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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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