

The Effects of Organisational Support on SMEs' Perceived Performance: The Role of Human Resource Development, Innovation, and Information Technology

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This quantitative study clarifies how organisational support and the adoption of information technology (IT) can impact a firm's performance. Small and Medium Enterprises (SMEs) operating in industries were investigated. This paper focuses on human resources development and information technology, each of which mediate. Structural Equation Modelling explains multivariable effects. Our findings reveal that both organisational support and IT do influence firms' performance, through human resources development in SMEs. The crucial measurement of the impacts is innovation arising from human resources development within these firms.

Key words: *Firm performance, Human resources development, Information technology, Innovation.*

Introduction

Organisational support, including leadership style, is important for many researchers (Chen, Fah, & Jin, 2016; Ibrahim, Isa, & Shahbudin, 2016; Olszak, Bartuś, & Lorek, 2018; Yoon, Kim, Vonortas, & Han, 2017; Sriyakul, Singa, Sutduean, & Jermsittiparsert, 2019; Chansuchai, Rotjanawasuthorn, & Jermsittiparsert, 2020). For the past three decades, both practitioner and researcher have concentrated on the link between organisational support and other factors, such as information technology and innovation, that need employees' creativity

(Jermisittiparsert, Suan, & Kaliappen, 2019). Currently, a dynamic business environment has affected the need of employees to create competitive advantage for specific firms, enhancing firms' performance (Cheng & O-Yang, 2018). At the same time, information technology as utilized by SMEs remains to be determined largely by their computer/digital systems, which management can apply both internally and externally as required. Information technology has been found to enable firms to collaborate with external agents and leverage the process of innovation (de Mattos, Kissimoto, & Laurindo, 2018). Innovations are proven to add value to SMEs, in linking them with customers and suppliers, which is crucial for their obtaining substantial market share (Amokrane, Chapurlat, Courbis, Lambolais, & Rahhou, 2015). Information systems can help some SMEs achieve complementary innovation-based networks, and increase their competitive advantage (Pomffyová & Bartková, 2016; Rehm & Goel, 2017). In addition, management components that help grow SMEs include human resources, creativity and innovation (González-Loureiro & Pita-Castelo, 2012). Innovation has played a crucial role in the sustainability of SMEs (Bodlaj, Kadic-Maglajlic, & Vida, 2018). It has wielded a significant impact on firm performance (Mansfield, 1981). However, only a few studies have simultaneously examined the effects of innovation on SMEs' performance, a problem compounded by most innovation occurring in large business enterprises that can afford to do so.

For many decades the Thai economy has depended on the operations of many small and medium enterprises. SMEs play a diverse and significant role, not only in their capacity to create employment but by increasing economic wealth and business objectives. Their operations support other businesses, such as multinational or corporate enterprises benefitting from foreign direct investment on the one hand, and local firms on the other. They are important in regional economies, and they generate employment and wealth (Alvarez, Zamanillo, & Cilleruelo, 2016). Rapidly changing business and economic environments mean that SMEs' growth needs to address various challenges, including their leaders/owners, staff and technology, to become creatively innovative and so compete on the SME landscape. The business environment has become more complex due to several new important factors, including globalisation and information technology (IT). Concerns regarding the latter, and the need to engage in it, are now unavoidable even for small firms (Ștefănescu, 2015). In addition, Thailand has become more of an export-dependent country, meaning that SMEs now play a crucial role in total export volumes. Therefore, we now seek to explain how certain organisational supports can stimulate a vibrant SME sector, mediated by human resource development (HRD), information technology (IT), and innovation (INNO). The paper is organised as follows: firstly, the authors review prior studies relevant to this topic and create a conceptual framework according to practical and theoretical perspectives; secondly, the methodology used is explained in detail; thirdly, the statistical results are presented; and, fourthly and finally, the implications for practice are clarified in terms of

actual contributions to those firms. The findings can consequently be considered by Thai government policy-makers as supporting these SMEs.

Theoretical Overview and Prior Studies

Organisational Support of the Small and Medium Enterprises (SMEs)

With reference to SMEs which are the subject of this study, we undertook observations of current business enterprises in Thailand. The Thai government supports the sector, so that businesses can continue operating, make a profit and expand their horizons, through the Office of Small and Medium Enterprise Promotion (OSMEP). The Small and Medium Enterprise Development Bank of Thailand defines SMEs, as summarised in Table 1.

Table 1: Definition of SMEs.

Type of Enterprises	Small Enterprises		Medium Enterprises	
	Number of Employees (Persons)	Amount of Land, Buildings, and Equipment (Million Baht)	Number of Employees (Person)	Amount of Land, Buildings, and Equipment (Million Baht)
Manufacturing	Less than 50	Less than 50	50-200	50-200
Services	Less than 50	Less than 50	50-200	50-200
Wholesale	Less than 25	Less than 50	25-50	50-100
Retail	Less than 15	Less than 30	15-30	30-60

Source: www.smebank.co.th

SMEs operate in all of Thailand's industrial sectors, and have done so for many years. Some were specifically established in response to foreign firms investing in Thailand. Moreover, some have changed their management structures, to be run by younger people who have applied innovative and increasingly technology-related concepts to business management. Hence, innovation emerges as the key that Thai SMEs' management will focus on. As these SMEs are diverse in what they produce and sell, innovation can mediate firms' performance, allowing them to understand changing resources, requirements and market uncertainties (Verreynne, Williams, Ritchie, Gronum, & Betts, 2019). Innovative SMEs can benefit as independent and self-sufficient operators, unlike their competitors in the same industry (Hogeforster, 2014). In addition, innovation indicates firms' capabilities in developing successful products, in both domestic and foreign markets. For example, SMEs' management collaborate in Thailand, with other firms in the same industry cluster. This can be considered an unofficial collaborative group, similar to a trade association. Here, collaboration within the same or a similar cluster will help us to understand how innovation contributes to SMEs' business processes (Szałpka, Stachowiak, Batz, & Fertsch, 2017). Furthermore, SME collaboration supports the creation of an open space that provides long-term stability and

sustainable operations (Hamdani & Wirawan, 2012). Organisational support is crucial to daily, operational success. This study considers how organisational support contributes to the practice of SMEs management, such as budget allocation, knowledge creation, and other supporting tools.

Information Technology (IT)

IT can be applied by both large-scale firms and SMEs to support their business operations (Nugroho, 2015). It can make overarching communications more effective and support the entire organisation's performance. Currently, IT is used not only by large companies but also by SMEs. For example, its results have indicated proven cost reductions and more efficient procedures. Moreover, IT can encourage knowledge management to grow SMEs, and in particular suggest how to sustain their business operations (Alvarez et al., 2016). To succeed long-term, SMEs must continuously develop and update the knowledge and expertise of all staff. The appropriate IT system that a firm selects will provide updated information, such as trends concerning platform marketing and knowledge sharing. It also encourages doing business beyond the standard approaches and assumptions, so that management can gain a marketplace advantage. SMEs conduct their business along the supply chain, and they need to connect with other firms which can either be vendors or customers. IT not only reduces supply chain costs, it also links well with what customers want, and fosters the competitiveness of firms (Colin, Galindo, & Hernández, 2015). IT enables business operations to function as they should (Lopez-Nicolas & Molina-Castillo, 2008). With specific reference to SMEs that are manufacturing businesses, IT connects them to dynamic areas along the supply chain. Thus, they can better manage their material resources, improve production processes and timelines, and comply with client requests (Devaraj, Krajewski, & Wei, 2007).

SMEs and Innovation

The operations of SMEs include both end-user customers and other business firms along the supply chain. According to research about supply chains, we can determine the business-to-business (B2B) operations that need to follow customised conditions and respond well to clients' needs through innovation. This enables quick responses to customers, evident cost reductions, and assures competitiveness in products or goods and services (Chu, Tian, & Wang, 2018). Major customers enjoy strong bargaining power, and this encourages SMEs to invest and innovate, leading to cheaper pricing and favourable credit terms (Fabbri & Klapper, 2016). This scenario enables Thai SMEs to innovate lower costs for their wares, by linking IT with a very capable management structure. Utilisation of innovations developed by these SMEs as required by their customers becomes part of the businesses, so that sustainability in turn drives their competitive advantage over other businesses (Guarascio &



Tamagni, 2019). Firms which develop a strategy that responds well to their customers, and significantly focus on innovation, have opportunities to develop both strategic leadership and good organisational support, in the form of proficient IT infrastructure. Consequently, such firms will compete well in the marketplace; a turbulent business environment. In fact, SMEs' management should consider synergies with other firms, since this will affect the level of innovation according to the industry they are collaborating and operating in (Lee, Lee, & Garrett, 2017).

Human Resources Development and the Resource-Based View

The most important aspect of human resources management is employee development (Kazakovs, 2014). Currently, many firms focus on developing employees' skills, through human resources development or training programs. Generally, such schemes are to develop personnel in response to industry changes and the need to keep people upskilled. Similarly, SMEs undertake this because they need to be innovative as far as their clients are concerned. This aspect of competition in business has been investigated by researchers who employ the resource-based view theory. RBV theory focuses on the assumption that firms' resources and capabilities may be heterogeneous and create different levels of competitive advantage among firms (J. B. Barney, 2001). Those resources and capabilities should be valuable, rare, inimitable, and non-substitutable (J. Barney, Wright, & Ketchen Jr, 2001). The SMEs can obtain a competitive advantage from their resources, specifically their employees who can respond quickly to either any changes occurring in the industry, or operational matters. According to the resource allocation perspective, resource-based view theory has validated the link between human resources and firms' sustainability (Arulrajah & Opatha, 2016; Nejati, Rabiei, & Jabbour, 2017). The resource-based view is convinced that developing competencies and skills for the employees will generate a competitive advantage (Lockett, Thompson, & Morgenstern, 2009).

In accordance with the above literatures, the following framework and hypotheses are posited for testing.

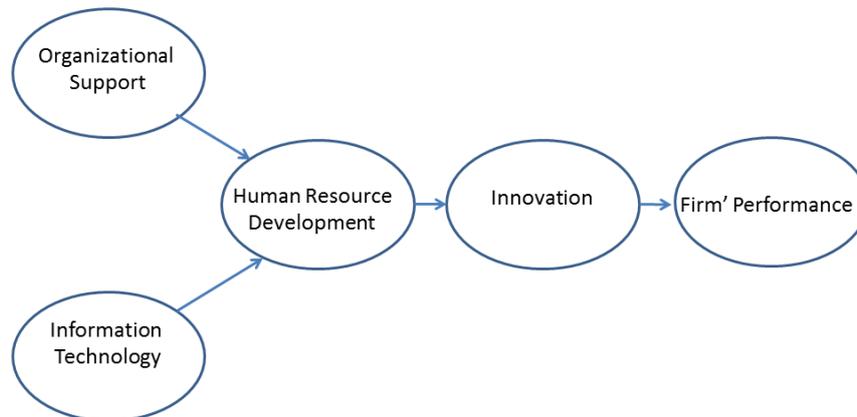


Figure 1: Research Framework of the Study

- H₁: There is a significant effect of organisational support on human resource development.
H₂: There is a significant effect of information technology on human resource development.
H₃: There is a significant effect of human resource development on innovation.
H₄: There is a significant effect of innovation on firm performance.
H₅: There is an indirect effect of organisational support and information technology on firm performance through human resource development and innovation.

Research Design and Methods

Research Instrument and Measurement of variables

The research framework was based on a review of the literature which documented a link between the following: Organisational Support, Information Technology, Human Resources Development, and Innovation. These are all considered important variables in their impact on firm performance. The instrument for data collection was developed to relate these variables.

Measurement

Measurement models for Organisational Support, IT, Human Resources Development, Innovation, and Firm Performance were tested, using structural equation modelling. The survey used 23 items measured on a 5-point scale ranging from 1 to 5.

Subjects and Data Collection

The subjects of this study are Small and Medium Enterprises (SMEs) in various Thai industries. In total 504 SMEs constituted the sample for this study. SMEs are defined by the Office of Small and Medium Enterprise Promotion (OSMEP). We collected data from employees of those various SMEs who have working experience between 11-20 years. The

educational proportion of the subjects is 56.1 % undergraduate and lower, and 43.9% graduate.

Construct Validity

To ensure that the instrument functioned properly, the construct validity and discriminant validity were tested. Convergent validity was measured by the value of the confirmatory factor analysis (CFA). Consequently the factor loading should exceed 0.6. The results found an average variance extracted (AVE) from all the variables was above 0.5. Moreover, discriminant validity was tested by examining the correlation of the construct and the correlation for the observed variables. It should be less than 0.85. The results of the AVE are presented in Table 2.

Table 2: Factor Loading, Critical Ratio, R^2 , Composite Reliability, Average Variance Extracted (AVE)

Variable	Factor Loading	R^2	Composite Reliability	AVE
Organisational Support				
OS1: You allocate a budget for subordinates to create new products	.83	.69	.86	.68
OS2: You support subordinates to acquire new knowledge in creating new products	.80	.66		
OS3: You support tools, machines, and other equipment appropriately for subordinates to create new products	.85	.72		
Information Technology				
IT1: Your company has enough hardware technology for creating new products	.76	.58	.93	.63
IT2: Your company has software technology appropriate for creating new products	.80	.64		
IT3: You give free opportunities to employees to use both hardware and software equally in creating new products	.75	.61		
IT4: Your company has invested in both hardware and software technology for creating new products	.70	.49		
IT5: Your company applies marketing information for designing new products	.83	.69		
IT6: Your company has applied sales data to manage customer relations when launching new	.86	.73		

products				
IT7: Your company has used data from POS for designing new products	.82	.67		
Human Resources Development				
HRD1: You encourage subordinates to propose new ideas for creating new products	.71	.60	.77	.53
HRD2: You delegate authority to others when they propose new ideas for creating new products	.80	.64		
HRD3: You do not criticise your employees when a new product launch fails	.68	.46		
Innovation				
INNO1: Your products are mostly new innovations	.90	.60	.74	.85
INNO2: Your products have been developed	.83	.69		
Firm Performance				
FP1: Your company has a better image having launched new products	.84	.70	.94	.71
FP2: The customer perceives quality of new products when they are launched	.79	.63		
FP3: The customer is satisfied with your company when new products are launched	.83	.69		
FP4: The customer has more confidence in your company when it is launching new products	.86	.74		
FP5: The customer has a better attitude toward your company when launching new products	.86	.74		
FP6: The customer has more loyalty to your company when launching new products	.89	.79		
FP7: You have more customers when launching new products	.86	.74		

Reliability Testing

All items designed to observe the framework variables were verified for reliability. The results (Table 3) indicate Cronbach's alpha between 0.800 and 0.996, ensuring the reliability of the instrument.

Table 3: Reliability statistics

Variable	Cronbach's Alpha
Organisational Support	0.914
Information technology	0.976
Human Resources Development	0.800
Innovation	0.856
Firm Performance	0.996

Correlation of Variables in the Model

Table 4 presents the correlation matrix for the variables in this model.

Table 4: Correlation matrix for the variables in the model

Variable Name	1	2	3	4	5
1. Organisational Support	.82				
2. Information technology	.78	.79			
3. Human Resources Development	.48	.58	.72		
4. Innovation	.77	.74	.42	.92	
5. Firm Performance	.73	.78	.41	.73	.84

AVE value in diagonal

The Statistical Research Model and Model Fit

Structural Equation Modelling (SEM), the summary of the model fit (Table 5), and the results of the measurement model were analysed. It indicated the Normed Chi-Squared fit index derived from the Chi-Square/Degree of freedom. This was 2.96 and it confirmed a good fit for the model. The value of Goodness of Fit, and the Adjusted Goodness of Fit are .929, and .899, respectively. The Root Means Square Error of Approximation is .050. The Normed Fit Index and Comparative Fit Index values were equal to .955, and .969, respectively. All of the data mentioned above suggests a good fit for this specific model.

Table 5: Assessing the model fit indicators

Chi-square/Degree of freedom (CMIN/df)	2.96
Goodness of Fit Index (GFI)	.929
Adjusted Goodness of Fit Index (AGFI)	.899
The Root Means Square Error of Approximation (RMSEA)	.055
Normed Fit Index (NFI)	.955
Comparative Fit Index (CFI)	.969

Results

The results reported in Table 6 found that organisational support has a significant positive effect on human resources development, i.e. ($\beta=.392$ with $p\text{-value} < .001$) and IT yields a significant positive effect on human resources development ($\beta=.752$ with $p\text{-value} < .001$). Therefore, the first and second hypotheses are accepted. Further, human resources development has a positive effect on innovation ($\beta=.857$ with $p\text{-value} < .001$). Then, the third hypothesis is accepted. Consequently, innovation has a positive effect on firm performance ($\beta=.852$ with $p\text{-value} < .001$). The fourth hypothesis is accepted. In considering organisational support for a firm's performance with human resources development, it is evident that IT and innovation are the mediating factors. This indicates that organisational support and information technology indirectly affect a firm's performance, through human resources development and innovation with $\beta=.286$ and $.549$ (Table 7). Thus, the fifth hypothesis is accepted.

Table 6: Hypothesis Testing

			Estimate	S.E.	C.R.	p-value
Human Resources Development	<- --	Organisational Support	.392	.034	6.217	***
Human Resources Development	<- --	Information Technology	.752	.038	9.577	***
Innovation	<- --	Human Resources Development	.857	.116	11.270	***
Firm Performance	<- --	Innovation	.852	.066	17.78	***

*** p-value < .001

Table 7: Standardised direct and indirect effect

	Direct Effect				Indirect Effect				Total Effect			
	OS	IT	HRD	INNO	OS	IT	HRD	INNO	OS	IT	HRD	INNO
HRD	.392	.752							.392	.752		
INNO			.857		.336	.644			.336	.644	.857	
FP				.852	.286	.549	.730		.286	.549	.730	.852

Discussion

SMEs were examined terms of how organisational support and IT impact on firms' performance, through human resources development and innovation. To do, the structural equation modelling technique was employed, to clarify the results of the research framework.

The findings present a significant relationship of both organisational support and IT with human resources development. The variable organisational support indicates that firms which provide tools, machines, and other equipment appropriately for subordinates to create new products, are the most important. This is followed by the allocation of a budget and supporting subordinates to acquire new knowledge, respectively. Thus, management should determine not only the supporting tangible assets, such as tools, machines, and equipment, but also consider the intangible assets. These include their employees' knowledge, since the resource-based view contends that human resources are rare and difficult to imitate (J. B. Barney, 2001). Moreover, the crucial factor that managers can apply, according to leadership style, is the delegation of authority to create wisdom about their new idea, and to support them in developing new product. In addition, the training program to create knowledge specifically for employees should be instructed, for benefit in product development. In summarising the IT and marketing information, these are deemed important: IT benefits companies, by getting them to focus their strategy on investing more in both hardware and software technology, specifically for creating new products or goods and services (Cooper, 2019). Therefore, SMEs management has to invest in the business ecosystem, even though this may be very expensive at the beginning. The results of innovation will be experienced at a later stage, when marketing data will be applied to the interactive data that emerges from social media for customer relationship assessment purposes.

Moreover, those SMEs can develop information processes such as tracking customer behaviour data, which indicates how well the company is doing (Kakatkar & Spann, 2019). In addition, management should use sales data to manage customer relations when launching new products, and apply marketing information and data when designing new products for the market. SMEs should focus more on using marketing data that their employees can use, when developing new products. It is important for management to delegate authority and decision-making to employees. This will contribute to subordinates' professional development and industry experience. This view is based on the finding that human resource development programs do influence innovation in SMEs, and can be measured when new products are being continuously developed and launched. Consequently, innovation has an impact on customer loyalty, customer confidence, and on customers having a better attitude to new products launched for sale in the market. In considering a theoretical implication, the findings summarise the integration of organisational support, human resource development, and information technology that affect innovation, which finally impacts on firm performance as measured by customer satisfaction, confident, loyalty, and the aggregation of new customers.



Limitations and Future Research

We conducted this study through a broad range of SMEs operating in various industries. However, we can consider a limitation in terms of differences between particular industries. Industries generally vary because they have different systems of organisational support, IT, human capabilities, different market/industry requirements, etc. Hence, anyone using the result should consider the differences between particular industries. Future scholars can conduct further study on a specific industry that can serve a narrow scope of the practitioner. Furthermore, the transformation from a traditional operation practice in business process to digital process is an important area for SMEs. The application and updating of business strategy in congruence with digital transformation and performance, should be considered for study.



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