

ORGANIZATIONAL FORGETTING IN ENHANCING INNOVATION PERFORMANCE THROUGH KNOWLEDGE MANAGEMENT : STUDY OF MANUFACTURE COMPANIES IN INDONESIA

Gromyko Bongso, State University of Jakarta
Hamidah, State University of Jakarta
Wibowo, State University of Jakarta

ABSTRACT

This study aims to look for direct and indirect effects of organizational forgetting in an effort to improve innovation performance through knowledge management in manufacturing companies in Indonesia. This research was conducted with a quantitative approach by using surveys in research. The number of respondents in this study were 377 employees at manufacturing companies in Indonesia. This study uses a Likert scale to measure the perspectives of manufacturing company employees in an effort to create innovation performance. Structural Equation Modeling is used in this study by considering the goodness of fit test, validity and reliability testing and hypothesis testing.

This study shows the importance of organizational forgetting in improving innovation performance in manufacturing companies in Indonesia. The results of this study indicate a direct and indirect effect of organizational forgetting on innovation performance through knowledge management significantly. Organizational forgetting has a greater influence than knowledge management directly on innovation performance. Manufacture companies in Indonesia need to re-evaluate the strategic decision making and reward system to improve innovation performance. The model created in this study is not replicated from previous journals. Where one of the origins that is done is to test the indirect effect of organizational forgetting on innovation performance with knowledge management. The model in this study is able to measure quite large innovation performance with a value of 74.1%.

Keywords: Innovation Performance, Knowledge Management, Organizational Forgetting.

INTRODUCTION

The lack of research in Indonesia in manufacturing companies, especially in terms of human resource science, has made researchers focus in terms of employee perspectives in assessing the effort to increase manufacturing company innovations. Manufacturing companies that have been able to survive until now have faced various situations, especially related to changing times. This change certainly makes manufacturing companies in Indonesia have to work to make changes (make innovations related to products or processes). Manufacturing companies that have been running for more than 20 years certainly have very much and varied knowledge. This knowledge is inherent both to individuals and organizations with a knowledge management system implemented by each company. This knowledge is much ineffective or related to technological development.

Manufacturing companies in Indonesia need to do organizational forgetting to support knowledge management in the company. Zhao et al. (2013) state that the process of knowledge management really requires organizational forgetting (organizational unlearning and organizational real learning). Organizational unlearning/organizational forgetting becomes a significant concern especially in supporting knowledge management (Becker, 2018). Organizational forgetting is an individual effort to eliminate old experiences and knowledge and create new habits and utilize new knowledge (Duffy, 2003). Organizational forgetting is not only able to help knowledge management systems, but also can improve innovation performance (Raisal et al., 2019). The purpose of this study is to look at the direct and indirect effects of organizational forgetting on innovation performance through knowledge management in manufacturing companies in Indonesia. Manufacturing companies in Indonesia are one of the sectors that encourage national economic growth and increase competitiveness domestically, regionally and globally. Therefore, in an effort to increase competitiveness and create innovation (related to products/processes), this research was conducted at manufacturing companies in Indonesia.

THEORETICAL BACKGROUND & HYPOTHESES DEVELOPMENT

Innovation Performance

Innovation performance is the company's ability to turn knowledge into action (Wang & Han, 2011). Innovation performance has become a serious problem in the technological era. Especially changes in global competition that increasingly require companies to rely on knowledge in creating added value to the product or process in the company. In this study, innovation performance is thought to be caused by organizational forgetting and knowledge management.

Organizational Forgetting

Organizational forgetting or known as unlearning according to Easterby-Smith & Lyles (2011) is an effort to eliminate organizational knowledge either intentionally or unintentionally. Research conducted by Leal-Rodríguez et al. (2015) shows that organizational forgetting can influence directly and indirectly on innovation performance. The results of this study indicate that company leaders continue to establish policies that support organizational forgetting and enable the innovation process. The results of this study are also supported based on research by Zeng & Chen (2010). Empirical analysis of Zeng & Chen's (2010) research shows that organizational forgetting has both direct and indirect effects on organizational innovation.

H₁ Organizational forgetting directly positive influence on innovation performance.

Organizational forgetting is also thought to influence knowledge management. Research conducted by Cegarra-Navarro et al. (2010) conducted in the Spanish Hospitality industry shows that there is a link between unlearning/organizational forgetting in creating knowledge management. Company leaders are expected to provide an unlearning process to support the openness of individuals in accepting new ideas and environmental awareness. Wang et al. (2017) also conduct research related to organizational forgetting, this study focuses on efforts to create a relationship between organizational forgetting on knowledge transfer. The results of this study

are also in accordance with research conducted by Delshab & Sadeghi (2018). This research was conducted on employees at youth and sports organizations in Iran. The results show that each dimension of unlearning / organizational forgetting can affect knowledge management.

H₂ Organizational forgetting directly positive influence on knowledge management.

Knowledge Management

Knowledge management can also affect innovation performance. This statement is in accordance with research conducted by Al-Hakim & Hassan (2013), in this study aims to improve innovation and organizational performance. The results show that knowledge management strategies have a positive and significant effect on innovation. Research conducted by Abou-Zeid & Cheng (2004), shows that in creating an effective innovation an approach to knowledge management is needed. Knowledge management is considered an important concern for the company. The results of this study indicate that knowledge management has a positive effect on innovation. Research conducted by Li et al. (2009), conducted research on the effect of knowledge sharing, knowledge applications on innovation. The results show that knowledge sharing and application have an effect on innovation.

H₃ Knowledge management directly positive influence on innovation performance.

Based on the previous hypothesis, organizational forgetting can directly influence knowledge management, while knowledge management can directly influence innovation performance. Rebernik & Širec (2007) conducted research on how to accelerate innovation with unlearning tacit knowledge. As we know that tacit knowledge is part of knowledge management. This is what supports the emergence of the hypothesis of the indirect effect of organizational forgetting on innovation through knowledge management.

H₄ Organizational forgetting indirectly positive influence on innovation performance through knowledge management.

RESEARCH METHODOLOGY

This research is a causal research that looks for the influence between variables. Based on previous studies and the formation of hypotheses, the following is the framework that will be used in this study (Figure 1).

Research Framework

The following is the research framework used:

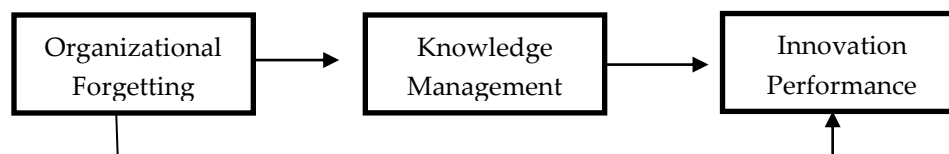


FIGURE 1
RESEARCH FRAMEWORK

Measures

The variables in this study consisted of organizational forgetting, knowledge management and innovation performance. Each variable used is measured based on previous research. Innovation performance in this study was measured based on research conducted by Inauen, Schenker-Wicki, (2011). Innovation performance is measured by 5 statements: the company already has an R&D department that can meet my needs (IP01); open innovation is of concern for your company (IP02); your company can successfully hire high-qualified personnel for R&D (IP03); compared to competitors within your sector, your company exhibits a higher innovation performance (IP04); your company is satisfied with the innovation performance (IP05). Knowledge management is measured based on research by Lin & Lee (2005). Knowledge management is measured by 13 statements, i.e. the company has a process for gaining supplier knowledge (KM01); the company has processes for generating new knowledge based on existing knowledge (KM02); the company has processes for acquiring customer knowledge (KM03); the company has processes for acquiring knowledge on developing new products/services (KM04); the company has processes for integrating different sources and types of knowledge (KM05); the company has processes for transferring organizational knowledge to employees (KM06); the company has processes for filtering knowledge (KM07); the company has processes for applying experiential knowledge (KM08); the company has processes for applying knowledge to solve new problems (KM09); the company has processes for distributing knowledge throughout the organization (KM10); the company has processes for distributing knowledge among our business partners (KM11); the company has a standardized reward system for sharing knowledge (KM12); designs processes to facilitate knowledge sharing across functional boundaries (KM13). Organizational forgetting is measured based on research by Raisal et al. (2019). Organizational forgetting is measured by 5 statements, i.e. the company will introduce new knowledge that conflicts with previous experience and skills (OF01); the organization can change the new product development process according to the change of the external environment (OF02); the organization is able to continuously optimize its team's decision making process (OF03); organizations can change their internal information sharing mechanism (OF04); companies are willing to acquire new technologies from different sources (OF05). All questionnaires were measured using a 1-5 Likert scale (1=Strongly disagree -5=Strongly Agree).

Participant and data analytical approach

The study was conducted in 5 manufacturing companies by distributing 500 questionnaires to company employees (each company only 100 questionnaires). However, only 377 questionnaires were considered valid and could be continued (based on the returned questionnaire and the questionnaire was completely filled). This research is a quantitative approach with Structural Equation Modeling (SEM) analysis method. This study uses the AMOS Statistical tools. Stages of data analysis will start from testing the model (goodness of fit test), validity and reliability of the data and then testing the hypothesis directly and indirectly (Sobel test).

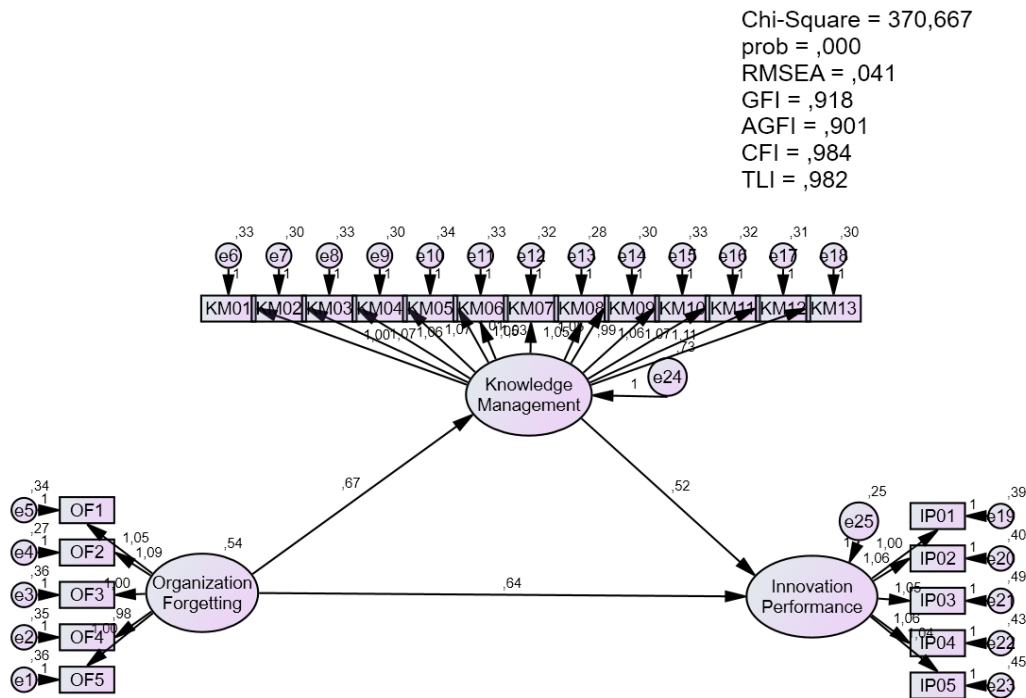
RESULT AND DISCUSSION

Participant Characteristics

The characteristics of the participants in this study were seen in terms of gender, age and education. Based on gender, participant with male gender is 67.90% and female is 32.10%. Based on age, participants with an age range of 18-30 years were 52.79% and ≥ 31 years were 47.21%. While in terms of education, participant with high school/vocational graduates as much as 41.64%, graduate as many as 54.38% and postgraduate (master/doctoral degree) as much as 3.98%. Characteristics of respondents in this study are still in the category of youth, aged 18-30 years with the most gender is male.

Measurement Model

After the data is obtained, the following are the results of testing the model used:



**FIGURE 2
MEASUREMENT MODEL**

In Figure 2, the Chi-square value of 370.667 is obtained with a probability of 0.000. The RMSEA value in this study is 0.041 (good fit) because it is under 0.08. GFI criteria with a value of 0.918 (good fit) because it is above 0.90. AGFI has a value of 0.901 (good fit) because it is above 0.90. CFI of 0.984 (good fit) because it is above 0.95. While the TLI criteria is 0.982 (good fit) because it is above the value of 0.95. Therefore the model in this study was declared to be fit.

After testing the goodness of fit test, then the validity test (with standardized factor loading), the reliability test (with construct reliability) and the Average Variance Extracted (AVE) value in the following Table 1 are conducted.

**Table 1
VALIDITY & RELIABILITY TEST**

Code	Standardized Factor Loading	Reliability Construct	Average Variance Extracted (AVE)
IP01	0.842	0.923	0.706
IP02	0.855		
IP03	0.826		
IP04	0.845		
IP05	0.834		
KM01	0.864	0.977	0.769
KM02	0.888		
KM03	0.873		
KM04	0.885		
KM05	0.861		
KM06	0.873		
KM07	0.873		
KM08	0.888		
KM09	0.883		
KM10	0.861		
KM11	0.879		
KM12	0.883		
KM13	0.892		
OF01	0.796	0.892	0.625
OF02	0.836		
OF03	0.772		
OF04	0.774		
OF05	0.773		

In Table 1, it can be seen that the standardized factor loading value of each manifest variable measures the latent variable precisely (because it has a value above 0.5). Whereas in construct reliability, innovation performance has a value of 0.923, knowledge management with a value of 0.977 and organizational forgetting has a value of 0.892. Every constructive reliability has a value above 0.70, so it is said to be reliable. Average extracted variant (AVE) in this study, innovation performance amounted to 0.706, knowledge management with a value of 0.769 and organizational forgetting with a value of 0.625. So it can be said that the AVE value is above 0.5, then the data in this study are said to have been valid and reliable.

Hypothesis Test & Discussion

In testing the research hypothesis seen from the p-value testing which must be smaller than 5%. Whereas the indirect effect test is done with a Sobel test. The following is an estimate and probability table in the results of this study (Table 2).

The first hypothesis (H_1), organizational forgetting has a significant effect on innovation performance (because of a value of 0.000 which means below 0.05). While the magnitude of the effect of organizational forgetting on innovation performance amounted to 0.637. The results of this study are in accordance with research conducted by Huang et al. (2016). In testing the third hypothesis (H_2), organizational forgetting has a significant effect on knowledge management (because the value is 0.000 which means below 0.05). While the magnitude of the effect of organizational forgetting on knowledge management amounted to 0.667. The results of this study are consistent with research conducted by Cegarra-Navarro et al. (2010); Wang et al. (2017); Delshab & Sadeghi (2018). In testing the second hypothesis (H_3), knowledge management has a significant effect on innovation performance (because the value is 0.000 which means below

0.05). While the magnitude of the influence of knowledge management on innovation performance of 0.516. The results of this study are consistent with research conducted by Shujahat et al. (2019) which also shows that knowledge management processes can create innovation. This research is also in line with the research of Alegre et al. (2013), where this research focuses on knowledge management on innovation performance. The fourth hypothesis test in this study (with Sobel test) to see the indirect effect, obtained a t-value of 6.178 (greater than t-table is 1.648 with a probability of 95% and a degree of freedom of 374/n-k). Then organizational forgetting has a significant indirect effect on innovation performance through knowledge management. The results of this study are in line with research by Rebernik & Širec (2007).

	Estimate	S.E.	C.R	P
Organizational Forgetting → Innovation Performance	0.637	0.062	9.065	0.000
Knowledge Management → Innovation Performance	0.516	0.043	11.879	0.000
Organizational Forgetting → Knowledge Management	0.667	0.074	10.279	0.000
Organizational Forgetting → Knowledge Management → Innovation Performance	0.3444 (0.667* 0.516)	-	6.178 (Sobel test)	-

In enhancing innovation performance, manufacturing companies must focus on creating organizational forgetting and applying knowledge management. Organizational forgetting can be improved by considering OF03 (manifest variable) because it has the lowest average value in measuring organizational forgetting. Employees at manufacturing companies in Indonesia consider that their company has not been able to make optimal group decisions. Knowledge management can be improved by considering KM12 (manifest variable), because it has the lowest average value in measuring knowledge management. Employees at manufacturing companies in Indonesia assess that there is no standard reward created by the company to encourage knowledge management.

CONCLUSION, RECOMMENDATIONS AND FUTURE RESEARCH

Overall organizational forgetting has a direct and indirect influence on innovation performance through knowledge management. Directly and in total effect, organizational forgetting has a great influence on innovation performance. Therefore companies need to make improvements in how to make strategic decisions in teams (based on OF03). This can be done by analyzing strategic decisions according to David & David (2013), namely conducting strategy formulation, implementation strategy and strategy evaluation. Manufacturing companies in Indonesia must consider decision-making efforts and involve company members (resulting in an evaluation of the actions taken).

Knowledge management also has a significant influence on innovation performance. Manufacturing companies in Indonesia must focus on creating standard rewards (based on KM12) for employees who want to share knowledge. Basically, knowledge is very valuable for companies, especially related to tacit knowledge. Reward system at the company is expected that senior employees are willing to share tacit knowledge and make it a valuable module for new employees.

Future studies are expected to be carried out in different industries, so these results can be compared with the results of this study. Future researchers are also expected to be able to

increase the number of companies studied. This research model is only able to measure innovation performance of 74.1% (squared multiple correlations). This means that there are still 25.9% the influence of other variables not examined on innovation performance. While organizational forgetting can only measure knowledge management by 24.7%. So there are still many other variables that can affect knowledge management that cannot be explored in this study.

REFERENCES

- Abou-Zeid, E.S., & Cheng, Q. (2004). The effectiveness of innovation: A knowledge management approach. *International Journal of Innovation Management*, 8(3), 261-274.
- Alegre, J., Sengupta, K., & Lapedra, R. (2013). Knowledge management and innovation performance in a high-tech SMEs industry. *International Small Business Journal*, 31(4), 454-470.
- Al-Hakim, L.A.Y., & Hassan, S. (2013). Knowledge management strategies, innovation, and organisational performance. *Journal of Advances in Management Research*, 10(1), 58-71.
- Becker, K.L. (2018). Knowledge management and unlearning/forgetting. In *The Palgrave Handbook of Knowledge Management*. Palgrave Macmillan, Cham.
- Cegarra-Navarro, J. G., Eldridge, S., & Martinez-Martinez, A. (2010). Managing environmental knowledge through unlearning in Spanish hospitality companies. *Journal of Environmental Psychology*, 30(2), 249-257.
- David, F.R., & David, F.R. (2013). *Strategic management: Concepts and cases: A competitive advantage approach*. Pearson.
- Delshab, V., & Boroujerdi, S.S. (2018). Investigating the influence of unlearning on knowledge management in sport organizations. *Kybernetes*.
- Duffy, F.M. (2003). I think, therefore I am resistant to change. *The Learning Professional*, 24(1), 30.
- Easterby-Smith, M., & Lyles, M.A. (2011). In praise of organizational forgetting. *Journal of Management Inquiry*, 20(3), 311-316.
- Huang, D., Chen, S., & Jia, R. (2016). Effects of intentional organizational forgetting on new product performance of each stage: The moderating effect of absorptive capacity. In *2016 Portland International Conference on Management of Engineering and Technology (PICMET)*. IEEE.
- Leal-Rodríguez, A.L., Eldridge, S., Roldán, J.L., Leal-Millán, A.G., & Ortega-Gutiérrez, J. (2015). Organizational unlearning, innovation outcomes, and performance: The moderating effect of firm size. *Journal of Business Research*, 68(4), 803-809.
- Li, Y., Liu, X., Wang, L., Li, M., & Guo, H. (2009). How entrepreneurial orientation moderates the effects of knowledge management on innovation. *Systems Research and Behavioral Science: The Official Journal of the International Federation for Systems Research*, 26(6), 645-660.
- Lin, H.F., & Lee, G.G. (2005). Impact of organizational learning and knowledge management factors on e-business adoption. *Management Decision*.
- Raisal, I., Tarofder, A.K., & Haleem, A. (2019). Interplay of Knowledge Creation Capability and Organizational Forgetting on Absorptive Capacity and Innovation Performance among SMEs: A Symmetrical Approaches. *Asian Journal of Economics, Business and Accounting*, 1-12.
- Rebernik, M., & Širec, K. (2007). *Fostering innovation by unlearning tacit knowledge*. Kybernetes.
- Shujahat, M., Sousa, M.J., Hussain, S., Nawaz, F., Wang, M., & Umer, M. (2019). Translating the impact of knowledge management processes into knowledge-based innovation: The neglected and mediating role of knowledge-worker productivity. *Journal of Business Research*, 94, 442-450.
- Wang, C., & Han, Y. (2011). Linking properties of knowledge with innovation performance: the moderate role of absorptive capacity. *Journal of Knowledge Management*, 15(5), 802-819.
- Wang, X., Xi, Y., Xie, J., & Zhao, Y. (2017). Organizational unlearning and knowledge transfer in cross-border M&A: the roles of routine and knowledge compatibility. *Journal of Knowledge Management*.
- Zeng, J., & Chen, C. (2010). The relationship between intentional organizational forgetting and organizational innovation: The mediating effect of organizational learning capability. In *2010 IEEE International Conference on Advanced Management Science (ICAMS 2010)*.
- Zhao, Y., Lu, Y., & Wang, X. (2013). Organizational unlearning and organizational relearning: a dynamic process of knowledge management. *Journal of Knowledge Management*, 17(6), 902-912.