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

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The purpose of this quantitative study is to clarify how organisational support and the adoption of information technology (IT) can impact a firm's performance. In this paper Small and Medium Enterprises (SMEs) operating in industries were investigated. This paper focuses on human resources development and information technology which both act as a mediator. Structural Equation Modelling is applied to explain the effects of the multivariable. Our findings reveal that both organisational support and IT do influence firms' performance through human resources development in small and medium-sized enterprises. The crucial measurement used to address 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, has been an important issue for many researchers (Chen, Fah & Jin, 2016; Ibrahim, Isa & Shahbudin, 2016; Olszak, Bartus & Lorek, 2018; Yoon, Kim, Vonortas & Han, 2017; Sriyakul, Singsa, Sutduean & Jermsittiparsert, 2019). Over the past three decades, both practitioners and researchers have concentrated their studies on the organisational support link along with other factors such as information technology and innovation that need employees' creativity (Jermsittiparsert,

Suan & Kaliappen, 2019). Currently, a dynamic business environment has affected the need of employees' creativity to create competitive advantage specific to firms, which will enhance those firms' performance (Cheng & O-Yang, 2018). At the same time, information technology as utilised by SMEs can be determined largely by their computer/digital systems which management can apply both internally and externally as required. Information technology is found to enable firms to collaborate with external agents and in leveraging the process of innovation (de Mattos, Kissimoto, & Laurindo, 2018). Innovations are proven to add value to these enterprises in terms of establishing effective links with customers and suppliers which is crucial for SMEs to obtain a substantial market share (Amokrane, Chapurlat, Courbis, Lambolais, & Rahhou, 2015). In some circumstances, information systems can help SMEs achieve complementary innovation-based networks and increase their competitive advantage (Pomffyová & Bartková, 2016; Rehm & Goel, 2017). In addition, components that govern the effectiveness of management in terms of helping SMEs grow 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 a firm's performance (Mansfield, 1981). However, only a few studies have simultaneously examined the effects of innovation on SMEs' performance, a problem compounded by the fact that most innovation occurs in large business enterprises that can afford to do so.

For many decades the Thai economy has depended (and still does) on the operations of many small and medium enterprises (SMEs). SMEs have played a diverse and significant role not only in their capacity to create employment, but in increasing economic wealth and business objectives. The operations of SMEs help to support other businesses, such as multinational or corporate enterprises benefiting from foreign direct investment on the one hand, and local firms on the other. SMEs are an important part of regional economies in that they generate employment and wealth (Alvarez, Zamanillo & Cilleruelo, 2016). Rapidly changing business and economic environments mean that the growth of SMEs needs to address various challenges, including their leaders/owners, staff and technology, in order to become creatively innovative to compete in the SME landscape. The business environment has become more complex due to the emergence of several 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 (Ştefănescu, 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 aspects of organisational support can stimulate a vibrant small and medium-sized enterprise (SME) sector, in which human resource development (HRD), information technology (IT), and innovation (INNO) act as mediators. 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 Small and Medium Enterprises (SMEs)

With reference to SMEs which are the subject of this study, we undertook observations of the business enterprises currently operating in Thailand. The Thai government provides the sector with support so that such businesses can continue operating, make a profit and expand their horizons. The organisation responsible for the operations of SMEs in Thailand is the Office of Small and Medium Enterprise Promotion (OSMEP). The definition of SMEs that operate in Thailand according to the Small and Medium Enterprise Development Bank of Thailand are 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 in Thailand operate in all of the country's industrial sectors and have done so for many years. Some of these were specifically established in response to other foreign firms investing in Thailand. Moreover, some have changed their management structures so as to be run by younger people who have applied innovative and increasingly technology-related concepts to the business management process. Hence, innovation emerges as the key factor that Thai SMEs' management will focus on. As these SMEs are diverse in what they produce and sell, innovation can mediate the extent to which firms perform, allowing them to understand changing resources requirements and market uncertainties (Verreynne, Williams, Ritchie, Gronum, & Betts, 2019). SMEs that are innovators can benefit in terms of being independent operations and self-sufficient, unlike their competitors working in the same industry (Hogeforster, 2014). In addition, this indicates the capabilities of those firms in developing successful products in both domestic and foreign markets. For example, the management in

SMEs in Thailand operates in collaborative ways with other firms in the same industry cluster. This can be considered as an unofficial collaborative group or similar to the concept of trade associations. Here, collaboration within the same or similar cluster will help us to understand how innovation makes a contribution to the SMEs' business process (Szłapka, Stachowiak, Batz & Fertsch, 2017). Furthermore, when these SMEs collaborate this supports the creation of an open space that provides long-term stability and sustainable operations (Hamdani & Wirawan, 2012). To achieve this successful state of operation, organisational support becomes crucial to their daily operation. This study considers how organisational support contributes to the practice of SMEs' management in areas 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 be used to make the overarching communications system more effective and support the entire organisation's performance. Currently, IT is used not only by large companies but also by SMEs. For example, results have indicated proven cost reductions and more efficient procedures. Moreover, IT can encourage knowledge management to grow in SMEs, in particular in how to sustain their business operations (Alvarez et al., 2016). To succeed in the 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

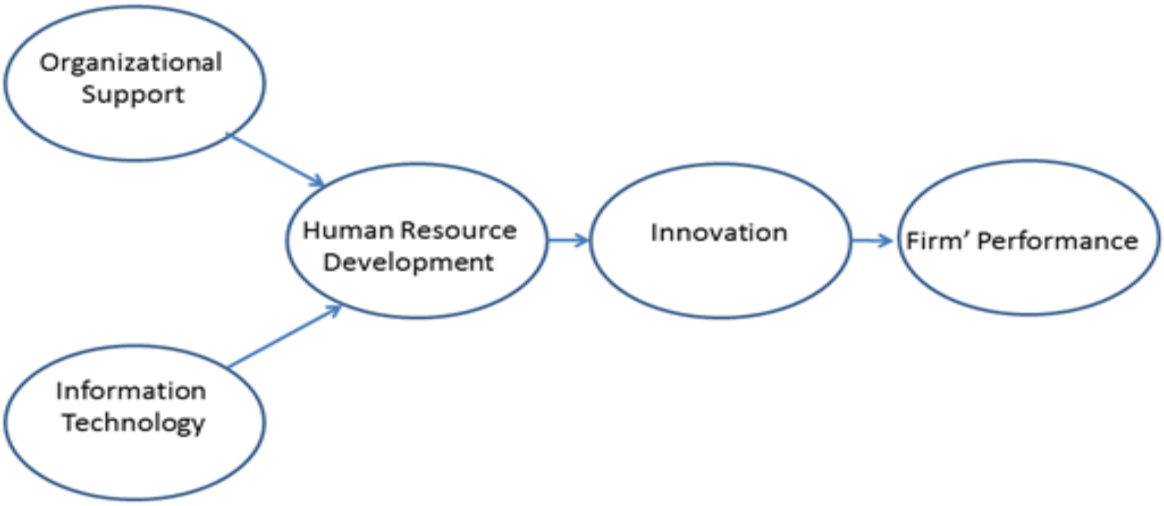
The operations of SMEs include both end-user customers and other business firms along the supply chain. According to research about supply chains, we can determine the business-to-business (B2B) operations that need to follow customised conditions and respond well to clients' needs through innovation. This is done so that customers are responded to quickly, cost reductions are evident and product or goods and services competitiveness is assured

(Chu, Tian & Wang, 2018). Major customers enjoy strong bargaining power and this encourages SMEs to invest and create innovations which lead to cheaper pricing and favourable credit terms (Fabbri & Klapper, 2016). This scenario enables Thai SMEs to engage in innovations that will cost less to produce 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 where there is a significant 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 characterised as a turbulent business environment. In fact, SME's 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 their efforts on developing the skills of their employees through their human resources development or training programs. Generally, the purpose of such schemes is to develop their personnel in response to changes in the industry 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 (RBV) theory. The RBV theory focuses on the assumption that resources and capabilities of firms 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 any changes occurring in the industry or operational matters. According to the resource allocation perspective, the resource-based view theory has been used to validate 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).

According to the above literature, the following framework and hypotheses are posited for testing.



H_1: There is a significant effect of organisational support on human resource development.
H_2: There is a significant effect of information technology on human resource development.
H_3: There is a significant effect of human resource development on innovation.
H_4: There is a significant effect of innovation on firm' performance.
H_5: 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 constructed 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 as important variables in their impact on firm performance. The instrument for data collection was developed to establish the relationship between 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 industries. In total, 504 SMEs constituted the sample for this study. The definition of SMEs is defined by

the Office of Small and Medium Enterprise Promotion (OSMEP). We conducted the data collection from employees of those various SMEs, 73% of whom have working experience between 11-20 years. The educational level 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) and consequently the factor loading should be greater than 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**	***R²***	**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 products	.86	.73		
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 variables engaged in the framework 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

Analysis of Structural Equation Modelling (SEM) and summary of the model fit (Table 5), and the results of the measurement model, indicated the Normed Chi-Squared fit index derived from 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 suggest 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. (β=.392 with p-value <.001) and IT yields a significant positive effect on human resources development (β=.752 with p-value <.001). Therefore, the first and second hypothesis are accepted. As well, human resources development has a positive effect on innovation (β=.857 with p-value <.001), therefore the third hypothesis is accepted. Consequently, innovation has a positive effect on firm performance (β=.852 with p-value <.001). The fourth hypothesis is also accepted. In considering the role of organisational support to 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 have an indirect effect on a firm's performance through human resources development and innovation with β=.286 and .549 (Table 7). Thus, the fifth hypothesis is accepted.

Table 6: Hypothesis Testing

			Estimate	**S.E.**	**C.R.**	**p-value**
Human Resour 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

To examine SMEs in terms of how organisational support and IT impact on firms' performance through human resources development and innovation, 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 that 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, the 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 knowledge in their new idea and support employees in creating new product development. In addition, the training program aimed specifically toward employees to create knowledge should be instructed for the benefit of product development. In summarising the IT and marketing information, these are deemed to be 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, the management of SMEs 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 the 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 is about 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 the marketing data that their employees can use when they are developing new products. It is important for management to delegate authority and decision-making to employees, as this will contribute to subordinates' professional development and experience in the industry. This is based on the finding that human resources development programs do influence innovation in SMEs and can be measured when new products are being continuously development and launched. Consequently, innovation has an impact on customer loyalty, customer confidence, and customers having a better attitude to new products that are launched for sale on the market. In considering a theoretical implication, to summarise the findings, the integration of organisational support, human resource development and information technology that affects innovation has an

impact on firm performance, measuring from customer satisfaction, confidence, loyalty and the acquisition of new customers.

Limitations and Future Research

We conducted this study by using 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 results should consider the difference between particular industries. For future research, other scholars can conduct further study on a specific industry, which can serve to narrow the scope of the practitioner. Furthermore, the transformation from a traditional operation practice in business process to a digital process is an important area for SMEs. The study of applying and updating business strategy in congruence with digital transformation and performance should be considered for other research.

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