

Does organizational innovation always lead to better performance? A study of firms in Vietnam

Organizational
innovation

71

Thi Thuc Anh Phan
*International School of Management and Economics,
National Economics University, Hanoi, Vietnam*

Received 25 January 2019
Revised 17 April 2019
Accepted 26 May 2019

Abstract

Purpose – The purpose of this paper is to explore the relationship between organizational innovation and performance of firms in Vietnam.

Design/methodology/approach – Based on the literature review, the author proposed five hypotheses covering the relationships between different aspects of organizational innovation and firm performance. Data collected from a survey of 266 firms in Vietnam were analyzed to test the proposed hypotheses.

Findings – Two out of three aspects of organizational innovation, including “innovation in business practices” and “innovation in workplace organization,” are significantly positively associated with firm performance. However, there was no evidence to support the relationship between firm performance and the third organizational innovation aspect, “organizational innovation in external relations.” The results also show that the interaction terms among three aspects of organizational innovation do not have significant impacts on firm performance.

Practical implications – Firms in Vietnam should pay more attention to innovation in business practices and innovation in workplace organization since two aspects have clear positive influences on performance. Moreover, firms can perform each of the organizational innovation aspects independently or in parallel, as the implementation of organizational innovation in one aspect does not influence the impact on the firm performance of organizational innovation in other aspects.

Originality/value – This study provides important insights into the widely recognized yet little-researched relationship between organizational innovation and firm performance and concludes that organizational innovation has a positive impact on firm performance.

Keywords Innovation, Firm performance, Organizational innovation

Paper type Research paper

1. Introduction

Economic turmoil, changes in customers' demands and competitors' behaviors all put high pressures on firms. To meet challenges posed by the external environment, firms must continually find new ways not only to design, produce, promote and deliver their products and services but also to organize internal workflows and processes. Maintaining old ways of thinking and doing things could be the quickest path to failure. Innovation is not just a nice thing to do but also a must for businesses to survive and succeed in this fast-changing environment.

Innovation can result in new products, new services, new technologies or new management approaches (Wu and Lin, 2011). Different types of innovation can be implemented by a single firm. In an increasingly uncertain environment, a firm has to value various types of innovation in order to survive and grow (Bir *et al.*, 1988).



Organizational innovation, one type of innovation, is perhaps the most popular, but yet the least researched. The extant literature on innovation puts a much heavier emphasis on technological innovation expressed in the form of product innovation and process innovation compared to any other types of innovation. Specifically, the first two editions of the Oslo manual – guidelines for collecting and interpreting innovation by the Organization for Economic Cooperation and Development (OECD), considered innovation as being of two types: product and process innovation. Until only recently, since 2005 the third edition of this manual has begun to recognize organizational innovation along with marketing innovation. After a systematic review of the literature, Keupp *et al.* (2012) found that out of 342 published articles on innovation, only 25 mentioned organizational innovations. Meanwhile, previous research shows that in developing countries, organizational innovation occurs most frequently and could be the most important. For example, Egbetokun *et al.* (2012) pointed out that in Nigeria, although some product, process and marketing innovations were found, organizational innovations were still “at the heart of the innovation activities” of the firms. Hongming *et al.* (2007) made a similar observation that on the China mainland, enterprises attached more attention to administrative innovation (a concept that overlaps with organizational innovation) in recent years. Phan (2014) also found evidence to support the proposition that organizational innovation is the most common form of innovation in Vietnam. It can be seen that there is an imbalance in the extant literature in building our knowledge of different types of innovation implemented by firms. While organizational innovation is the most popular type, it is largely under-researched and we have very little knowledge about it. What activities can be classified as organizational innovations? Is there any evidence that this type of innovation is good for the performance of firms and if there is such a relationship, is it always positive? All these questions call for more empirical studies on organizational innovation, especially in the developing countries context.

This paper addresses the gap in the literature by focusing on organizational innovation and explores its impact on the performance of firms in the context of Vietnam, a developing country. The next section presents a literature review on organizational innovation and its relationship with performance. The subsequent section covers research methods, followed by a section on research results. Finally, discussion and conclusion of the research are presented.

2. Literature review and hypotheses

This section reviews the literature on the organizational innovation concept and its relationship with firm performance. The meaning of the concept is discussed in detail by presenting a definition that will be used in the rest of the research together with illustrative examples. The concept’s meaning is also made clear by comparing with similar concepts available in the literature. Following that, theories and results of previous empirical studies on the relationship between organizational innovation and firm performance are explored to build hypotheses that are meant to be suitable for the study context.

2.1 Innovation and organizational innovation

Innovation refers to the implementation of something new that is (hopefully) beneficial to the innovator. It is the adoption of new concepts or behavior (Wu and Lin, 2011). West and Anderson (1996, p. 681) defined innovation as “the introduction and application, within a group, organization, or wider society, of processes, products, or procedures new to the relevant unit of adoption and intended to benefit the group, individual, or wider society.” Rogers (2003, p. 12) described innovation as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption.” According to Baregheh *et al.* (2009, p. 1334), innovation is “the multi-stage process whereby organizations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace.” Innovation relates to new products and

services, production methods and procedures and production technologies, as well as administrative changes (Fay *et al.*, 2015).

This study adopts the comprehensive and widely recognized definition of innovation offered by the OECD (2005, p. 46): “An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.” The definition entails four types of innovation: product innovation, process innovation, organizational innovation and marketing innovation – in which organizational innovation is defined as “the implementation of a new organizational method in the firm’s business practices, workplace organization or external relations” (OECD, 2005, p. 51).

According to the above definition, organizational innovation involves new methods used by the firm in three areas: business practices, workplace organization and external relations. First, business practices refer to the way work tasks are implemented in organizations. The introduction of lean production for the first time is an example of organizational innovation in business practices. Second, workplace organization refers to how responsibilities and decision making among employees are allocated as well as how business activities are structured. The first implementation of an organizational model that gives the firm’s employees more autonomy in decision making is an example of organizational innovation in workplace organization. A firm’s new organizational method in business practices or workplace organization involves cutting, extending, re-configuring or recombining work tasks. Finally, new organizational methods in a firm’s external relations involve new ways of organizing relations with its external stakeholders. A firm outsourcing its business activities for the first time in production or recruitment is an example of organizational innovation in external relations.

It is worth to note that in the literature, it is quite common to see the term “organizational innovation” used as a broad concept covering all possible types of innovation in an organization. However, following the OECD (2005), in this paper, organizational innovation is used in a narrow sense that describes only one specific type of innovation.

Organizational innovations are strongly linked with all administrative efforts to renew organizational routines, procedures, mechanisms, systems, etc. (Gunday *et al.*, 2011). It therefore is linked closely with the concept of “administrative innovation” used by many researchers (e.g. Damanpour, 1991; Read, 2000; Damanpour and Wischnevsky, 2006; Hongming *et al.*, 2007; Carmen and Jose, 2008). The OECD’s definition of organizational innovation also matches the concept of “management innovation” proposed by Hamel (2006), Birkinshaw *et al.* (2008) and Mol and Birkinshaw (2009). In fact, some authors (e.g. Damanpour *et al.*, 2009) use the three terms interchangeably. Due to the large overlaps among the three concepts, in this paper, the results of empirical research on administrative innovation and management innovation are also used to compare with the results of this research.

2.2 *The relationship between organizational innovation and firm performance*

Innovation, in general, is known as having a direct impact on firm performance (e.g. Roberts and Amit, 2003; Marques and Ferreira, 2009; Ndubisi and Iftikhar, 2012; Al-bahussin and El-garaihy, 2013; Bigliardi, 2013) but it does not necessarily mean that all types of innovation have such impacts. For example, Nguyen *et al.* (2016) found that among four types of innovation specified by the OECD (2005), only product innovation has a direct influence on firms’ financial performance. What about organizational innovation – a specific form of innovation? Does it have a direct impact on firm performance as well? This paper addresses this question in detail.

Like any other type of innovation, organizational innovation is implemented in a firm with the intention to increase the firm’s performance. It is expected that a new organizational method in the firm’s business practices would lead to higher efficiency and

lower costs. For example, in the case of business re-engineering, unnecessary work tasks or even an entire department are eliminated so that the firm's efficiency is higher while its costs are lower. New organizational methods in the firm's business practices can also lead to a higher quality of work and improved customer service (as in the case of implementing a new quality management system). A new method in the firm's workplace organization is expected to help improve employees' productivity and satisfaction. For example, the introduction of a new decentralized organizational model would give employees greater autonomy to do their jobs, hence enhancing their satisfaction and productivity. A new organizational method in the firm's external relations will help the firm focus on what it does best by giving other tasks to partners who can do it at less cost and/or more effectively. It will also help the firm improve relations with external parties that can translate into future success. In fact, OECD (2005) suggested that organizational innovation can improve workplace satisfaction/productivity and/or reduce administrative/transaction costs, which, in turn, lead to higher business performance. Zaied and Affes (2016) stated that organizational innovation influences the company's performance through improving quality of work, information exchange, capacity of learning and the use of new knowledge and technologies. Therefore, theoretically, organizational innovation will enhance the performance of firms.

Empirical research testing the relationship between organizational innovation and performance has not always confirmed this theoretical proposition, however. The research findings are mixed. For example, while some research works (e.g. Hongming *et al.*, 2007; Lin and Chen, 2007; Carmen and Jose', 2008; Gunday *et al.*, 2011) found that organizational innovation has a statistically positive significant relationship with firm performance, others (e.g. Zaied and Affes, 2016) did not find that relationship at all. As Rosenbusch *et al.* (2011) pointed out that the relationship between innovation and performance is context-dependent. Vietnam, as a developing country, does not have a strong industrial foundation and technological basis to allow firms to excel in product and process innovation. Moreover, moving from the central planning economy to a market one, firms in Vietnam are still not as experienced as others in marketing tools and techniques, which also limit Vietnam firms in marketing innovation. Organizational innovation, therefore, is probably the type of innovation that firms in this country rely on with the hope that it will lead to a positive outcome. Therefore:

H1. Organizational innovation has a positive influence on firm performance.

H1a. Innovation in business practices is positively associated with firm performance.

H1b. Innovation in workplace organization is positively associated with firm performance.

H1c. Innovation in external relations is positively associated with firm performance.

In addition, it is suspected that a firm's organizational innovation in the above three areas may have a combined effect on firm performance. Let us consider an example to understand this interaction effect. Take a business firm simultaneously implementing a new knowledge management system (new business practice), introducing new autonomous teams (new workplace organization), and developing new links with universities (new external relations); the effect of new autonomous teams on firm performance could be affected by the other two variables as the knowledge management system could disseminate important information much more quickly to facilitate team decision making and linkages with universities could help the teams to access valuable/non-tradable knowledge, which, in turn, would allow for faster product development or modification. Thus, the effect of new autonomous teams on firm performance is stronger with the presence of a new knowledge

management system and new links with external universities. Therefore, the following hypothesis is proposed:

- H2.* The interactions among innovation in business practices, innovation in workplace organization and innovation in external relations are positively associated with firm performance.

3. Research methods

3.1 Data collection and sample

The target of this research's survey is any of the firms located in Vietnam. The list of enterprises that participated in the nation-wide enterprise survey conducted by the GSO (2012) was used as the sampling frame. A stratified random sampling method, based on ownership and location, was employed to generate the list of firms to be invited to participate in the survey. The firms were then contacted over the telephone to arrange direct meetings. If the firms agreed, the questionnaires were then handed out to the targeted informants (each firm was asked to send one representative to fill in the questionnaire).

In total, out of the 450 firms contacted, 266 firms responded to the survey, of which 153 were headquartered in the north, 115 firms were located in the south or central regions. In total, 213 firms (80.1 percent of the total) were 100 percent privately owned companies while the rest were either funded with equity stakes from the state or from foreigners. The firms all had been in operation for at least five years. All respondents were senior or middle managers who had a thorough understanding of their firms' innovation and performance situation.

3.2 Variables and measures

The measure of organizational innovation was adapted from the Community Innovation Survey's questionnaire version 15 (Eurostat, 2012) which was developed based on the Oslo manual of the OECD (2005). On a scale from 1 to 7 (1 = strongly disagree and 7 = strongly agree), the respondents were asked to rate the extent to which they agreed with three statements describing three facets of their firms' organizational innovation over the last three-year period, up to the time of the survey. Specifically, they were asked to rate how frequently their firms introduced: new business practices for organizing procedures (i.e. supply chain management, business re-engineering, knowledge management, lean production, quality management, etc.); new methods of organizing work responsibilities and decision making (i.e. first use of a new system of employee responsibilities, teamwork, decentralization, integration or de-integration of departments, education/training systems, etc.); new methods of organizing external relations with other firms or public institutions (i.e. first use of alliances, partnerships, outsourcing or sub-contracting, etc.). In addition to examining the power of each individual aspect of organizational innovation in predicting performance, I am also interested in the predictability of the overall organizational innovation. Therefore, I created an index for the firm's overall organizational innovation by calculating the mean of responses to the three above questions. This is possible because for the formative type of measurement like the ones in this case, testing internal consistency is not necessary (Jarvis *et al.*, 2003; Petter *et al.*, 2007).

The measure of firm performance was adapted from Phan *et al.* (2006). This includes four statements addressing the firm's achievement of its target (1) sales, (2) market share, (3) profits and (4) overall planned goals during the last year, and another four items asking the firms about the trends of achieving their targets in the same areas over the last three years. These types of measures can be trusted because as indicated in previous research, perceptual measures of firm performance were significantly correlated with objective measures (Dess and Robinson, 1984; Geringer and Hebert, 1989, 1991).

Control variables for the model include:

- Firm age measured by the firm's number of years in operation.
- Firm employees measured by the firm's number of employees.
- Firm assets measured by the firm's total assets.
- Firm ownership measured as a dummy variable, in which fully private-owned = 1, others = 0.
- Firm location is also measured as a dummy variable: north = 1, others = 0.

3.3 Measurement assessment

SPSS 22 was used to process the data. First, reliability analysis and factor analysis were performed to evaluate the firms' performance measures' reliability and validity (Aaker *et al.*, 1998). As can be seen in Table I, the reliability analysis result shows that Cronbach's α for all items measuring performance is 0.972, indicating a very high level of internal consistency (Hair *et al.*, 1998). In factor analysis, all items were loaded onto a single factor, explaining 84.665 percent of the total variance. Thus, performance is a unidimensional concept and the designed measure is a good one. For subsequent analyses, an overall index for performance was created by calculating the mean of loaded items.

4. Results

4.1 Correlation analysis

All variables were checked to see if they were distributed normally. Most of them showed reasonable variance and normality with variable means generally in the middle of their range, except firm employees and firm assets. These two variables had substantial positive skewness. Therefore, a logarithmic transformation was used to address this problem (Tabachnick and Fidell, 1983). After transformation, both variables became normally distributed.

Table II presents descriptive statistics and bivariate correlations among variables in this study.

As can be seen, significant correlations were found between aggregated organizational innovations as well as between innovation in business practices, innovation in workplace organization and firm performance. Aggregated organizational innovation has a positive significant relationship with location while innovation in business practices has a negative relationship with firm ownership. Firm age is significantly related to firm employees and firm assets. Firm employees is also significantly related to firm assets, firm ownership and location. Finally, firm assets is negatively significantly related to firm ownership while positively significantly related to location.

Table I.
Results of reliability
analysis and
factor analysis

	Factor loading	Extraction sums of squared loadings			Cronbach's α
		Total	% of variance	Cumulative %	
Last year's sales	0.715	6.773	84.665	84.665	0.972
Last year's market share	0.963				
Last year's profits	0.946				
Last year's overall planned goals	0.918				
Sales increased last 3 years	0.921				
Market share increased last 3 years	0.963				
Profits increased last 3 years	0.953				
Good performance last 3 years	0.957				

Notes: Extraction method: principal component analysis. ^aComponents extracted

	Mean	SD	1	1a	1b	1c	2	3	4	5	6
1. Organizational innovation	4.31	0.94									
1a. Innovation in business practices	4.30	1.48	0.59**								
1b. Innovation in workplace organization	4.28	1.58	0.64**	0.05							
1c. Innovation in external relations	4.31	1.51	0.59**	0.00	0.05						
2. Performance	4.41	1.31	0.24**	0.17**	0.14*	0.08					
3. Firm age	11.72	4.65	0.04	0.09	0.03	-0.03	0.07				
4. Firm employees (log)	1.77	0.59	0.10	0.13	-0.03	0.12	0.10	0.23**			
5. Firm assets (log)	3.93	0.76	0.06	0.02	0.03	0.09	0.04	0.40**	0.65**		
6. Firm ownership	2.40	1.20	-0.08	-0.16**	-0.04	0.04	-0.11	-0.10	-0.16*	-0.15*	
7. Location	0.62	0.49	0.16*	0.11	0.11	0.11	-0.11	0.07	0.19**	0.24**	0.03

Notes: $n = 266$. Firm employees and firm assets are transformed variables. Actual means for firm employees are 159.9 and for firm assets are 41,503.99 (million Vietnamese dong). *,**Significant at 0.05 and 0.01 levels, respectively (two-tailed)

Table II.
Descriptive statistics
and correlations

4.2 Hypothesis testing

Multiple regressions were used to test the proposed hypotheses. Table III presents the regression results. Four regression models were included in the analysis, in which Model 1 includes only control variables, Model 2 examines the impact of the aggregated organizational innovation on firm performance, Model 3 examines the impacts of each individual dimensions of organizational innovation and Model 4 examines the impact of interaction variables together with main variables.

To avoid the problem of multi-collinearity among variables that often happen in a regression model with interaction effects, following Aiken and West (1991), all main variables were centered before calculating interaction terms. Next, four interaction terms (three two-way interactions and one three-way interaction) were calculated by multiplying respective variables.

As can be seen, all four models are highly significant at $p = 0.000$. Models 1–4 have adjusted R^2 of 0.109, 0.169, 0.149 and 0.146, explaining 10.9, 16.9, 14.9 and 14.6 percent of the variance in firm performance, respectively. The result of an adjusted R^2 -change test showed that Models 2–4 have a significantly higher explanatory power than that of Model 1. However, the adjusted R^2 of Model 2–4 is not statistically significantly different.

Organizational innovation appeared as a very strong predictor of firm performance with $\beta = 0.255$ at $p < 0.001$. *H1* is supported. Among three specific aspects of organizational innovation, innovation in business practices is positively associated with firm performance at $\beta = 0.138$ ($p < 0.05$), innovation in workplace organizations is positively associated with firm performance at $\beta = 0.154$ ($p < 0.05$) while innovation in external relations does not have a significant relationship with firm performance ($p > 0.1$). Thus, *H1a* and *H1b* are supported while there is no evidence to support *H1c*.

All four interaction variables are not significantly related to firm performance ($p > 0.1$), indicating that the effect of each of the dimensions of organizational innovation on performance is separated and independent of each other. *H2* is not supported.

Variables	Model 1		Model 2		Model 3		Model 4	
	β	p	β	p	β	p	β	p
<i>Control variables</i>								
Firm age	0.047	0.457	0.040	0.515	0.042	0.509	0.043	0.502
Firm employees (log)	0.197	0.008	0.194	0.007	0.198	0.008	0.200	0.007
Firm assets (log)	0.198	0.006	0.202	0.004	0.206	0.004	0.208	0.005
Firm ownership	0.035	0.602	0.045	0.487	0.053	0.430	0.058	0.388
Location	-0.146	0.021	-0.194	0.002	-0.180	0.006	-0.176	0.009
<i>Main variables</i>								
Organizational innovation (aggregated)			0.255	0.000				
Practices_centered					0.138	0.033	0.146	0.030
Workplace_centered					0.154	0.016	0.139	0.036
External_centered					0.061	0.334	0.027	0.693
<i>Interaction variables</i>								
Practices × Workplace_centered							0.019	0.794
Practices × External_centered							-0.056	0.445
Workplace × External_centered							0.097	0.190
Practices × Workplace × External_centered							0.103	0.187
Adjusted R^2	0.109		0.169		0.149		0.146	
F-statistics	6.577	0.000	8.735	0.000	5.783	0.000	4.120	0.000

Table III. Multiple regression results for firm performance

Notes: Firm employees and firm assets are log for normality. All coefficients are standardized

Among control variables, firm employees and firm assets are highly significantly associated with firm performance across four models at $p < 0.01$, indicating that the bigger the firm size, the higher the firm performance. Location is having a significantly negative relationship with performance, which means that firms in Hanoi report a significantly lower performance than that of firms in the rest of the country. There is no statistically significant difference in the performance of young vs old firm or of privately owned vs non-privately owned firms.

5. Discussion and conclusion

Based on a survey of 266 firms, this study finds that in Vietnam, organizational innovation has a positive impact on firm performance. Among three aspects of organizational innovation, innovation in business practices and innovation in workplace organization are significantly positively associated with firm performance while innovation in external relations is not. There is no evidence to support the impact of interaction among three organizational innovation aspects on firm performance. Although this result contradicts some previous research works (e.g. Zaied and Affes, 2016; Phan, 2015), it is consistent with many others (e.g. Hongming *et al.*, 2007; Lin and Chen, 2007; Carmen and Jose', 2008; Gunday *et al.*, 2011).

In developing countries (like Vietnam), firms have lower access to information and their property rights are not well protected (Peng, 2003; Welter and Smallbone, 2011). Therefore, it is hard for them to follow their counterparts in developed countries in innovation (Nguyen *et al.*, 2016). Under such an institutional uncertainty and resource-deficiency environment (Nguyen *et al.*, 2013), it is easier to understand why Vietnamese firms implement organizational innovation more frequently compared to any other types of innovation (Phan, 2014). The more they implement it, the more experienced they become, which, in turn, helps them to achieve better performance. This explains why organizational innovation has a positive impact on the performance of Vietnamese firms.

The findings of this research suggest that firms in Vietnam should pay more attention to innovation in business practices and innovation in workplace organization since these two aspects have clear positive influences on performance. Moreover, firms can perform each of the organizational innovation aspects independently or in parallel, as the implementation of organizational innovation in one aspect does not influence the impact on the performance of organizational innovation in other aspects. However, as this study found no evidence to support the positive link between innovation in external relations and firm performance, future research should re-test this relationship with other samples and at other times.

This study has two main limitations: it relies on one person to represent the whole firm and uses subjective assessments of respondents to measure firm performance. Future research could address these weaknesses by surveying multiple people within one firm as well as using objective measures of the firm's performance to get a fuller picture of the firm's innovation and performance situation. Despite the limitations, this study still provides important insights into the widely recognized yet little-researched relationship between organizational innovation and firm performance. Based on that, practical implications for managers are drawn.

References

- Aaker, D.A., Kurmar, V. and Day, G.S. (1998), *Marketing Research*, Wiley, New York, NY.
- Aiken, L.S. and West, S.G. (1991), *Multiple Regression: Testing and Interpreting Interactions*, Sage, Newbury Park, CA.
- Al-bahussin, S.A. and El-garaihy, W.H. (2013), "The impact of human resource management practices, organizational culture, organizational innovation and knowledge management on organizational performance in Large Saudi organizations: structural equation modeling with conceptual framework", *International Journal of Business and Management*, Vol. 8 No. 22, pp. 1-19.

- Baregheh, A., Rowley, J. and Sambrook, S. (2009), "Towards a multidisciplinary definition of innovation", *Management Decision*, Vol. 47 No. 8, pp. 1323-1339.
- Bigliardi, B. (2013), "The effect of innovation on financial performance: a research study involving SMEs", *Innovation: Management, Policy & Practice*, Vol. 15 No. 2, pp. 245-255.
- Bir, G., Schacht, W. and Kaufmann, D. (1988), "Eine allgemeine, einfache und schonende synthesesmethode for fluororganylborane", *Journal of Organometallic Chemistry*, Vol. 340 No. 3, pp. 267-271.
- Birkinshaw, J., Hamel, G. and Mol, M.J. (2008), "Management innovation", *Academy of Management Review*, Vol. 33 No. 4, pp. 825-845.
- Carmen, C. and Jose, G.M. (2008), "The role of technological and organizational innovation in the relation between market orientation and performance in cultural organizations", *European Journal of Innovation Management*, Vol. 11 No. 3, pp. 413-434.
- Damanpour, F. (1991), "Organizational innovation: a meta-analysis of effects of determinants and moderators", *Academy of Management Journal*, Vol. 34 No. 3, pp. 555-590.
- Damanpour, F. and Wischnevsky, J.D. (2006), "Research on innovation in organizations: distinguishing innovation-generating from innovation-adopting organizations", *Journal of Engineering and Technological Management*, Vol. 23 No. 4, pp. 269-291.
- Damanpour, F., Walker, R.M. and Avellaneda, C.N. (2009), "Combinative effects of innovation types and organizational performance: a longitudinal study of service organizations", *Journal of Management Studies*, Vol. 46 No. 4, pp. 650-675.
- Dess, G.G. and Robinson, R.B.J. (1984), "Measuring organizational performance in the absence of objective measures: the case of the privately-held firm and conglomerate business unit", *Strategic Management Journal*, Vol. 5 No. 3, pp. 265-273.
- Egbetokun, A., Adeniyi, A., Siyanbola, W. and Olamide, O. (2012), "The types and intensity of innovation in developing-country SMEs: evidences from a Nigerian sub-sectoral study", *International Journal of Learning and Intellectual Capital*, Vol. 9 Nos 1/2, pp. 98-112.
- Eurostat (2012), *Community Innovation Survey 2012 Questionnaire*, Luxembourg.
- Fay, D., Shipton, H., West, M.A. and Patterson, M. (2015), "Teamwork and organizational innovation: the moderating role of the HRM context", *Creativity and Innovation Management*, Vol. 24 No. 2, pp. 261-277.
- Geringer, J.M. and Hebert, L. (1989), "Control and performance of international joint ventures", *Journal of International Business Studies*, Vol. 20 No. 2, pp. 235-254.
- Geringer, J.M. and Hebert, L. (1991), "Measuring performance of international joint ventures", *Journal of International Business Studies*, Vol. 22 No. 2, pp. 249-263.
- GSO (2012), "Annual enterprise survey", unpublished data, General Statistics Office of Vietnam.
- Gunday, G., Ulusoy, G., Kilic, K. and Alpkan, L. (2011), "Effects of innovation types on firm performance", *International Journal of Production Economics*, Vol. 133 No. 2, pp. 662-676.
- Hair, J.F.J., Anderson, R.E., Tatham, R.L. and Black, W.C. (1998), *Multivariate Data Analysis*, Prentice-Hall International, NJ.
- Hamel, G. (2006), "The why, what, and how of management innovation", *Harvard Business Review*, Vol. 84 No. 2, pp. 72-84.
- Hongming, X., Changyong, L. and Chunhui, C. (2007), "Relationships among market orientation, learning orientation, organizational innovation and organizational performance: an empirical study in the Pearl River Delta region of China", *Frontiers of Business Research in China*, Vol. 1 No. 2, pp. 222-253.
- Jarvis, C.B., Mackenzie, S.B. and Podsakoff, P.M. (2003), "A critical review of construct indicators and measurement model misspecification in marketing and consumer research", *Journal of Consumer Research*, Vol. 30 No. 2, pp. 199-218.

- Keupp, M.M., Palmié, M. and Gassmann, O. (2012), "The strategic management of innovation: a systematic review and paths for future research", *International Journal of Management Reviews*, Vol. 14 No. 4, pp. 367-390.
- Lin, C.Y. and Chen, M.Y. (2007), "Does innovation lead to performance? An empirical study of SMEs in Taiwan", *Management Research News*, Vol. 30 No. 2, pp. 115-132.
- Marques, C.S. and Ferreira, J. (2009), "SME innovative capacity, competitive advantage and performance in a 'traditional' industrial region of Portugal", *Journal of Technology Management and Innovation*, Vol. 4 No. 4, pp. 53-68.
- Mol, M.J. and Birkinshaw, J. (2009), "The sources of management innovation: when firms introduce new management practices", *Journal of Business Research*, Vol. 62 No. 12, pp. 1269-1280.
- Ndubisi, N.O. and Iftikhar, K. (2012), "Relationship between entrepreneurship, innovation and performance – comparing small and medium-size enterprises", *Journal of Research in Marketing and Entrepreneurship*, Vol. 14 No. 2, pp. 214-236.
- Nguyen, V.T., Le, T.B.N. and Bryant, S. (2013), "Sub-national institutions, export strategy, and firm performance: a multilevel study of private manufacturing firms in Vietnam", *Journal of World Business*, Vol. 48 No. 1, pp. 68-76.
- Nguyen, V.T., Phan, T.T.A. and Nguyen, T.T.M. (2016), "Knowledge creation, innovation and financial performance of firms: evidence from Vietnam", *International Journal of Business and Management*, Vol. 11 No. 6, pp. 95-107.
- OECD (2005), *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, OECD Publishing, Paris.
- Peng, M. (2003), "Institutional transitions and strategic choices", *Academy of Management Review*, Vol. 28 No. 2, pp. 275-296.
- Petter, S., Straub, D. and Rai, A. (2007), "Specifying formative constructs in IS research", *MIS Quarterly*, Vol. 31 No. 4, pp. 623-656.
- Phan, T.T.A. (2014), "Characteristics of innovation in Vietnamese firms: an exploratory research", *Journal of Economics and Development*, Vol. 16 No. 3, pp. 82-95.
- Phan, T.T.A. (2015), "The impact of innovation on export and financial performance: an empirical study of Vietnamese private textile & garment firms", *The Proceedings of Emerging Issues in Economics and Business in the Context of International Integration*, JED, Hanoi, pp. 333-344.
- Phan, T.T.A., Baughn, C., Ngo, T.M.H. and Neupet, K. (2006), "Knowledge acquisition from foreign parents in international joint ventures: an empirical study in Vietnam", *International Business Review*, Vol. 15 No. 5, pp. 463-487.
- Read, A. (2000), "Determinants of successful organizational innovation: a review of current research", *Journal of Management Practice*, Vol. 31 No. 1, pp. 95-119.
- Roberts, P. and Amit, R. (2003), "The dynamics of innovative activity and competitive advantage: the case of Australian retail banking, 1981 to 1995", *Organization Science*, Vol. 14 No. 2, pp. 107-122.
- Rogers, E.M. (2003), *Diffusion of Innovation*, 5th ed., The Free Press, New York, NY.
- Rosenbusch, N., Brinckmann, J. and Bausch, A. (2011), "Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs", *Journal of Business Venturing*, Vol. 26 No. 4, pp. 441-457.
- Tabachnick, B.G. and Fidell, L.S. (1983), *Using Multivariate Statistics*, Harper and Row, New York, NY.
- Welter, F. and Smallbone, D. (2011), "Institutional perspective on entrepreneurial behavior in changing environment", *Small Business Management Journal*, Vol. 49 No. 1, pp. 107-125.
- West, M.A. and Anderson, N.R. (1996), "Innovation in top management teams", *Journal of Applied Psychology*, Vol. 81 No. 6, pp. 680-693.

Wu, S.I. and Lin, C.L. (2011), "The influence of innovation strategy and organizational innovation on innovation quality and performance", *International Journal of Organizational Innovation*, Vol. 3 No. 4, pp. 45-81.

Zaied, R.M.B. and Affes, H. (2016), "The relationship between the sources of knowledge management, organizational innovation and organizational performance", *International Journal of Information, Business and Management*, Vol. 8 No. 3, pp. 185-206.

Corresponding author

Thi Thuc Anh Phan can be contacted at: phanthucanh@yahoo.com