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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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