the servant leadership model is that leaders must have an agape type of love for their followers (Retno et al., 2020, p. 904). Self-sacrifice in the leader for the people he leads or serves is manifested in agape love, namely love that is willing to sacrifice for others. This image is closely related to the person of Christ willing to sacrifice himself to death on the cross to redeem sinners.

A Christian teacher is someone who is called to serve in a Christian school. The concept of service is a characteristic inherent in the figure of a Christian teacher. He serves the souls entrusted to him in the classroom, namely students who are taught and educated. The stewardship carried out by Christian teachers does not only revolve around serving the students in their class but also holistically serving the parents of the students. Teachers here are parents' partners (in loco parentis) in educating their children in the school environment, while parents are the leading educators. A teacher must always be aroused by the spirit of service in the Servant Leadership model if he or she is to be a servant "servant" before God and fulfill his calling in serving "service" in Christian schools.

The spirit of Servant Leadership (SL) in the personality of Christian teachers is recorded in all behaviours, actions, and activities carried out by teachers while at school. Growing the spirit of SL is the responsibility of the Christian school in serving the teachers in the school, even in the Teacher Performance Appraisal. The ten characteristics of SL are listening, empathy, healing, persuasion, awareness, seeing the future (foresight), conceptualization, and commitment to follower growth (commitment). to the growth of people), stewardship (stewardship), and building community (Schroeder, 2016, p. 14).

Teacher Performance Appraisal

Measurement for teacher competence is commonly known as the Teacher Competency Test (UKG). UKG is a measurement carried out by the government with two aspects: pedagogical and teacher professional (Kuncoro and Dardiri, 2017, p. 1). The National UKG's objective is to obtain a picture (portrait) of teacher competencies across all of Indonesia, from Sabang to Merauke, and the outcomes are used under the Ministry of Education and Culture's program (Ministry of Education and Culture). UKG is also carried out by private schools such as Christian schools and is explicitly made in the context of Christian schools that align with the vision and mission of Christian schools. The name of UKG in this context is Teacher Performance Appraisal.

Performance Appraisal (PA) is an important thing done in organizations, including Christian schools. The Performance Appraisal (PA) concept has an exciting story from China where the Wei dynasty empire (A. D.261-265) assessed the performance of royal members (Patrick, Mwalw'a and Okemasisi, 2021, p. 2) and this concept continues to develop and be used in throughout the world in various organizations and the world of education, PA refers to educators, namely teachers and is called Teacher Performance Appraisal (TPA). TPA is

essential because, in addition to being used to measure, it is also intended to continuously improve the quality of the school community.

One of the purposes of measuring teacher competence in Christian schools is to develop the spirit of leadership in each teacher's personality. The leadership spirit is intended to lead to servant leadership (Servant Leadership). Therefore, the application of Teacher Performance Appraisal will be integrated with efforts to develop the spirit of Servant Leadership for each teacher, and this refers to the results of research which revealed that servant leadership (SL) has a positive impact on the performance of followers (Saleem et al., 2020).

Use of Technology in Teacher Performance Appraisal

Using technology to take measurements is an effective tool to help implement various programs, including in the school context. Schools in Indonesia, since the COVID-19 pandemic, has experienced changes in learning from traditional forms of learning (traditional learning) to mixed learning (blended learning), then hybrid learning (hybrid learning) and online learning (online learning). Using a Learning Management System (LMS) is necessary for learning both in the Blended Learning or Hybrid Learning and Online Learning models. Students interact through LMS, which contains material or learning modules, listen to material from the teacher, answer exams, send, discuss and so on (Aldiab et al., 2019, p. 731). The experience of teaching using technology has made schools accustomed to using technology, including management related to human resources.

Teacher performance measurement using technology can provide accurate analysis related to the daily tasks of a teacher both in terms of pedagogy and professionalism as an educator in schools. One of the technologies that can be used in this case is Human Resources Analytics (HRA). The exciting thing about HRA is its essential role in analyzing by collecting various information, and in the end, it can be used to evaluate performance, so that HRA here is not only used to carry out the analysis. Furthermore, make decisions on a financial or operational basis but can help make decisions related to human resources and decisions based on facts (Sharma and Sharma, 2017, p. 8). Technology-based measurement approaches a more objective form of measurement and minimizes subjective measurements.

The use of technology in Teacher Performance Appraisal can also use platforms that are relevant to the world of education, such as the Learning Management System (LMS). One LMS platform that is quite familiar is the Modular Object-Oriented Dynamic Learning Environment (Moodle). Teachers and students can use this Moodle to improve performance or competence in learning at school (Mwalumbwe and Mtebe, 2017, p. 2). Students carry out various learning activities ranging from doing questions, quizzes, and interactions, and all behaviours (behaviours) can be analyzed using various LMS platforms (Juhaňák, Zounek and Rohlíková, 2019, p. 2).

4. Conclusion

The initial study of developing the Servant Leadership spirit of Christian teachers through technology-based Teacher Performance Appraisal in the context of Christian schools is an effort that must be carried out comprehensively. The points of the characteristics of the Servant Leadership model need to be described in detail and adapted to the values that exist within the Christian school itself. The focus on the people being served in this case is the teacher serving students as valuable individuals in the eyes of God and also serving parents who are partners for teachers (in loco parentis) in educating their children at school.

The formulation of measurements in a technology-based Teacher Performance Appraisal (TPA) should encourage teacher leadership, specifically in the Servant Leadership model. Measurements carried out using technology provides benefits, namely the availability of tangible evidence of all teacher activities in pedagogy and professionalism as a teacher. Analysis performed by technology minimizes the element of the subjectivity of a measurement. The technology used in the TPA can also be harmonized with the needs and availability of human resources and supporting infrastructure so that the technology used can provide maximum benefits.

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The Trade Competitiveness of the Indonesian Automotive Industry

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Abstract. The automotive industry is one of the leading sectors that has a significant contribution to the national economy. The automotive sector has contributed an investment value of IDR 99.16 trillion with a total production capacity of 2.35 million units per year and has absorbed a direct workforce of 38.39 thousand people. From a job creation standpoint, the automotive sector has a far-reaching impact on the more than 1.5 million people working along the industry's value chain. The automotive industry has an essential and strategic role, so it is included in the Making Indonesia 4.0 roadmap, which is prioritized for development in the implementation of industry 4.0. Since 2020, domestically produced motor vehicle products have been able to penetrate the export market to more than 80 countries around the world. On this basis, it is essential for Indonesia to be able to measure the comparative advantage of the Indonesian automotive industry, or to measure the competitiveness of Indonesian automotive products in the world market. This competitiveness measurement uses Revealed Comparative Advantage (RCA), which measures Indonesia's comparative advantage using an index known as the Balassa Index.

Keywords: Revealed Comparative Advantage; competitiveness; automotive sector

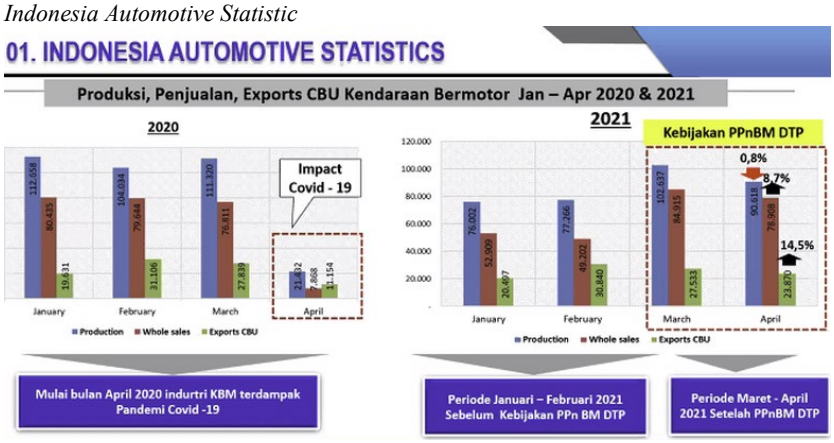
1. Research Background

The automotive industry is one of the leading sectors that significantly contribute to the national economy. Currently, there are 22 four-wheeled or more motor vehicle industry companies in Indonesia. The automotive sector has contributed an investment value of IDR 99.16 trillion with a total production capacity of 2.35 million units per year and absorbed 38.39 thousand direct workers (Ministry of Industry, 2022).

From a job creation standpoint, the automotive sector has a far-reaching impact on the more than 1.5 million people working along the industry's value chain. The automotive industry has an important and strategic role so that it is included in the Making Indonesia 4.0 roadmap, which is prioritized for development in the implementation of industry 4.0. Along with the Making Indonesia 4.0 program, the national motor vehicle industry sector is targeted to become a global player. During this pandemic, the government has carried out various stimuli to be able to increase the production of the automotive industry so that it continues to make a major contribution to the national economy, such as incentives to reduce PPnBM for motorized vehicles in the vehicle segment with a CC below 1500, namely for the sedan and 4x2 categories. This is to encourage the demand side of the automotive industry. Another thing is the holding of the 2021 Indonesia International Motor Show (IIMS) virtual exhibition as a strategic tool in assisting the promotion and sales program for the automotive industry, namely to introduce the latest technology from the automotive industry in the country and the vehicles displayed.

Since 2020, domestically produced motor vehicle products have been able to penetrate the export market to more than 80 countries around the world. Exports of completely built up (CBU) vehicles amounted to 232.17 thousand units or a value of Rp. 41.73 trillion, while shipments of completely knocked down (CKD) vehicles totaled 53.03 thousand sets or a value of Rp. 1.23 trillion, and 61 components. 2 million pieces or IDR 17.52 trillion. In the future, Indonesia will become an export hub for motorized vehicles, both for oil-based vehicles or internal combustion engines (ICE) and electric vehicles or electrical vehicles (EV). One of the automotive 4.0 strategies is to build an ecosystem for the EV industry, starting with mastering the manufacturing capabilities of electric motorcycles, then the manufacturing capabilities of batteries and electric cars in line with global trends.

Figure 1
Indonesia Automotive Statistic



Source: Otomotif Kompas (2021)

On this basis, it is important for Indonesia to be able to measure the comparative advantage of the Indonesian automotive industry, or to measure the competitiveness of Indonesian automotive products in the world market. This competitiveness measurement uses Revealed Comparative Advantage (RCA), which measures Indonesia's comparative advantage using an index known as the Balassa Index.

2. Literature Review

Nagy and Jambor (2018) analyze the global Revealed Comparative Advantage (RCA).

car trading and the duration and stability of the Balassa index by applying the Markov transition probability matrix and the Kaplan-Meier survival function. The data used is global car exports at the HS6 level for 1997-2016. The result is that the characteristics of global automotive trade, it turns out that China, USA, Japan and Germany are the largest auto manufacturers, but the top exporters are Germany, Japan and Canada in the study period, and together account for 40% of all exported products, however, provide 71% concentration. It was also found that the most traded/exported automotive products are vehicles with internal combustion-only spark ignition (1500-300cm3) (870323) globally, accounting for more than 40% of all vehicle exports between 1997 and 2016. Index calculation results Balassa pointed out that Spain and Japan had the highest profit ratio across all analyzed periods among the world's largest auto exporters.

Tampubolon, J (2019) performs calculations by selecting products included in the analysis using a two-step approach. The position of the Indonesian manufacturing sector is calculated by making a limited selection of the top 250 export products (out of 1,259 products in 4-digit HS). As a competitive sector (RCA>1) reflects the sector's position as the top 10 exports, based on its share (export value). This approach also provides new indications of Indonesian exports in the Chinese market, especially after the implementation of the ASEAN-China Free Trade Agreement in 2010.

Bezic and Galovic (2015) examined the international trade performance of the automotive sector from 21 European OECD Member countries. During 2014 and 2015, the international competitiveness of the OECD European automotive industry showed positive signs. The growing demand for vehicles boosts supply leading to better trading performance. Its basic objective is to measure the performance of international trade in the automotive industry

from OECD member countries. The main results of the paper show that international competitiveness is detected by measuring, evaluating the automotive industry especially in foreign markets, recommendations and proposals to achieve a higher level of international trade.

Soyyigit and Yavuzalan (2020) examine competitive forces in international trade, which is one of the most desirable target countries in today's globalized world. Thus, the importance of international competitiveness which has become a fundamental issue since the emergence of international economic theory is increasing for various products. Within this scope, it is very important to analyze the product groups in which countries have comparative advantages from past to present in order to detect problems and determine the existing situation. In this context, with reference to the importance of the state in the existing global structure, investigation of Turkey's comparative advantage in motor vehicle production is the subject of this study. The Revealed Comparative Advantage (RCA) index, which was first proposed by Liesner and later developed by Balassa, was used to determine Turkey's comparative advantage in motor vehicle production from 1989 to 2016. The findings indicate the existence of new competitors in the automotive sector and that Iran's competitiveness and Eastern

European countries will determine the medium and long term position of the Turkish auto industry in the global market.

Vosta and Kocourek (2020) state that the automotive industry is one of the fastest growing industries, a significant employer and investor in research and development, and also one of the most important sectors of the EU economy. However, the sector has recently gone through a series of structural changes and territorial transfers. Precisely for this reason, it seems important to examine the competitiveness of the auto industry at the national level, analyze long-term trends across the EU, and incorporate them into global context. This article uses the standard method of statistical analysis of indexes to reveal symmetric comparative advantage to detect the characterizing trend shape and long-term development of the automotive industry in Europe. Researchers point to a substantial shift in production and exports from traditional Western European automakers in favor of the new European Union member states, but also from the United States and Canada supports fast-growing emerging developing countries in the South and Southeast Asia and in Latin America. A brief outline of the European Commission's response to these changes in the European automotive industry in the form of the CARS 2020 Action Plan.

3. Research Method

The concept of competitiveness as a comparative advantage was introduced by the theory of comparative advantage by David Ricardo in 1817 through his book On the Principles of Political Economy and Taxation, known as the Ricardian Model. However, comparative advantage was first stated by Robert Torrens in 1815 in an essay published in Corn Laws.

The most popular measure of competitiveness used is Revealed Comparative Advantage (RCA), which measures comparative advantage. Balassa uses to measure the comparative advantage of a country by compiling an index known as the Balassa Index. This index identifies whether a country has a demonstrable comparative advantage but does not determine the origin of the comparative advantage. This definition has undergone revisions and modifications so that the use of RCA as a measure of comparative advantage varies, such as at the global, sub-global/regional or bilateral level between two countries as trading partners.

This index is considered the most appropriate for use in dissertation research because: (i) the response modifies RCA measurements which are more comprehensive and advanced so that they are more acceptable 3; (ii) the Response index in practice is more used because it reduces the impact of distortion 4 ; and (iii) despite having weaknesses5, various studies have used this method with satisfactory results because it is easy to obtain data and operationalize it (Burhan, Sri, 2021)

The export performance of a product from a country is measured by calculating the share of a product's export value to a country's total exports compared to the share of the product's value in world trade. (Ministry of Trade, 2022). The index response formula is:

$$\text{RCA} = \frac{X_{ij}/X_{it}}{X_{nj}/X_{nt}} \qquad \text{…….. 1}$$

Where:
X_i =Indonesian Export; $X_{j=}Otomotif$; $t \quad = Group\ of\ product$; $n \quad = a\ group\ of\ country$.

In theoretical models, comparative advantage is expressed in relative prices evaluated in the absence of trade. Since these are not observed, in practice, we measure comparative advantage indirectly. Revealed comparative advantage indices (RCA) use the trade pattern to identify the sectors in which an economy has a comparative advantage, by comparing the country of interests trade profile with the world average. The definition of RCA index is defined as the ratio of two shares. The numerator is the share of a country's total exports of the commodity of interest in its total exports. The denominator is the share of world exports of the same commodity in total world exports. Range of values: Takes a value between 0 and +∞. A country is said to have a revealed comparative advantage if the value exceeds unity.

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The Role of Strategic Human Resources Management, Knowledge Management, and Innovation Capability on Innovation Performance in Pharmaceutical Company

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Abstract. According to resources-based view, firm should manage resources strategically to create innovation for achieving competitive advantages. Human resources is one of the resources of the firm should be managed strategically. This study examines the role of knowledge management and innovation capability in the relationship between strategic human resources management (SHRM) and innovation performance. For this purpose an empirical research is conducted to analyze data from Indonesian pharmaceutical firms. The result indicates that SHRM practices are positively related to innovation performance directly and through innovation capability.

Keywords: Strategic Human Resources Management; Knowledge Management; Innovation Capability; Innovation Perfomance

1. Introduction

The business world is very dynamic and very competitive. One example of a dynamic form in a business is the Covid -19 pandemic that occurred in early 2020, whose effects are still being felt today, for example, many companies have suffered losses and were forced to restructure debt or even go bankrupt. The Central Statistics Agency (BPS) report in August 2020 revealed that Indonesia's economic growth was minus 5.32% in the second quarter of 2020. This result is an illustration that there has been a very far economic decline when compared to the 2019 period where Indonesia was able to achieve an economic growth rate of 5.02%.

Hitt (2001) describes a solution to deal with an uncertain environment by implementing Strategic Entrepreneurship, which applies exploration (entrepreneurship) and exploitation (Strategic Management) simultaneously. The result of strategic entrepreneurship is innovation that produces competitive advantages which will have implications for wealth creation (Ireland, 2003). From this statement, it can be concluded that innovation is an absolute key to gaining competitive advantage for an organization.

Based on the resource-based view approach, Ireland (2003) explains that there are three organizational resources that need to be managed strategically, such as the company's financial aspects, the company's human resources, and the company's social capital. HR is one of the resources owned by an organization whose value is very valuable. Lado and Wilson (1994) argue that human capital consists of knowledge, expertise, and skills is a valuable asset for the company.

However, individual HR of an organization often refuses to share knowledge and expertise with other staff or other co-workers because of the lack of trust "lack of trust" and feel that the knowledge and skills possessed are only for their own benefit (Currie and Kerrin, 2003). For this reason, a company's knowledge management capabilities are needed in terms of utilizing the knowledge possessed by human resources to create innovations. In addition, organizations also need to have innovation capabilities to produce innovation performance to increase competitive advantage.

Huang and Chen (2009) examined the relationship between strategic human resources management and innovation performance mediated by knowledge management. In his research it is explained that strategic HR practices work with their beneficial effects on innovation performance through capacity in knowledge acquisition, knowledge sharing, and knowledge application. The same thing was studied by Fontana et al (2015) that strategic human resources affect innovation performance through innovation capabilities.

Therefore, the study conducted by Huang (2009) and Fontana (2015) provides further research gaps to more deeply review the relationship between strategic human resource management and innovation performance mediated by knowledge management and innovation capability. organizational competitive.

2. Literature Review

In this section, it will be explained about the description of a number of conceptual theories from various previous studies related to this research. The discussion will be divided into four parts, namely the concept of strategic human resources management, innovation capability, knowledge management, and innovation performance.

2.1 Strategic Human Resources Management

Ichniowski (1997) defines strategic human resources management as an innovative work practice which can affect the productivity of an organization by using a more radical approach such as providing incentives, recruitment and selection, cooperation, flexible job assignments, job security, communication, and training compared to with a traditional parameter approach such as strict work rules, relatively narrow job definitions and hourly wages with strict supervision. Danpour (1991) in his research suggests forms of strategic human resources management such as staffing, training, employee participation, performance appraisal, compensation, can affect employee motivational commitment in making innovations for organizations that can support organizational performance.

Strategic Human resources management has a relationship with the innovation of an organization or company. In order to survive and increase growth, companies must continuously innovate. Innovation is defined as the introduction of new economically and socially successful ways or new combinations of existing ways of converting inputs into outputs that result in changes in the value/price relationship offered to users (de Meyer and Garg, 2005). Koc (2007) in his research suggests that good quality human resources will determine innovation performance.

This research used five dimensions of strategic human resource management: (i) training, (ii) compensation, (iii) performance appraisal, (iv) staffing, and (v) participation.

2.2 Innovation Capability

Companies must provide the demands of innovation to meet market needs, create new needs for the market and anticipate technological developments. Cooper (2011) explains that companies must be able to extend the life cycle of their products or create something new with innovation. Skarzynski and Gibson (2008) explain that to get good innovation performance, companies need to have innovation capabilities or innovation capabilities. The same opinion was also conveyed by Davila et al (2006) stated the need for companies to develop innovation capabilities based on positive behavior, competence and motivation of managerial ranks and employees to get good innovation.

Lawson and Samson (2001) describe innovation capability as the company's ability to transform knowledge and ideas into new products, new processes for the benefit of the company and its stakeholders. Meanwhile, Madanmohan (2003) defines innovation capability as the company's ability to reconfigure and develop organizational resources and capabilities to innovate. Based on Madanmohan (2003), this research used three dimensions of innovation ability: (i) sensing ability, (ii) combination ability and (iii) relational (network) ability.

2.3 Knowledge Management

Knowledge management is an approach that more actively utilizes knowledge and expertise. to create value and increase organizational effectiveness (Gold et al., 2001). Companies that show a greater level of knowledge management capacity experience a learning effect that can increase their ability to reduce redundancy, respond quickly to change, and develop creative ideas and innovations (Scarbrough, 2003).

Organizational innovations that require the development of new products or services as well as new administrative systems are emerging as an important source of continuous competition. (Damanpour, 1991; Hurley and Hult, 1998). The innovation process involves the acquisition, dissemination, and use of new and existing knowledge (knowledge application) (Damanpour, 1991; Moorman and Miner, 1998). Organizational innovation is closely related to its ability to utilize its knowledge resources (Subramaniam and Youndt, 2005).

This research used three dimensions of knowledge management: (i) knowledge acquisition, (ii) knowledge sharing and (iii) knowledge application.

2.4 Innovation Performance

Wang and Lin (2012) describe innovation performance as the achievement or success of the innovation made by the company in accordance with the target. Innovation performance can be measured by several approaches ranging from technical, non-technical and financial approaches (Gamal, 2011). The OECD (2005), which was conducted in Oslo, describes several aspects that can be used to measure innovation performance such as innovation outputs (eg the number of new products produced, improving the quality of work, and improving existing systems within the company) and the impact of innovation (eg changes in competition). , market expansion, increased productivity, profitability and environmental impact).

Zhou et al. (2013) study of 179 Chinese organizations has revealed that technological and administrative innovations in organizations contribute to higher bottomline performance. an Auken et al. (2008) have explored the relationship of product, process and administrative innovation with firm performance in Spanish manufacturing SMEs and their study revealed that all three types of innovation contribute positively to firm performance. In another study of manufacturing organizations in Turkey, Gunday et al. (2011) have analyzed the impact of product, process, marketing and organizational innovation on innovation performance and various company performance indicators.

This research used two dimensions of knowledge management: (i) administrative innovation, (ii) technical innovation.

3. Hypotheses

Huang and Chen (2009) describe several strategic human resource management practices such as training, compensation, performance appraisal, recruitment (or staffing), as well as participation in business processes in all parts. The practice of strategic human resources management itself can affect the innovation capability of a company, as in the research conducted by Romijn and Albaladejo (2002) on software companies in the UK.

Madanmohan (2003) describes the importance and components of innovation capability in business activities such as sensing capabilities, combination capabilities, and also relationship skills which can improve company performance so that it can benefit the business and stakeholders. Capaldo et al (2002), Koc (2007), Simatupang and Widjaja (2012), and Edison et al (2013) also researched that strategic human resources management has an effect on innovation capability

Hypothesis 1: Strategic Human Resources Management has a positive effect on Innovation Capability

Human resources, with all their knowledge, expertise, and skills are very valuable resources for companies according to Lado and Wilson (1994) and Wright (2001). Organizations that can effectively manage and utilize the knowledge and expertise inherent in the minds of individuals will be able to generate extraordinary competitive advantages (Ruggles, 1998).

However, employees are reluctant or unable to provide information related to knowledge and expertise to each other because of a lack of trust between individuals and other individuals (Currie and Kerrin, 2003). Huang and Chen (2009) add that it is very important for companies to take advantage of employee involvement and participation through knowledge management. In this regard, Martinson (1995) argues that the practice of human resources is the main approach to acquire and strengthen the knowledge and skills of employees that are expected by the company.

Huselid (1995) added that there are several human resource practices such as recruitment (staffing), training, increasing participation, performance evaluation, providing compensation and incentives, activities that increase commitment, reduce employee turnover (turnover), and improve performance through the development of employee motivation.

Hypothesis 2: Strategic Human Resources Management has a positive effect on Knowledge Management

Companies need to have innovation capabilities to produce good innovation performance according to research by Skarzynski and Gibson (2008). There are several studies which state that there is a relationship between innovation capability and the company's innovation performance. Martinez-Roman et al (2011) explained that there is a relationship between innovation capability and innovation performance on products and processes.

Clark (1994) explains that sensing ability affects the acceleration of the production process to serve consumer demand. Another dimension of innovation capability is the combination capability and relationship capability, which according to Dewar and Dutton (1986) can create new technologies, new products and processes resulting from the exploration of ideas using innovation capabilities.

Hypothesis 3: Innovation Capability has a positive effect on Innovation Performance

Damanpour (1991) explains that to achieve a sustainable competitive advantage, a company or an organization must innovate, and an example of innovation that a company or organization needs to do is to develop new products, services, and administrations that are in line with company goals. The innovation process involves acquiring, disseminating, and using new knowledge that already exists (Moorman and Miner, 1998).

Hypothesis 4: Knowledge Management has a positive effect on Innovation Performance

4. Method

This study was conducted in Indonesian pharmaceutical companies. The survey was conducted by an online questionnaire consists 37 Likert-scale-type indicators with response 1 (strongly disagree) to 5 (strongly agree). Prior to the distribution of the questionnaire and collecting data, the instruments was tested and reviewed in advance by pre-test and discussions with experts.

Research model examination was conducted using variance-based SEM (Partial Least Squares -PLS). The model were tested by : (i) Evaluation of the outer model or models of measurement, to examine indicators of latent variables, and (ii) Evaluation of inner models or structural models, to test the effect of one latent variable to other latent variable (Hair, et al., 2014).

5. Result and Discussion

The survey has been carried out for eight weeks, starting from June 25, 2022 to September 30, 2022 by sending 220 candidates from the total distribution, the researchers managed to collect 96 empirical data, so from this figure it can be said to have a response rate of 43.63%. . In this study, there are 220 companies engaged in the pharmaceutical sector in Indonesia according to the 2021 Investment Coordinating Board (https://www.bkpm.go.id/) where 90% of companies focus on the downstream sector in the manufacture of medicines.

Before hypotheses testing, validity and reliability evaluation were performed to the research model. This study used indicator reliability (minimum score of 0.4), discriminant validity, average variance extracted (AVE, minimum score of 0.5), Cronbach's Alpha (CA, minimum score > 0.6) and composite reliability (CR, minimum score of 0.7) for validity and reliability evaluation. The result of validity and reliability evaluation is described in Table 1.

Tabel 1
Result of Validity and Reliability Evaluation

Latent Variable		Number of Indicator	Outer Loading Range	Average Variance Extract	Composite Reliability	Cronbach's Alpha	Number of final Indicator
2nd Order	1st Order						
SHRM	Training	4	0.882 - 0.923	0.794	0.939	0.913	4
	Compensation	3	0.841 - 0.949	0.822	0.932	0.890	3
	Performance Appraisal	3	0.828 - 0.854	0.705	0.877	0.790	3
	Staffing	3	0.862 - 0.898	0.744	0.911	0.854	3
	Participation	3	0.913 - 0.953	0.874	0.954	0.928	3
Knowledge Management	Knowledge Acquisition	3	0.597 - 0.899	0.653	0.846	0.732	3
	Knowledge Sharing	3	0.804 - 0.880	0.729	0.890	0.814	3
	Knowledge Application	2	0.891 - 0.892	0.953	0.981	0.961	2
Innovation Capability	Sensing Capability	3	0.865 - 0.883	0.767	0.908	0.848	3
	Combination Capability	2	0.909 - 0.918	0.835	0.910	0.803	2
	Relationship Capability	2	0.892 - 0.920	0.820	0.901	0.782	2
Innovation Performance	Administrative Innovation	3	0.892 - 0.927	0.837	0.939	0.902	3
	Technical Innovation	3	0.893 - 0.968	0.860	0.949	0.918	3

Hypotheses testing were taken after ensuring all the indicators and dimensions are valid and reliable. According to Hair et al (2014), hypotheses testing using SEM-PLS is done by measuring the structural model that describes the relationship between latent variables.

Structural model will be tested using coefficients of determination (R2 values, the general value of 0.75, 0,50 or 0,25 for endogenous variables, demonstrated the value of a strong, moderate and weak), the path coefficient value and the value of t-statistic (t-values, > 1.96 for the alpha 5%) of each track to test the significance between variables in the research model. The model is considered suitable if the estimated value is significant. The estimated value to the relationship paths in the model can be obtained by bootstrapping procedure.

The value of each endogenous variable based on their coefficients of determination (R^2) is 0.655 for innovation capability (moderate) and 0.729 for innovation performance (strong). Furthermore, the result of Hypotheses testing is described in Table 2.

Tabel 2
Results of hypotheses testing

Hyphotheses	Path	Path Coefficient	t-value	p value
H1	SHRM --> Innovation Capability	0.788	13.716	0.000
H2	SHRM --> Knowledge Management	0.733	14.250	0.000
H3	Innovation Capability --> Innovation Performance	0.432	4.060	0.000
H4	Knowledge Management --> Innovation Performance	(0.090)	0.792	0.429
H5	SHRM --> Innovation Performance	0.733	14.25	0.000

Based on structural model evaluation, it can be concluded that both hypotheses are accepted except hypotheses 4 which stated that knowledge management has a positive effect on innovation performance. Tabel 2 shows that the relationship between knowledge management and innovation performance has t value 0.792 and p value 0.429. There are several reason why the hypotheses is rejected. First, it takes a competent knowledge management ability to be able to influence the company's innovation performance (Chen and Huang, 2009).

Second, there is one indicator of knowledge management such as the KAC1 indicator which stated "knowledge is obtained from customers/customers" which is less relevant. This is because the product is a drug/medicine which in the manufacturing process is based on input or standards of pharmacists because these products have a high impact on human health, the KAC1 indicator is more precisely used in the software industry.

Tabel 3
Result of R Square

Causal Relationship Between Variables		R Square	Category
Strategic Human Resources Management	Innovation Capability	0,622	Moderat
	Knowledge Management	0,538	Moderat
	Innovation Performance	0,788	Strong

The highest score of t-value is the relationship between strategic human resources management and innovation performance directly which is 14.25. This result is supported by the calculation of R^2 of this relationship which 0.788 (see table 3). While knowledge management and innovation capability remind to moderat.

6. Conclusion

This study proves that there are strategic human resource management significantly affects innovation performance with two ways. First, Strategic human resources has significat affect to innovation performance directly. Second, strategic human resources can affect innovation performance through innovation capability such as sensing capability, combination capability, and relationship capability. This results shown line with previous studies, which are conducted by different methods and contexts. From this research we can conclude that to gain competitive advantages through creating innovation, firms should pay attention to manage human resources strategically such as giving training, compensation, performance appraisal, staffing, and participation of the workers in a business process. The result of successfully adoption of SHRM can be seen by innovation administrative and technical innovation and getting competitive advantages in a very dynamic business environment especially in pharmaceutical company.

7. Limitation of the Study

The main limitation of this study is the number of samples used due to the limited numbers of pharmaceutical firms participating in this study (96 firms). Although the respond rate is 43.63%, but this study will get better results if it has a sufficient number of samples. Expanding the sample size appears to potentially improve some of the statistically conclusions obtained from this study. This research involved manager or team leader in a various position. For the next research will be better if involved only manager and and upper which has position in human resources departement which understand more about human resources aspect. Another limitation is to add other indicators to each dimension to enrich the research results.

The Last limitation is to related the t-value. In this research didn't measure the t-value the impact of strategic human resource management to innovation performance through both of innovation capability and knowledge management. It's very interesting to find out the impact of knowledge management and innovation capability as a mediation between strategic human resources management and innovation performance.

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Antecedents Customer Engagement on Social Media and Its Consequence to Purchase Intention in the DKI Jakarta Hotel Industry: Uses & Gratification Theory Perspective

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Abstract. Based on the Uses and Gratification theory, the purpose of this paper is to investigate the factors influencing customer engagement on social media and its impact on purchase intention in the DKI Jakarta hotel industry. As antecedents to customer engagement on Facebook, four motives are investigated: surveillance, social interaction, information sharing, and attraction. The questionnaires were distributed to a convenience sample of 200 hotel guests. Structural Equation Modeling was used to assess and analyze the data, and five hypotheses were tested. Surveillance, social interaction, information sharing, and attraction all have a positive effect on customer engagement in the social media context, according to the findings. Customer engagement influences purchase intent positively. In theory, this study contributes significantly to predicting behavioral intentions that may influence hotel industry recovery prospects. Practically, the study concludes that social media engagement with customers is critical for managers to reclaim and revitalize the market in the current and upcoming post-pandemic COVID-19 period, particularly in the context of the hotel industry.

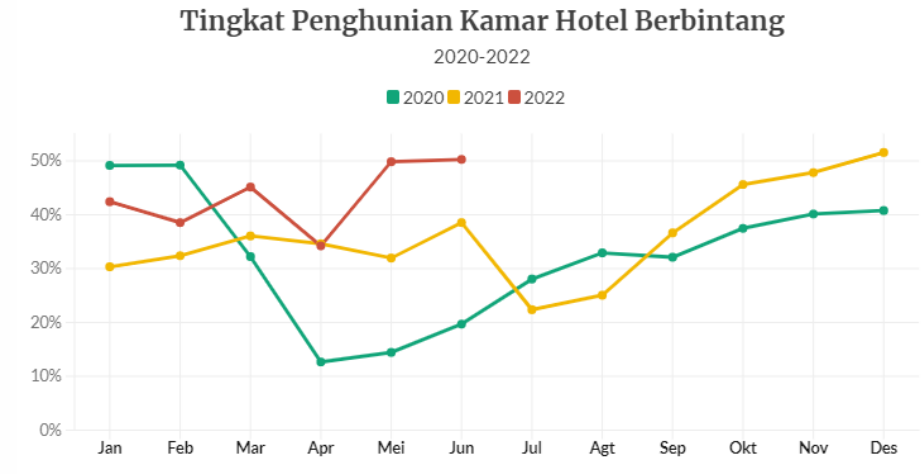
Keywords: customer engagement; social media; purchase intention; uses and gratification theory

1. Introduction

The COVID-19 Pandemic struck Indonesia in March 2020. The impact was felt in a variety of business sectors that experienced ups and downs and were filled with uncertainty, including the tourism sector, particularly the hotel sector. Tourism and hospitality, as an industry based on human mobility and close interaction, is both a co-creator and a major recipient of the pandemic and its consequences (Hao et al., 2020). The difficulties encountered affect all stakeholders in the hospitality industry. This is partly due to travel bans and social distancing norms, which have reduced tourists' access to travel. Tourists cancel their travel plans and hotel reservations, affecting hotel employees' job security and income. As a result of a lack of manpower and funds, hotel renovation projects have been delayed, slowing the domestic hotel group's expansion (Tri Agustina & Yosintha, 2020). According to the Indonesian Hotel and Restaurant Association (2022), between January and April 2020, Indonesia lost a potential revenue of 60 trillion rupiah from foreign tourists and around 30 trillion rupiah from domestic or domestic tourists. This is supported by BPS data (2020), which shows that foreign tourist arrivals only reached 2.16 million in January - February 2020, an 11.8 percent decrease from the same period last year, and a 28.85 percent decrease overall in February.

Currently, Indonesia is attempting to accelerate the recovery of tourism and hospitality, despite the fact that the COVID-19 crisis remains a threat. Several tourist destinations have seen significant revitalization. The lifting of tourist bans and social distancing restrictions will help the tourism and hospitality industries grow and recover. The level of occupants of five-star hotel rooms has fluctuated during the pandemic from 2020 to 2022, indicating that the situation is improving.

Figure 1
Starred Hotel Room Occupancy Rate 2020–2022



Source: BPS (2022)

Based on the data presented above, the occupancy rate of hotel rooms in March 2022 was 45.15 percent, representing a 6.61 percent increase over the previous month. On an annual basis (year over year), there is a 9.08 percent increase (BPS, 2022).

The increase in room occupancy has improved in DKI Jakarta Province. It was 36.9 percent prior to the pandemic, 19.8 percent after the pandemic, and then fluctuated. It began to improve in September 2021 and increased to 52.3% in January 2022. In January 2022, the average length of stay for guests was 2.08 days. Five-star hotels have the longest average length of stay, which is 2.64 days. Meanwhile, the cheapest hotel is a three-star hotel with a rating of 1.86. This demonstrates that there is a high level of interest in and demand for five-star hotels. When it comes to the proportion of guests staying at star-rated hotels in DKI Jakarta, Indonesians account for 94.1%, with foreign guests accounting for the remaining 5.9%. (Central Bureau of Statistics for DKI Jakarta Province, 2022). This indicates that performance is improving. The hospitality industry's long-term recovery appears promising, but it is not without challenges.

The rapid development and adoption of social media technology has transformed the tourism industry. For hospitality companies, social networking sites have become an important marketing channel for promoting products and building customer relationships (Lakha & Vaid, 2021; Leung et al., 2015). Individuals' lives are greatly influenced by social networks because they enable them to communicate with others and share content without regard for space or time constraints (Abbas et al., 2021). Promotional offers appear in social media users' news feeds and social network connections (Bonfanti et al., 2021; Melián-Alzola et al., 2020; Jiang et al. 2019). Travelers frequently use social media to share their travel and vacation experiences. Social media platforms used include social networks (such as Facebook and LinkedIn), microblogs (such as Twitter), and content sharing communities (such as YouTube and Instagram) (Moravcikova & Krizanova, 2019). When compared to other social media platforms, Facebook has more traction because it offers more actions that can be taken, and it also shows that consumers shop on Facebook more frequently after seeing their posts. Some people in the hospitality industry prefer Facebook because it allows them to do more things, such as post content in the form of photos, videos, fun, aesthetic, creative, and charming stories with a focus on visual quality, and to showcase their products in an appealing way (Mahesha De Silva & Silva, nd).

Several studies have been conducted on the role of social media in the hospitality industry, such as the effect of promotion on distribution channels such as online travel agents and discounts (Hu & Yang, 2020). Customer engagement on social media in the hospitality industry (Varkaris & Neuhofer, 2017; Tom Dieck et al., 2017). According to Chen (2017), customer engagement on social media is an important factor in generating purchase intent among consumers. Cvijikj and Michaelles (2011) conducted a study on the motivational factors that affect customer engagement on social media, including the type of content, type of media, and time of posting. Carlson et al. (2019) discuss the importance of information satisfaction, fun and entertainment, and social interaction. Akhunjonov et al. (2016) discuss the social, economic, social improvement, and entertainment benefits. Varkaris and Neuhofer (2017) then investigate the sources of content on social media as well as consumer decision-making behavior. According to Tom Dieck et al. (2017), perceived ease of use and perceived usefulness influence consumer attitudes and satisfaction, and ultimately continue usage intentions in the luxury hotel context. Phelan et al. (2013) conducted research that focused on hotel content features, property information, and interactions in evaluating how hotels use Facebook to engage customers. This has piqued

researchers' interest in consumer engagement on Facebook (Triantafillidou & Siomkos, 2018). Individual requirements motivate them to participate in community activities. This has implications for digital engagement because many consumers seek emotional connections with their favorite brands, leading to the formation of online brand communities (Dessart and colleagues, 2015).

Although much has been written about the role of social media in hospitality management and how to build customer relationships, whether or not consumer engagement increases business value is dependent on how customers engage in brand relationships. As a result, previous studies still have limitations and a lack of literature that discusses how effective customer engagement on social media is to encourage buying behavior such as purchase intention in the context of the hospitality industry in Indonesia, specifically in DKI Jakarta.

The goal of this study is to investigate surveillance, social interaction, information sharing, and attractiveness as antecedents of customer engagement on social media, which directly affect purchase intention. As a result, the primary goals of this study are to 1) determine the effect of supervision, social interaction, information sharing, and attractiveness on customer engagement on social media, and 2) analyze the effect of customer engagement on social media on purchase intention. In a theoretical contribution, the Uses and Gratifications Theory is used to explain four important need satisfaction factors: supervision, social interaction, information sharing and attractiveness, relationship with customer engagement on social media, and ultimately purchase intention. Purchase intent is an important predictor of consumer purchasing behavior (Ajzen, 1991). These findings can help hotels develop more effective marketing strategies by utilizing social media as a platform to interact with customers and expand hotel service delivery.

2. Literature Reviews and Hypotheses

2.1 Uses and Gratification Theory

Developed Uses and Gratification Theory (Katz, Blumler & Gurevitch, 1973) The theory of Uses and Gratifications makes two major assumptions about media users. For starters, media consumers actively choose the media they consume and use. People, according to this viewpoint, do not use media passively, but rather actively choose media to use based on their own motivations. Second, people understand why they choose different media, and they choose media based on their perceived "self-motivation" to meet their specific needs. According to the Uses and Gratification Theory, audiences use media that meets their needs (Katz, Blumler, et al., nd); (Malik et al., 2016). Uses and gratification Theory was one of the first approaches to studying the dynamic role of audiences in media choices, recommending that people actively seek out, identify, and use media to satisfy specific needs and gratifications. This viewpoint recognizes that consumers are active social media users (on Facebook), rather than passive media consumers. Considered one of the most effective frameworks for investigating various social media sharing behaviors, such as the sharing of links, news, and photos. Thus, social media platforms offer new perspectives on content types within the UGT framework, where consumers actively manage their media consumption behavior. Dolan et al., 2019. With the rise of social media and increased internet usage, Uses and Gratification Theory is being applied to consumer behavior in the hospitality industry (Yoong & Lian, 2019). Aluri et al. (2016) examines various gratification factors in the use of social media and their influence on consumer behavior in the context of the hospitality industry using the Uses and Gratification Theory. According to the findings, there is a link between tourist satisfaction (perceived informativeness, perceived enjoyment, and perceived social interaction), satisfaction, and purchase intentions in the hospitality industry. Choi et al. (2016) discovered that information satisfaction, convenience, and self-expression are antecedents to user satisfaction and purchase intent in the hospitality industry. Thus, this study will fill a gap in the literature by focusing on four important need satisfaction factors identified by (Katz, Gurevitch, et al., n.d.): supervisory motives (representing cognitive needs), social interaction (representing social integrative needs), information sharing (representing social integrative needs), and information sharing (representing social integrative needs) (representing cognitive needs). representing integrative needs) and interest in the aspect of satisfaction sought (representing affective needs). This motivation factors is linked to customer engagement on social media and, as a result, purchase intent in the hospitality industry.

2.2 Purchase Intentions

Purchase intent serves as the foundation for displaying purchasing behavior (Martins et al., 2019). According to researchKumar and Nayak (2019), there is theoretical support in the literature that "intention" is used as a strong indication of "actual behavior," and the two are closely related. Purchase intention is a combination of consumer interest and the possibility of purchasing a product, and it determines buyers' future behavior based on their attitudes (Morwitz, 2014). Purchase intention research is expanding, particularly in relation to online purchase intentions (Yoong & Lian, 2019; (Aluri et al., 2016). On social media platforms, information, judgments, and responses are exchanged, allowing people to gain trust and overcome insecurity, resulting in a desire to purchase the company's products. Bong Ko and Jin (2017).

2.3 Surveillance

The need for information and self-education via social media is defined as surveillance (Whiting & Williams, 2013). Another definition proposed by (Shahbaz & Funk, 2019) is the collection and processing of personal data collected from digital communication channels, frequently using automated technology that allows large amounts of information and content to be collected, processed, and analyzed in real-time. Attained through passive modes of using social media to expand one's knowledge of the immediate social environment or simply knowing what is going on in social networks. This includes searching for specific types of people using advanced search characteristics; browsing social networks, viewing statuses and profiles (including photos) of friends and friends of friends as an alternative to other strangers; and browsing social networks, statuses and profiles (including photos) of friends and friends of friends as an alternative to other strangers (Ruggiero, 2000). This implies that people use a variety of media to keep track of what is going on both inside and outside their home. As a result, social media is what people use to keep track of what others are up to (Whiting & Williams, 2013). Due to the vastness of space, fear, and censorship, traditional media cannot report in its entirety, whereas people can upload videos, pictures, and comments on social media. 2021) (Majeed et al. It continues, "Information found on social media provides new opportunities for scrutiny and engagement." As a result, it is proposed that:

H1: Surveillance has a positive impact on purchase intention.

2.4 Social Interactions

Social interaction is defined as the exchange of communications, opinions, ideas, and feelings between customers, businesses, and others (Vivek et al., 2012) and can be achieved through mass media (Whiting & Williams, 2013). According to Phelan et al. (2013), social network features are more interactive than those found in other communication platforms. Customers can share their hotel stay experiences on social media, and when a user has a higher level of interaction within the social networking community, they are more likely to recommend brands because of the benefits of engagement. (Aluri et al., 2016). According to Guo et al. (2015), posting comments or compliments will generate more responses. As a result, customers can quickly and easily obtain information and learn knowledge about brands/products, and individuals can easily get to know each other and become friends. (Muniz and O'Guinn) (2001). Whiting and Williams (2013) discovered that their respondents primarily use Facebook for engagement-boosting interaction and socializing. As a result, it is proposed that:

H2: Social interaction has a positive impact on customer engagement.

2.5 Sharing of Information

Sharing information via social media facilitates information sharing among customers, customers and businesses, and others. Customers can consume and disseminate knowledge through social media (Nov et al., 2010). In general, the ability to share information on social media by simply clicking "share" (Kalsnes & Larsson, 2018). According to Osatuyi (2013), information sharing on social media sites has increased customer engagement. For example, hotel customers use social media to provide interactive information to other customers who link directly to the appropriate Facebook page. Customers can even share information visually, such as hotel photos and videos posted on the Facebook page for other customers to see (Phelan et al., 2013). According to (Kaplan & Haenlein, 2010), social media has encouraged customers to share their positive experiences that have an impact on the decision to buy products or services, because customers share information from their hotel stay experiences by providing comments, sharing photos, and rating reviews on social media. Furthermore, research has shown that sharing information on users' social media pages can be used for future decision making, so sharing information can help with both immediate information search needs and information search for future plans. Chua et al. (2012). According to hospitality research, social media platforms with a high level of relational content, such as Facebook, facilitate information sharing (Munar & Jacobsen, 2014). Furthermore, Hur et al. (2017) discovered that information seeking, entertainment, and customer engagement motives can influence tourists' willingness to share information. As a result, it is suggested:

H3: Sharing of information has a positive impact on customer engagement.

2.6 Attraction

Attraction is the ability to arouse interest, pleasure, or liking in something. The abundance of formally posted features about a brand on social media is appealing (de Vries et al., 2012). Because, according to Taylor (2019), attraction brings customers to the brand without them having to chase it, each social media platform has its own uniqueness in attracting customers. According to Araujo and Neijens (2012), users who are drawn to company pages are more likely to interact with them by liking, sharing, and commenting. According to Fortin and Dholakia (2005), the more appealing a social media website appears, the more effective it is in improving

consumer attitudes toward the website. As a result of its strong influence on the five senses, multimedia content has the power to influence consumers (Coyle & Thorson, 2001). As a result, it is proposed that:
H4: Attraction has a positive impact on customer engagement.

2.7 Customer Engagement

The process of developing deeper relationships with customers is known as customer engagement. Customer engagement is defined by Viek et al. (2012) as the intensity of individual participation and connection with a company's offerings and activities initiated either by the customer or by the company. Customer engagement that is effective will increase brand loyalty and influence customer discussions and purchasing behavior (Hollebeek et al., 2014). Customers will comment, like, and share information when they interact with brands (products or services) via social media (de Oliveira Santini et al., 2020; Wang & Kim, 2017). The interactions that customers have with brands, such as purchases, social media posts, or other brand exposure, actually build customer engagement. According to de Oliveira Santini et al. 2020), consumers are increasingly using digital platforms and social media to express themselves and interact with businesses. According to (Wu et al., 2020), the use of social media by businesses is to understand the extent to which customer engagement with brands is good emotionally, profitable, and sustainable, in order to build marketing strategies. Social media has changed the role of the customer by allowing them to contribute to the creation and sharing of information, photos, reviews, and other marketing resources (Larivière et al., 2017). Research in the hospitality sector shows that customer engagement facilitates the conversion of browsers into buyers and can also help them gain more insight about the company (Kanje et al., 2019). According to Tiruwa et al. (2018), there is a link between customer engagement on Facebook social media and purchase intent. According to the findings of the study, there is a significant effect of customer engagement on purchase intention in the context of social network marketing in Pakistan. This finding also emphasizes that customer interactions, communication, and knowledge sharing about products have increased customer engagement, which leads to purchase intention. As a result, it is suggested:
H5: Customer engagement has a positive impact on purchase intention

3. Research Method

3.1 Measurements and Data

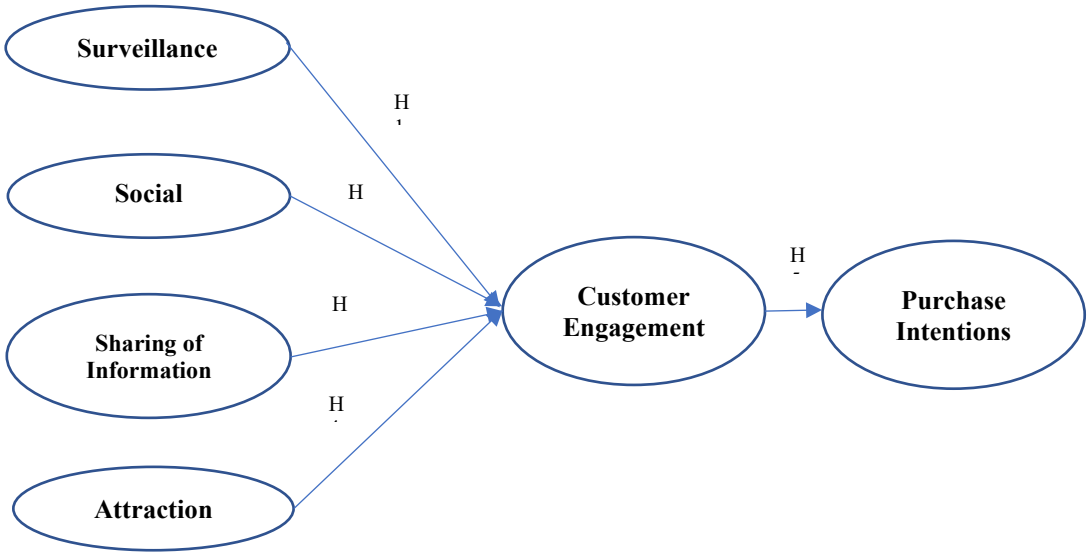
The purpose of this research is to test and analyze the effect of surveillance, social interaction, information sharing, attraction, and customer engagement on purchase intention from the standpoint of Uses and Gratification Theory. This study combines a quantitative survey with a cross-sectional study. Individuals aged 18 and up who were hotel customers and had stayed at five-star hotels in DKI Jakarta for the previous six months comprised the population in this study. This choice was made because DKI Jakarta has a large number of star hotels because it is Indonesia's capital city, government center, trade center, and recreation center. The target social media platform is Facebook, which provides users with the majority of content creation tools and has the world's largest social media community. The sampling technique used is non-probability sampling, with the individual serving as the unit of analysis. Hair et al. (2020) state that a sample size of 150 is required for Structural Equation Modeling (SEM) analysis on six constructs in the structural model. To meet the SEM analysis requirements, the number of samples in this study was 200 respondents.

A self-administered survey questionnaire with 24 items on a Likert scale of 1-5 (1 = strongly disagree to 5 = strongly agree) was used to collect primary data. To test the hypothetical relationship between the proposed constructs, the multivariate data analysis method used the Partial Least Squares-Structural Equation Modeling (PLS-SEM) method with Smart PLS 3.3 software. Surveillance, social interaction, information sharing, attraction, customer engagement, and purchase intention constructs were adapted from Yoong and Lian's (2019).

3.2 Conceptual Model

Centered on the above discussion, our proposed model, as depicted in Figure 2, is as follows:

Figure 2
Proposed Model



4. Result of Study

4.1 Demographic characteristics of the sample

According to Table 1, approximately 37% of the 200 valid respondents were 39-49 years old, with females outnumbering males 57% to 43%. The respondents were highly educated, with 91% holding a college degree or higher. The majority of respondents (37%) visited an event's Facebook page on a weekly basis, while others (33%) visited it daily or more frequently.

Table 1
Demographic characteristics of the sample (n= 200)

Demographics	Classification	Frequency	Presentation
Age	18-28	36	18%
	29-38	58	29%
	39-49	74	37%
	50 or older	32	16%
Gender	Male	86	43%
	female	114	57%
Education	High school or less	10	5%
	Diploma	8	4%
	Undergraduate	162	81%
	Graduates or more	20	10%
Job	Student	10	5%
	Employee	136	68%
	Unemployed	14	7%
	Retired	14	7%
	Others	26	13%
Income	< Rp. 3,000,000	14	7%
	3,000,001 – 8,000,000	32	16%
	8,000,001 – 15,000,000	70	35%
	15,000,001 – 25,000,000	56	28%
	25,000,000 or more	28	14%
Frequency of visit event's Facebook page	Every few months or less	20	10%
	Every few weeks	40	20%
	Weekly	74	37%
	Daily or more	66	33%

4.2 Assessment of Measurement model

The reliability and validity tests are used to validate the measurement model (outer model). The reliability test is performed with the goal of determining the consistency and stability of the measurement instrument and the items contained within it over time (Hair et al., 2020). The reliability test can be seen in Table 2 below, which shows the composite reliability value and Cronbach's alpha value. The composite reliability and Cronbach's alpha values for each construct are greater than the recommended minimum threshold of 0.7, indicating that the data is reliable. The validity test was performed to determine whether the research instrument used could measure what it was supposed to measure (Hair et al., 2020). All factor loading values meet the 0.7 criterion. The average variance extracts value is greater than 0.5. (Hair et al., 2019). That is, the value of each construct must be greater than the value of the research model's relationship between latent constructs.

In addition, the Fornell-Lacker criteria were used to evaluate discriminant validity. The square root of AVE is compared with a latent construct correlation in this method (Hair et al., 2019). The values in bold in Table 3 indicate that the variance of the latent construct for the indicator itself is greater than the variance of the other latent constructs (Fornell & Cha, 1994). The criteria for the heterotrait-monotrait ratio to check discriminant validity are shown in Table 4. According to the research findings, the value (in bold) is less than 0.85, confirming that there is no problem with discriminant validity (Henseler et al., 2015).

Table 2
Reliability, Validity, and Measurement

Variable	Indicator	Factor Loadings	Cronbach Alpha	Composite Reliability	AVE
Sur1	I learned a lot about hotel services.	0.805	0892	0917	0.734
Sur2	I have the most recent information on hotel services.	0896			
Sur3	I was given information about a hotel that meets my requirements.	0891			
Sur4	I was given assistance in learning about interesting hotel services.	0.832			
SI1	I had the opportunity to meet other customers through social media.	0.812	0.862	0.906	0.707
SI2	The hotel responds to posted customer feedback/comments/questions.	0.854			
SI3	I can easily communicate with other hotel guests through social media.	0.853			
SI4	I actively share my thoughts on hotel services with others on social media.	0.844			
Sinf1	Every day, I receive updates and messages from the hotel.	0.866			
Sinf2	I easily share information with others.	0893			
sinf3	I was informed of the most recent promotion.	0.819			
sinf4	I have quick access to hotel service information.	0.742			
Att1	I discovered useful information/content.	0.685	0.810	0.876	0.641
Att2	The provided link is active and functional.	0.815			
Att3	Visually appealing content	0.870			
Att4	Video content that is interesting	0.819			
CE1	I frequently browse Facebook	0.741	0.721	0.827	0.545
CE2	I frequently read hotel service posts on Facebook	0.694			
CE3	I frequently comment on hotel service posts on Facebook	0.742			
CE4	I frequently share hotel service posts on Facebook	0.773			
PI1	My interest in purchasing hotel services is growing	0.771	0.834	0.890	0.669
PI2	I am very likely to purchase hotel services recommended by my Facebook friends	0.837			
PI3	I intend to purchase hotel services as advertised on Facebook	0.876			
PI4	I have a positive purchase intention on hotel services	0.783			

Note. Sur = surveillance; SI = Social interactions; Sinf = Sharing of information; Att = Attraction; CE = Customer engagement; PI = Purchase intention.

Table 3
Fornell-Lacker Criterion

Discriminant Validity						
	Sur	**SI**	**Sinf**	**Att**	**CE**	**PI**
Sur	**0.857**					
SI	0.827	**0.841**				
Sinf	0.710	0.832	**0.851**			
Att	0.630	0.670	0.578	**0.800**		
CE	0.582	0.737	0.593	0.531	**0.738**	
PI	0.663	0.624	0.544	0.818	0.504	**0.853**

Table 4
Heterotrait-Monotrait Ratio (HTMT)

HTMT						
	Sur	**Si**	**Sinf**	**Att**	**CE**	**PI**
Sur						
SI	**0.680**					
Sinf	0.870	**0.619**				
Att	0.746	0.847	**0.770**			
CE	0.730	0.949	0.707	**0.832**		
Sur PI	0.787	0.783	0.639	0.758	**0.592**	

4.3 Assessment of the Structural Mode

In Smart PLS 3.3, the path coefficient value is calculated using the PLS algorithm function technique known as bootstrap (Hair et al., 2019). Table 5 shows that surveillance, social interaction, information sharing, and attraction have a positive effect on customer engagement because they have a p-value less than 0.05, indicating that the hypothesis is supported. Customer engagement has a positive effect on purchase intention because the p-value is less than 0.05, indicating that the hypothesis is supported. Hypotheses H1, H2, H3, H4, and H5 are thus supported. The results obtained are consistent with previous research by (Whiting & Williams, 2013; Yoong & Lian, 2019).

Table 5
Hypothesis Test Results

Hypothesis	**Variable Relationship**	**Path Coefficient**	**T - Statistics**	**P-Values**	**Results**
H1	**Surveillance→Customer Engagement**	0.082	3,814	0.041	**Supported**
H2	**Social Interactions→Customer Engagement**	0.076	3,253	0.001	**Supported**
H3	**Sharing of information→Customer Engagement**	0.074	4.701	0.000	**Supported**
H4	**Attraction→Customer Engagement**	0.084	6,627	0.000	**Supported**
H5	**Customer Engagement→Purchase Intentions**	0.022	37,901	0.000	**Supported**

4. Discussion

This study develops uses and gratification theory and consumer purchasing behavior, which can be used by hotels and business practitioners to improve customer relations and market competitiveness through effective social media engagement. According to the findings of this study, customer engagement on social media plays an important role in increasing purchase intentions in the DKI Jakarta hospitality industry. Customers will typically explore various information channels on social media platforms to obtain the information required for their purchasing decisions in terms of information control. As a result, hotels can stimulate purchase intentions

by making search engines, information channels, and the process of exchanging information in embedded content easily accessible. It will facilitate information search and interaction between customers by allowing customers to participate in social media forums, reviews, and ratings.

Social interactions can help customers learn more about services, which in turn can help hotels develop new service ideas, processes, and developments. Hotels should also use social media sites to increase customer interaction, facilitate various activities, sales promotion campaigns, and engage customers through surveys. There are several ways to encourage communication between hotels and customers, such as posting questions, contests, and welcoming Facebook fans to generate ideas and opinions in order to increase customer engagement. Customers also share referral information with friends and become more involved in the virtual hotel community. An active online presence is required for hotels to increase their influence and remain competitive in the market.

Interest in social media has become one of the most difficult challenges for hotels in attracting customers to their social media pages. Hotels can accomplish this by displaying more appealing hotel photos or advertisements featuring positive hotel stays from celebrities or loyal customers. Facebook, for example, has introduced animated reactions and GIF buttons to improve the platform's emotional expression. This can heighten one's sense of social presence. Hotel customers' complaints, feedback, and suggestions can be received via social media. As a result, hotels should focus more on responding quickly to feedback and assisting customers in a timely manner to increase the likelihood that customers will choose their hotel.

5. Closing

5.1 Theoretical and Practical Implications

This research aims to help hotel workers who are recovering from the COVID-19 pandemic live better lives and plan for the future. This study can help hotel companies around the world understand how antecedents of customer engagement on social media influence purchase intent. Based on the findings, hotel companies should increase customer engagement activities on social media and then develop strategies to increase purchase intent.

Customers use online sites to access personalized resources, receive up-to-date knowledge, and share insights and other tips. As a result, it is critical for hospitality to provide up-to-date and relevant information about the brand and its products on social media in order to meet customer needs. Social media activities should be planned carefully in order to provide mental experiences and knowledge, social communication, and personal integrative assistance that may improve social status and reputation. Managers can rely on social media by establishing and maintaining strong brand-consumer associations. Thus, the implications of this research are as follows: Theoretically, this study generates significant contributions to predicting behavioral intentions that may influence hotel industry recovery prospects. Practically, the study also provides several important implications that social media engagement with the customers is pivotal for managers.

5.2 Limitation and Suggestions for future research

There are a few limitations to this study that may suggest methodologies for future research. This study is specifically designed to investigate the hotel industry in DKI Jakarta on three-, four-, and five-star hotel services, as well as Facebook as the most well-known social media platform. The results may not be applicable to hotel companies in other countries. Although, as one of the most popular social media platforms, Facebook may reduce a cultural barrier, social media users around the world may have completely different interpretations of the same post's information. As a result, cross-cultural research can be expanded by applying the studied relationship in different countries. Future research could also look into the impact of social media engagement on other consumer purchases or post-purchase behavior. Behavioral situations such as actual purchase, intention to repurchase, or loyalty.

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User Assessment of Livin by Mandiri

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Abstract. This research was conducted with the aim of finding out customer ratings of the use of a digital banking by the community, especially for digital banking Livin by Mandiri as a case study. The hypothesis in this study has a positive impact, where even with the risk of using digital banking, it can also provide positive results for services. For this study, purposive sampling was carried out from Livin by Mandiri users as respondents. This study has collected 2,023 respondents and used a Likert scale of 1-5. From the results of this study, perceived usefulness is the variable with the highest results, which explains how people's ability to use technology is one of the highest determining factors in using digital banking Livin by Mandiri.

Keywords: Perceived usefulness; Perceived ease of use; Perceived Risk; Attitude towards the service

1. Introduction

The development and growth of technology has been very fast. Starting from simple technology to technology that is considered complicated. The development and growth of this technology has also penetrated all fields of business, industry and even every human activity. One industry that feels and is required to always keep abreast of technological developments is the banking industry. Starting from the application of artificial intelligence (AI), Machine Learning (ML), as well as other technological developments. Technological developments, especially digital services, require banks to continue to innovate to improve customer service and experience with current banking products. Digital banking is a product derived from banking services that makes it easier for customers to access bank services without having to physically visit the service office again. The term digital banking includes mobile banking and internet banking services. Indonesia, as one of the countries in Asia, is the largest adopter of digital banking services. This data is the output of a survey conducted by McKinsey in 2018 (McKinsey, 2019).

As one of the largest state-owned banks, Bank Mandiri has also seized on digital banking opportunities to improve its services with Livin products. This digital banking product aims to create a personal banking service experience in accessing financial services, starting from opening savings accounts, deposits, credit cards, loans and many more. Since its launch in 2019, the number of Livin users has continued to increase, reaching nine million users in 2019.

2. Literature Review

Attitude Towards the Service

According to Sitinjak (2019), defines Attitude towards the Service as a person's positive or negative feelings towards a service. Furthermore, attitude or attitude itself is defined as a user's preference when they use a device (Olatokun & Owoeye, 2012). Attitude can be said separately when talking about the feelings and tendencies that people have when they think about their likes or dislikes towards an object. (Gupta & Bansal, 2018). So, in the end, attitude towards the service can be explained as a phenomenon of consumer behavior that shows consumers' feelings towards the services offered by a company (Damghanian, & Siahsarani-Kojuri, 2016).

Perceived Usefulness

Perceived Usefulness is the perception of the usefulness of a technology or innovation that is felt by someone (Ananda, Devesh, & Al Lawati, 2020). Perceived Usefulness can be said to be a thought that is owned

by someone, where he believes that the technology being used will help them do something. Suhaimi & Hassan, 2018). Perceived usefulness is also explained as the belief that using new innovations or certain technologies will improve the performance of their users (Grover, Kar, Janssen, & Ilavarasan, 2019). Thus, Perceived Usefulness in a nutshell is a perception obtained from a consumer's subjective evaluation of the functions obtained from a technology (Mbama, Ezepue, Alboul, & Beer, 2018).

Perceived Ease of Use

Perceived Ease of Use is the level of a person's belief that using technology will reduce excessive effort (Al-Sharafi, Arshah, Herzallah, & Alajmi, 2017). Perceived Ease of Use is the level at which a person believes that using a particular technology or system will be free of effort (Indarsin & Ali, 2017). Perceived Ease of Use is convenience related to the business and convenience of certain technology users (Hansen, Saridakis, & Benson, 2018). The description above provides the results of several previous researchers regarding perceived ease of use, from these results it can be explained that perceived ease of use is the level of one's confidence in a technology that will make it easier for users when they learn and use the technology (Rodrigues, Oliveira, & Costa, 2016).

Perceived Risk

According to Farah, Hasni, and Abbas (2018), perceived risk is the uncertainty that customers face when they cannot predict the implications of their purchasing decisions. Consumers' perception of risk and their personal risk tolerance are elements that influence their purchasing strategy (Singh & Srivastava, 2018). Furthermore, according to Rouibah, Lowry, and Hwang (2016), perceived risk is uncertainty about the unfavorable consequences of adopting a product or service. In general, the perception of risk is described as the possibility of loss or an unfavorable impact on customer efforts to achieve the desired goals when making online purchases through internet media (Chauhan, Yadav, & Choudhary, 2019). In this study, consumers act as banking customers who carry out online transactions using Digital Banking.

3. Research Methods

This research is quantitative research by distributing questionnaires online to respondents using the Google form. The intended respondents were Livin by Mandiri customers where in this study a total of 2,023 respondents were collected from the 2,053 distributed. Sampling in this study using non-probability sampling technique with purposive sampling method. Respondents who filled out the questionnaire were screened first to ensure that those who filled out the questionnaire were users of the Livin by Mandiri application. This study uses a Likert scale of 1-5 where the value is 1 for Strongly Disagree, 2 for Disagree, 3 for Neutral, 4 for Agree, and 5 for Strongly Agree. Then the collected respondent data was processed using the SmartPLS software.

Respondent Profile

Based on the collected respondent data, it was found that the majority of respondents in this study were male with a total of 1,252, aged 30-40 years, had strata 1 background, worked as civil servants or BUMN employees and had an income of five million rupiahs to ten million rupiahs per month.

Table 1
Model Measurement Table

Construct	Outer Loading	AVE	Composite Reliability	R^2
ATS1	0,895	0,836	0,953	0,750
ATS2	0,943			
ATS3	0,910			
ATS4	0,919			
PU1	0,623	0,689	0,897	
PU2	0,875			
PU3	0,890			
PU4	0,900			
PEU1	0,871	0,798	0,940	
PEU2	0,883			
PEU3	0,911			
PEU4	0,908			
PR1	0,841	0,790	0,938	
PR2	0,900			
PR3	0,909			
PR4	0,903			

Source: Processed results (2022)

The validity used in this study is discriminant validity and convergent validity. Average Variance Extracted (AVE) and Outer Loadings can be used to determine convergent validity and have a minimum value of 0.7. The AVE value must be higher than 0.5 to be considered valid. The variable with the highest AVE is Attitude Towards the Service with a value of 0.836, while the lowest AVE value is owned by the variable Perceived Usefulness of 0.689. R-Squared with a value of 1.0 means that the data obtained is very suitable for the linear model, even though this value is difficult to obtain. The R-Squared value is usually less than 1.0, because it varies widely depending on the nature of the analysis and the research environment. As we can see, the Attitude Towards the Service variable has an R-Squared value of 0.750 or 75%, which means that Attitude Towards the Service is explained by Perceived Usefulness, Perceived Risk, and Perceived Ease of Use of 75%.

Next is the Bootstrapping test, to find out the significant value of a weight/score obtained. This research is a one-tailed test type research, so the significance level is 5%, so the t-values must be greater than 1.65. In addition, the path coefficient value is also used to measure how strong the relationship between hypotheses is, where the path coefficient value ranges between -1 and +1. If the path coefficient value gets closer to +1, it will be considered stronger (Sarstedt et al., 2017).

Table 2
Path Coefficient Table

Hypothesis	Path Coefficient	T-Statistics	P-Values	Result
H1: Perceived usefulness → attitude towards the service	0.213	3.98	0.000	Supported
H2: Perceived ease of use → attitude towards the service.	0.115	2.84	0.001	Supported
H3: Perceived risk → attitude towards the service	0.213	8.15	0.000	Not Supported

Source: Processed results (2022)

4. Conclusion

Therefore, this study has obtained empirical evidence regarding a positive relationship between the variables used and their influence on the use of Livin by Mandiri. The variables in question have a positive relationship, namely attitude towards service, perceived ease of use, and perceived usefulness. With one exception, namely Perceived risk which has a negative relationship, but gets a positive result. These positive results can be explained by the existence of trust in a brand, in this case Livin by Mandiri, which makes the perceived risk in using digital banking an issue that people feel can be dealt with easily and well when using Livin by Mandiri. The results obtained from this research will be an advantage for Livin by Mandiri who want to improve the performance and usability of their digital banking, as well as for consumers who want to find out about livin by Mandiri digital banking.

5. Suggestion

This research only focuses on four variables that are considered to influence the intention to use the Livin' by Mandiri digital banking application, namely, Perceived Ease of Use, Perceived Usefulness, Perceived Risk, Attitude Towards the Service. What's more, questionnaire items can be added to find out further factors that influence customer ratings of Livin' by Mandiri banking services. Indicators can also be added with more relevant statements in the future. This can be done to prove the accuracy of the data and provide better reliability and validity results. Finally, future research can use a better sampling method than purposive sampling to represent the population of users of the Livin by Mandiri digital banking application. In the future, respondents can be specified as being of a certain age group or having a certain nominal income.

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Information of Covid-19 and its Impact on Stock Return

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Abstract. This paper study the impact of information on the internet regarding Covid-19 and vaccination on the stock return. The pandemic itself has affected the world in every sector and market, including the stock market. Investors take information from the internet to make investment decision and during pandemic covid-19 and vaccination are the interest of investors around the world. This research takes sample of Indonesia, Malaysia, Singapore, and Thailand's stock market return from March 2020 until February 2022. This study applied random effect to test the model. Findings from this research show that GSV (Google Search Volume) of Covid and Vaccine simultaneously didn't affect the stock return. However, GSV Vaccine has positive impact on Indonesian stock return.

Keywords: GSV; stock return; Covid-19; Vaccine

1. Introduction

At the beginning of 2020 the whole world was faced with the Covid-19 virus pandemic which began to hit rapidly, starting from the city of Wuhan in China and spreading to many other countries through people traveling whether business, tourism or personal from countries that had exposed to this new virus. The Covid-19 virus had a negative effect on the world economy where this pandemic caused economic activity in the world to almost completely stop at first because the spread of the virus was very fast which made countries start to lock down. At the beginning of the pandemic, Covid-19 had a direct negative effect on liquidity and market returns (Zhang et al., 2020 & Baig et al., 2020), the main effect was based on reports of covid cases where investors themselves felt great fear of the condition the market at that time where the rapid spread of Covid-19 news made the stock market itself immediately respond and made market conditions very volatile compared to the previous time period (Corbet et al., 2020). With market conditions that are very uncertain and fluctuating, this makes investors monitor more closely the news presented by the media, which has an impact on the price of the stock return, this is because investors use news information to minimize the risk of the stock they have. So from this study using Google Search Volume (GSV) to see how much attention people use the internet to find existing information about Covid-19. According to Choi and Varian (2012) Google search volume can also review many economic activities and can also be a study in reviewing economic developments. There are many opinions that Google search volume is very useful for reviewing investor attention, according to (Da et al., 2011) investors can use the GSV to build the Financial Economic Attitudes Revealed by Search (Fear) index and find that an increase in the anxiety sentiment index has an impact on lower returns today followed by a reversal in the following days. The reversal pattern was also noted by Tang and Zhu (2017) and Cheng et al. (2019) who show that a reversal occurs when a price shock is not accompanied by new, more accurate information for the related stock.

2. Literature Review

The Covid-19 pandemic has had a negative effect on the world economy, where almost all world economic activity has come to a complete halt, due to the implementation of social distancing by every country. As a result of this pandemic, business actors, workers and business owners have experienced an immediate economic shock throughout the world. The Supply Chain is challenged to provide large quantities of essential pandemic needs in a short time such as masks, sanitizers, medical oxygen, personal protective equipment and food (Singh et al., 2021). As a result of supply chain imbalances, a number of industries are closed due to a shortage of raw materials so that manufactured goods stop and the global supply chain is disrupted. (Demir et al., 2021a) The

pandemic created unprecedented supply and demand side shocks, resulting in a sharp contraction in economic activity.

In several countries, the impact of Covid-19 on the stock markets of G7 countries has been tried to be overcome by government policies, as studied by Narayan et al. (2021). They found that government policies were effective and lockdowns resulted in a cushioning effect and also appeared to have had a positive impact on rising stocks. Rizwan et al. (2020) estimated systemic risk in countries affected by COVID-19. Zhang et al. 2020 found that greater pandemic uncertainty is associated with volatility in markets and unpredictability

Ortmann et al., (2020) finds investor behavior regarding trading level transaction data showing that the arrival of the Covid-19 virus made the volume of trade transactions increase very significantly using margin. In their research, they showed that the arrival of Covid-19 increased new investors opening their stock brokerage accounts and old investors continued to make transactions which, if measured on a weekly basis, the transactions that had been made reached 13.9% from the previous weekly transactions. the emergence of news from media reports, the opinions of financial and investment experts as well as all opinions related to current issues make investor transaction activities changeable and it is even unclear which of all the negative information such as terrorist bomb attacks, pandemics and others can be give a shock to each Investor.

(Preis et al., 2010) also conducted research using the Google search engine to examine how population information from 2004 to 2010, the Lehman Brothers financial crisis affected stock returns and the volume of American stocks such as the S&P 500, in his research showed that Google search information affect fluctuations in stock market volume but there is no correlation with transaction volume and also stock returns, according to (Preis et al., 2010) Google search volume can be used as stock trading because it can measure search volume and trading volume. Yoshinaga & Rocco, 2020) stated that Google search volume can measure investor attention on a stock market and it is very beneficial for investors to trade stocks which are in accordance with the volume of transactions predicted by Google trends. (Smales, 2021) sees that this Google trend has become a figure for investors in taking action to buy & sell their stock to reduce the risk they bear in a pandemic situation that is still unknown and also Google Trend can be a warning to investors in trading on the stock market. Thus this research is testing the effects of Covid-19‘s information towards stock market returns.

3. Research Method

This research took the data sample from four countries in Asia, namely Indonesia, Malaysia, Singapore, and Thailand. Research period is from March 2020 until February 2022. The data used for each variable are discussed in table 1. Data used in this research are secondary data and are collected through S&P Capital IQ platform, yahoo finance, dan available data in the internet.

Table 1.
Operational Variables

Variables	Variables Type	Formula	Sources
Stock Return ($r_{i,t}$)	Dependent variable	$(P_1-P_0)/P_0$	Smales (2021)
GSV Covid-19 ($\Delta GSV_{i,t}$)	Independent variable	$(GSV_1– GSV_0)/GSV_0$	Smales (2021)
Covid Cases ($logCases_{i,t}$)	Independent variable	Log covid cases	Smales (2021)
Oil Price ($Oil_{i,t}$)	Control variable	Daily price	Rakhit et al (2021)
Exchange rate ($Exchange_{i,t}$)	Control variable	(Exchange $rate_1$ -exchange $rate_0$)/exchange $rate_0$	Rakhit et al (2021)
GSV Vaksin ($GSVvaksin_{i,t}$)	Control variable	$(GSV_1– GSV_0)/GSV_0$	Smales (2021)
Vaccine rate ($Vaccinerate_{i,t}$)	Control variable	Daily Vaccine rate	Smales (2021)
Lagged return ($r_{i,t-1}$)	Control variable	Lagged stock return	Smales (2021)

Empirical Model

Research model to test the information of COVID-19 information was determined as follow:

$$r_{i,t}=\beta_1 + \beta_2 \Delta GSV_{i,t} +\beta_3 \log Cases_{i,t} + \beta 4 Oil_{i,t} + \beta 5 Exchange_{i,t} + \beta 6\ GSVvaksin_{i,t} + \beta 7 Vaccinerate_{i,t} + \beta 8 r_{i,t-1} + \varepsilon_{i,t} \quad (1)$$

4. Result and Discussion

Table 2 shows the statistic descriptive of all the variables. The regression model that was used is Random Effect Model through testing of panel data.

Table 2.
Statistics Descriptive

	Mean	SD	Min	Max
Stockindex~n	0.0002701	0.0100369	-0.1079935	0.1019069
Gsv	0.0156421	0.2002215	-.744186	3.666667
Covidcases	2.674555	1.241193	0	4.81103
Oilprice	-0.0029742	0.127968	-3.059661	0.3766234
Exchangerate	.0023878	.0490724	-0.0246909	0.0357055
Gsvvaksin	15.45673	30.7168	-0.9705882	18
Vaccinerate	22.34011	0.8391721	0	96.3
Laggedreturn	0.0002581	0.0100435	-0.1079935	0.1019069
Observation	2,912			

Table 2 shows the statistics value of mean, standard deviation, minimum and maximum value of each variables. All variables went through winzor process of 1% to reduce the outlier data.

4.1 Panel Data Result

4.1.1 Uji Hausman

Table 3
Hausman Test

Hausmant Test	Chi2	Prob > Chi2	Result
Model Panel	0.46	0.9996	Random Effect Model

Based on Hausman test result in table 3, it can be concluded that the model is best to use random effect mode.

4.1.2. Langrage Multiplier Test

Table 4
LM test

LM Test	Chi2	Prob > Chi2	Result
Model Panel	108.03	0.0000	Random Effect Model

Based on LM test, it suggest that the research model should use random model.

4.2 Diagnostic Test

This diagnostic test is used to ascertain whether the parameter estimates and regression coefficients are unbiased and also a condition for multiple regression and meet the criteria of the BLUE (Best Linear Unbiased Estimator). This diagnostic test will carry out normality tests and multicollinearity tests.

4.2.1 Normality Test

Table 5
Normality test

Normalitas Test	Z	Prob > Z	Result
Model Panel	15.205	0.00000	abnormal

If seen from the table above, it shows that the probability of the normality test is 0.0000, which is less than alpha 0.05, the results obtained from the normality test are that accepting H1 means that there is a problem of normality/abnormality.

4.2.2 Multicolienarity Test

Table 6
Multicollinearity Test

Multicollinearity Test	VIF	1/VIF	Result
Model Panel	1.18	0.846130	No multicolienarity

Based on the Multicollinearity Test table 6, it shows that the VIF value in the regression model is less than 10, so the results there is no multicollinearity.

4.3 Regression Result

Of all the testing processes that have been carried out, it was found that in the normality test there is a problem of the absence of normality in the regression model of this study. So to overcome this problem of normality, a cure cross-sectional time series was carried out for this study, which used a random effect model as the research model. Then the results obtained after using the cure cross-sectional time series are as follows:

4.3.1 Regression Result of Individual Country

Table 7
Regression Result - Indonesia

stockindexreturn	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
GSV	-.0058601	. .0033025	-1.77	.076	-.0123437	.0006236	*
Covidcases	.0005079	. .0008424	0.60	.547	-.001146	.0021618	
Oilprice	. .0062371	.002111	2.95	.003	.0020926	.0103817	***
exchangerate	-.6928977	.2275664	-3.04	.002	-1.139671	-.2461248	***
GSVvaksin	.0022723	.0008669	2.62	.009	.0005703	. .0039743	***
vaccinerate	4.89e-06	.0000144	0.34	.735	-.0000234	.0000332	
laggedreturn	-.0286872	.0515815	-0.56	.578	-.1299552	.0725809	
Constant	-.0014696	.0032088	-0.46	.647	-.0077692	.0048301	

Mean dependent var	0.000	SD dependent var	0.011
R-squared	0.088	Number of obs	728

F-test	3.568	Prob > F	0.001
Akaike crit. (AIC)	-4569.621	Bayesian crit. (BIC)	-4532.899

*** p<.01, ** p<.05, * p<.1

Based on the regression test on Indonesia presented in table 7, information about Covid-19 don't have significant effect to stock return in Indonesia, but vaccine does.

Tabel 8
Regression Result – Malaysia

stockindexreturn	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
GSV	-.0014976	.0024468	-0.61	.541	-.0063013	.0033061	
Covidcases	.0002109	.0003484	0.61	.545	-.0004731	.0008948	
Oilprice	.0008282	.002446	0.34	.735	-.0039741	.0056304	
exchangerate	-1.188346	.2131294	-5.58	0	-1.606776	-.769917	***
GSVvaksin	-.0003223	.0003386	-0.95	.342	-.0009872	.0003425	
vaccinerate	-3.83e-06	9.07e-06	-0.42	.673	-.0000216	.000014	
laggedreturn	.006144	.0439904	0.14	.889	-.0802208	.0925089	
Constant	-.0003317	.0010516	-0.32	.753	-.0023963	.0017328	

Mean dependent var	0.000	SD dependent var	0.008
R-squared	0.122	Number of obs	728
F-test	5.002	Prob > F	0.000
Akaike crit. (AIC)	-5026.348	Bayesian crit. (BIC)	-4989.626

*** p<.01, ** p<.05, * p<.1

Findings in table 8 shows that in Malaysia, information about Covid-19 don't significantly affect stock return.

Tabel 9
Regression Result - Singapore

stockindexreturn	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
GSV	.0021187	.0032547	0.65	.515	-.0042712	.0085085	
Covidcases	.0000241	.0003701	0.07	.948	-.0007025	.0007507	
Oilprice	.0023257	.0015879	1.46	.143	-.0007917	.0054431	
exchangerate	-1.50721	.2558476	-5.89	0	-2.009506	-1.004913	***
GSVvaksin	.0001461	.0008857	0.16	.869	-.0015928	.001885	
vaccinerate	1.68e-06	9.93e-06	0.17	.865	-.0000178	.0000212	
laggedreturn	-.037939	.0895689	-0.42	.672	-.2137863	.1379083	
Constant	-.0000188	.0007563	-0.02	.98	-.0015035	.001466	

Mean dependent var	0.000	SD dependent var	0.010
R-squared	0.131	Number of obs	728
F-test	7.391	Prob > F	0.000
Akaike crit. (AIC)	-4769.809	Bayesian crit. (BIC)	-4733.086

*** p<.01, ** p<.05, * p<.1

Findings in table 9 shows that in Singapore, information about Covid-19 don't significantly affect stock return.

Tabel 10
Regression Result - Thailand

stockindexreturn	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
GSV	-.0020154	.0013051	-1.54	.123	-.0045776	.0005468	

Covidcases	.000221	.0003333	0.66	.507	-.0004334	.0008754	
Oilprice	-.0034304	.0031826	-1.08	.281	-.0096787	.0028179	
exchangerate	-.843449	.2023967	-4.17	0	-1.240807	-.4460907	***
GSVvaksin	.000058	.0003333	0.17	.862	-.0005964	.0007124	
vaccinerate	-.0000119	.0000136	-0.87	.382	-.0000385	.0000148	
laggedreturn	.0543416	.0483936	1.12	.262	-.0406678	.149351	
Constant	.000137	.0008914	0.15	.878	-.0016129	.001887	

Mean dependent var	0.000	SD dependent var	0.011
R-squared	0.061	Number of obs	728
F-test	3.295	Prob > F	0.002
Akaike crit. (AIC)	-4505.675	Bayesian crit. (BIC)	-4468.953

*** p<.01, ** p<.05, * p<.1

Findings in table 10 shows that in Thailand, information about Covid-19 don't significantly affect stock return.

4.3.2 Regression Result all countries

Table 11
Cross-sectional time-series FGLS regresion

stockindexreturn	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
GSV	-.0002531	.0008804	-0.29	.774	-.0019787	.0014725	
Covidcases	-.0000164	.0001157	-0.14	.888	-.0002431	.0002103	
Oilprice	. .0024934	.0019291	1.29	.196	-.0012876	.0062745	
exchangerate	-.5455964	.0553067	-9.86	0.000	-.6539956	-.4371972	***
GSVvaksin	.0000867	.0002005	0.43	.666	-.0003063	.0004796	
vaksin	-1.43e-06	6.04e-06	-0.24	.814	-.0000133	.0000104	
laggedreturn	.021877	.0160854	1.36	.174	-.0096498	.0534038	
Constant	.0002806	.0004312	0.65	.515	-.0005646	.0011257	
Mean dependent var		0.000	SD dependent var			0.010	
Number of obs		2912	Chi-square			103.755	
			Prob > chi2			0.0000	

*** p<.01, ** p<.05, * p<.1

Regression result in table 11 shows that information about Covid-19 don't influence the stock return of all countries. There's only one control variable—exchange rate that is significant to stock return. Based on the panel regression result from table 7-11 on overall and individual countries, there's a consistency findings that stock index return is not influenced by information about COVID-19. The research see that over time the impact of the Covid turmoil on society has begun to be adapted by many interventions that have been carried out by each country, such as reducing central bank interest rates, liquidity injections, tax subsidies, and vaccinations. All of this makes market conditions more conducive so that the Covid information will no longer have a significant impact.

5. Conclusion and Recommendation

Result from this research show that information about Covid-19 don't affect stock return in all four countries. We assume that information about covid become something usual to the society overtime. However, there's a positive significant effect of vaccination information to stock return in Indonesia. Vaccination is perceived as a solution to the pandemic situation, thus, the information about vaccine gives positive effect to the market. Researchers who are interested in this topic may continue the analysis with different method, such as event study analysis to see the difference and impact in a certain window period.

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Examining Factors Influencing Indonesian Customer's Intention and Adoption of BOPS Service

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Abstract. This study aims to identify the factors influencing customers' intention and adoption of the Buy Online Pick-up in Store (BOPS) service in Indonesia. The factors examined in this study are based on the Unified Theory of Acceptance and Use of Technology (UTAUT) and expanded with additional dimensions. The research surveyed 340 existing BOPS customers in Indonesia. Hedonic motivation, compatibility, price-saving orientation, personal innovativeness, and trust are predictors of the customer's intention to use the BOPS service in the future. Moreover, trust and behavior intention was found to be the factors that influence customers to adopt BOPS service. Meanwhile, performance expectancy, effort expectancy, and social influence do not significantly influence customers' intention to use the BOPS service. The output of this study adds the existing knowledge that explains customer behavior, BOPS explicitly as one of omnichannel service.

Keywords: BOPS, UTAUT, personal innovativeness, trust, omnichannel, Indonesia

1. Introduction

The evolution of omnichannel marketing strategies has occurred in the last decade, although it has not yet been fully developed and implemented by business owners. However, there has been rapid growth when the world is experiencing the COVID-19 virus pandemic, which requires business owners to use online channels and take advantage of a new strategy, namely omnichannel. Nielsen report [1], which examines consumers with incomes affected by the pandemic, states that this global health crisis is the reason behind the drastic increase in the use of both online and offline channels, both click-and-collect, contactless delivery, and so on. Furthermore, the article explains that the most significant percentage of omnichannel users is in the Asia Pacific region [1]. With the existing potential, the use of an omnichannel strategy can be applied by companies in Indonesia so that they can attract customers with the shopping experience offered.

One of the implementations of an omnichannel strategy that is quite popular is the "buy online pick-up in store" (BOPS) service which allows consumers to make online purchases and pick up products at the nearest predetermined location [2]–[4]. BOPS is not a new service, but the adoption of this service has expanded along with the COVID-19 pandemic, which has caused consumers to prioritize convenience in shopping. Roy Nicholas Mandey, chairman of the Indonesian Retail Entrepreneurs Association (Aprindo), said that 90% of Aprindo members had implemented an omnichannel strategy where one of the strategies implemented by retailers is the BOPS option [5]. In America, 40% of its citizens have tried new shopping methods during the pandemic, one of which is BOPS, and it is likely to continue using the service even after the pandemic is over [6]. The result is in line with a consumer survey conducted by Deloitte that after the pandemic period, they will remain less active outside their homes, so they will continue to rely on home delivery services or BOPS [7].

Previous research on the retailer side related to BOPS discussed supply chain management [3], [4], [8]–[10]. In their article, Jin et al. [11] provide input on retailers who want to implement the BOPS strategy. Meanwhile, several researchers explored BOPS services from the logistics side [11]–[14]. Research related to BOPS mainly discusses the retailer side, and there is still limited research on the use of BOPS services from the customer side [15], [16]. Based on these reasons, the researcher will focus on one of the omnichannel business models, namely the Buy Online Pick-up Store (BOPS), by researching the customer side.

BOPS is one of the popular services due to several advantages that benefit consumers, namely making it easier for them to find product availability information to avoid consumer losses on transportation time and costs [17]. In order to manage and maximize profits from online and offline channels, retailers with dual channels are starting to take advantage of BOPS, one of the advantages of which is a more convenient shopping process and reduced shipping costs [9]. For retailers, this service provides benefits by increasing in-store traffic [4] and the potential for consumers to purchase additional products when visiting stores to take online orders [17].

Many factors influence consumers to adopt a particular service. Therefore, researchers have developed theories to understand the intention of using or adopting technology so that companies understand what to consider before implementing new services or features in their business so that they are in demand by consumers. Previous studies have proven that consumers consider the convenience and comfort offered by the company to meet their needs [16], [18]. With changing lifestyles, consumers today expect simple and convenient services [16]. In line with the opinion of Jara et al.[19] that BOPS consumers tend to consider the level of convenience more when shopping.

Although the ease of use of a service or feature is considered one of the factors that influence usage intentions [20], [21], there are conflicting opinions regarding this theory. Previous researchers have proven that ease of use affects consumers' intention to adopt a service or feature [22]–[24]. But also found research which states that this ease of use does not affect consumers to adopt the intention to use a service or feature [16], [25]. Therefore, it is interesting for researchers to re-examine whether this perceived convenience factor will influence consumers to adopt BOPS services.

When technological innovation is introduced, a group of people will always want to be the first to adopt the innovation. This group acts as an innovation change agent and opinion leader [26]. The level of innovation that exists in this individual is a motivating variable to adopt a particular technological innovation [27]. BOPS is one of the innovations that add variety to consumers to choose how to get the products they have purchased. Consumers with a high level of innovation will positively perceive BOPS services, which can then influence others to adopt this service [22].

K. Kim et al. [16], in their research on consumer perceptions of BOPS services, proved that there was an influence of performance expectancy, trust, compatibility, hedonic motivation, and social effect on the intention to use BOPS services. However, K. Kim et al. [16] mentioned that there are limitations in this study, one of which is that there are still other factors that can influence consumer intentions to adopt BOPS services. Personal innovativeness is one of the variables that is widely studied as a factor that plays an essential role in adopting a service [22], [28], [29]. Dewi et al. [30] add that there is a gap between consumer acceptance and resistance to a technology service, so it is necessary to integrate technological acceptance and personal traits, namely personal innovativeness. Therefore, the researchers in this study added the personal innovativeness variable as one factor influencing the intention to adopt BOPS services.

Based on this background, the authors are interested in examining the factors influencing the intention to adopt "buy online pick-up in-store" or BOPS services in Indonesia. This research will be aimed at Indonesian consumers who have previously shopped with BOPS services which are then expected to contribute both empirically and practically to the variables studied in this study.

2. Theoretical Framework

2.1 Omnichannel

Omnichannel comes from the Latin word "*omnis*", which means universal, so this new approach allows companies to integrate all information on all sales channels they have [20]. In general, customers in the buying process expect a consistent and integrated service experience across all sales channels to facilitate a smooth and seamless transfer process between channels according to customer preferences [24]. This omnichannel concept stems from the realization that customers often switch sales channels in the transaction process from the beginning of the information search process to after-sales service, both from stores, computers, smartphones, social media, tablets, and online services in stores [31]. With this omnichannel system, the maximum availability, visibility, and consistency related to products can be obtained in all sales channels owned by the company [32], [33].

2.2 Buy Online Pick-up in Store

Omnichannel, in practice, has various forms; not all of them are implemented within a company, depending on the type of industry and the needs of the company itself. Buy-Online-Pick-up-In-Store (BOPS) is one form of omnichannel that has been implemented in many major retailers worldwide, such as Uniqlo, ZARA, Walmart, and Best Buy. In BOPS services, online and offline channels have their respective functions with different processes to meet consumer needs [2]. The order fulfilment mode through the BOPS service is where consumers search for products and purchase transactions through online channels and then complete the transaction by picking up products purchased offline at predetermined stores [2], [4], [34]. With this service, conventional retailers (offline) will be helped in developing their business online [3].

BOPS is not a new service. This service has been implemented for quite a long time, especially in the retail industry. BOPS is often called a click-and-collect service [2] and is included in the O2O service [35]. This service is considered one of the popular omnichannel features [4], [36] because of its advantages that can be felt directly by both consumers and retailers. This service allows consumers to reduce shipping costs and waiting times [2], and consumers do not have to worry about the products ordered being unavailable because of the integrated product inventory [34]. For retailers, this BOPS service can increase in-store traffic [2], [34] because consumers have to take their orders to offline stores and potentially increase in-store sales or cross-buying made by consumers when taking orders [37].

2.3 The Unified Theory of Acceptance and Use of Technology

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a model developed based on predecessor theories that explore how and why someone decides to adopt an information technology [38]. UTAUT provides a more comprehensive framework for interpreting a person's intention to use technology-based services [39]. The UTAUT framework consists of the variables Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions which act as considerations for someone to adopt information technology. Venkatesh et al. [21] argue that although UTAUT has been widely used and developed to understand the behavior of technology users, further research is still needed on the theory to be applied specifically in the context of consumers. Therefore Venkatesh developed UTAUT2 by adding three variables to the existing framework. These three additional variables emphasize the intrinsic motivation of technology users, which consists of Habit, Price Value, and Hedonic Motivation [20], [21], [40].

2.4 Performance Expectancy

One of the considerations for adopting technology is that the technology helps a person to achieve his goals [21]. If an individual sees that technology is helping to make it easier for him to achieve his goals, then the intention to use it will increase. The level of usability of this technology, or performance expectancy in UTAUT, is one of the strong predictors of consumers adopting a particular technology [38]. It is evident from previous studies that have explored the effect of performance expectancy on the intention to consume certain services or products.

In e-commerce, performance expectancy has been shown to influence consumer spending intentions [18], [41]. Juaneda-Ayensa et al. [20] and Mosquera et al. [42] prove that performance expectancy affects consumers' purchase intentions in omnichannel stores. While in the context of BOPS, K. Kim et al. [16] demonstrated that performance expectancy is an essential factor in influencing consumer adoption intention, and S. Kim et al. [28] explained that performance expectancy affects user intentions indirectly. Therefore, the researcher proposes the following hypothesis:

H1: Performance Expectancy has a positive and significant effect on consumer intentions to use BOPS services

2.5 Effort Expectancy

In their findings, Venkatesh et al. [38], UTAUT defines effort expectancy as the ease of use of technology so that it can be utilized by its users efficiently to achieve its goals. Effort expectancy is the same as its predecessor theory: ease of use in TAM and complexity in IDT [28]. The complexity and ease of use can be seen in the amount of time and energy consumers must waste. So it can be said that the less burden the consumer feels on his experience using an application, the more satisfied the consumer will be [41]. The ease of using this technology is one of the factors that influence a person's intention to use technology [21], [23], [38], [43].

Many previous studies have explored the effect of the ease of technology on the intention to use it. However, inconsistent results were found for this effect in the omnichannel context. Juaneda-Ayensa et al. [20] and Silva et al. [24] showed that effort expectancy affects consumers' intention to adopt an omnichannel shopping system. In contrast, Mosquera et al. [42] showed no effect between these two variables in the omnichannel experience, and the research of K. Kim et al. [16] also showed that there was no effect of effort expectancy with the intention to use BOPS services. Based on this description, the researcher proposes the following hypothesis:

H2: Effort expectancy has a positive and significant effect on consumer intentions to use BOPS services

2.6 Social Influence

In theory, UTAUT explains that the people around us can influence the intention to adopt a technology [38]. Although online shopping can be done alone, interest in doing these activities may be due to friends or family who have also done it [44]. Meanwhile, Cai et al. [39] argue that consumers will respond positively to a logistics technology if they also receive positive social support. The social environment plays a vital role in one's acceptance of logistics technology. It can even be said that this social pressure can be considered one of the marketing objectives [45].

Previous research has explored the influence of social influence on a person's adoption and purchase intentions [16], [22], [45]. In the context of BOPS, K. Kim et al. [16] explained that social influence refers to positive word-of-mouth activities carried out by friends and family who have experienced BOPS services so that they influence someone to finally participate in using BOPS services. Based on this description, the researcher proposes the following hypothesis:

H3: Social Influence has a positive and significant effect on consumer intentions to use BOPS services

2.7 Hedonic Motivation

Hedonic motivation is the pleasure or enjoyment obtained when using technology [46]. Integrating hedonic motivation variables in the framework can complement the variables in UTAUT, which are more utility-focused [21]. Suppose the experience felt by consumers when using a service or technology provides benefits and pleasure according to the costs incurred. In that case, consumers will cognitively believe that this enjoyment factor influences them to adopt the service or technology [47]. Nicholson [20] explains that consumers like shopping at offline stores for fashion products because the store environment can affect consumer emotions through interaction, product evaluation, and sensory stimulation.

Previous research on the effect of hedonic motivation has shown that it can influence consumer intentions to adopt certain services. In their study, Shaw & Sergueeva [44] prove that a consumer's hedonic motivation affects the intention to use mobile commerce. In the context of last-mile delivery, Kapser & Abdelrahman [45] show the effect of hedonic motivation on the intention to use automatic delivery vehicles. In addition, K. Kim et al. [16] also showed a strong influence of hedonic motivation on the intention to use BOPS services. Therefore, the researcher proposes the following hypothesis

H4: Hedonic motivation has a positive and significant effect on consumer intentions to use BOPS services

2.8 Price-Saving Orientation

The innovation of goods delivery services is increasing in line with consumers' growing interest in purchasing online. One e-commerce can offer various shipping options at various speeds and prices. Price is considered one of the essential factors in the context of last-mile delivery because the market is very competitive [45]. Kapser & Abdelrahman [45] found that the price for a delivery service is more important to potential users than the service's usability. Price-sensitive consumers generally try to minimize the fee charged for buying an item; in this case, consumers are assumed to be trying to save on expenses [48].

In the context of BOPS, consumers choose to use this service because it can save costs from shipping [15]. The statement is in line with K. Kim et al. [16], which analyzes price value as consumer confidence that using this BOPS service can save costs. Ketzenberg & Akturk [6] stated that 48% of the respondents chose BOPS services because they did not want to be burdened with shipping costs. Contrary to the analysis of K. Kim et al. [16], who did not find any effect of price value on users' intention to use BOPS services. Because the meaning of price value here is an effort to reduce costs, the researchers focus more on price-saving orientation following the research of K. Kim et al. [16]. Therefore, it is necessary to re-analyze the effect of price-saving orientation on the intention to use BOPS services with the following hypothesis:

H5: Price-saving Orientation has a positive and significant effect on consumers' intention to use BOPS services

2.9 Compatibility

Facilities' suitability and availability are crucial when using innovative technology [18]. Service suitability or compatibility describes the level of suitability of service with the lifestyle, values, experiences, and needs of an individual [49]. If innovation is considered to have been integrated with the habits and lifestyles of consumers, it will be more compatible with these consumers [15], [50]. If the service is considered according to these considerations, it will create an individual's intrinsic motivation to adopt the service [51].

Compatibility is a factor that can affect the intention to adopt a service which is often analyzed as an independent antecedent [24]. Yuen et al. [49] prove that compatibility is one of the factors with a relatively large influence on users' intentions to adopt self-collection services. In the omnichannel context, compatibility is also proven to influence consumers to shop through stores that have implemented omnichannel services [24]. In this study, compatibility is determined by the extent to which BOPS services are in accordance with the lifestyle and availability of internet services to use these services. Based on this description, the researcher proposes the following hypothesis:
H6: Compatibility has a positive and significant effect on consumers' intention to adopt BOPS services

2.10 Personal Innovativeness

Personal innovativeness is a person's willingness to try new technologies [26]. Innovative consumers will generally be stimulated to use a technology [47] even earlier than their social environment [22]. In the omnichannel context, Juaneda-Ayensa et al. [20] found that personal innovativeness is the strongest antecedent of someone to adopt a service. In line with the opinion of Hoffmann & Soyez [52], innovation is an important factor in the adoption of new technologies that can encourage the survival of an organization due to sustainable profitability.

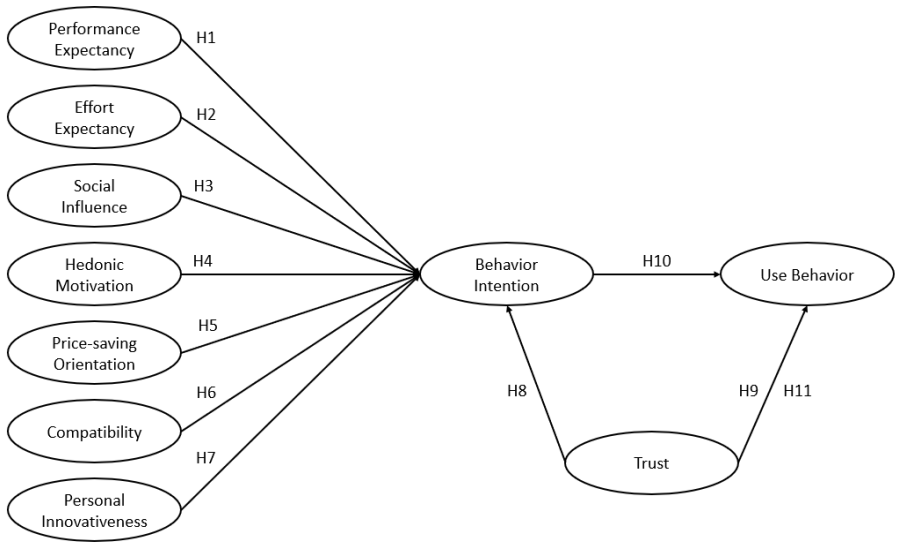
The personal innovativeness variable has been widely analyzed together with UTAUT to understand technology adoption intentions [22], [28], [53]. Previous research has shown that innovative consumers tend to have the intention to do online shopping[29], [30], [54]. For BOPS services, personal innovativeness is considered the main factor that influences consumers' intention to adopt the service [28]. Therefore, the researcher proposes the following hypothesis:
H7: Personal Innovativeness has a positive and significant effect on consumers' intention to adopt BOPS services

2.11 Trust

When marketing products, retailers must be able to create confidence in the products offered so that consumers do not feel fraud [55]. The absence of face-to-face interaction makes consumer perceptions during the online shopping process important to create consumer trust [56]. Santo & Marques [56] argues that consumers who get complete and consistent access to information on a product or service can create trust and help consumers in the decision-making process in online shopping. If consumers already have a sense of trust in retailers, consumers will subjectively ignore the possibility of unexpected activities from retailers [57].

Previous studies related to consumer confidence in shopping activities have been widely studied [18], [53], [55], [57], [58]. Tarhini et al. [18], in their research, prove that one of the reasons consumers use m-commerce services is because they are considered trustworthy and reliable. Trust helps reduce consumer concern over risk and security, thereby increasing consumer intention to participate in online activities [56]. The intention in this study is defined as the intention to use BOPS services continuously [16]. Meanwhile, numerous e-commerce literature shows a correlation between use intention and actual use [16]. The BOPS system requires consumers to complete transactions online, so consumers need to trust in using this service. Based on this description, the researcher proposes the following hypothesis:
H8: Trust has a positive and significant effect on consumers' intention to adopt BOPS services
H9: Trust has a positive and significant effect on consumer behavior to adopt BOPS services
H10: Consumer intentions have a positive and significant effect on consumer behavior to adopt BOPS services
H11: Consumer intentions mediate the effect of trust on consumer behavior in adopting BOPS services

Figure 1
Research Model



3. Research Methodology

3.1 Measurement Development

This research is a cross-sectional study and uses a close-ended survey questionnaire with a Likert scale of 1 ("strongly disagree ") to 5 ("strongly agree "). The original questionnaire was translated into Bahasa Indonesia which has been reviewed by three marketing lecturers and ten individuals who fit the research sample criteria. The questionnaire was 33 items consisting of 10 constructs based on the research model. The measurement of performance expectancy, social influence, hedonic motivation, price-saving orientation, compatibility, trust, behavior intention, and use behavior adapted from K.Kim et al. [16]. Meanwhile, effort expectancy and personal innovativeness were adapted from S.Kim et al. [28]. Apart from the core questionnaire from the constructs, respondents were also given a questionnaire related to their personal information.

3.2 Data Analysis Procedure

The study conducted analytical procedures as follows. First, conducted pre-test to analyze the validity and reliability of the questionnaire using SPSS software. Secondly, performed outer model (measurement model) analysis with confirmatory factor analysis. Third, conducted inner model (structural model) analysis by looking at path analysis results to answer all the research hypotheses [59]. The analytical method used in this research is Partial Least Squares Structural Equation Modelling (PLS-SEM).

3.3 Data Collection

This study uses a convenience sampling method. The final questionnaire is developed in the Google Forms platform and distributed online through social media. The requirements to be involved in this research include respondents over 17 years old and having a BOPS shopping experience. Before filling out the questionnaire, respondents must read this research's purpose and agree to be involved.

4. Data Analysis

4.1 Pre-test

Analysis of the validity and reliability of the pre-test was carried out on 30 respondents according to the research criteria. An item is valid if it meets the KMO & MSA values of $\geq 0,5$. In addition, Bartlett's Test Sphericity $< 0,5$ and the Factor Loading of the Component Matrix with a value of $\geq 0,5$ [60]. The analysis results show that all items in the questionnaire are considered valid, except for the third item on the personal innovatives variable with the Factor Loading of Component Matrix $\leq 0,5$, so the item is omitted. Moreover, the variable can be reliable if it has a value of ≥ 0.60 [61] and the analysis results show that all variables meet the minimum reliability value. Therefore, the total of the final questionnaires was 32 items.

Table 4.1
Reliability & Validity Pre-Test Result

Variable	Item	*Cronbach's Alpha*	KMO	Bartlett's Test of Sphericity	MSA	Component Matrix
Performance Expectancy	PE1	0,742	0,658	0,000	0,644	0,757
	PE2				0,662	0,766
	PE3				0,656	0,730
	PE4				0,669	0,762
Effort Expectancy	EE1	0,795	0,717	0,000	0,703	0,773
	EE2				0,718	0,689
	EE3				0,739	0,848
	EE4				0,708	0,860
Social Influence	SI1	0,912	0,736	0,000	0,692	0,940
	SI2				0,696	0,938
	SI3				0,855	0,890
Compatibility	CB1	0,674	0,644	0,004	0,717	0,717
	CB2				0,615	0,821
	CB3				0,631	0,796
Hedonic Motivation	HM1	0,916	0,740	0,000	0,698	0,944
	HM2				0,698	0,944
	HM3				0,859	0,899
Price-Saving Orientation	PS1	0,842	0,687	0,000	0,644	0,908
	PS2				0,643	0,910
	PS3				0,851	0,805
Trust	TR1	0,816	0,706	0,000	0,774	0,821
	TR2				0,688	0,868
	TR3				0,674	0,878
Personal Innovativeness	PI1	0,806	0,669	0,000	0,628	0,890
	PI2				0,826	0,767
	PI4				0,632	0,885
Behavior Intention	BI1	0,925	0,737	0,000	0,678	0,957
	BI2				0,717	0,943
	BI3				0,852	0,910
Use Behavior	UB1	0,782	0,661	0,000	0,698	0,816
	UB2				0,612	0,900
	UB3				0,697	0,816

4.2 Measurement Model

4.2.1 Reliability Test

This stage consists of testing reliability indicators and internal consistency reliability. The reliability indicator is accepted if the value of outer loading ≥ 0,7 or between 0,4 – 0,7 can still be retained [59]. Internal consistency reliability is seen from the cronbach's alpha and composite reliability values, where the accepted composite reliability value is > 0.7 [59]. Based on the results of the analysis carried out, all items on the variables studied have met the minimum requirements and can be continued to the next analysis.

Table 4.2
Reliability Test Result

Variable	Item	Cronbach's Alpha	Composite Reliability	Outer Loading
Performance Expectancy	PE1	0,803	0,872	0,819
	PE2			0,730
	PE3			0,807
	PE4			0,814
Effort Expectancy	EE1	0,855	0,902	0,794
	EE2			0,885
	EE3			0,846
	EE4			0,812
Social Influence	SI1	0,910	0,943	0,930
	SI2			0,935
	SI3			0,896

Compatibility	CB1	0,674	0,820	0,619
	CB2			0,878
	CB3			0,819
Hedonic Motivation	HM1	0,861	0,915	0,896
	HM2			0,873
	HM3			0,884
Price-Saving Orientation	PS1	0,770	0,867	0,844
	PS2			0,862
	PS3			0,774
Trust	TR1	0,789	0,877	0,814
	TR2			0,870
	TR3			0,831
Personal Innovativeness	PI1	0,739	0,844	0,786
	PI2			0,734
	PI4			0,883
Behavior Intention	BI1	0,878	0,925	0,880
	BI2			0,898
	BI3			0,912
Use Behavior	UB1	0,729	0,847	0,740
	UB2			0,862
	UB3			0,812

4.2.2 Convergent Validity

Convergent validity was tested to determine the extent to which research items were positively correlated with items in the same construct [59]. The average variance extracted (AVE) value is the value used to evaluate the convergent validity of the construct with the accepted value > 0,5. The following is the AVE value of each variable in this research construct:

Table 4.3
Convergent Validity Result

Variable	AVE
Performance Expectancy	0,630
Effort Expectancy	0,697
Social Influence	0,847
Compatibility	0,608
Hedonic Motivation	0,782
Price-Saving Orientation	0,685
Trust	0,703
Personal Innovativeness	0,645
Behavior Intention	0,804
Use Behavior	0,650

4.2.3 Discriminant Validity

Discriminant validity can be analyzed using the Fornell-Larcker criterion approach and cross-loadings. For the Fornell-Larcker criterion approach, the value of the square root AVE in each construct must be greater than the correlation value with the other constructs [59]. To achieve a valid value in the cross-loading approach, the outer loading of an item must have a higher value than the cross-loadings value of other constructs [59].

Table 4.4
Fornell-Larcker criterion

	BI	CB	EE	HM	PE	PI	PS	SI	TR	UB
BI	**0.897**									
CB	0.580	**0.780**								
EE	0.381	0.502	**0.835**							
HM	0.638	0.649	0.494	**0.884**						
PE	0.500	0.549	0.609	0.636	**0.794**					
PI	0.415	0.410	0.413	0.425	0.347	**0.803**				

PS	0.500	0.445	0.367	0.543	0.499	0.348	**0.828**			
SI	0.425	0.519	0.314	0.469	0.427	0.288	0.338	**0.920**		
TR	0.509	0.452	0.482	0.582	0.529	0.428	0.544	0.368	**0.839**	
UB	0.717	0.563	0.454	0.634	0.534	0.469	0.575	0.507	0.618	**0.806**

Table 4.5
Cross-Loadings

	BI	**CB**	**EE**	**HM**	**PE**	**PI**	**PS**	**SI**	**TR**	**UB**
BI1	**0.880**	0.512	0.321	0.568	0.448	0.405	0.431	0.384	0.465	0.618
BI2	**0.898**	0.521	0.370	0.598	0.429	0.335	0.475	0.371	0.454	0.645
BI3	**0.912**	0.526	0.332	0.549	0.469	0.379	0.439	0.389	0.452	0.665
CB1	0.315	**0.619**	0.513	0.452	0.450	0.311	0.358	0.215	0.316	0.331
CB2	0.520	**0.878**	0.415	0.562	0.507	0.357	0.373	0.463	0.402	0.503
CB3	0.491	**0.819**	0.309	0.508	0.352	0.304	0.329	0.485	0.341	0.465
EE1	0.248	0.374	**0.794**	0.366	0.459	0.326	0.240	0.194	0.356	0.316
EE2	0.366	0.433	**0.885**	0.432	0.545	0.375	0.315	0.289	0.420	0.411
EE3	0.306	0.401	**0.846**	0.414	0.533	0.315	0.329	0.283	0.401	0.390
EE4	0.332	0.461	**0.812**	0.428	0.489	0.357	0.332	0.268	0.425	0.385
HM1	0.586	0.602	0.438	**0.896**	0.548	0.370	0.474	0.441	0.529	0.543
HM2	0.557	0.569	0.432	**0.873**	0.570	0.374	0.467	0.385	0.502	0.585
HM3	0.548	0.549	0.439	**0.884**	0.570	0.384	0.500	0.418	0.513	0.555
PE1	0.423	0.417	0.527	0.496	**0.819**	0.318	0.374	0.292	0.435	0.421
PE2	0.369	0.406	0.399	0.491	**0.730**	0.285	0.365	0.349	0.397	0.412
PE3	0.375	0.454	0.531	0.527	**0.807**	0.213	0.404	0.323	0.399	0.409
PE4	0.417	0.465	0.472	0.507	**0.814**	0.280	0.438	0.393	0.444	0.452
PI1	0.295	0.308	0.384	0.371	0.318	**0.786**	0.303	0.214	0.383	0.343
PI2	0.203	0.329	0.322	0.293	0.194	**0.734**	0.206	0.244	0.251	0.291
PI4	0.435	0.359	0.315	0.358	0.304	**0.883**	0.310	0.248	0.375	0.456
PS1	0.415	0.409	0.351	0.462	0.460	0.349	**0.844**	0.297	0.458	0.500
PS2	0.447	0.357	0.291	0.477	0.391	0.273	**0.862**	0.276	0.407	0.480
PS3	0.377	0.339	0.270	0.406	0.389	0.240	**0.774**	0.269	0.496	0.448
SI1	0.407	0.497	0.299	0.422	0.378	0.287	0.325	**0.930**	0.345	0.472
SI2	0.413	0.460	0.299	0.451	0.422	0.257	0.296	**0.935**	0.359	0.480
SI3	0.349	0.476	0.267	0.423	0.378	0.252	0.316	**0.896**	0.308	0.445
TR1	0.413	0.452	0.474	0.504	0.484	0.435	0.435	0.329	**0.814**	0.503
TR2	0.484	0.395	0.408	0.515	0.484	0.316	0.534	0.340	**0.870**	0.560
TR3	0.376	0.283	0.327	0.441	0.354	0.331	0.388	0.250	**0.831**	0.488
UB1	0.583	0.524	0.252	0.462	0.365	0.292	0.407	0.493	0.361	**0.740**
UB2	0.599	0.458	0.382	0.537	0.450	0.421	0.469	0.422	0.535	**0.862**
UB3	0.556	0.392	0.450	0.529	0.471	0.412	0.511	0.322	0.584	**0.812**

4.3 Structural Model

4.3.1 Coefficient of Determination (R^2)

The R Square Behavior Intention value is 0,500, which means that this variable is explained by 50% of other variables in this study, and the other 50% is explained by variables not included in this study. Furthermore, the use behavior variable is explained by the Trust and Behavior Intention variables of 60.1%, while the other 39.9% is explained by other variables not included in this study.

Tabel 4.6
R-Square Test Result

	R Square	**Description**
BI	0,500	Moderate
UB	0,601	Moderate

4.3.2 Path Analysis

This analysis tests the relationship between the existing variables according to the research hypothesis by evaluating the t-value and p-value [59]. The analysis was carried out using the SmartPLS software with the bootstrapping method of 5000 subsamples. The analysis results show that the factors that have been shown to influence the intention to use BOPS services significantly are compatibility, hedonic motivation, price-saving orientation, personal innovativeness, and trust. In addition, trust and intention significantly affect the use of BOPS services. Meanwhile, the relationship between the effect of performance expectancy, effort expectancy, and social influence on the intention to use BOPS services is not significant.

Table 4.7
Path Analysis

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P - Values
BI -> UB	0.543	0.543	0.046	11.815	**0.000**
CB -> BI	0.212	0.213	0.061	3.461	**0.000**
EE -> BI	-0.065	-0.062	0.066	0.980	**0.164**
HM -> BI	0.291	0.283	0.070	4.185	**0.000**
PE -> BI	0.054	0.051	0.071	0.764	**0.223**
PI -> BI	0.103	0.110	0.054	1.896	**0.029**
PS -> BI	0.128	0.130	0.055	2.346	**0.010**
SI -> BI	0.062	0.062	0.049	1.270	**0.102**
TR -> BI	0.110	0.111	0.062	1.778	**0.038**
TR -> UB	0.342	0.341	0.054	6.307	**0.000**

4.3.3 Mediation Effect

This test aims to prove whether this study has a mediating relationship. Looking at the t-value and p-value in the table of specific indirect effects shows that intention is proven to mediate the effect of trust on use behavior, with a t-value of 1.729 and a p-value of 0.042. Thus it can be said that H11 is accepted.

5. Discussion

5.1 Conclusions

Based on the results of this research, it can be concluded that several factors influence the intention to use and the actual behavior of customers in using BOPS. Hedonic motivation factors, cost-saving orientation, compatibility, personal innovation, and trust in the system are factors in this study that positively and significantly affect the intention to use BOPS services again. Still, several factors are not proven to influence it, which are performance expectancy, effort expectancy, and social influence.

As a relatively new service, BOPS is an option for shopping differently and involves online and offline stores in one transaction. For some people, this is considered new and fun, so people with good experience using the BOPS service intend to use it again. The customer's lifestyle also affects the customer's intention to use BOPS services, such as people who have high mobility and are rarely at home, so it would be more appropriate to pick up their goods directly at the store before or after going somewhere. That makes the BOPS service not charge shipping fees to customers, affecting the intention to use this service again because it can save on shopping costs.

Innovative people like to experiment with something new, including technology services. BOPS is a fairly new service, and people with high innovation will try to use BOPS services. In addition, trust in the BOPS system also affects the intention to reuse. Currently, many people are considering security because they have to share personal data to complete transactions. If this service is felt safe enough for the customer, it will raise the customer's intention to use it again. This trusted system has also been proven to influence customers to implement this service for their shopping activity.

5.2 Suggestions

Based on the results, some inputs can be explained as follows: retailers must maintain and even improve the quality of service to ensure that customers have a pleasant and uninterrupted experience so that they will continue to choose BOPS services for their shopping activities in the future. In addition, promotion is one thing that attracts customers to use this service, so it needs to be applied at certain moments to attract customers.

Business owners who use BOPS services need to understand their target market. As stated by E. Kim et al. [15] customers consider this service appropriate because purchased products can be picked up before or after their activities, so it is important to consider locations for pick-up services that are accessible. In addition to being an accessible place, businesses must introduce this service in a wider market to reach people who like to experiment with new things. In addition to getting new customers, business actors have the opportunity to get a spoke person for free because, generally, these innovative customers tell their experiences of something that has been tried.

The number of fraud cases requires business actors to establish a system that requires verification of customer data. On the other hand, the number of hacking incidents concerns customers to be careful in spreading their data. Business actors need to ensure the security of the existing systems in each of their services. This can be communicated as an effort to gain the trust of customers. This trust is the basis for customers to stay on this service.

5.3 Limitation and Future Research

This cross-sectional study aims to identify the factors influencing the intention and behavior of re-adopting BOPS services in Indonesia. Future research can be carried out with a longitudinal design to understand the consumer response deeper in adopting BOPS services. Not all of the factors studied are proven and are in line with previous studies discussing similar services. Many factors influence a person to adopt the technology. Not all factors are examined in this study, so future research can add other variables to enrich the study results. The respondents in this study have experience using BOPS in various industries, but no industry-specific requirements were studied for this research. Future research can conduct similar research by determining the specific industry. BOPS is one type of omnichannel studied previously in the retail industry. At the same time, it is still limited to research specifically on the F&B industry so that industry can be used as a reference for future research

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The Effect of Ability, Motivation, and Opportunity Factors on the Success of Technology Innovations Moderated by Corporate Entrepreneurial Climate

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Abstract. There are four main implementation issues that most companies do not recognize or respond effectively. These problems can be described in the form of a lack of understanding of what type of innovation is being sought, lack of coordination of managerial roles, not being fully effective in using operational controls, and not carrying out individual training and preparation properly. Effective recognition and response to these four issues can represent the difference between companies that are able to implement successful corporate innovation strategies and those are not. Based on the problems above, there is an urgency to conduct research regarding the role of AMO (Ability, Motivation, Opportunity) on technological innovation and the role of Corporate Entrepreneurial Climate in the implementation of successful technological innovation in a company engaged in the manufacturing industry. This study uses positivism quantitative methods in data processing and questionnaires are arranged based on 5 variables in data collection. The final result of this study found that abilities moderated by the corporate entrepreneurship climate factor had a positive influence on the success of technological innovation, motivation moderated by the corporate entrepreneurship climate factor turned out to have a negative influence on the success of technological innovation, and motivation moderated by the corporate entrepreneurship climate factor. also has a negative influence on the success of technological innovations.

Keywords: Innovation; Technology; Ability; Motivation; Opportunity

1. Introduction

The application, development, and enhancement of new technologies are taking place at an astonishing pace at every pace of development of the century. Likewise with the rate of development of the company. Today many companies are unable to survive with the pace of technological development that is so fast (Mauboussin, Michael; Culluhun, Dun; Mujd, 2017). Companies are required to find, plan, and implement an element called technology innovation. It defines the way business is conducted at every level, thus generating the entrepreneurial imperative for the 21st century (Ong & Mahazan, 2020).

However, technology innovation is quickly becoming an over-blown buzzword among companies, universities, and even governments. Innovation is highly touted as the most viable strategy for successful results in today's companies, the fact remains that the successful implementation of corporate innovation is quite elusive for most companies. There are many alternative definitions of innovation and there are many ways in which individuals apply creative thinking to take advantage of opportunities. Thus, any discussion of corporate innovation must first address the issue of how we categorize innovation.

Another way to categorize innovations is through the basic trajectories that may be required, such as radical, incremental, or disruptive. Radical innovation is the launch of first-of-its-kind breakthroughs such as personal computers and overnight mail delivery. This is considered a change that is significant enough to change the organization itself by changing the existing market. The company's structure, marketing, financing, and formal systems can assist in implementing additional innovations.

Strategic entrepreneurship is the second major category of approaches to corporate entrepreneurship. In strategic entrepreneurship, innovation can represent a fundamental change from a company's past strategies, products, markets, organizational structures, processes, capabilities, or models or the basis on which the company is fundamentally distinguished from its industry competitors (Hughes et al., 2018).

By emphasizing a strategic entrepreneurial mindset, management strives to achieve and maintain a competitively advantageous position for the company. For enterprise entrepreneurship/innovation to operate as a strategy, it must run deep within the organization, and each level of management must be coordinated to carry out a specific role. Senior-level managers are increasingly recognizing the need to respond to the innovative imperatives created by their competitive landscape.

Furthermore, the establishment of a successful company's innovative strategy requires the successful implementation of the four main elements presented here. They are encouraging senior management to include appropriate levels of risk and failure tolerance, creating programs to promote the company's entrepreneurial culture and clarifying the rules of the game for employees, implementing processes and infrastructure to enable collaboration, having a clear incentive policy that offers appropriate rewards for generating ideas and creating an internal ecosystem to accelerate valuation and commercialization.

2. Literature Review

Corporate entrepreneurship is a broad term used to describe entrepreneurial behavior in established and larger organizations. The aim is to encourage greater entrepreneurial intensity within the organization by increasing the degree, or scale and frequency of entrepreneurial activity at all levels within it – at company, division, business unit, functional and/or project team levels. Entrepreneurial activity can be proven by innovation in products, processes, and marketing (Yap, & Ng, 2018). Entrepreneurial companies are constantly trying to expand the intensity of this entrepreneurial activity.

Enterprise entrepreneurship is an overarching term used to describe the mechanisms and processes used to achieve this and the behavioral characteristics that underpin the firm. In the face of change and innovation, large companies must have several advantages over small ones – for example, greater financial resources, credibility with shareholders, established routes to market, trusted brands and, most valuable of all, a workforce owned by the big company. Until the middle of the last century. Large corporations are seen as a way to meet the needs of the mass economy.

The challenge is to find ways to change them so that they can bring their resources to meet the challenges of the twenty-first century (Kim & Park, 2021). Corporate entrepreneurship is now seen as an important part of the strategy needed to rejuvenate these large companies, maintaining their ability to innovate rapidly through entrepreneurial activity. In fact, a corporate venture can be seen simply as a set of tools or techniques that can help realize or sustain strategic renewal (or any of these other requirements) and drive innovation.

Some of these approaches relate to how the organization structure itself internally while others relate to how it structure itself externally. Internal company efforts relate to the organizational structure needed to encourage new businesses to develop internally while aligning them with existing company activities. This is primarily concerned with how companies can manage radical entrepreneurship and/or disruptive innovation (Burns, 2020).

The development, adoption, and enhancement of new technologies occurs at an astonishing speed and innovation defines the way business is conducted. As the number of new ventures, products, technologies, and patents literally explodes around the world, established companies can fall victim to this innovation challenge or they can answer the call (Nguyen et al., 2019). The ability to continuously innovate (to engage in a process of sustainable entrepreneurial action), has become a source of competitive advantage in an industry (Hughes et al., 2018).

The task of management effectively becomes one of constant experimentation of experimenting with new structures, new reward systems, new technologies, new methods, new products, new markets, and more. The quest remains the same: sustainable competitive advantage. Corporate innovation must be understood by every individual and there must be an awareness that it does not result in instant success. This requires considerable training, time, and investment, and there must be constant reinforcement. The managerial mindset must be an opportunity-driven mindset, where action is never constrained by the resources currently controlled. This kind of thinking is called an innovative mindset (Burns, 2020).

Paradigm can be interpreted as several components that can be categorized as ontology, epistomology, methodology and methods (Scotland, 2012). Each component can be interpreted and explained briefly from each relationship with other components. Ontology can be interpreted briefly as a naturally given reality (Joachimsthaler, 1988).

Different paradigms can provide different assumptions and views regarding ontology and epistemology. Through this study, the authors aim to understand and confirm the temporary hypotheses or conjectures that have been formulated on the variables built through the AMO theory approach (Ability, Motivation, and Opportunity), how the influence of the corporate entrepreneurial climate instrument (CECI) will moderate the influence between the variables. AMO theory with the success of technological innovation in the manufacturing industry. Therefore, the use of the model is based on Structural Equation Modeling (SEM) through an approach using Partial Least Squares (PLS). The use of PLS_SEM is to develop theories in exploratory research (Joseph

F. Hair Jr. · G. Tomas M. Hult · Christian M. Ringle · Marko Sarstedt · Nicholas P. Danks · Soumya Ray, 2022).

For this study, a sample of employees of the manufacturing industry in Cilegon and Jakarta was used. The number of samples needed for research refers to the minimum number of samples based on the number of indicators multiplied by 5 (Joseph F. Hair Jr. · G. Tomas M. Hult · Christian M. Ringle · Marko Sarstedt · Nicholas P. Danks · Soumya Ray, 2022). The number of variables in this study were five variables and 34 indicators so that the minimum sample used was 34 * 5, namely 170 samples. Because the number of samples is so small, it is possible to use measurements with the SEM - PLS technique. When the maximum independent variable in the measurement and structural model is five, then 120 samples of data are needed to achieve a statistical power of 80% to detect a minimum value of 0.10 (with a possible error of 5%).

The data collection technique used is a questionnaire or questionnaire. Questionnaire is an information gathering technique that enables the analyst to study the attitudes, beliefs, behaviors, and characteristics of several key people in the organization who may be affected by the proposed system or by the existing system. The analysis used is descriptive statistics and interventional statistical analysis. Descriptive statistics explain and describe a data based on the mean (mean), standard deviation value, maximum value, and minimum value. Descriptive statistics aim to provide an overview or description of the distribution of data and data behavior through the samples obtained (Ghozali et al., 2018). This analysis uses data obtained from data collection through questionnaires or questionnaires and processed using smartPLS software. Inferential statistical testing aims to test sample data and get the results.

The technique used is Structural Equation Modeling (SEM). SEM is a technique for testing a series of dependent variable relationships, structural equation models with precise estimates with multiple regression equations (Joseph F. Hair Jr. · G. Tomas M. Hult · Christian M. Ringle · Marko Sarstedt · Nicholas P. Danks · Soumya Ray, 2022). In SEM there are two approaches used, namely covariance-based structural equation modeling (CB-SEM). Data processing in CB_SEM relies on the covariance matrix, with the type of regression estimation using maximum likelihood, CB-SEM is used in research to test a theory and to obtain test explanations through complex analytical activities. Meanwhile, partial least square (PLSSEM) is used as a tool to predict and cannot be used as a model test. This study uses the PLS SEM approach to predict the effect of the theory of ability, motivation, and opportunity (AMO theory) on the success of technological innovation in the company by using the moderating of the corporate entrepreneurship climate variable.

Validity testing is done to find out how much the level of precision and accuracy of the implementation of the function of a measuring instrument. Validity test is used will be to determine the level of truth of a questionnaire (Hutajulu et al., 2018). This is done by testing an indicator in the study to find out whether it can be used as a measuring tool or not. Validity testing is done by testing Confirmatory Factor Analysis (CFA). According to (Joseph F. Hair Jr. · G. Tomas M. Hult · Christian M. Ringle · Marko Sarstedt · Nicholas P. Danks · Soumya Ray, 2022), an indicator can be said to be valid if it meets the following criteria:

1. Kaiser-Meyer-Olkin (KMO) value 0.5
2. Measure of Sampling Adequacy (MSA) value 0.5
3. Significance value < 0.05
4. Value of loading factor 0.5.

3. Research Methods

This study aims to find the determinants of the success of technological innovation in a manufacturing industry using the AMO (Ability, Motivation, Opportunity) model based on the mediating effect of the company's own internal factors (corporate entrepreneurship climate).

3.1 Data Collection

The sample in this study uses employees who work as manufacturing industry players in Cilegon and Jakarta. The number of variables in this study were 5 variables and 34 indicators so that the minimum sample used was 170 samples (Joseph F. Hair Jr. · G. Tomas M. Hult · Christian M. Ringle · Marko Sarstedt · Nicholas P. Danks · Soumya Ray, 2022).

3.2 Measure in Questionnaire

As a quantitative research, respondents in this study were asked to fill out a questionnaire containing 5 research variables. Measurements on variables use standards according to the Likert Scale (1-5, namely strongly disagree to strongly agree). The scale used is a five-point value for each response from respondents, namely "Strongly disagree (SSS), disagree (TS), Doubtful (RR), agree (S), and strongly agree (SS). In addition to the measurement of these variables, there is a nominal scale that is used to help analyze the profile of the respondents (Sobur Setiaman, Skep, NS, 2020).

3.3 Method of Data Analysis

The analysis used in this study used descriptive statistics and interventional statistical analysis. Descriptive statistics explain and describe a data based on the mean (mean), standard deviation value, maximum value, and minimum value. This analysis uses data obtained from data collection through questionnaires or questionnaires and processed using smartPLS software.

This study also uses the PLS SEM approach to predict the effect of the theory of ability, motivation, and opportunity (AMO theory) on the success of technological innovation in the company by using the moderating variable of corporate entrepreneurship climate.

Through the PLS-SEM data analysis method, the analytical techniques used are the outer model and the inner model. Through the outer model, validity and reliability testing is carried out in measuring each test, it can be ascertained that it is suitable for use in measurements in research.

4. Result and Discussion

4.1 Descriptive Statistical Analysis Results

Respondent data in this study was processed using SmartPLS 3.0 which resulted in descriptive statistical analysis data in the form of the average value, median, minimum value, maximum value, and standard deviation.

Table 1
Descriptive Analysis Result

	Mean	Median	Min	Max	Standard Deviation
AB_1	4,220	4	2	5	0,722
AB_2	3,865	4	2	5	0,936
AB_3	4,285	4	1	5	0,790
AB_4	4,170	4	2	5	0,825
M_1	4,230	4	2	5	0,870
M_2	4,175	4	2	5	0,796
OP_1	4,290	5	2	5	0,920
OP_2	4,300	4	2	5	0,700
OP_3	4,405	5	2	5	0,813
OP_4	4,195	4	2	5	0,779
CEC-MS_1	3,965	4	1	5	0,929
CEC-MS_2	4,230	5	1	5	0.,882
CEC-MS_3	4,040	4	2	5	0,877
CEC-MS_4	3,980	4	2	5	0,990
CEC-MS_5	4,175	4	1	5	0,869
CEC-WS_1	3,955	4	2	5	0,981
CEC-WS_2	4,105	4	2	5	0,885
CEC-RR_1	4,285	5	1	5	0,935
CEC-RR_2	4,210	4	2	5	0,925
CEC-RR_3	4,005	4	1	5	0,875
CEC-TD_1	4,010	4	1	5	0,927
CEC-TD_2	4,080	4	1	5	1,036
CEC-TD_3	4,005	4	2	5	0,771
CEC-TD_4	4,000	4	1	5	0,877
CEC-OB_1	4,165	4	1	5	0,871
CEC-OB_2	3,995	4	2	5	0,758
INO_1	4,285	5	1	5	0,880
INO_2	4,130	4	2	5	0,902
INO_3	4,170	4	2	5	0,849
INO_4	4,190	4	2	5	0,696
INO_5	4,345	5	2	5	0,892

INO_6	4,030	4	2	5	0,927
INO_7	3,860	4	2	5	0,728
INO_8	4,225	4	1	5	0,919

Source: Author, 2022

The results of descriptive statistical analysis show that the OP3 indicator has the highest average value with a value of 4.405 while the INO7 indicator has the lowest average value. Almost all indicators have a median value of the data set with a value of 4. The majority of indicators have the lowest value of 2, which means that there are respondents who choose the answer "disagree" to the questions given.

While the indicators AB3, CECMS1, CECMS2, CECMS5, CECRR1, CECRR3, CECTD1, CECTD2, CECTD4, CECOB1, INO1, and INO8 have the lowest value of 1, which means there are respondents who choose 'strongly disagree' on the questions given. All research indicators have a maximum value of 5, which means that there are respondents who choose the answer "strongly agree" on the statements given. The INO4 indicator has the lowest standard deviation value with a value of 0.696 while the CECTD2 indicator has the highest standard deviation value with a value of 1.036.

4.2 Outer and Inner Model Analysis Results

4.2.1 Outer Analysis Results

Outer Model analysis in this study was conducted by testing convergent validity, discriminant validity, and reliability. The result of testing the convergent validity is that the elimination of indicators has a positive effect on increasing the value of the validity and the structural model is continued by testing with the elimination of 4 indicators. While the results of the analysis of the validity of the determinants are all variables have a good level of discriminant validity. Finally, in reliability testing, it can be found that all variables have Composite Reliability and Cronbach's Alpha values greater than 0.7 (Joseph F. Hair Jr. · G. Tomas M. Hult · Christian M. Ringle · Marko Sarstedt · Nicholas P. Danks · Soumya Ray, 2022) so that it can be stated that all variables are reliable and consistent to be used as research instruments.

4.2.2 Inner Analysis Results

The measurement model that has been valid and reliable from the Outer Model test is continued by testing the structural model design (Inner Model) to analyze the relationship between variables and hypotheses in the research model that has been compiled using SmartPLS 3.0. Inner Model analysis is done by testing the coefficient of determination (R2), testing the effect size (f2), and testing the path coefficient. The results of the analysis of the structural model design are processed using SmartPLS 3.0.

From the results of the determination coefficient test, it can be stated that the Innovation Success variable can be explained by three independent variables (exogenous variables), namely the Ability, Motivation, and Opportunity variables strongly because it has an R2 value of 87.7%. In the results of the effect size test, it was found that the variables of Ability, Corporate Entrepreneurial Climate, Motivation, Opportunity had a large influence on the variable of Technological Innovation Success.

In the path coefficient test results, there is a positive path coefficient value and a negative path coefficient value, so it can be stated that the variable has a positive influence on endogenous variables and the moderating variable of Corporate Entrepreneurial Climate has a negative effect on endogenous motivation and opportunity variables.

Table 2
Hypothesis Analysis

Hipotesis	Conclusion
H1 : Ability has a significant direct relationship to the Success of Technological Innovation.	Supported
H2 : Motivation has a significant direct relationship to the success of technological innovation.	Supported
H3 : Opportunity has a significant direct relationship to the Success of Technological Innovation.	Supported
H4 : Corporate Entrepreneurial Climate (MS, WD RR, TD, OB) will moderate the relationship between ability, motivation, and opportunity to the success of technological innovation.	

Corporate Entrepreneurial Climate (MS, WD RR, TD, OB) will moderate the relationship between ability to Technological Innovation Success.	Supported
Corporate Entrepreneurial Climate (MS, WD RR, TD, OB) will moderate the relationship between motivation and technological innovation success.	Not supported
Corporate Entrepreneurial Climate (MS, WD RR, TD, OB) will moderate the relationship between opportunity and technological innovation success.	Not supported

Source: Author, 2022

4.3 Discussion

The results of statistical analysis through testing the path coefficient on the ability variable show the results in the form of a path coefficient value with a positive value of 0.178; then with a t-value higher than 1.96 with a value of 2.028 and also a p-value lower than 0.05 with a result of 0.043. These results indicate that Ability moderated by the corporate entrepreneurship climate factor has a positive influence on the success of technological innovation. Corporate entrepreneurship climate (CEC) which consists of management support, work policies, work rewards, time availability and organizational limits can moderate the ability to achieve Technological Innovation Success.

Meanwhile, the results of statistical analysis through testing the path coefficient on the motivation variable show the results in the form of a path coefficient value with a negative value of 0.072; then with a t-value lower than 1.96 with a value of 0.938 and also a p-value higher than 0.05 with a result of 0.349. These results indicate that the hypothesis can be accepted by stating that motivation moderated by the corporate entrepreneurship climate factor has a negative influence on the success of technological innovation. From the research that has been done, it was found that the supporting factors contained in this corporate entrepreneurship climate instrument such as management support, work policies, rewards, and time availability, cannot moderate or influence the occurrence of motivation in achieving the success of technological innovation. These instruments are not enough to instill enthusiasm in growing and developing themselves, working better, and being creative if these human resources do not have the desire, motivation, stimulation in themselves.

The results of statistical analysis through testing the path coefficient on the opportunity variable hypothesis show the results in the form of a path coefficient value with a negative value of 0.072; then with a t-value lower than 1.96 with a value of 0.938 and also a p-value higher than 0.05 with a result of 0.349. These results indicate that the hypothesis can be accepted by stating that motivation moderated by the corporate entrepreneurship climate factor has a negative influence on the success of technological innovation.

The cause of the corporate entrepreneurship climate factor having a negative influence on the success of technological innovation is that the number of human resources or employees owned by the company are mostly in middle and lower management, while the corporate entrepreneurship climate occurs or is facilitated by the top management of a company. This study uses questionnaire respondents who are mostly from middle and lower management positions so that when top management facilitates the instruments contained in the corporate entrepreneurship climate, but senior management does not convey or forward these instruments to middle and lower management, then the corporate entrepreneurship climate unable to moderate the realization of the work structure and company environment to express employees' self in the implementation and achievement of Technological Innovation Success.

5. Conclusion

This study aims to find the determinants of the success of technological innovation from a manufacturing industry using the AMO (Ability, Motivation, Opportunity) model based on the mediating effect of the company's internal factors (corporate entrepreneurship climate). The conclusion obtained from this research is that the ability moderated by the corporate entrepreneurship climate factor has a positive influence on the success of technological innovation. This is driven by the corporate entrepreneurship climate (CEC) factor which consists of management support, work policies, work rewards, time availability and organizational boundaries.

The conclusion of the statement variable that motivation moderated by the corporate entrepreneurship climate factor turned out to have a negative influence on the success of technological innovation. This happened because it was found that the supporting factors contained in this corporate entrepreneurship climate instrument such as management support, work policies, rewards, and time availability, could not moderate or influence the

occurrence of motivation in achievement because they were not strong enough to have an influence on employees. .

Finally, the results of the hypothesis statement that motivation moderated by the corporate entrepreneurship climate factor also has a negative influence on the success of technological innovation. The cause that can be found is that most of the employees owned by the company are in middle and lower management, while the corporate entrepreneurship climate occurs or is facilitated by the top management of a company.

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Exploring the Antecedent of Business Model Innovation in Creating a Sustainable Business

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Abstract. This paper aims to study the relationship between business model innovation, contextual ambidexterity, entrepreneurial orientation, and knowledge absorptive capacity on a hotel's performance. In the last few years, there was increasing research interest in business model innovation (BMI), but the conclusions regarding what and how it works and factors that are affecting BMI still require more research. Ambidexterity and entrepreneurial orientation were mentioned frequently and had some positive effects on performance organization. But there have not been many subjects to do with BMI. The capacity to absorb knowledge is also often disclosed as a prerequisite capability for an organization to conduct innovation. The hotel becomes the context that is pulled to test the factors to innovation business model especially with the uncertainty of the pandemic covid affecting hotel business.

Keywords: Business model innovation; Firm performance; Contextual ambidexterity; Entrepreneurial orientation; Knowledge absorptive capacity

1. Introduction

The hospitality sector is experiencing an extraordinary and unexpected event, namely the COVID-19 pandemic which has resulted in a decrease in the number of human movements around the world which eventually led to a decrease in hotel occupancy rates. This forces the hotel to re-analyse its business model to be able to survive by relying on all the resources it has. Souto (2015) emphasizes that BMI can stimulate the creation of innovations gradually or radically in the hospitality sector. Cheach et al. (2018) found in their research that BMI mediates the relationship between volatile market conditions and the performance of the hospitality industry. Furthermore, Cheach et al. (2018) also found that BMI assists companies in the hospitality sector in creating a sustainable competitive advantage especially when they operate in highly unstable environments.

BMI usually occurs as a consequence of the existence of external causes such as globalization (Lee and Huang, 2012), changes in the competing environment (De Reuver et a., 2013), the existence of new opportunities from technology or human behaviour (Wirtz et al., 2010). In the current business environment conditions that change so quickly, the BM life cycle is getting shorter (Lindgardt, 2012) and because of the increasing economic, social, and business environment pressures, it is necessary to have adaptive and innovative capabilities in seeing existing business opportunities and using them to maintain company continuity in the long term (WCED, 1987).

The process of creating BMI is not an easy thing because it involves environmental and social aspects. This requires cross-functional cooperation in organizations and systematic ways of thinking as well as changes in business processes, products, and organizational forms (Adams et al., 2016). Therefore, many organizations develop BMI on an ad-hoc, temporary, and unsystematic basis (Stubbs & Cocklin, 2008). It takes a managerial ability to be able to exploit and at the same time explore, commonly called organizational ambidexterity (Fontana, et al., 2015; Simon, 2017 in Minatogawa et al 2020), in improving the existing business model and at the same time trying a new business model to ensure the long-term sustainability of the company (Lee & Raschke, 2020).

Although many studies have shown that organization ambidexterity offers better performance, the relationship between ambidexterity and performance is still not conclusive. Some researchers show positive effects of ambidexterity (Gibson and Birkinshaw, 2004; He and Wong, 2004; Lubatkin et al., 2006) other

researchers suggest choosing one of the alignment or adaptability strategies to avoid getting stuck in low performance due to pursuing both strategies together (Ghemawat & Ricart, 1993). Some even question the advantages derived from ambidexterity strategies (Van Looy et al., 2005).

In the New Normal, it takes a company's ability to see opportunities and threats far beyond existing markets and industries (Hamel, 2007 in Loon et al., 2020). Large companies are no longer the overlords of the New Normal era, small companies or start-ups can optimize the sophistication of technology and create new models that are competitors to established companies. As a consequence, the New Normal increases the need for BMI as a way for companies to answer challenges and continue to grow (Loon et al., 2020). The need for knowledge and mastery of new technologies requires the company's ability to absorb and then implement them in the improvement of its business model. Knowledge absorptive capacity (KAC) is the ability of a company to recognize the value of new information, from internal and external, assimilate it and then apply it at the commercial stage (Cohen & Levinthal, 1990) which then drives the creation of improvements in innovation performance (Ferraris et al., 2018). Researchers have found evidence of a strong link between a company's knowledge and innovation capabilities (Bhatti et.al., 2020).

Research in the field of entrepreneurship increasingly reflects the strategic issues and challenges faced by companies as they recognize and want to seize opportunities in the market (Zahra et al. 2005). The company strives to continue to grow and profit by modifying its products, services, and business model to satisfy market needs (Child et al. 2017). In entrepreneurship, EO is an important construct (Miller 1983; Lumpkin and Dess 1996, 2001) because EO explores a combination of entrepreneurial behaviors such as opportunity-seeking and exploiting them, innovative, proactive, and risk-seeking behaviors (Asemokha et al., 2019). Although managerial practice and academic research have shown interest in the concept of BMI and entrepreneurial orientation (Jantunen et al. 2005; Foss and Saebi 2017), few studies examine BMI and EO together. So, the main question of this study is: "Do Ambidexterity, EO, and KAC have an important influence on business model innovation in achieving sustainable performance in the hospitality industry in Indonesia?"

2. Literature Review

The following sections will feature previous research related to BMI, contextual ambidexterity, entrepreneurial orientation, knowledge absorptive capacity, and hotel performance.

2.1 Business model innovation in the Hotel Context

BMI is defined as "significant new changes to the key elements of the business model and or connections that connect those key elements" (Foss & Saebi, 2017), as a source of innovation that complements conventional innovations in products, processes, and organizations (Zott, Amit & Massa, 2011) is still relatively new and has not been widely researched (Zhang et al., 2021).

Although Business model innovation (BMI) has been seen as a company's mechanism to achieve business continuity (Jolink, 2015), many barriers cause BMI capabilities not to be possessed by many organizations (Mezger, 2014) including cognitive (Frankenberger et al., 2013; Von den Eichen, 2015), and managerial (Täuscher, K., Abdelkafi, 2017). Furthermore, BMI is a complex process that requires a variety of specific capabilities (Loon et al., 2020).

In times of crisis such as the COVID-19 pandemic, where the future of the business becomes uncertain and the occurrence of resource scarcity due to weakening financial capabilities, company managers, including hotels, need to adopt BMI as an alternative or complement to product and process innovation (Amit and Zott, 2012) because even small BM changes can result in improved performance. Zhao et al. (2016) emphasize the need for companies in all industries to be able to reconfigure the value offered to customers as they consider changes in technology, institutions, infrastructure, and stakeholders as well as their external environment.

2.2 Contextual Ambidexterity in the Hotel Context

Ambidexterity is the ability of an organization to efficiently organize existing business needs and at the same time adapt to environmental changes (Gibson & Birkinshaw, 2004). Ambidexterity makes it easier for organizations to manage exploration and exploitation capabilities (Lee & Huang, 2012) so as not to get caught in the traps. The term "ambidexterity" refers to the ability to pursue different goals simultaneously, such as exploitation and exploration (March, 1991), efficiency and flexibility (Adler et al., 1999), or alignment and adaptability (Gibson and Birkinshaw, 2004). While previous studies have used different terms to label the dimensions underlying ambidexterity, they essentially capture the same phenomenon and thus can be used interchangeably (Raisch and Birkinshaw, 2008).

In this study, the terms "alignment" and "adaptability" were used. Alignment implies the existence of a management system that ensures coherence across the ranks of the company, with an emphasis on gradually updating the skills and capabilities of existing companies (Adler et al., 1999; Gibson and Birkinshaw, 2004). Alignment is also concerned with the company's ability to refine its current competencies to improve

operational efficiency (Ghemawat & Ricart., 1993). Instead, adaptability captures the existence of management systems aimed at reconfiguring the company's current set of activities, with an emphasis on experimentation with radical innovations (Adler et al., 1999; Gibson and Birkinshaw, 2004) - often as a means of overcoming changing external conditions (March, 1991) and challenging existing ideas, often as a means to cope with changing external conditions (March, 1991) and challenge existing ideas, such as optimally using new technologies or targeting and serving new market domains (Kyriakopoulos and Moorman, 2004).

Ambidexterity can be achieved by both structural approaches, namely by creating two different units that each focus on exploitation and exploration (O'Reilly & Tushman, 2004 in Fourne et al., 2019), and contextual, namely by creating behavioral capacities that can simultaneously carry out exploitation and exploration activities at once (Gibson & Birkinshaw, 2004). Proponents of Structural ambidexterity suggest that the paradoxical challenges of exploitation and exploration can be solved by creating two different structural units (Duncan, 1976; Jansen, Tempelar, Van den Bosch & Volberda, 2009; Lavie et al., 2010 in Fourne et al., 2019). Contextual ambidexterity, on the other hand, suggests that contextual support needs to be given to team members to divide their time and effort according to their best choices in carrying out exploitation and exploration activities (Gibson & Birkinshaw, 2004; Havermans, Den Hartog, Keegan, & Uhl-Bien, 2015).

The contextual approach provides the possibility to exploit the maximum performance of an existing BM, while, at the same time, exploring the existence of new business model opportunities. From a theoretical point of view, Markides (2014) reinforces the importance of testing contextual ambidexterity for BM, since literature does not usually present proposals in this sense. The theoretical framework of BM has sought to address the problem of opposition to the limited use of two business models. Minatogawa et al., (2020) determine that contextual ambidexterity fits better into the context of medium and small-scale enterprises.

The superiority of resource availability in large enterprises may be masked by the lack of flexibility in allocating these resources to different units and the inertial forces that hinder the occurrence of complementary interactions between exploration and exploitation. Whereas in small companies, resource shortages can be treated with high flexibility and speed in allocating resources, which are limited, effectively in exploration and exploitation activities (Fourne et al., 2019).

In the context of the hospitality industry which emphasizes direct service to customers supported by a relatively small number of employees compared to the manufacturing industry, contextual ambidexterity will be a suitable method for managers to gradually improve their BM and develop it to meet changes in consumer behaviour due to environmental changes such as COVID-19. Contextual ambidexterity allows the activity of making continuous improvements aimed at building a sustainable organization and, at the same time, exploring new BM configurations, which correspond to the idea of sustainable development.

2.3 Entrepreneurial Orientation in the Hotel Context

In the domain of entrepreneurship, EO is an important construct (Miller 1983; Lumpkin and Dess 1996, 2001) because EO explores a combination of entrepreneurial behaviors such as opportunity-seeking and exploiting them, innovative, proactive and risk-seeking behaviors (Zucchella et al., 2018). EO is a strategic orientation of business regarding the practices, processes, and activities on which innovation and market decision-making are based (Lumpkin & Dess, 1996).

EO can be defined as a company's attitude towards innovation, proactivity, and risk-taking in the formulation and implementation of strategies (Covin & Lumpkin, 2011). Innovation shows the tendency of the company to look for new ideas and participate in the creative process aimed at the development of new products and services (Lumpkin & Dess, 1996). Proactivity reveals the company's tendency to detect and capitalize on promising market opportunities ahead of competitors. The risk-taking attitude represents the extent and degree of willingness of managers to use business resources aimed at the implementation of projects whose results are uncertain and the cost of failure is high (Wiklund & Shepherd, 2005). An entrepreneurial-oriented company tends to encourage its employees to make decisions independently, actively introduce innovations, assume calculated risks, act proactively and show a degree of aggressiveness in competition with competitors (Lumpkin & Dess, 1996).

Research in the field of entrepreneurship increasingly reflects the strategic issues and challenges faced by companies as they recognize and want to seize opportunities in the market (Shane and Venkataraman 2000; Zahra et al. 2005). The company strives to continue to grow and profit by modifying its products, services, and business model to satisfy market needs (Child et al. 2017).

In general, EO has a positive effect on hotel performance in Asia (Jogaratnam & Tse, 2006). Empirical research in the context of the hospitality industry shows the influence of conventional multidimensional combinations of EO, especially proactiveness, risk-taking and innovativeness (Njoroge et al., 2020), innovativeness, proactiveness, competitive aggressiveness (Olowofeso & Ale, 2019) on hotel performance.

2.4 Knowledge Absorption Capacity in the Hotel Context

Cohen & Levinthal (1990) define Knowledge Absorption Capacity (KAC) as "the ability of a company to recognize new value, external information, assimilate, and apply it to commercial purposes", which has been adopted by many researchers in knowledge management research (Ardito, et. al., 2019). KAC has been considered as the capacity to recognize and view new information and knowledge for commercial purposes (Cohen & Levinthal, 1990).

Researchers have found evidence of a strong significant link between learning capability and enterprise innovation (Bhatti et al., 2020b). The acquisition of knowledge from an internal or external source of the company can lead to improved innovation performance and the way value is created and captured (Ferraris et al., 2018; Scuotto, Del Giudice, Bresciani, & Meissner, 2017). Similarly, the assimilation of external knowledge can increase momentum for solving problems and limit the development cycle of new products and services (Vrontis, Thrassou, Santoro, & Papa, 2017; Xie et al., 2018). By assimilating external knowledge, companies can avoid the repetition of work and supplement existing knowledge resources (Sandulli, Ferraris, & Bresciani, 2017).

Absorptive capacity is important to support innovation in organizations in the tourism industry (Weidenfeld et. al., 2009). There is evidence that organizations involved in the tourism industry, including hotels, depend on external sources of knowledge (King, Breen, & Whitelaw, 2014; Williams & Shaw, 2011). The creation of competitive advantages from knowledge-based resource assets does not only apply to the manufacturing and technology industries but also service industries such as hotels (Kianto et al., 2010) Therefore, KAC is important in its existence in organizations in the hotel industry.

2.5 Hotel performance

Organizational success, in the review of the field of strategic management, according to Peteraf and Barney (2003) does not depend on only one factor and the performance of the organization must be measured from various aspects. Venkatraman and Ramanujam (1986) stated that to measure organizational performance, a broader perspective and point of view are needed, where improvements in financial performance, operational performance, and market performance are three areas that are seen as more representative.

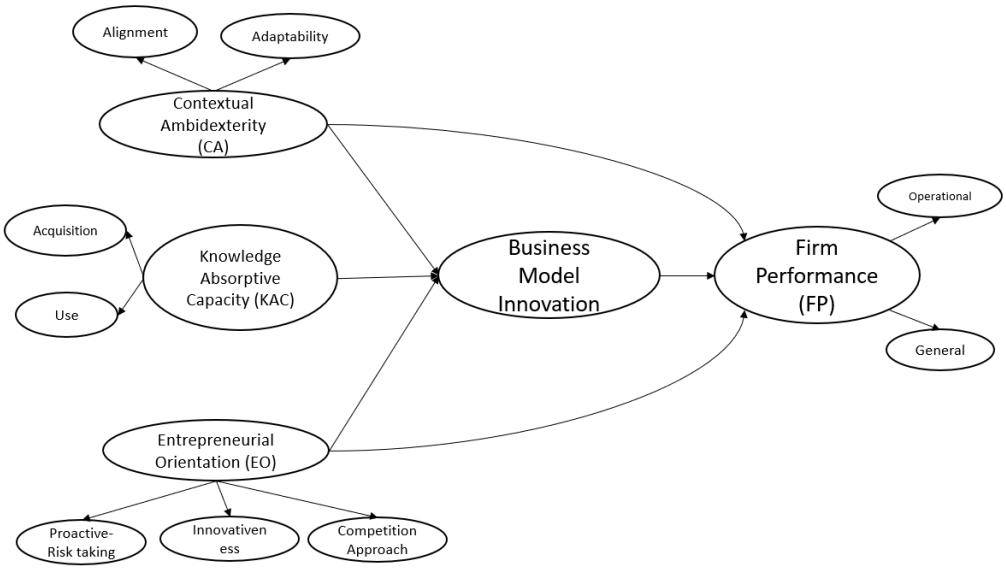
Jogaratnam (2006) developed a general performance measurement instrument of the hospitality industry based on management perceptions with criteria consisting of cash flow, sales level, ROA, net profit, market share, and sales growth. The measurement is used by Jogaratnam (2006) to measure the performance of the hotel business by taking the context of an Asian country.

Ubeda-Garcia (2021) uses eight indicator items divided into two dimensions, referring to previous studies (Úbeda-García, Claver-Cort´es, Marco-Lajara, Zaragoza-S´aez, and García-Lillo, 2018; Longoni et al., 2018), to measure the performance of hotels in their research with the context of the Spanish state. The two dimensions used to try to capture, on the one hand, a general performance criterion consisting of 1. market share growth, 2. brand recognition, 3. the company's market image, 4. sales growth; and, on the other hand, the performance dimensions are more appropriate to the hotel sector companies which consist of 1. revenue per room, 2. average occupancy, 3. the level of customer satisfaction and employee satisfaction.

3. Hypothesis development

The following sections will present arguments from previous research that led to the development of a research hypothesis. This research model is shown in **Figure 1**.

Figure 1
Research Conceptual Model



3.1 Business model innovation as a Mediator between Contextual ambidexterity and Hotel's Performance

Many studies have shown that ambidexterity is a dynamic capability that is critical to a company's long-term growth (Michelino et al., 2019) and has long been proven to be a determining component of organizational success (March, 1991; Tushman & O'Reilly, 1996). Ambidexterity is positively and significantly related to organizational performance (Gibson & Birkinshaw, 2004). More specifically, contextual ambidexterity has a positive and significant effect on the achievement of business performance (De Clercq, et al., 2013) and this influence is mediated by BMI (Minatogawa et al., 2020). Continuing the findings of previous research, we assume that contextual ambidexterity positively affects the company's performance and there is a role for BMI as a mediator in the relationship.

H1a: Contextual ambidexterity positively influences Hotel's performance

H1b: Business model innovation mediates the relationship between Contextual ambidexterity and Hotel's performance

3.2 Business model innovation as a Mediator between Entrepreneurial Orientation and Hotel's Performance

One of the supporters of opportunity-seeking behaviour is the entrepreneurial orientation (EO). EO is a willingness to be proactive to market opportunities, competition, and the ability to innovate as well as a commitment to making risky business decisions in uncertainty to achieve competitive advantage (Wiklund & Sheperd, 2005). The main objectives of EO are closely associated with business strategy (Zhao et al. 2016), organizational change (Wang, 2008), and the creation of new business units (Asemokha et. al., 2019).

A business mentality that is significantly oriented towards entrepreneurship is a determining factor of success for BMI (Foss & Saebi, 2018) because it allows companies to enhance their collaborative networks with various stakeholders, and exchange resources, competencies, and knowledge with them, thereby facilitating the possibility of innovation (Genc et al., 2019). According to Amit and Zott (2012), entrepreneurial-oriented companies even consider BMI to be a better alternative to mere product and service innovation, especially in the presence of scarce resources and uncertain market conditions.

Some empirical studies find or assume the existence of a positive relationship between EO and BMI. Kollmann and Stockmann (2010) found that the EO mindset favours a proactive attitude, a tendency to innovate, and a risk appetite, thus stimulating ambidextrous organizations to experiment with new BMs and exploit existing BMs. Adopting the DC view, Bouncken et al. (2016) interpreted EO as DC and found that it can influence new value generation and value proposition formulas, thus positively impacting BMI. Mütterlein & Kunz (2017) found that EO gives companies the ability to develop different dimensions of BM, such as value creation, value proposition, and value acquisition.

Thus, in a competitive and unpredictable environment, managers who improve their strategies by incorporating BMI and redesigning programs aimed at developing organizational capabilities and processes can

drive competitive advantage (Morris, 2009). Previous studies have reported positive relationships between EO with BMI (Asemokha et al.,2019; Ciampi et al., 2021) and the role of BMI mediation in the relationship between EO and company performance (Asemokha et al.,2019).

H2a: Entrepreneurial Orientation positively influences Hotel's performance

H2b: Business model innovation mediates the relationship between Entrepreneurial Orientation and Hotel's performance

3.3 Business model innovation as a Mediator between KAC and Hotel's Performance

In the last decade, knowledge absorptive capacity has been recognized as a key factor in various types of innovations, such as process products, marketing, and management innovation (Santoro, Quaglia, Pellicelli, & De Bernardi, 2020). Many researchers have concluded that KAC is significantly related to innovation performance (Ferraris, Santoro, Bresciani, & Carayannis, 2018; Tseng, Chang Pai, & Hung, 2011).

Successful knowledge transformation can accelerate the assimilation of new knowledge and result in better innovation performance as well as superior company performance (Xie et al., 2018). Researchers have shown that the exploitation of knowledge can affect a company's innovation performance (Ferraris, Santoro, & Bresciani, 2017). The recombination and integration of internal and external capabilities essentially play an important role in improving the basic components of BM (Bogers & Jensen, 2017). Modifications and reinventions of enterprise business models are strongly linked to the dynamic capabilities of enterprises and their ability to reconfigure their resources (Ritter & Lettl, 2018).

Researchers have adopted a dynamic conceptual view on BMI and conceptualized it as a process of organizational change that requires capabilities, leadership and learning mechanisms (Cavalcante, Kesting, & Ulhøi, 2011; Foss & Saebi, 2017). In the same vein, Pedersen, et al., (2018) propose that there is a continuum between incremental and radical changes in BM. Specifically, Bhatti et al., (2021) found a positive relationship between KAC to business performance through the role of BMI mediation in the IT industry. We hypothesize that KAC plays a positive role in hotel performance through BMI mediation.

H3: Business model innovation mediates the relationship between Knowledge Absorption Capacity and Hotel's performance

3.4 Business model innovation and Hotel's Performance

Innovation has been associated with a variety of positive outcomes for organizations, including adaptation to market uncertainty (Vrontis & Christofi, 2019) and improved stakeholder relationships (Leonidou et al., 2018). Focusing on the process of capturing corporate value, Afuah (2004 in Bhatti, et al., 2021) presents a framework in which he proposes that the business model corresponds to the profitability of the company. While most research on business models is still conceptual (Hedman & Kalling, 2003), some research has tried to investigate the impact of business models through empirical analysis. In recent years, researchers have also sought to investigate the impact of BMI on business performance e.g., Bouwman, Nikou, Molina-Castillo, & de Reuver, (2018). BMI is a key factor that significantly contributes to competitive advantage and performance (Aspara et al., 2010; Henry Chesbrough, 2010 in Zhang et al., (2021). Giesen et al. (2007) investigated the impact of BMI and company performance and found that market-leading companies pay twice as much attention to BMI as underperforming companies.

According to the findings of most studies, BMI shows a positive relationship with performance (Foss & Saebi, 2017), financial performance in the IBM 2006 Global CEO Study (Pohle & Chapman, 2006), in entrepreneur companies (Zott & Amit, 2007), in small companies (Aspara et al., 2010) and large companies (Cucculelli & Bettinelli, 2015).

H4: Business model innovation has a positive effect on Hotel's performance

4. Research methodology

The research in this study will be carried out in a quantitative empirical way. The process is to answer research questions through the conceptual framework of the model that has been submitted. The research will be conducted in the context of the hotel industry in several major cities in Indonesia, with hotels as the unit of analysis and general managers as respondents. Hotels that will be the object of research are 4- and 5-star hotels that have national and international networks or individual hotels that are predicted to have more ability to absorb knowledge to support proactive and innovative attitudes in running their business models that are exploitative and exploratory.

5. Conclusion

This study examines various factors that can affect hotel performance, especially through business model innovation and antecedents. Based on literature studies, business model innovation is a relatively new concept, and it is wide open to research about supporting factors and their influence on organizational performance in sharing the industry context. To explore the BMI construction, this study uses three variables, namely contextual ambidexterity, entrepreneurial orientation, and knowledge absorptive capacity. Research on ambidexterity also still shows a diverse influence on organizational performance. In the context of the hotel industry that emphasizes excellent service for customers with employees as the front line, contextual ambidexterity can be an important capability for business continuity.

In this study, two concepts that are relevant to BMI were also added, namely knowledge management represented by variable Knowledge absorptive capacity, and the concept of entrepreneurship represented by entrepreneurial orientation. These two variables allow for the acquisition of new knowledge and its use in organizations such as optimization of collaborative networks taken by prioritizing a proactive attitude and daring to take risks so that they can support the improvement or innovation of business processes in line with customer demands and technological developments.

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Strategic Entrepreneurship: The Role of Human Resource Practice and it Capabilities in Managing Performance Firm

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Abstract. In order to realize Corporate Entrepreneurship (CE), the context of Human Capability and successful strategic alignment of IT with business strategy, companies must coordinate components such as: business strategy, IT strategy and HRM strategy. Business performance measures the contribution of the business and technology domains to the company's business objectives. Both the company's external and internal environment affect the company's performance. The novelty of the research is to explain the role of human resource practice and it capabilities in managing performance firm. This study examines the impact of corporate of entrepreneurship on performance, whether directly and indirectly through dynamic capability and the direct impact dynamic capability has on performance. This research uses Structural Equation Modeling (SEM) with Partial Least Square (PLS) approach. Data is collected from 100 business units from divisions that are directly related to measurement variables, namely Information & Technology, Human Resources and Operations in several industrial pillars in Indonesia. The findings highlight that technology has a direct impact on corporate entrepreneurship because the progress of the times makes every industry player need to implement technology for data integration. And Human Resources also has a direct impact on Corporate Entrepreneurship where every organization needs to implement Strategic Human Resources to assist employees in hire to retire activities. These two variables are also assisted by dynamic capability, so that each individual or platform used has followed the applicable rules, thus leading to Learning Growth and Internal Business Processes in good performance.

Keywords: Corporate Entrepreneurship; Human Resource; IT Capabilities and Dynamic Capability

1. Introduction

Research on Corporate Entrepreneurship is currently being widely discussed by researchers, where it is not only companies that try to continue to achieve targets, but also how the internal environment helps or supports the company in achieving its vision and mission. The internal environment more specifically is people and technology, in the process helping the company to achieve what has been formulated. It is widely argued that in utilizing an information technology (IT), business operations and IT investment must be strategically coordinated and also aligned. To fully exploit IT, a company's business strategy must integrate with its IT strategy.

In order to realize Corporate Entrepreneurship (CE), the context of Human Capability and successful strategic alignment of IT with business strategy, companies must coordinate components such as: business strategy, IT strategy and HRM strategy. Business performance measures the contribution of the business and technology domains to the company's business objectives. Both the company's external and internal environment affect the company's performance.

Corporate Entrepreneurship (Intrapreneurship) is a process that can be used to develop new businesses, products, services, or processes within an existing organization to create value and generate new revenue growth through entrepreneurial thought and action. Corporate entrepreneurship must set the context in which innovation and growth are to be. In terms of providing a systems view of the resources, processes, and environment needed to support, motivate, and engage organizations in entrepreneurial thinking and action.

Basically there is no perfect way to implement corporate entrepreneurship. But there are three components that make enterprise entrepreneurship possible; people, processes and place/location/environment.

The scope of CE can also be wider in the organization, not previously known as entrepreneurship, there is a need to be like that in order to survive and succeed in an increasingly competitive and business or organizational environment. It also looks at how appropriate strategies and mechanisms can be developed.

Focus on the intellectual development of the people in it. The indispensable dimensions of HRM of corporate entrepreneurship, HRM policies and practices, as an important complement to entrepreneurial activity,

also offer complexity and variety, both with regard to the practice directly and in the way in which it exists which is interpreted from a human resource management (HRM) perspective. As stated by Quinn (1992) believes that the economy and productive power of the modern enterprise lies in its intellectual capabilities and services, not in its hard assets.(Soliman & Spooner, 2000). Hayton (2005) observes that while the traditional HRM model encourages employee contributions that match organizational needs and inducements, a more relevant perspective for corporate entrepreneurship will encourage relationship building between employees, between employees and the organization, and between employees and key organizations and stakeholders. The link between these is necessary because they represent a particular importance to the flow of knowledge and information, which are the building blocks of innovation and entrepreneurial opportunity(Dabić et al., 2011). Internal development of the company begins with the people in it who are determined by the knowledge and personality that can compete in it. Employee cognition determines how entrepreneurship is created to achieve dynamic competition in uncertainty. The characteristics of HRM can be seen from innovative behavior, operational proactiveness, risk management and consensus building behavior in their efforts to add value to their respective companies. HRM professionals in entrepreneurship are constantly looking for opportunities to add value to them. This opportunity-seeking behavior is supported by their long-term orientation and tendency to manage the risks that may arise in the added value. Interestingly,(Amarakoon et al., 2019)

Entrepreneurship in human resources benefits from integrating cognitive, learning, networking, and motivational perspectives. Learning theory often emphasizes the cumulative nature of human beings and the importance of acquiring knowledge(Marvel et al., 2016). The use of human resource systems using competency development, although necessary for the company to achieve a competitive position, may not be sufficient to achieve long-term sustainable competitive advantage. Therefore, HRM is relatively difficult to transfer to other companies,(Ordóñez de Pablos & Lytras, 2008). A cognitive approach to strategic group research has emerged based on the argument that managers can simplify their complex competitive environment and that it is the perceptions and differences among their competitors that can shape strategic decision making.(Gannon et al., 2012).

HRM practices can increase psychological capital in organizational membership, such as self-confidence, a sense of belonging and a sense of security and reduce psychological demands from other things. In addition, HRM practices can increase employees' confidence in their ability to achieve their goals(Shehata et al., 2020). HRM also continues to consider the welfare of its employees as well as welfare initiatives for the company. From this business perspective emerged the term corporate wellness (CW) a term used to distinguish welfare initiatives inspired solely by the business case for worker welfare or such as investment welfare. CW is a response to disease-related loss of productivity due to absence from work (absence) and decreased performance at work. CW involves the intensity of the relationship between welfare and economic interests so as to reduce social legitimacy to a fairly additional or secondary position, and clearly aligns the goals of worker welfare with economic goals in HRM.(Harvey, 2019). Corporate wellness within the company must be available to employees who need it so as to create a more structured and prosperous living environment, successful CWs can certainly manipulate the environment and resources to promote healthy practices in an effort to help employees achieve positive aspects in the work environment.(Smith et al., 2017)

Recent research has tried to prove the interaction between HRM and corporate entrepreneurship (CE).(Shehata et al., 2020)&(Moustaghfir et al., 2020). The results show that the three core HRM practices have a significant impact both on the nature of the personnel on duty and on CE and a new innovation culture can help companies generate non-financial performance, especially in terms of a positive work atmosphere, service quality, image and reputation. Another view says that the key actor in leading the company's success in the future can be seen from good HRM management which can affect CE(Montoro-Sánchez & Ribeiro Soriano, 2011). Previous studies have proven that there is a strong influence between HRM and CE in companies that are still pioneering such as SME or start-ups.(Dabic & Kiessling, 2019)&(Montoro-Sánchez & Ribeiro Soriano, 2011). Other empirical studies also suggest that there is a need to mix CE activities and HRM practices with clear evidence that this study tries to show that this need is equally important for other sectors besides innovation.(SM Lee et al., 2011).

When applied to the classic definition of entrepreneurship, identifying the results of exploiting opportunities in the face of resource constraints, corporate entrepreneurship will be part of this. Technology awareness requires a genuine interest in IT, both inside and outside the organization. As new technological innovations appear in the market on a regular basis, practitioners and researchers must maintain awareness of each other's efforts. Organizational members must stay up-to-date on the latest technologies and have adequate organizational knowledge and technical skills to make the best technology investments for their companies.

Researchers today say a lot about a technopreneur, where a technopreneur is a person who revolutionizes the prevailing economic order by making the best use of technology. Introducing new concepts of products and services in the market. When technopreneurs enter the market, all they have is an idea. Technopreneurs often observe prevailing business practices and combine them with fresh ideas to create something exclusive.

Technopreneurs stand out for their ability to absorb knowledge and how to apply it. Using technology solutions to revolutionize conventional practices is what they are doing and it is a welcome change in the business field.

Not a few people confuse the term good out of ignorance, in many cases creating confusion, because quite different things call it the same. Some have started labeling digitization as digital transformation to appease management, get project approvals, or to make sales. Even in this research, it is hoped that the terminology can be clarified and try to bring some basics in it; Digitalization, Digitazion and Digital Transformation.

It is undeniable that the development of information technology is one of the success factors and can bring major changes to the company, information technology has not only changed the way companies or organizations conduct business activities, but has also changed business perspectives and processes. In terms of surviving in this technological era, of course, companies must also carry out digital transformation.

Every organization will basically always try to create a competitive advantage by pushing them ahead of competitors. In creating a competitive advantage, the existence of a saturated market and technological advances indicate that competitors are also able to imitate the company's competitive advantage. Creating a sustainable competitive advantage is a goal that must be achieved by a company. One way to do this is by implementing the VRIO Framework, which is a tool to assist organizations in disclosing and protecting their resources and capabilities, by giving companies a long-term competitive advantage. VRIO stands for Value, Rare, Inimitable, and Organized.

The VRIO Framework was originally developed by Barney, JB (1991) in his work 'Firm Resources and Sustained Competitive Advantage", where it is mentioned in identifying four attributes that a firm's resources must have in order to be a source of sustainable competitive advantage. Resources must be valuable, rare, imperfectly imitable and non-substitutable. the original skeleton was called Vrin. In 1995, in his later work 'Looking in for Competitive Advantage' Barney had introduced the VRIO framework, which was an improvement on the Vrin model.

The company in carrying out this digital transformation lies not only in its ability to use information technology, but is also influenced by how capable the company is in managing and utilizing it effectively and efficiently. The ability to manage information technology is better known as information technology capability. Information technology capability is believed to be able to create a competitive advantage for the company, and this competitive advantage is of course very closely related to the company's performance and value.

2. Literature Review

Corporate Entrepreneurship (CE)

Market changes or rejuvenating market competition. Various definitions were put forward by researchers in the field of entrepreneurship, several definitions of entrepreneurship (Maes, 2003 in Puspo, 2006) and (from various sources) are as follows: 1. According to (Miller, 1983) is an action taken by companies related to with product, marketing and technological innovation 2. Schuler, (1986), states that entrepreneurship is the creation or innovation to produce new products or businesses/services in trade organizations or in new organizations.

Ferreira (2002:4) states that a corporate entrepreneurship is a developing research, however, until now the definitions used by experts are many differences. The definition of corporate entrepreneurship from several experts is as follows (Puspo, 2006, and from various sources): Kuratko, et.Al (1993), Intraprenuership/Corporate Entrepreneurship is entrepreneurship in corporations/companies that explain entrepreneurial behavior in organizations that have there (established firm). Lumpkin & Dess, (1996), Corporate entrepreneurship in this case is the process, workmanship, and decision-making activities (oriented to Entrepreneurial Orientation, namely, consisting of three dimensions of innovation (innovativeness), proactiveness (proactiveness), and risk taking (risk taking) in achieving company performance.

HR Practice

Recruitment (Hiring)

The dynamic hiring process continuously examines submitted applications, including internal and external sources, to identify talented candidates for company job assignments. In addition to applications received from recent graduates, career majors at colleges of educational institutions and partner universities as a result of the company's HR marketing strategy, as an assessment applications follow different procedures built on job-related criteria, including different types of interviews and considering providing feedback for acceptance. Applicants are rejected when the process is complete. All applications are maintained in a dedicated internal database for two years.

Companies usually recruit new employees with no contract period of 1 year or 3 months of probation. Where at that time is an orientation period for new employees regarding performance and also compatibility with the culture and noble values of the organization.

Training and development

Training (training) is a learning process that involves the acquisition of skills, concepts, rules, or attitudes to improve performance (Simamora:2006:273). According to article I paragraph 9 of Law No. 13 of 2003. Job training is the entire activity to provide, obtain, improve, and develop work competence, productivity, discipline, attitude, and work ethic at a certain skill level and expertise in accordance with the level and job and job qualifications.

According to (Hani Handoko:2001:104) the meaning of training and development is different. Training is intended to improve mastery of various specific, detailed and routine work implementation skills and techniques. That is practiceprepare employees (labor) to do current jobs. Meanwhile, development (Development) has a wider scope in an effort to improve and enhance knowledge, abilities, attitudes and personality traits.

Performance assessment

The definition of performance appraisal based on theories (Mathin and Jackson, Hasibuan, Mondy and Noe, Handoko, and Dessler) can be concluded as an assessment of the results of individual work produced and compared with existing standards, both in terms of quality and quantity that have been previously determined. Etymologically, performance comes from the word performance. As stated by Mangkunegara (2005:67) that the term performance comes from the word job performance or actual performance (work achievement or actual achievement achieved by someone), namely the quality and quantity of work achieved by an employee in carrying out his duties in accordance with the responsibilities assigned to him. given to him. According to Gibsen et al (1997:52) employee performance is the desired outcome of the perpetrator. Handoko (2002: 76) termed performance. Meanwhile, employee performance according to Simamora (2004: 53) is the level of employee work results in achieving the job requirements given.

Compensation and Rewards

Compensation is something that can be accepted by employees as a substitute for their service contribution to the company (Rivai, 2005: 357). (Simamora, 2004: 442) states that compensation is what is received by employees or employees in exchange for their contribution to an organization. (Hasibuan, 2005: 118) argues that compensation is income in the form of money or goods directly and indirectly received by employees as a reward for services provided to the company.

IT Capability

Information technology capability is a company's ability to mobilize and deploy technology-based resources or in other words a combination of resources and other capabilities that can support it. Bharadwaj (2005) identified information technology capability as the company's capability created by the interaction between the information technology structure, human resources with information technology expertise and intangible information technology resources.

Kuncoro (2005) defines capability as the company's capacity and/or ability to integrate its resources to achieve the company's desired goals.

Dynamic Capabilities

The concept that the company is always trying to expand, modify, reconfigure, or even completely change its resources and knowledge to create value in the dynamics of a rapidly changing business environment (Katkalo, Pitelis, & Teece, 2010). Dynamic capability is the firm's ability to adapt its resources to create value in a rapidly changing environment (Teece, Rumelt, Dosi, and Winter, 1994).

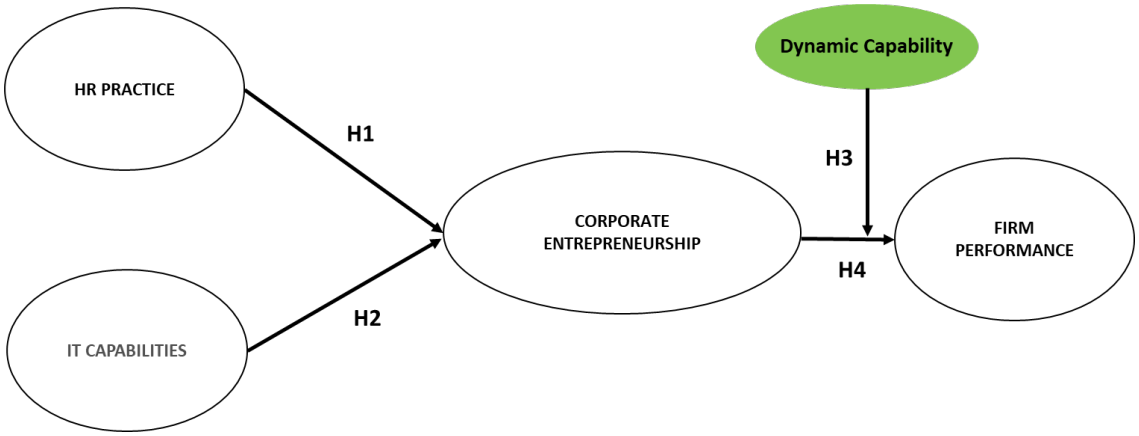
Companies must be able to adapt quickly. Dynamic capabilities enable companies to adapt to a rapidly changing and risky environment by responding in an agile and agile manner. This is because dynamic capabilities create the ability to innovate and adapt to environmental changes (Teece & Leih, 2016).

Dynamic capability theory is an extension of RBV (Resources Based Value) which can be used in dynamic situations and shows how the company's advantage is maintained over time (Ambrosini & Bowman, 2009). Capability means the ability to adapt, integrate and configure capabilities in managing internal and external organizational resources, competencies, and work functions, Teece et al. (1997). Dynamic is the ability to update the competence of how to do business/organization work so that it can be congruent with environmental demands. This means that dynamic capability means an organization that has built, managed, and maintained the process of finding solid foundations and strengths that are difficult to imitate by other organizations so that they have competitiveness (Teece, 2007).

3. Research Model

This research model is a modification of Karim, Sara El & Mohammed (2020) and Gamal, Abdel & Raafat(2020). This study explain the Market changes or rejuvenating market competition. Various definitions were put forward by researchers in the field of entrepreneurship, several definitions of entrepreneurship (Maes, 2003 in Puspo, (2006) and (from various sources) are as follows: 1. According to (Miller, 1983) is an action taken by companies related to with product, marketing and technological innovation 2. Schuler, (1986), states that entrepreneurship is the creation or innovation to produce new products or businesses/services in trade organizations or in new organizations.

Figure 1. Research Model



Source: Modification from Karim, Sara El & Mohammed (2020) and Gamal, Abdel & Raafat(2020)

Recent research has tried to prove the interaction between HRM and corporate entrepreneurship (CE).(Shehata et al., 2020)&(Moustaghfir et al., 2020). The results show that the three core HRM practices have a significant impact both on the nature of the personnel on duty and on CE and a new innovation culture can help companies generate non-financial performance, especially in terms of a positive work atmosphere, service quality, image and reputation. Another view says that the key actor in leading the company's success in the future can be seen from good HRM management which can affect CE(Montoro-Sánchez & Ribeiro Soriano, 2011). Previous studies have proven that there is a strong influence between HRM and CE in companies that are still pioneering such as SME or start-ups.(Dabic & Kiessling, 2019)&(Montoro-Sánchez & Ribeiro Soriano, 2011). Other empirical studies also suggest that there is a need to mix CE activities and HRM practices with clear evidence that this study tries to show that this need is equally important for other sectors besides innovation.(SM Lee et al., 2011).

Corporate Entrepreneurship and Company Performance

Corporate Entrepreneurship is entrepreneurship in corporations/companies that explain entrepreneurial behavior in organizations that have there (established firm). Lumpkin & Dess, (1996), Corporate entrepreneurship in this case is the process, workmanship, and decision-making activities (oriented to Entrepreneurial Orientation, namely, consisting of three dimensions of innovation (innovativeness), proactiveness (proactiveness), and risk taking (risk taking) in achieving company performance.

The term CE refers to the process by which teams within an established company structure, develop, launch, and manage a new business that is different from the parent company but takes advantage of the parent company's assets, market position, capabilities, or resources. This is in contrast to corporate venture capital, which pursues more financial investments in external companies.

The VRIO Framework was originally developed by Barney, JB (1991) in his work 'Firm Resources and Sustained Competitive Advantage", where it is mentioned in identifying four attributes that a firm's resources must have in order to be a source of sustainable competitive advantage. Resources must be valuable, rare, imperfectly imitable and non-substitutable. the original skeleton was called Vrin. In 1995, in his later work 'Looking in for Competitive Advantage' Barney had introduced the VRIO framework, which was an improvement on the Vrin model.

The company in carrying out this digital transformation lies not only in its ability to use information technology, but is also influenced by how capable the company is in managing and utilizing it effectively and efficiently. The ability to manage information technology is better known as information technology capability. Information technology capability is believed to be able to create a competitive advantage for the company, and this competitive advantage is of course very closely related to the company's performance and value.

The dynamics of organizational profitability in its success and effectiveness consists in the efficient and, most importantly, innovative use of privileged resources (Fındıklı et al., 2015). Undoubtedly human capital, as a key asset, plays a strategic role in leveraging organizational learning (Jyoti et al., 2017), which, usefully, as knowledge to make companies more innovative, and entrepreneurial (Spender and Grant, 1996).

Furthermore, the area of research that is currently examining such a relationship from a perspective where HRM practices and IT Capabilities primarily strengthen the organization study and shape overall business performance. Literature provides some guidance. However, the interaction between HRM practices and IT Capabilities becomes a variable inherent in corporate entrepreneurship in translating HRM and IT Capabilities efforts into performance results.

From the explanation above, the first hypothesis in this study is:

Hypothesis 1: HR Practice has a positive effect on Corporate Entrepreneurship.
Hypothesis 2: IT Capabilities has a positive effect on Corporate Entrepreneurship
Hypothesis 3: Dynamic Capability has a positive effect on Corporate Entrepreneurship
Hypothesis 3: Corporate Entrepreneurship has a positive effect on Firm Performance

4. Research Method

This research model assesses the two lower quadrants of the Strategic Alignment Model and is designed to test the co-alignment between HR Practice and Technology Capability and its impact on firm performance.

The sample of respondents are section head, Manager and Managerial Up of Several Industry (Energy & Mining, IT Services, Banking and Financial Services). The distribution of the survey is using Google Forms via E-mail and Social Media such as Facebook, Twitter, Instagram and WhatsApp Group.

This research uses SEM-PLS data collection method with SMartPLS3. The SEM-PLS method has the advantage of measuring small samples. Two stages in analyzing research using SEM PLS, namely, structural model analysis and measurement model analysis, ensure that the study's measurement model has met the requirements as a valid and reliable model.

Table 1. Business Characteristic and Respondent Profile

Business Characteristic	Category	Frequency	Percentage
Business Industry	Banking	4	4%
	Energy & Mining	65	65%
	Financial Services (Financial Technology, Investment Bank, Multi Finance, Assurance, Asset Management and Securities)	14	14%
	IT Services	17	17%
	Total	100	100%
Type of Department	Human Resource (HR)	47	47%
	Information & Technology (IT)	14	14%
	Operation	39	39%
	Total	100	100%
Length of Business Activity	<100	25	25%
	100 - 500	26	26%
	501 - 1000	12	12%
	>1000	37	37%
	Total	100	100%
Business Location	Greater Jabodetabek	88	88%
	Outside Jabodetabek	12	12%
	Total	100	100%

Respondent Profile	Category	Frequency	Percentage
Gender	Male	67	67%
	Female	33	33%
	Total	100	100%
Age	25 - 40 Years Old	45	45%
	> 40 Years Old	53	53%
	< 25 Years Old	2	2%
	Total	100	100%
Role in Business	Manager	46	46%
	Managerial Up	33	33%
	Section Head / Superintendent / Supervisor	21	21%
	Total	100	100%

Source: Authors (2021)

The total number of respondents is 100 respondents. Table 1 describes that most businesses are Mining & Energy Industry 65%, such as coal mining, gold and bauksite with a prolonged business more than 5 years activity. Most of their business has under 100 (hundred) employees (25%). Meanwhile, 67% of the respondents are male, and 33% are female. Furthermore, 53% of the respondents' are more than 40 years old and 46% of the respondents are from managerial level.

5. Result and Discussion

Evaluation of the reflective outer model can be seen from convergent validity, reliability, and discriminant validity. Table 3 summarizes all the items for each construct that has met the convergent validity criterion (Loading Factor 0.5 and AVE >0.5) and reliability criterion (Cronbach's alpha >0.7 and Composite Reliability > 0.7) (Hair et al., 2014). Based on table 3, resource leveraging has the lowest CA of 5.93, far from 0.7. Therefore, CA more than 0.5 is still can be accepted (Goerge and Mallery, 2003). This research has sufficed the requirements of discriminant validity using the fornell-lackers (see table 2).

This research has met the requirements of structural model analysis regarding the values of R^2, Q^2, and path coefficients. The value of Q^2 of marketing capability (0.172) and business performance (0.207), so that the relevance of the two constructs is good. Meanwhile, marketing capability (0.35) and business performance (0.724) have moderate R^2 values, according to Hair et al. (2017).

The validity test with the SmartPLS 3.0 program can be seen from the loading factor value for each construct indicator. That is, the value of the loading factor must be > 0.70.

	Corporate	Dynamic_Capability	Firm_Performance	HR_Practice	IT_Capabilities	Moderating Effect 1
CR1				0.793		
CR2				0.894		
CR3				0.876		
CR4				0.89		
EO1	0.917					
EO2	0.949					
EO3	0.927					
EO4	0.945					
EO5	0.894					
ET1	0.869					
ET2	0.892					
ET3	0.891					
ET4	0.85					
ET5	0.91					
ET6	0.874					
HSP1R				0.773		

HSP2R				0.873		
HSP3				0.85		
HSP4				0.899		
HSP5R				0.899		
HSP6				0.79		
HSP7				0.783		
HSP8				0.888		
HSP9				0.893		
IBP1			0.889			
IBP2			0.846			
IBP3			0.913			
IBP4			0.904			
ITI1					0.736	
ITI2					0.731	
ITI3					0.84	
ITI4					0.716	
ITIF1					0.761	
ITIF2					0.912	
ITIF3					0.793	
ITIF4					0.769	
ITIF5					0.914	
ITM1					0.812	
ITM2					0.89	
ITM3					0.876	
ITM4					0.901	
ITM5					0.897	
LG1			0.845			
LG2			0.962			
LG3			0.901			
LG4			0.746			
LG5			0.959			
PA1				0.819		
PA2				0.735		
PA3				0.815		
PA4				0.76		
PA5				0.706		
PA6				0.763		
PA7				0.703		
RC1		0.914				
RC2		0.91				
RC3		0.786				
RC4		0.834				
RC5		0.822				
SN1		0.815				
SN2		0.793				

SN3		0.746				
SN4		0.918				
SZ1		0.888				
SZ2		0.864				
SZ3		0.854				
SZ4		0.882				
TD1				0.892		
TD2				0.932		
TD3				0.88		
TD4				0.936		
TD5				0.711		

All variables have met the convergent validity test because the loading factor value is >0.7

- Discriminant Validity (AVE VALUE)

Construct Reliability and Validity

Matrix | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted ... | Copy

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Corporate	0.977	0.978	0.980	0.814
Dynamic_Capability	0.968	0.970	0.971	0.722
Firm_Performance	0.965	0.968	0.971	0.787
HR_Practice	0.981	0.985	0.983	0.694
IT_Capabilities	0.964	0.972	0.968	0.685
Moderating Effect 1	1.000	1.000	1.000	1.000

Assessment criteria with convergent validity through AVE > 0.5. Seen all variables> 0.5 so it is said to be valid.

Discriminant Validity

Fornell-Larcker Criteri... | Cross Loadings | Heterotrait-Monotrait R... | Heterotrait-Monotrait R... | Copy to Clipboard:

	Corporate	Dynamic_Capa...	Firm_Performa...	HR_Practice	IT_Capabilities	Moderating Eff...
Corporate	0.902					
Dynamic_Capability	0.913	0.850				
Firm_Performance	0.903	0.909	0.887			
HR_Practice	0.926	0.911	0.945	0.833		
IT_Capabilities	0.775	0.807	0.814	0.798	0.828	
Moderating Effect 1	-0.598	-0.582	-0.625	-0.582	-0.455	1.000

The test results using SmartPLS show that the discriminant validity value has met the criteria, namely the existence of a link between a discriminatory construct and a comparison that produces a larger number between the loading value of the intended construct and other constructs. And the instrument test with discriminant validity can be said to pass the test.

1. **REABILITY TEST**

Construct Reliability and Validity

Matrix | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted ... | Copy

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Corporate	0.977	0.978	0.980	0.814
Dynamic_Capability	0.968	0.970	0.971	0.722
Firm_Performance	0.965	0.968	0.971	0.787
HR_Practice	0.981	0.985	0.983	0.694
IT_Capabilities	0.964	0.972	0.968	0.685
Moderating Effect 1	1.000	1.000	1.000	1.000

Cronbach's Alpha and Composite Reliability values > 0.7 for each indicator in the study which states that it is reliable.

2. **FIT MODELS**

Model_Fit

Fit Summary | rms Theta

	Saturated Model	Estimated Mo...
SRMR	0.086	0.091
d_ULS	19.349	21.595

SRMR or Standardized Root Mean Suare value < 0.10. In accordance with the fit model picture above, the SRMR value is 0.086. So based on the assessment of the model already meets the criteria of model fit.

3. **R-SQUARED TEST**

R Square

Matrix | R Square | R Square Adjusted

	R Square	R Square Adjus...
Corporate	0.861	0.858
Firm_Performa...	0.865	0.861

The R Square value of the joint or simultaneous effect on firm performance is 0.865 with an adjusted r square value of 0.861. So, it can be explained that all exogenous constructs simultaneously affect firm performance by 86%. The R Square value of the joint or simultaneous influence on corporate is 0.861 with an adjusted r square value of 0.858. So, it can be explained that all exogenous constructs simultaneously affect corporate by 86%.

4. **F-SQUARED TEST**

f Square

Matrix | f Square | Copy to Clipboard:

	Corporate	Dynamic_Capa...	Firm_Performa...	HR_Practice	IT_Capabilities	Moderating Eff...
Corporate			0.184			
Dynamic_Capability			0.288			
Firm_Performance						
HR_Practice	1.858					
IT_Capabilities	0.027					
Moderating Effect 1			0.052			

The determined threshold value is F-square (F2) < 0.02 is a very small effect, 0.02 < F-square (F2) < 0.15 is a small effect, 0.15 < F-square (F2) < 0.35 is a moderate effect, and f 2 > 0.35 is a large effect.

5. HYPOTHESIS TESTING

Path Coefficients

Mean, STDEV, T-Values, P-Val... | Confidence Intervals | Confidence Intervals Bias Co... | Samples | Copy to Clipboard:

	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O/...	P Values
Corporate -> Firm_Performance	0.395	0.403	0.097	4.055	0.000
Dynamic_Capability -> Firm_Performance	0.487	0.482	0.095	5.129	0.000
HR_Practice -> Corporate	0.844	0.843	0.091	9.278	0.000
IT_Capabilities -> Corporate	0.102	0.105	0.106	0.961	0.337
Moderating Effect 1 -> Firm_Performance	-0.058	-0.057	0.018	3.175	0.002

DIRECT INFLUENCE:

1. HR Practice has a significant effect on Corporate as seen from the p-value <0.05. The direct effect of HR Practice on Corporate is 0.844, which means that if HR Practice increases by one unit, Corporate can increase by 84.4%. This influence is positive.
2. IT Capabilities have no significant effect on Corporate as seen from the p-value > 0.05. The direct effect of IT Capabilities on Corporate is 0.102, which means that if IT Capabilities increase by one unit, Corporate can increase by 10.2%. This influence is positive.
3. Corporate has a significant effect on Firm Performance as seen from the p-value <0.05. The direct effect of Corporate on Firm Performance is 0.395, which means that if Corporate increases by one unit, Firm Performance can increase by 39.5%. This influence is positive.
4. Dyanamic Capability has a significant effect on Firm Performance as seen from the p-value <0.05. The direct effect of Dyanamic Capability on Firm Performance is 0.487, which means that if Dyanamic Capability increases by one unit, Firm Performance can increase by 48.7%. This influence is positive.

MODERATING VARIABLES:

Modetating Effect 1 (Corporate -> Firm Performance moderated by Dyanamic Capability)

From the output above, p-value <0.05, it can be concluded that Dyanamic Capability significantly moderates the influence between Corporate and Firm Performance.

6. MEDIATION TEST

Total Indirect Effects

Mean, STDEV, T-Values, P-Val... | Confidence Intervals | Confidence Intervals Bias Co... | Samples | Copy to Clipboard:

	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O/...	P Values
Corporate -> Firm_Performance		-0.000	0.000		
Dynamic_Capability -> Firm_Performance					
HR_Practice -> Corporate					
HR_Practice -> Firm_Performance	0.333	0.337	0.080	4.177	0.000
IT_Capabilities -> Corporate		0.000	0.000		
IT_Capabilities -> Firm_Performance	0.040	0.046	0.049	0.819	0.413

MEDIATION VARIABLES:

1. HR Practice has a significant effect on Firm Performance with Corporate mediation as seen from the p-value <0.05. The indirect effect of HR Practice on Firm Performance through Corporate is 0.333, which means that if HR Practice increases by one unit, Firm Performance can increase indirectly through Corporate by 33.3%. This influence is positive.
2. IT Capabilities have no effect on Firm Performance with Corporate mediation as seen from p-value > 0.05. The indirect effect of IT Capabilities on Firm Performance through Corporate is 0.040, which means that if IT Capabilities increase by one unit, Firm Performance can increase indirectly through Corporate by 4%. This influence is positive.

6. Conclusion

7.

This direct study of the notion that the relationship between Corporate Entrepreneurship and firm performance is more complex than the simple relationship. In other words, Corporate Entrepreneurship needs support from HR Practice & IT Capabilities even though it does not have a positive impact, that the company to achieve its goals does not necessarily directly buy the platform or develop the system by spending a lot of budget.

Companies can also rely on free platforms/applications that have been provided by website links and download free applications and make good use of them to store general company data.

However, HR Practice has a positive impact on corporate entrepreneurship, HR is the main position in the formation of the organizational structure and HR is also a position that will be eliminated most recently when there is a company restructuring and even dismissal.

In addition, it is supported by the ability of the dynamic capability assessment to explain that it has a positive effect on firm performance.

This finding supports the direct influence of Corporate Entrepreneurship and firm performance relationship. The higher the level of corporate entrepreneur, the higher the value of the resulting firm performance.

The company empowers HR Competencies and strives to utilize platforms / technology to help run business process activities.

This study contains several limitations and offers suggestions for further research: 1) This study was conducted during the Covid-19 pandemic and had a limited number of respondents, so this study cannot provide complete conclusions regarding the influence of Corporate Entrepreneurship and Firm Performance (CE-FP). Future research could further investigate CE-FP in a post-crisis context; 2) This study only uses quantitative methods. Future research can use mixed methods to get in-depth research; 3) This research only focuses on Corporate Entrepreneurship. Further researchers can examine other factors that can mediate the relationship between CE-FP, such as network ability, absorption ability.

Further research needs to complement the issue mentioned above and address such limitations.

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Appendix

Appendix 1. Construct and Items of Questionnaire

Dynamic Capability (Teece, 1997 & Khaliq, Zafar, 2015 & Steven S Zhou et al, 2019)		
Instructions for Filling Out: 1= Strongly Disagree; 2= Disagree; 3= Doubtful; 4=Disagree; 5= Agree; 6= Strongly Agree		
No.	**Question**	**Code**
Sensing Didin and Jann (2017)		
39	My company is systematically looking for new concepts/production/manufacturing methods through a process of observation outside the company.	SN1
40	My Company systematically has a discussion forum to identify new manufacturing/production opportunities	SN2
41	My company often conducts comparative studies with other companies in the same industry	SN3
42	My company often reviews efforts to develop types of work and products that are in line with stakeholder needs	SN4
Seizing Didin and Jann (2017)		
43	I feel, R&D investment gets important attention from the company leadership.	SZ1
44	I feel that the R&D activities being carried out by the company will be able to answer business needs in the next 5-10 years.	SZ2
45	I feel, many company product innovations start from employee ideas	SZ3
46	I feel, the company has facilities to support the growth of new ideas from employees for product development / company transformation	SZ4
Reconfiguring Didin and Jann (2017)		
47	I feel, Every time there is a new business opportunity, the company management has carried out the labor transfer process well	RC1
48	I feel that the Company allocates sufficient investment to improve employee competence.	RC2
49	I feel, the company's management encourages employees to learn from experience so as not to repeat work mistakes.	RC3
50	I feel that the Company already has a database system that maps employee competency levels quite accurately.	RC4
51	I feel, The company's management manages the knowledge and experience of employees to improve company performance.	RC5

Corporate Entrepreneurship (Karim, Sara El & Mohammed, 2020) and (Gamal, Abdel & Raafat,2020)		
Instructions for Filling Out: 1= Strongly Disagree; 2= Disagree; 3= Doubtful; 4=Disagree; 5= Agree; 6= Strongly Agree		
No.	**Question**	**Code**
Entrepreneurial Orientation Abdullah et al (2017)		
52	My company has the ability to generate new ideas (New Business Venture)	EO1
53	My company thrives by encouraging and rewarding employees' creativity	EO2
54	My Company carries out positive and useful activities to reflect the added value of the company	EO3
55	My Company often does Mergers & Acquisitions of companies	EO4
56	My company is willing to take risks for business development	EO5
Entrepreneurial Trait Habib Ratvi (2013)		
57	My company has a scalable business plan	ET1
58	My company is quite Flexibility / Adaptive to changes	ET2
59	Company I believe that actions determine rewards	ET3
60	My company often innovates in the context of HR in support of the company's vision	ET4
61	My company often innovates business processes in support of the company's vision	ET5
62	My company often innovates products to meet consumer needs and desires	ET6
Learning and Growth		
Instructions for Filling Out: 1= Strongly Disagree; 2= Disagree; 3= Doubtful; 4=Disagree; 5= Agree; 6= Strongly Agree		
No.	**Question**	**Code**
63	My company has a compensation program that supports the appreciation of outstanding employees.	LG1
64	My Company allows employees to access all information contained within the company	LG2
65	My company improves employee performance with training and education	LG3
66	My company regularly holds seminars to improve the quality of employee resources	LG4
67	My company provides facilities that support the work of employees	LG5
Internal Business Process		
Instructions for Filling Out: 1= Strongly Disagree; 2= Disagree; 3= Doubtful; 4=Disagree; 5= Agree; 6= Strongly Agree		
No.	**Question**	**Code**
68	My company always conducts R&D before starting operational activities	IBP1
69	My company is always adapting its operations to new technologies	IBP2
70	My company has carried out operations in accordance with the target cost, time and quality	IBP3
71	My company conducts continuous evaluation and improvement in operations to improve service quality	IBP4

HR Practice (Karim, Sara El & Mohammed, 2020)		
Instructions for Filling Out: 1= Strongly Disagree; 2= Disagree; 3= Doubtful; 4=Disagree; 5= Agree; 6= Strongly Agree		
No.	**Question**	**Code**
Hiring & Selection - internal forces Jacqueline Nyanjui (2003)		
1	I feel, Employee recruitment and selection policies are an obstacle in finding new employees	HSP1
2	I feel, Budget constraints make it difficult to find new employees	HSP2
3	I feel, Priority strategy helps me in identifying priority employees to be recruited	HSP3
Hiring & Selection - external forces Jacqueline Nyanjui (2003)		
4	I feel, There is a Talent War***(Talent Wars)*** cause difficulties in recruiting new employees	HSP4
5	I feel that clear job functions and qualifications make it easier to recruit new employees	HSP5
6	I feel, Company overview (EVP) is the best way to attract talent	HSP6
7	I feel, The existence of government regulations makes it safe and comfortable to recruit new employees	HSP7
8	I feel, the work requirements of the company in my company are more attractive than competing companies	HSP8
Training & Development Garrett J. Endres Brian H. Kleiner		
9	After participating in the training and development program, I feel equipped with new knowledge and will be able to apply it again to work.	TD1
10	After following the training and development program, I have a high awareness of management concepts and practical skills that will be used to improve management performance.	TD2
11	After participating in the training and development program, I felt a change in behavior and a more positive way of working	TD3
12	After joining the training and development program, I feel an increase in the contribution in my department.	TD4
13	After joining the training and development program, I feel an increase in productivity in my department.	TD5
Performance Appraisal Clinton Longenecker and Laurence Fink (2017)		
13	I've got clear info why you are involved in the performance appraisal process	PA1
14	The performance appraisal procedure in my company is user-friendly and relevant to the job	PA2
15	The managers in my company have consistently conducted effective performance planning sessions with their employees	PA3
16	The managers in my company have conducted assessments and coaching with their direct subordinates	PA4
17	The managers in my company will be responsible for the behavior and effectiveness of their subordinates in the performance appraisal process	PA5
18	People in my company believe that there is a relationship between their performance ratings and the rewards/results they will receive	PA6
19	The HR/HR division of my company has taken proactive steps to ensure that my formal assessment process is operating effectively (Key Performance Indicator)	PA7
Compensation & Reward Tsai, Chin-Ju (2005)		
20	I feel, There is a strong relationship between how well I do my job and the benefits I will get (Rewards, recognition, raises, etc.)	CR1
21	I am satisfied with the number of awards I receive when I do a good job	CR2
22	I feel, Salary increases are based on group performance rather than personal performance.	CR3
23	In general, I feel this company rewards employees who put in the extra effort.	CR4
IT Capabilities (Yang Chen, Yi Wang, Sangi Nevo, 2015)		
Instructions for Filling Out: 1= Strongly Disagree; 2= Disagree; 3= Doubtful; 4=Disagree; 5= Agree; 6= Strongly Agree		
No.	**Question**	**Code**
IT infrastructure flexibility Bhatt et al.		
24	I feel, The information systems in my company can be measured and compared with the actual (ability of computer applications, hardware or software) to continue to function properly when changed in size or volume to meet user needs)	ITIF1
25	I feel, The information systems in my company are compatible (the ability of IT systems to run on a certain operating system / circumstances where two systems run simultaneously without problems or conflicts)	ITIF2
26	I feel, The information system in my company is adopted to share non-confidential information	ITIF3
27	I feel, The information system in my company can handle / be used for several business applications	ITIF4
28	I feel, the information system in my company is modular (a standard that can be used by all levels / the same component)	ITIF5
IT integration Rai and Tang		
29	I feel, System/Application in My company can transfer data with user	ITI1
30	I feel that my company connects the company's internal systems with user systems (Users: people who use data/systems/applications) which allows to share realtime information with users (Users: people who use data/systems/applications)	ITI2
31	I feel, System/Application in My Company combines information across different users (Users: people using data/systems/applications) to support decision making	ITI3
32	I feel, System/Application in My Company can easily collect relevant information from user database (User: person using data/system/application)	ITI4
IT management Bharadwaj et al.		
33	I feel, The practice of IT project management in my company is better than in other companies in the same industry	ITM1
34	I feel that the planning for security control, standards compliance, and disaster recovery at my company is better than in other companies in the same industry	ITM2
35	I feel, The system development practice in my company is better than in other companies in the same industry	ITM3
36	I feel, The system development practice in my company is better than in other companies in the same industry	ITM4
37	I feel the consistency of IT policy in my company is better than in other companies in the same industry	ITM5
38	I feel, The IT evaluation and control system in my company is better than in other companies in the same industry	ITM6

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