



Unleashing Innovation: The Power of Knowledge Management for Business Model Transformation in SMEs

Abdul Ghofar^(✉), M. Irhas Effendi, Suwardi, and Windy Anindya Pamuji

Universitas Pembangunan Nasional Veteran Yogyakarta, JL. SWK 104, Condong Catur,
Yogyakarta 55283, Indonesia

{abdul.ghofar,m_irhaseffendi}@upnyk.ac.id

Abstract. The purpose of this research is to investigate the impact of a firm's external and internal knowledge management capabilities on its ability to innovate its business model. The study examines whether these effects depend on the firm's orientation to risk-taking. The research involved an analysis of a sample of 160 small and medium-sized enterprises (SMEs) in Yogyakarta, Indonesia, using structural equation modeling (SEM). The results of the study showed that both external and internal knowledge management capabilities have a positive and significant effect on business model innovation, and these effects are influenced by a firm's orientation to risk-taking. The study highlights the importance of knowledge management capabilities for business model innovation, particularly for SMEs, and provides practical implications for firms seeking to innovate their business models.

Keywords: Business model innovation · knowledge management capabilities · small and medium-sized enterprises (SMEs) · risk-taking orientation · structural equation modeling (SEM)

1 Introduction

One of the major problems currently facing the Yogyakarta Region is job creation for residents. Many working-age people in the region are presently out of work due to a lack of job opportunities. Still, the most basic measure of government success in the digital age and COVID-19 pandemic is how well governments are doing. It means that steps have been taken to some extent. You can create jobs to create communities. A problem facing SMEs in Yogyakarta is the weak capacity of SME owners to manage business and market restrictions. Management leadership is a very important issue for SMEs, and as a result, SMEs do not grow year after year, and SMEs are shut down because the managers themselves cannot run the business. On the other hand, small and medium-sized enterprises (SMEs) are an important part of the country's wealth creation, job creation and economic development, especially in the current turmoil [16].

However, given the rapidly changing market environment and current issues such as the COVID-19 pandemic, pressure is mounting on all aspects of the economy, including

Yogyakarta's SMEs. Therefore, there is a need to enable SMEs, especially Yogyakarta SMEs, to develop business model innovations (BMI) towards their capacity to address these issues and promote job creation in the community. Business model innovation provides the rationale for companies to offer value propositions to consumers. Business model innovation (BMI) can be defined as the development of new mechanisms and mechanisms to provide added value to customers. Business model innovation (BMI) also requires novelty, so business model innovation (BMI) must be able to provide new value to the enterprise and bring about tangible change for stakeholders [5].

2 Literature Review

2.1 Business Model Innovation

Researchers have long considered business model innovation (BMI) a static model [18]. However, business models are strategically oriented, and current business models have shown that new business models can manage organizational change and innovation [7]. Several methods have been used to demonstrate business model evolution. Mitchell and Coles [14] discovered business model innovation (BMI), where managers exchange and improve their firm's business model. Discover how to gain an edge. Win. Thus, to improve business model innovation (BMI), SMEs should have higher dynamic capability [21]. Therefore, SMEs must develop strong innovation skills to identify and seize opportunities by changing their business models to take every opportunity. Business model innovation (BMI) strategies can improve innovation performance and overcome enterprise-wide obstacles. New business models must resolve conflicts with old ones.

2.2 Knowledge Management

Firms today call themselves knowledge-based organizations [20]. Competitive advantage comes from knowledge and the ability to turn it into new value [15]. Thus, organizational knowledge development and maintenance have been prioritized [13]. Literature distinguishes static and dynamic KM [11]. Internal KM capabilities allow inter-organizational social interaction, knowledge storage, and knowledge availability. Maintaining, replicating, and exploiting knowledge [20]. The dynamic dimension emphasizes a firm's ability to acquire, convert, and apply external knowledge [20]. To analyze competitors, customers, and market trends, external knowledge is key [19]. Knowledge assets are dependent on internal and external KM capabilities [13]. These knowledge assets include tacit, proprietary knowledge that is hard to copy [22]. Thus, KM capabilities enable capturing and applying internal and external knowledge [22].

3 Methodology

The type of data in this study is primary data. This data was taken based on a questionnaire distributed to respondents related to the variables of Business Model Innovation (BMI) and SME Management. The questionnaire was conducted through a google form

and then distributed to SMEs in Yogyakarta. A comprehensive list of validated measurements was collected and created to develop the measurement instrument based on a review of the business model, Business Model Innovation (BMI), dynamic capabilities, and management approach. The construction is based on the items introduced in the questionnaire. The research was conducted by distributing survey questionnaires to SMEs in Yogyakarta Google Forms. A total of 160 questionnaires were distributed, and only 150 could be processed due to incomplete data provided by respondents.

3.1 Reliability and Validity

This audit uses Partial Least Squares (PLS). PLS, a Structural Equation Modeling (SEM) technique, can directly analyze latent variables, indicator variables, and measurement errors, according to Hair et al. [9]. PLS works with small samples and all data scales. Convergent validity, discriminant validity, and AVE evaluate the outer model or reflective indicator test. Composite reliability and Cronbach alpha indicate reliability. The expected AVE value is >0.5 , and reliable data is >0.7 (Table 1).

Convergent validity is determined by the loading factor and AVE values being greater than 0.7 and 0.5, respectively. Early-stage research can use a loading factor of 0.5–0.6 [6].

AVE should be >0.5 . Ghozali and Latan [8] state that the AVE output results are good for the construct if the value is >0.5 . Composite reliability >0.7 is qualified or good [8]. Cronbach's alpha improves test reliability. If the Cronbach alpha value is >0.7 and good, a build or variable is reliable [8] (Table 2).

4 Results

4.1 Hypotesis Testing

Hypothesis testing uses t and significance values. The recommended t -value is 1.96, and the p -value is 0.05. Table 3 shows hypothesis testing results.

4.2 Discussion

External Knowledge Management Capability Affects Business Model Innovation

External knowledge management capability significantly improved business model innovation in Yogyakarta SMEs. Every external knowledge management capability affects business model innovation in SMEs. When company knowledge and goals differ, external knowledge management is effective. Its internal and external knowledge enhances company understanding. Strong KM acquisition processes alert the company to changes. They help companies assess their competitiveness and raise awareness of potential threats [11]. External knowledge is used to supplement in-house innovation as innovations become more complex. Teirlinck and Spithoven [17] also noted that external knowledge

Table 1. Outer Loading Results

	Business Model Innovation	External Knowledge Management Capability	External Knowledge Management Capability
X1.1		0,925	
X1.10		0,962	
X1.11		0,886	
X1.12		0,963	
X1.13		0,935	
X1.2		0,975	
X1.3		0,959	
X1.4		0,975	
X1.5		0,901	
X1.6		0,961	
X1.7		0,963	
X1.8		0,936	
X1.9		0,935	
X2.1			0,919
X2.10			0,891
X2.11			0,929
X2.12			0,857
X2.13			0,888
X2.2			0,888
X2.3			0,863
X2.4			0,926
X2.5			0,883
X2.6			0,869
X2.7			0,849
X2.8			0,954
X2.9			0,905
Y1	0,947		
Y10	0,971		
Y11	0,956		
Y12	0,908		
Y2	0,943		
Y3	0,776		

(continued)

Table 1. (continued)

	Business Model Innovation	External Knowledge Management Capability	External Knowledge Management Capability
Y4	0,964		
Y5	0,947		
Y6	0,965		
Y7	0,979		
Y8	0,946		
Y9	0,941		

Table 2. AVE, Composite Relibility & Cronbach’s Alpha Resluts

	Average Variance Extracted (AVE)	Composite Reliability	Cronbach’s Alpha
Business Model Innovation	0,881	0,989	0,987
External Knowledge Management Capability	0,892	0,991	0,990
Internal Knowledge Management Capability	0,800	0,981	0,979

Table 3. Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
External Knowledge Management Capability - > Business Model Innovation	0,785	0,724	0,073	12,157	0,001
Internal Knowledge Management Capability - > Business Model Innovation	0,897	0,844	0,072	12,436	0,000

relations are crucial to developing an open innovation business model and can supplement internal research. Thus, SMEs' business model innovation depends on acquiring external knowledge and applying it.

Internal Knowledge Management Capability Affects Business Model Innovation

Internal knowledge management capability significantly improved business model innovation in Yogyakarta SMEs. Business model innovation in SMEs will increase as internal knowledge management capability increases. Technology and structure affect internal knowledge management. Corporate KM culture defines how and what knowledge is valued, shared, and stored for potential innovative gains [4, 12]. Knowledge is a crucial resource in the resource-based view of a firm [2]. Knowledge-aware organizations have a unique, valuable resource that can be used to gain a sustainable competitive advantage [1]. Organizations can succeed more by acquiring, retaining, and using knowledge.

5 Conclusion

Corporate lessons: The best knowledge management projects are driven by a business need and aim to improve company or business unit operations. To be sustainable, knowledge management goals and strategies must match organizational/departmental goals. A manager should know the success factors, objectives, and critical business processes of the organization or department and choose the KM strategy and goals to match the business strategy. This study's limitations allow researchers to make future recommendations. This study examined three variables. Researchers should add variables.

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References

1. Alavi, M., & Leidner, D. E. Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS quarterly*. 2001; 25(1): 107-136.
2. Alavi, M., Kayworth, T. R., & Leidner, D. E. An empirical examination of the influence of organizational culture on knowledge management practices. *Journal of Management Information Systems*, 2005; 22(3): 191-224.
3. Barney, J. Firm resources and sustained competitive advantage. *Journal of management*. 1991; 17(1): 99-120.
4. Blackler, F. Knowledge, knowledge work and organizations: An overview and interpretation. *Organization studies*, 1995; 16(6): 1021-1046.
5. Bouwman, H.; Nikou, S.; De Reuver, M. Digitalization, business models, and SMEs: How do business model innovation practices improve performance of digitalizing SMEs? *Telecommun. Policy*, 2019; 43(9): 1-8.
6. Chin, W. W. Commentary: Issues and opinion on structural equation modeling. *MIS quarterly*. 1998; vii-xvi.

7. Demil, B., & Lecocq, X. Business model evolution: in search of dynamic consistency. *Long range planning*, 2010; 43: 227-246.
8. Ghozali, I., & Latan, H. Partial Least Squares, konsep, teknik dan aplikasi menggunakan program Smartpls 3.0 un-tuk penelitian empiris. Semarang: Badan Penerbit UNDIP. 2015.
9. Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European business review*. 2014.
10. Hargadon, A., & Fanelli, A. Action and possibility: Reconciling dual perspectives of knowledge in organizations. *Organization science*. 2002; 13(3): 290-302.
11. Hock-Doepgen, M., Clauss, T., Kraus, S., & Cheng, C. F. Knowledge management capabilities and organizational risk-taking for business model innovation in SMEs. *Journal of Business Research*. 2021; 130: 683-697.
12. Janz, B. D., & Prasarnphanich, P. Understanding the antecedents of effective knowledge management: The importance of a knowledge-centered culture. *Decision sciences*, 2003; 34(2): 351-384.
13. Mehta, N., & Bharadwaj, A. Knowledge integration in outsourced software development: The role of sentry and guard processes. *Journal of Management Information Systems*, 2015; 32(1): 82-115.
14. Mitchell, D., & Coles, C. The ultimate competitive advantage of continuing business model innovation. *Journal of Business Strategy*. 2003; 24(5): 15-21.
15. Ozer, M., & Vogel, D. Contextualized relationship between knowledge sharing and performance in software development. *Journal of Management Information Systems*, 2015; 32(2): 134-161.
16. Pucihar, A.; Lenart, G.; Borštnar, M.K.; Vidmar, D.; Marolt, M. Drivers and outcomes of business model innovation-micro, small and medium-sized enterprises perspective. *Sustainability*, 2019; 11(2): 1-17.
17. P. Teirlinck and A. Spithoven, "The Spatial Organization of Innovation: Open Innovation, External Knowledge Relations and Urban Structure," *Regional Studies*. 2008; 42: 689-704.
18. Ritter, T., & Lettl, C. The wider implications of business-model research. *Long range planning*, 2018; 51(1): 1-8.
19. Roberts, J. A very short, fairly interesting and reasonably cheap book about knowledge management. Sage; 2015.
20. Smith, H. A., & McKeen, J. D. Developments in practice XVIII-customer knowledge management: Adding value for our customers. *Communications of the Association for Information Systems*, 2005; 16(1): 36.
21. Vicente, A.; Paloma, R.; Ferasso, M.; May, M.R. Dynamic capabilities development and business model innovation: Evidences from IT industry in an emerging country. *Int. J. Bus. Innov. Res.* 2018; 17(2): 226–248.
22. Wang, J., & Xiao, J. Knowledge management audit framework and methodology based on processes. *Journal of Technology Management in China*. 2009; 4(3): 239-249.

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