THE IMPACT OF KNOWLEDGE MANAGEMENT ON INNOVATION PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES – AN EMPIRICAL STUDY IN LAM DONG PROVINCE

PHAM QUOC TRUNG
Ho Chi Minh City University of Technology, Vietnam National University HCMC
pqtrung@hcmut.edu.vn

LE MINH HIEU
Atlantic Limited Company, Vietnam - hieuleminh73@yahoo.com

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ABSTRACT

In the context of today's globalization, Vietnamese enterprises, especially small and medium ones (SMEs), have to face with many challenges and have to innovate for survival and development. The global integration process also means that local enterprises have to compete with foreign enterprises with advanced knowledge and modern management skills. Therefore, in order to ensure the sustainable development, local enterprises should be ready with knowledge management (KM) practices in order to achieve high efficiency and strong competitive advantages. This research is to explore the impact factors on the innovation performance of SMEs in Lam Dong province. Based on previous model of Berraies et al. (2014), some factors of KM processes impacting on the innovation performance of Vietnamese SMEs are explored and evaluated. Measurement scales are inherited selectively to suit the context of this research. The analysis results of this study showed that the innovation performance of SMEs was affected by knowledge creation process. This result pointed out knowledge creation process was affected by some KM enabling factors, such as trust, collaboration, learning, reward, decentralization, formalization, IT support and T-shaped skills. From this result, some recommendations for improving the innovation performance of Vietnamese SMEs by KM approach are also suggested.

Keywords: Innovation performance; KM process; Knowledge management; Lam Dong; SME.

1. Introduction

Since the beginning of the 21st century, managers of all enterprises have paid more attention to knowledge and knowledge management because they realized that knowledge is unlimited and it is the only sure source for ensuring the competitive advantages of their businesses (Nonaka et al., 1995).

Recently, many countries developed their strategies toward knowledge economy, in which encouraging business innovation is the most important policy for the success of their strategies. According to IPP (2014), innovation and creativity capability are critical success factors of any business. Especially, technology and management innovation of enterprises are the keys for increasing the productivity, improving the business performance, and contributing to the sustainable development of the whole economy. In knowledge economy, innovation performance is very important for ensuring the success of any business, and KM approach is considered the suitable approach to provide creativity environment and to support innovation process.

According to the director of international trade center, Anrancha Gonzalez, SMEs are dynamic, creative and adaptable to the change of market and technology. In the world, SMEs contributed the most for the growth of the

economy, helped to create more employment, and to boost the development of the society (Gonzalez, 2014).The rapid development of technology will also support SMEs to become the main factor for innovation in the economy. In fact, there are some SMEs, who could compete strongly with the large ones in the digital world nowadays based on their knowledge and innovation capability.

Currently, Vietnamese SMEs are the majority (about 97% of all enterprises) and contribute about 1/3 of the total GDP. With the global integration process, Vietnamese SMEs are going to apply KM practices in their businesses for improving innovation capabilities and increasing competitive advantages (Pham, 2013). However, the innovation capability of Vietnamese SMEs is fairly low and the real impacts of KM processes on innovation performance of Vietnamese SMEs are not measured and confirmed clearly. Besides, in the context of a developing country like Vietnam, there is a lack of research in this topic.

Therefore, the topic "the impact of knowledge management on innovation performance of SMEs – an empirical study in Lam Dong province" is conducted. This research aims at (1) Measuring the impact of KM enabling factors on knowledge creating process, and then on innovation performance of SMEs in Lam Dong province, and (2) Suggesting some managerial implications for encouraging knowledge creating process and improving innovation performance of Vietnamese SMEs. The structure of this paper is organized as follows: (2) literature review, (3) research method, (4) analysis results and (5) conclusion and recommendations.

2. Literature review

2.1. Main concepts

SMEs or small and medium enterprises could be defined differently in many countries, but in this context, we use a simple definition, which based on the definition of Vietnamese Government - 'SMEs are enterprises with less than 300 full-time employees'. This definition makes SMEs be the most majority of world economy. Currently, in Lam Dong province, SMEs are about 99% of all enterprises. Most of them belong to some strong industries of the local market, such as agriculture, forestry, food & beverage, tourism, and accommodation services. In general, SMEs in Lam Dong province are dynamic, but lack of resources for supporting innovation and sustaining their businesses. As in other areas in Vietnam, the innovation performance of these SMEs are low, and KM approach should be considered an ideal solution for improving the innovation performance as well as the overall competitive advantage of Vietnamese SMEs.

Knowledge is defined as "justified belief" (Nonaka et al., 1995). From the viewpoint of cognitive science, knowledge, information and data are related to each others by two dimensions: level of understanding and context independence (Serban et al., 2002). Besides, Polanyi (1966) classified knowledge into two groups: (1) tacit knowledge, which is located in human brain and difficult to capture, and (2) explicit knowledge, which is easier to capture and to transfer in various forms.

Knowledge management is a process of realizing, sharing, using and practicing knowledge inside of an organization (Choi & Lee, 2002). For managing knowledge effectively, a knowledge management process should be established. Dalkir (2005) combined previous KM cycles and introduced an integrated KM cycle, including 3 steps: (1) knowledge capture and creation, (2) knowledge sharing and dissemination, and (3) knowledge acquisition and application.

Knowledge creation process (KCP) is proposed by Nonaka et al. (1995) to explain for the dynamic of knowledge creating/ innovation by the conversion of two main types of knowledge (tacit and explicit) through four main processes, including: socialization, externalization, combination, and internalization. This knowledge creation cycle is also called SECI model.

Knowledge management enabler refers to

conditions and organizational environment for supporting KM process and encouraging knowledge creating cycle. According to Nonaka et al. (1995), supporting conditions for SECI model include: intention, autonomy, creative chaos, redundancy, and requisite variety. According to Berraies et al. (2014), there are five enabling KM factors including: organizational culture, organizational structure, leadership, IT support, and T-shaped skills.

Innovation: according to a definition of Oxford dictionary, innovation is a process, in which a new product, process, service, or technique is developed. Another definition of Maranville (1992) is as follows: "innovation is a new idea, product or technology, which is perceived by customers by its original or unique quality (Maranville, 1992). There are two main types of innovation: incremental innovation and disruptive innovation (Pham, 2016). Innovation performance is measured by the outcomes of innovation activities, such as: patent registration, change or adapt in product, process, manufacturing, and sale...

2.2. Related researches

Related researches on KM and innovation performance could be summarized in the following table.

Table 1

Related researches in KM and innovation performance

Author	Sample	Location	Factors	Comments
Lee & Choi (2003)	58 firms	Korea	Explore the impact of KM enablers, KM processes on Organizational performance. The model includes: KM enablers (collaboration, trust, learning, centralization, formalization, T-shaped skills, and information technology support), knowledge creation processes (socialization, externalization, combination, and internalization), and organizational performance.	The results confirmed the impact of trust on knowledge creation. The information technology support had a positive impact on knowledge combination only. Organizational creativity was found to be critical for improving performance; neglecting ideas can undermine a business.
Lopes-Nicolas & Merono-Cerdan (2011)	310 companies	Spain	Explore the consequences of knowledge management (KM) strategies on firm's innovation and corporate performance. Main factors: KM strategies, innovation, and organizational performance.	The results show that both KM strategies (codification and personalization) impacts on innovation and organizational performance directly and indirectly (through an increase on innovation capability). Also, findings demonstrate a different effect of KM strategies on diverse dimensions of organizational performance
Duy & Tuan (2014)	167 companies	Vietnam	Based on model of Lopes-Nicolass et al. (2011), the research aims to test the relationship	The results show that strategic knowledge management significantly

Author	Sample	Location	Factors	Comments
			between strategic knowledge management, innovation and firm performance in the Vietnamese context. Some main factors: codification KM strategy, personalization KM strategy, innovation, and organizational performance.	enhances innovation and organizational performance. Although codification and personalization knowledge management strategies both have impact on innovation and performance, personalization knowledge management strategy has the dominant impact.
Berraies et al. (2014)	202 ICT companies	Tunisia	Evaluate the enabling factors that boost Knowledge Creation Process (KCP) within organizations. Some KM enabling factors include: collaboration, trust, learning, incentives and rewards, decentralized and low formalized structure, T-shaped skills, and IT support and transformational leadership.	The results reveal that the best path for Tunisian ICT companies to foster knowledge creation is through incentives and rewards, collaboration, trust, learning, decentralized and low formalized structure and IT support. Findings show also that KCP significantly affects firms' innovation performance.

2.3. Research model and hypotheses

Previous researches explored impact factors of KM on organizational performance in various industries and in different countries. However, the research model of Berraies et al. (2014) is more suitable with the goal of this research when focusing on exploring the relationship between KM enablers, knowledge creation process, and innovation performance. Moreover, the developing level of Tunisia companies is similar to Vietnamese ones, so this research model is chosen for testing the impact of KM enablers on knowledge creation process, an on innovation performance of SMEs in the context of Vietnam.

This research reuses the framework of Lee & Choi (2003), in which, KM enablers have impacts on KM processes, then, KM processes have impacts on Innovation performance, and finally, Innovation performance have impacts on Organizational performance. However, in order to focus on Innovation performance of SMEs, organizational performance is not mentioned. Besides, SECI model of Nonaka & Takeuchi (1995) is also a base for the relationship between KCP and innovation performance. According to previous researches (Pham & Nguyen, 2017; Chatzoudes, 2015), organizational culture plays the important role on the performance of businesses, especially SMEs. Therefore, the overall framework for this research could be summarized as follows: KM enablers => Knowledge creation process => Innovation performance. Based on Berraies et al. (2014), KM enablers include: organizational culture (trust, collaboration, learning, and reward), transformational leadership, organizational

structure (decentralization, formalization), IT support, and T-shaped skills. Besides, knowledge creation process include: socialization, externalization, combination, and internalization. In summary, the research model could be illustrated in the following figure.

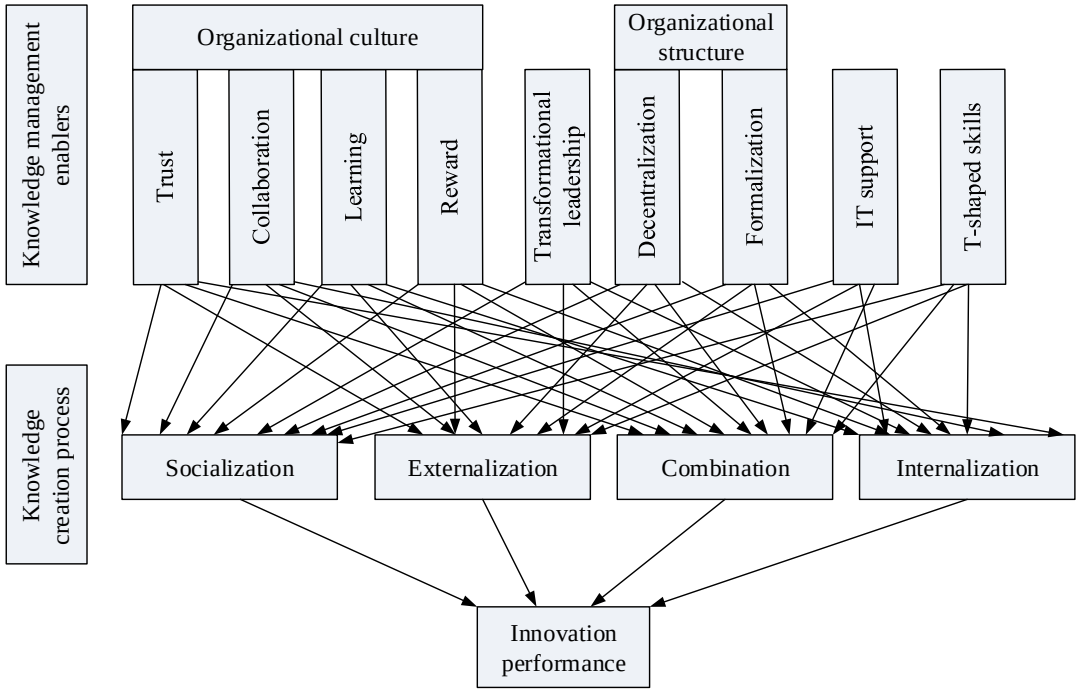

Figure 1. The proposed research model (Source: Berraies et al., 2014)

Based on this research model, hypothesis statements could be summarized as follows:

Trust: Nonaka and Takeuchi (1995) said that trust or belief is very important in socialization process, especially in sharing tacit knowledge. Lee & Choi (2003) argued that trust, a component of organizational culture, is a need for innovation and creative activities. So, trust may have positive impact on knowledge creation processes, and H1, H1a-H1d could be stated as follows:

H1: Trust has a positive impact on knowledge creation process

H1a: Trust has a positive impact on socialization process

H1b: Trust has a positive impact on externalization process

H1c: Trust has a positive impact on combination process

H1d: Trust has a positive impact on internalization process

Collaboration: Nonaka and Konno (1998) said that the collaboration between employees will support knowledge creation process. They asked the companies to create a working environment (named "Ba") to boost the interaction and collaboration between knowledge holders and receivers. So, collaboration may have positive impact on 4 main knowledge creation processes, and H2, H2a-H2d could be stated as follows:

H2: Collaboration has a positive impact on knowledge creation process

H2a: Collaboration has a positive impact on socialization process

H2b: Collaboration has a positive impact on externalization process

H2c: Collaboration has a positive impact on combination process

H2d: Collaboration has a positive impact on internalization process

Learning: Nonaka and Takeuchi (1995) stated that knowledge creation process helps to support continuous learning activities inside

and outside of organization. In order to ensure the success of knowledge creation process, organizational culture should be changed toward a learning culture (Lee & Choi, 2003). Al-Hakim & Hassan (2012) proved that learning has a positive impact on knowledge management in ICT industry in Iraq. The similar results could be found in the context of Korea (Lee & Choi, 2003), India (Gururajan & Hafeez-Baig, 2012), and Vietnam (Pham & Hara, 2011). So, H3, H3a-H3d could be stated as follows:

H3: Learning has a positive impact on knowledge creation process.

H2a: Learning has a positive impact on socialization process

H2b: Learning has a positive impact on externalization process

H2c: Learning has a positive impact on combination process

H2d: Learning has a positive impact on internalization process

Reward: According to Davenport and Hall (2002), a good reward or incentive system of an organization will encourage employees in sharing their knowledge and working experience. Rewards also help to increase productivity. It is considered the external motivation for knowledge creation process (Charoenngam & Teerajetgul, 2006). Therefore, H4 and H4a-H4d could be stated as follows:

H4: Reward has a positive impact on knowledge creation process.

H4a: Reward has a positive impact on socialization process

H4b: Reward has a positive impact on externalization process

H4c: Reward has a positive impact on combination process

H4d: Reward has a positive impact on internalization process

Transformational leadership: Nonaka and Toyama (2005) emphasized the important role of leadership in communication, knowledge sharing and creating in an organization. Politis (2001) also mentioned the critical impact of transformational leadership on knowledge accumulation. Transformational leadership refers to the way organization can get benefits based on self-motivations, common ideals, feelings, emotions, or personal styles of leaders (Bass, 1999). Al-Hakim and Hassan (2012) realized the importance of transformational leadership on the success of KM in Iraq. Therefore, H5 and H5a-H5d could be stated as follows:

H5: Transformational leadership has a positive impact on knowledge creation process.

H5a: Transformational leadership has a positive impact on socialization process

H5b: Transformational leadership has a positive impact on externalization process

H5c: Transformational leadership has a positive impact on combination process

H5d: Transformational leadership has a positive impact on internalization process

Decentralization: According to Lee and Choi (2003), decentralization of organizational structure will encourage autonomy, and improve communication. So, decentralization helps to support four main processes of knowledge creation cycle. Dunk and Jeng (2013) proposed that decentralization has a positive impact on knowledge creation process. Therefore, H6 and H6a-H6d could be stated as follows:

H6: Decentralization has a positive impact on knowledge creation process.

H6a: Decentralization has a positive impact on socialization process

H6b: Decentralization has a positive impact on externalization process

H6c: Decentralization has a positive impact on combination process

H6d: Decentralization has a positive impact on internalization process

Formalization: According to Lee and Choi (2003), high formalization of organizational structure will reduce creativity and prevent new ideas. So, formalization may have

negative impact on 4 main knowledge creation processes, and H7, H7a-H7d could be stated as follows:

H7: Formalization has a negative impact on knowledge creation process.

H7a: Formalization has a negative impact on socialization process

H7b: Formalization has a negative impact on externalization process

H7c: Formalization has a negative impact on combination process

H7d: Formalization has a negative impact on internalization process

IT support: According to Davenport and Prusak (1998), IT helps to increase collaboration ability, to boost knowledge creation, and to support decision making process. Lee and Choi (2003) said that IT support knowledge creation process not only in transferring explicit knowledge but also in sharing tacit knowledge. According to Barraies et al. (2014), IT support has a strong impact on socialization, externalization, combination, and internalization in ICT businesses in Tunisia. Therefore, H8 and H8a-H8d could be stated as follows:

H8: IT support has a positive impact on knowledge creation process.

H8a: IT support has a positive impact on socialization process

H8b: IT support has a positive impact on externalization process

H8c: IT support has a positive impact on combination process

H8d: IT support has a positive impact on internalization process

T-shaped skills: Gururajan and Hafeez-Baig (2012) proposed that T-shaped skills have direct impact on knowledge creating and sharing. Currently, employees with T-shaped skills are valuable resources for business because they have both wide and deep knowledge/skills, which are very useful in solving problems and combining theoretical and practical knowledge. Migdadi (2005) also stated that T-shaped skills have a strong impact on knowledge creation process. Therefore, H9 and H9a-H9d could be stated as follows:

H9: T-shaped skills have a positive impact on knowledge creation process.

H9a: T-shaped skills have a positive impact on socialization process

H9b: T-shaped skills have a positive impact on externalization process

H9c: T-shaped skills have a positive impact on combination process

H9d: T-shaped skills have a positive impact on internalization process

Knowledge creation process and Innovation performance: Svetina and Prodan (2008) showed that knowledge creating and utilizing have positive impacts on innovation performance of an organization. Nonaka and Takeuchi (1995) also stated that SECI model helps to boost innovation and creativity in an organization. Lee and Choi (2003) also confirmed that each process in knowledge creation cycle has a positive impact on organizational innovation performance. Therefore, H10 and H10a-H10d could be stated as follows:

H10: Knowledge creation process has a positive impact on innovation performance

H10a: Socialization process has a positive impact on innovation performance

H10b: Externalization process has a positive impact on innovation performance

H10c: Combination process has a positive impact on innovation performance

H10d: Internalization process has a positive impact on innovation performance

3. Research method

This research is conducted by 2 phases: (1) primary qualitative method for revising measurement scale based on interviews, and (2) quantitative method for testing the model through several tools: Cronbach alpha test, EFA, regression analysis...

The original measurement scales (Table 2) based mostly on Lee & Choi (2003) and Choi & Lee (2002), using 5 levels Likert scale. Some other sources for the measurement scales

include: Reward (Charoenngam & Teerajetgul, 2006), Transformational leadership (Bosch, 2013), and Innovation performance (Svetina & Prodan, 2008). Then, they are translated into Vietnamese and revised based on interviewing with 10 experts in SMEs (8 managers/ directors of SMEs in Lam Dong, and 2 researchers). Some main contributions of primary qualitative step could be summarized as follows: remove 1 question in "collaboration" because it is not relevant to SMEs context in Lam Dong, and changing some questions to be more suitable with SMEs, Vietnam culture, and Lam Dong industries. Some minor modifications in spellings, grammars and writing styles have also been made.

Table 2

Measurement scales of the research model

ID	Factors	Scales	Sources	Original #Variables	Final #Variables
1	Trust	Likert 5 levels	(Lee & Choi, 2003)	6	6
2	Collaboration	Likert 5 levels	(Lee & Choi, 2003)	5	4
3	Learning	Likert 5 levels	(Lee & Choi, 2003)	5	5
4	Reward	Likert 5 levels	(Charoenngam & Teerajetgul, 2006)	4	4
5	Transformational leadership	Likert 5 levels	(Bosch, 2013)	7	7
6	Decentralization	Likert 5 levels	(Lee & Choi, 2003)	5	5
7	Formalization	Likert 5 levels	(Lee & Choi, 2003)	5	5
8	IT support	Likert 5 levels	(Lee & Choi, 2003)	5	5
9	T-shaped skills	Likert 5 levels	(Lee & Choi, 2003)	5	5
10	Socialization	Likert 5 levels	(Choi & Lee, 2002)	5	5
11	Externalization	Likert 5 levels	(Choi & Lee, 2002)	4	4
12	Combination	Likert 5 levels	(Choi & Lee, 2002)	5	5
13	Internalization	Likert 5 levels	(Choi & Lee, 2002)	5	5
14	Innovation performance	Likert 5 levels	(Svetina & Prodan, 2008)	5	5

The sample size for quantitative step must be >=300 to be used for data analysis (Tho & Trang, 2007). Data collection method is convenience sampling method, with a combination of online and offline survey. The target respondents are owners, managers (board of director, head/deputy head of department) of SMEs in Lam Dong province. Collected data will be processed by SPSS software, through: Cronbach' Alpha test, EFA, multiple regression analysis, and hypothesis test.

4. Analysis results

4.1. Descriptive statistics

Number of questionnaires sent is 650. Number of questionnaires answered is 383.

Number of validated samples (collected from both online and offline) is 329. Descriptive statistics of collected data are summarized in the following table.

Table 3

Descriptive statistics of samples by demographic factors

Category	Values	Frequency	Percentage
Owner type	Foreign direct investment companies	15	4.56%
	State owned companies	23	6.99%
	Joint stock companies	28	8.51%
	Private companies	**263**	79.94%
Business size	< 10 employees	76	23.10%
	10 - < 200 employees	**215**	65.35%
	200 - < 300 employees	38	11.55%
Respondents' position	Director/ Vice Director	87	26.44%
	Head/ Deputy Head	**242**	73.56%
Years of experience	< 5 years	45	13.68%
	5 - 10 years	**153**	46.50%
	> 10 years	131	39.82%

The above table showed that most of SMEs in the samples are private companies (80%), and the majority of business size is less than 200 employees (88%). Respondents are in the manager/ owner position and most of them have more than 5 years experience (85%), which is useful for answering the questionnaire. These numbers are similar to the statistics of SMEs in Vietnam.

4.2. Cronbach's Alpha analysis

Below table showed that Cronbach's Alpha coefficients of all factors are reliable (Cronbach's Alpha>0.6), and after removing 1 item in Formalization factor, all item-total correlation coefficients are satisfied (>0.3). So, all measurement scales could be used for the next step analysis.

Table 4

Cronbach's Alpha analysis result

Measurement scale	Cronbach's Alpha	Corrected Item-Total correlations	#item removed/remained
Trust	0.863	0.593 – 0.713	0/ 6
Collaboration	0.727	0.306 – 0.609	0/ 4
Learning	0.855	0.606 – 0.739	0/ 5
Reward	0.856	0.431 – 0.812	0/ 4
Transformational leadership	0.831	0.415 – 0.756	0/ 7

Decentralization	0.878	0.633 – 0.791	0/ 5
Formalization	0.847	0.594 – 0.853	1/ 4
IT support	0.870	0.557 – 0.792	0/ 5
T-shaped skills	0.849	0.541 – 0.785	0/ 5
Socialization	0.813	0.401 – 0.744	0/ 5
Externalization	0.745	0.345 – 0.620	0/ 4
Combination	0.852	0.598 – 0.736	0/ 5
Internalization	0.806	0.462 – 0.706	0/ 5
Innovation performance	0.824	0.425 – 0.713	0/ 5

4.3. Exploratory Factor Analysis (EFA)

EFA is used to evaluate discriminance value and convergence value of measurement scale. In this research, factor extraction method is Principle Component and rotation method is Promax. After removing 13 unqualified variables, exploratory factor analysis for all factors in the proposed model could be grouped in 13 factors. The final EFA result showed that observation variables are satisfied with the model: KMO=0.904> 0.5, Bartlett test ≤ 0.05, sig = 0.000, and Eigenvalue > 1, total extracted variance=62.7%> 50% (Trong & Ngoc, 2008). However, Combination and Externalization factor are merged together in one factor, and the model could be revised as follows:

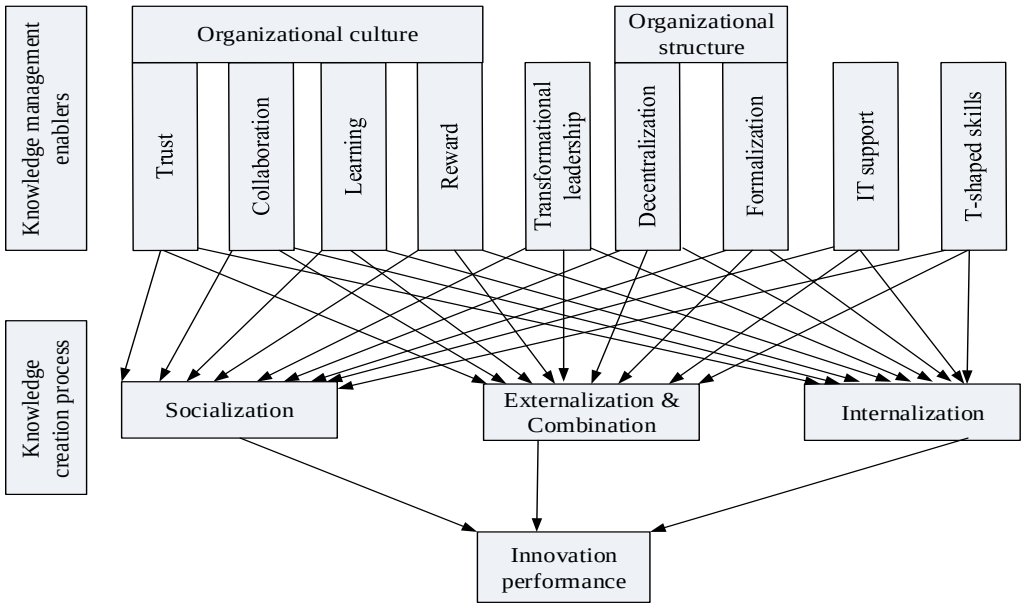

Figure 2. The revised research model

Therefore, hypothesis H1b-H9b& H1c-H9c, and H10b & H10c should be combined together. The revised hypothesis statements would be as follows:

H1bc: Trust has a positive impact on externalization& combination process.

H2bc: Collaboration has a positive impact on externalization & combination process.

H3bc: Learning has a positive impact on externalization & combination process.

H4bc: Reward has a positive impact on externalization & combination process.

H5bc: Transformational leadership has a positive impact on externalization & combination process.

H6bc: Decentralization has a positive impact on externalization & combination process.

H7bc: Formalization has a negative impact on externalization & combination process.

H8bc: IT support has a positive impact on externalization & combination process.

H9bc: T-shaped skills have a positive impact on externalization & combination process.

H10bc: Externalization & combination process have a positive impact on innovation performance.

4.4. Regression analysis

The regression method is Enter method to analyze relationship between independent factors and dependent factor. The final regression analysis results could be summarized in the following figure.

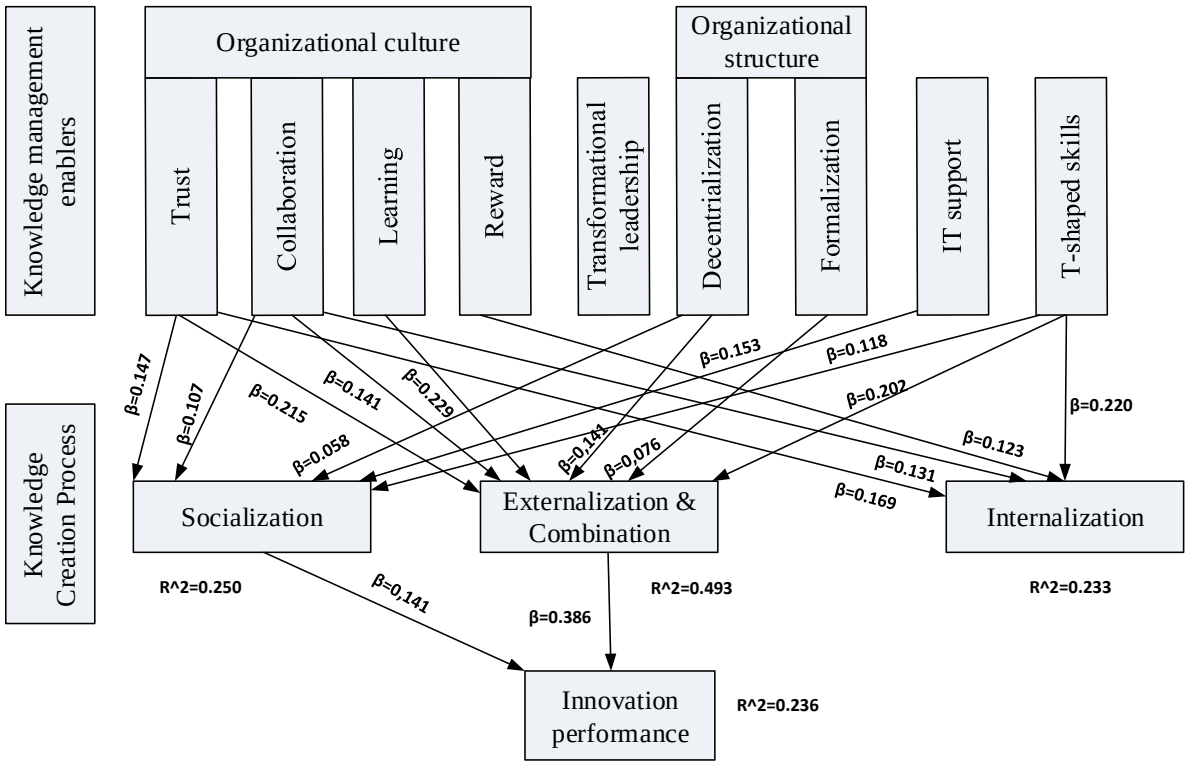

Figure 3. The summarized result of multiple regression analysis

4.5. Hypothesis test

Based on regression analysis result, the conclusion for hypothesis test could be summarized in following table.

Table 5

Hypothesis evaluation results (Note: significance level (*) : < 0.1, (**) : < 0.05)

Code	Hypothesis	Standardized Beta	Sig.	Conclusion
H1a	Trust => Socialization	0.147 **	0.019	Supported
H2a	Collaboration => Socialization	0.107 *	0.068	Supported
H3a	Learning => Socialization	0.073	0.266	Rejected
H4a	Reward => Socialization	0.080	0.225	Rejected
H5a	Transformational leadership => Socialization	0.026	0.648	Rejected

Code	Hypothesis	Standardized Beta	Sig.	Conclusion
H6a	Decentralization => Socialization	0.128 *	0.058	Supported
H7a	Formalization => Socialization	-0.038	0.502	Rejected
H8a	IT support => Socialization	0.153 **	0.005	Supported
H9a	T-shaped skills => Socialization	0.118 *	0.059	Supported
H1bc	Trust => Externalization & Combination	0.215 **	0.000	Supported
H2bc	Collaboration =>Externalization & Combination	0.141 **	0.004	Supported
H3bc	Learning =>Externalization & Combination	0.229 **	0.000	Supported
H4bc	Reward =>Externalization & Combination	-0.028	0.612	Rejected
H5bc	Transformational leadership =>Externalization & Combination	0.025	0.597	Rejected
H6bc	Decentralization =>Externalization & Combination	0.141 **	0.011	Supported
H7bc	Formalization =>Externalization & Combination	0.076 *	0.099	Supported
H8bc	IT support =>Externalization & Combination	0.030	0.505	Rejected
H9bc	T-shaped skills =>Externalization & Combination	0.202 **	0.000	Supported
H1d	Trust => Internalization	0.169 **	0.008	Supported
H2d	Collaboration =>Internalization	0.131 **	0.027	Supported
H3d	Learning =>Internalization	0.029	0.660	Rejected
H4d	Reward =>Internalization	0.123 *	0.065	Supported
H5d	Transformational leadership =>Internalization	0.034	0.555	Rejected
H6d	Decentralization =>Internalization	-0.019	0.781	Rejected
H7d	Formalization =>Internalization	0.027	0.639	Rejected
H8d	IT support =>Internalization	-0.053	0.334	Rejected
H9d	T-shaped skills =>Internalization	0.220 **	0.001	Supported
H10a	Socialization => Innovation performance	0.141 **	0.013	Supported
H10bc	Externalization & Combination => Innovation performance	0.386 **	0.000	Supported
H10d	Internalization => Innovation performance	0.025	0.656	Rejected

4.6. Discussion

According to analysis result, the impacts of knowledge management enablers on knowledge creation process, and then, on innovation performance of SMEs could be confirmed in the context of Lam Dong province, Vietnam. Moreover, the importance and current situation of each enabling factors on the knowledge creation process could be summarized in the following table.

Table 6

Ranking of impact factors on KCP, and mean of these factors

Code	Enabling factors	Socialization		Externalization & Combination		Internalization		Mean
		β	Rank	β	Rank	β	Rank	
H1	Trust	0.147	2	0.215	2	0.169	2	4.0585
H2	Collaboration	0.107	5	0.141	4	0.131	3	3.7153
H3	Learning			0.229	1			3.7204
H4	Reward					0.123	4	3.6322
H5	Transformational leadership							3.7614
H6	Decentralization	0.128	3	0.141	4			3.8578
H7	Formalization			0.076	6			3.7895
H8	IT support	0.153	1					2.7283
H9	T-shaped skills	0.118	4	0.202	3	0.220	1	3.5175

According to this result, only transformational leadership has no impact on KCP. This is different from the result of Berraies et al. (2014), where transformational leadership has a positive impact on socialization and externalization. The reason could be that most of the managers of SMEs in Lam Dong are not familiar with transformational leadership style, and the impact of leadership on KCP is underestimated in practice. Some studies also showed that the most Vietnamese SMEs are family management style or more suitable with transactional leadership. This could be changed and improved gradually.

In evaluating the impact of KM enablers on socialization, the result of Berraies et al. (2014) showed that reward has the strongest impact (beta=0.784) on socialization, while in this research, IT support has the strongest impact on socialization. This requires Vietnamese SMEs to improve the ICT infrastructure and to take advantage from IT support for improving knowledge sharing between their employees through socialization process.

In evaluating the impact of KM enablers on externalization and combination, the result of Berraies et al. (2014) showed that reward has the strongest impact on externalization and decentralization has the strongest impact on combination, while in this research, learning has the strongest impact on externalization and combination. This requires Vietnamese SMEs to develop a learning culture for improving knowledge externalization and combination process.

In evaluating the impact of KM enablers on internalization, the result of Berraies et al. (2014) showed that reward has the strongest impact, while in this research, T-shaped skills have the strongest impact. This requires the managers of Vietnamese SMEs should pay more attention to attracting good people and training skills for their employees to support KCP.

Besides, currently, the mean value of IT-support of Vietnamese SMEs is too low

(2.728). This illustrates the low level of ICT applications in Vietnamese SMEs. So, managers of Vietnamese SMEs should equip suitable ICT platforms to support communication and collaboration between their employees. Besides, they should pay attention to building trust environment, because trust contributes a fairly high impact (the 2nd rank) on all phases of KCP.

In general, the R^2 coefficient of KCP on innovation performance is 0.236 (fairly low). This means the model could only explain for 23.6% of the change in innovation performance by KCP, and some other factors impacting on innovation performance have not been included in this model. So, to improve the innovation performance of Vietnamese SMEs, some other approaches should also be considered besides KM approach.

5. Conclusion & recommendations

In general, based on a research model of Berraies et al. (2014), this research tried to explore the impact of knowledge management enablers on knowledge creation processes, and then, on innovation performance of Vietnamese SMEs in Lam Dong province. Based on data analysis, the enabling factors affecting on KCP include: trust, collaboration, learning, reward, decentralization, formalization, IT support, T-shaped skills. KCP, especially externalization and combination process, is confirmed to have positive impact on the innovation performance of SMEs, but internalization has no significant impact on innovation performance of Vietnamese SMEs.

Based on these results, some recommendations for improving knowledge creation processes and innovation performance of Vietnamese SMEs could be suggested as follows:

- Create "Ba" or knowledge creating environment according to SECI model to support knowledge creation process. Especially focusing on *externalization and combination* process of SECI model because they have the strongest impact on innovation performance of Vietnamese SMEs. Organizing frequent meetings or seminars within the company will help to encourage employees to share their ideas, experiences, and solutions for various problems, which are very useful for externalization and combination process. As a result, it can support SMEs in creating new knowledge and increasing their innovation performance.

- *Learning* has the highest impact on externalization and combination process of KCP. Therefore, developing a learning culture is important for supporting KCP. Some HRM policies related to training & learning should be revised to encourage the employees to continue to learn during their lives from various forms, such as: meetings, courses, e-learning system, library, books, colleagues… Adding some KPIs relating to learning will help to improve the productivity and to support knowledge creating cycle of SMEs.

- *T-shaped skills* have the strongest impact on internalization process of KCP. So, attracting talented people, who have both wide and deep knowledge to support their jobs, is very important. Job description and recruiting process should be changed to be able to recruit good employees who have T-shaped skills. Collaboration with the Universities also helps to improve the skills for current employees and to attract the right candidates with T-shaped skills.

- *IT support* plays an important role in sharing knowledge between employees, especially in socialization process of KCP. Therefore, SMEs should apply innovative ICT platforms (hardware/ software) to support communication and collaboration between employees and project members. This will help to make it easy for knowledge sharing between employees, to increase the ICT maturity level, so that, SMEs will be ready for KM solutions.

- Besides, developing a suitable

organizational culture, which helps to build the *trust* between employees, is also important to support all phases of KCP. Trust must be developed based on understanding and sympathizing between people in organization. So, some activities could help to build the trust, such as team building, social activities, sport games, parties, etc. should be organized frequently.

However, there are still some limitations of this research, such as small sample size, convenience sampling method, limitation in regression analysis method. Therefore, some implications for future research could be summarized as follows:

- Increasing sample size and apply better sampling method.

- Extending the scope to SMEs in other provinces in Vietnam, or in other countries with similar conditions.

- Applying SEM/ AMOS for analyzing inter-relationship between various factors.

- Evaluating the impact of other factors on innovation performance to increase the R^2 coefficient■

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