

## INFLUENCING FACTORS ON MALAYSIAN MANUFACTURING SMES' PERFORMANCE

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**Abstract:** *SMEs' performance has been researched previously in the relation to firms' resources and external environment. Recent studies initiated that the resources play significant roles in determining the firm's performance. However, not much has been done looking to the relationship between firms' internal resources and organizational learning in the firm, especially on manufacturing small and medium enterprises (SMEs) in Malaysia. The purpose of this study is to determine factors (namely production technology, staff training, networking usage and organizational learning) that influencing manufacturing SMEs' performance. This study applied quantitative approach on 152 usable questionnaires using IBM-SPSS for further analysis. The result showed that organizational learning is the most important factors that affect organizational performance among Malaysian manufacturing SMEs. Discussions of the findings, the significance of the study and direction for future research are then discussed.*

**Keywords:** *SMEs' performance, production technology, staff training, networking application, organizational learning.*

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### Introduction

In the present era of globalization, SMEs cover a wide scale of industries and play an important role in both developed and developing economies. For nearly 20 years, SMEs accounted for more than large enterprises of Malaysia's GDP. The contributions were so great that even total exports and total employments found increments of economic success in this country (SME Corporation Malaysia, 2016). However, today's world is extremely dynamic (GroBler, 2010)

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and fast-changing where knowledge (Durst & Wilhelm, 2012; Hussain, Si, & Ahmed, 2010), ideas, and technology (Jasra, Khan, Hunjra, Ur Rehman, & Azam, 2011) spread at an increasingly faster rate. SMEs need to consider their internal resources (Jalali, Jaafar, & Ramayah, 2014) as a prime source of firms' competitive advantage (Zheng, Zhang, & Du, 2011) together with the managerial decisions (Metts, 2007; Wood, Logar, & Riley, 2015) that driving force behind a firm's performance (Sipa, Gorzeń-Mitka, & Skibiński, 2015). Under the circumstances, SMEs have to adopt strategies (Sharma, 2011) to survive, thrive and flourish. Therefore, this study intends to elaborate on firms' competencies to be developed for firm's performance with the objecting of finding the factors needed for further improvement. This study aims to identify the relationship and interaction between production technology, staff training, networking usage and organizational learning towards SMEs' performance.

## **Literature Reviews**

### ***Small and Medium Enterprises (SMEs)***

SMEs have been a vital player in the economic growth of both developed and developing countries through innovation (Imhemad, 2011); being flexible and efficient (Zonooz, Farzam, Satarifar, & Bakhshi, 2011) and in creating job opportunities (Santos, Romero, & Fernandez-Serrano, 2012). SMEs have emerged as the backbone and supporting mechanism for a country's economic growth that eventually leads to greater industrial development.

Nowadays, the economy of any country is borderless (Huggins & Weir, 2012). Therefore, SMEs should not confine their business operations within the country and need to actively and aggressively expand their businesses globally, regardless of the country's economic, political, and environmental situation (Ebrahim, Ahmed, & Taha, 2010). However, SME owners have limited knowledge (Muhammad Jamil & Mohamed, 2011); resources and experience (Hashim & Abdullah, 2000), to be involved in the global market (Singh, Pathak, & Naz, 2010). Nonetheless, they cannot be complacent and must make an effort towards internationalization.

### ***Dynamic Capability Approach***

Dynamic Capability Approach (DCA) has attracted increasing attention within the management literature (Barreto, 2010). The organization should understand how firms can create, behave, choose strategies and maintaining their competitive advantage. Teece, Pisano, Shuen, and Shuen (1997) have group three paradigms and then called it as a dynamic capability. These paradigms include: (1) Competitive forces approach developed by Porter (1980); (2) Strategic conflict approach; and, (3) The Resource-Based View introduced by Penrose (1959). DCA has embraced the understanding of newest sources of competitive advantage, exploring successful factor and sustaining firm's competitive advantage (Zheng et al., 2011).

### ***SMEs' Performance***

Performance can be defined as the ability and capability of an organization to achieve desired results for a set of pre-determined targets. Grant (2010) considered performance as a goal which could be determined through, "*the maximization of the value of the firm*" or "*the desired outcomes of an individual or organizational activities and behaviors*" (Gordon, 1999). Pasanen (2003) revealed that firm's performance should be aligned with the firm's strategy and its current environment in order to determine the firm's success or failure.

Performance at the company level is measured in many different ways, using various indicators. Hansen and Wernerfelt (1989) identified a firm's performance from two different paradigms: (1) economic tradition paradigm that emphasizes on the significance of external market factors; and (2) behavioral and sociological paradigm, which underlies company factors and environment. Meanwhile, Dyson (2000) and Laitinen (2002) focused on financial and non-financial performance measurements that need to be concurrently synergized in order to enable the firm to make effective and strategic decisions. Therefore, in this paper, SMEs performance refers to production technology, staff training, and networking application.

### ***Production Technology***

In the era of globalization of production and services nowadays, SMEs have to maintain their survival while at the same time, maintain their competitiveness through the application of the newest and latest production technology in their production assembly (Löfving, Säfsen, & Winroth, 2014). Teece (2007) revealed that the global competitive environment, consumer needs, technological opportunities and competitors' activity are constantly in a state of instability.

There are six approaches to production technology as suggested by Storey (1994) namely Just-in-time (JIT), Total Quality Management (TQM), Lean Production, Material Requirement Planning (MRP), Manufacturing Resource Planning (MRPII) and Computer Integrated Manufacturing. However, manufacturing organizations should not concentrate on just one method in response to radical changes in the nature and extent of international competition (Storey, 1994). It is important for SMEs to ensure that the application of new technology is accepted and understood by employees with the knowledge to apply or use the said technology (Fong, 2011).

Therefore, the following hypothesis is set forth:

*Hypothesis 1: There is a positive relationship between production technology and SMEs performance.*

### ***Staff Training***

Training is a learning process between involvement of individual, organization and career development (Thassanabanjong, Miller, & Marchant, 2009). The gathering of external knowledge has become an essential determinant for success (Wang & Han, 2011) and tacit knowledge can create benefits and competitive advantage for firms (Nonaka & Takeuchi, 1995) in the long-term. In addition, SMEs even with great financial and technological capability, cannot conduct independent R&D activities without proper training (Lin, Tan & Chang, 2002).

The right staff training can actually be a very worthwhile investment. However, small firms' owners are too busy to train their own employees. Devins and Johnson (2002) show that training has an impact in two ways: (1) Training that involves commitment between managers and other workers appears to positively impact on product development, staff retention and access to markets; (2) Training of workers directly impacts on staff competitiveness and confidence. It is important for SMEs to be dedicated to training as it will reduce their differences among workers, build on similarities, and create awareness toward more positive workplace.

Therefore the following hypothesis is set forth:

*Hypothesis 2: There is a positive relationship between staff training and SMEs performance.*

### ***Networking Application***

Networking application helps SMEs to regularly update their knowledge of technologies (Eze, Goh, Goh, & Tan, 2013) which could be an expensive investment, particularly for SMEs. It could help organizations to have a better competitive advantage, innovation, and efficiency. Nowadays, highly effective networking relates to how the firms share valuable knowledge amongst them (Valkokari & Helander, 2007). Miller, McAdam, Moffett, and Brennan (2011) indicated that developing and maintaining network relationships can significantly support the development and retention of knowledge within the technology transfer process.

Networking also provides links on how to the conduct proper business processes. There are five types of networking application: (1) social networking; (2) professional networking; (3) computer system networking; (4) international networking; and, (5) local networking (Al-Busaidi & Olfman, 2017; Purcarea, Benavides Espinosa, & Apetrei, 2013; Tang, 2011). Networking could provide a business framework for business analysis situations that highlight the influences, either on the individual or the company.

Therefore the following hypothesis is set forth:

*Hypothesis 3: There is a positive relationship between networking application and SMEs performance.*

### ***Organizational Learning***

Learning is a process by which individuals gain skills, knowledge, and insights that can affect their behavior and skills. Inkpen and Crossan (1995) suggested that any organization which has acquired knowledge through efficient and effective learning processes would have a better long-term performance as compared to their competitors. Organizational learning influence in organizational development (Dodgson, 1993) with firms playing a central role in strategic management. It has been found that organizational learning impacts a firm's organizational dynamic capabilities (Teece et al., 1997 & 2001); new product introduction (Maidique & Zirger, 1985); and, new product development process (Rothwell, 1994).

Learning orientation includes four components to enhance competitive advantage: (1) commitment to learning and promotes a learning culture; (2) shared vision on learning and direction of learning; (3) open-mindedness on new routine and ideas; (4) Intra-organizational knowledge sharing among different units within the organization (Keskin, 2006; Mohamed Salim & Sulaiman, 2011). Organizational learning at three levels leads to better performance: (1) individual; (2) group; and (3) organization (Bontis, Crossan, & Hulland, 2002).

Therefore the following hypothesis is set forth:

*Hypothesis 4: There is a positive relationship between organizational learning and SMEs performance.*

Based on the discussion in the preceding section, we propose a conceptual model shown in Figure 1.

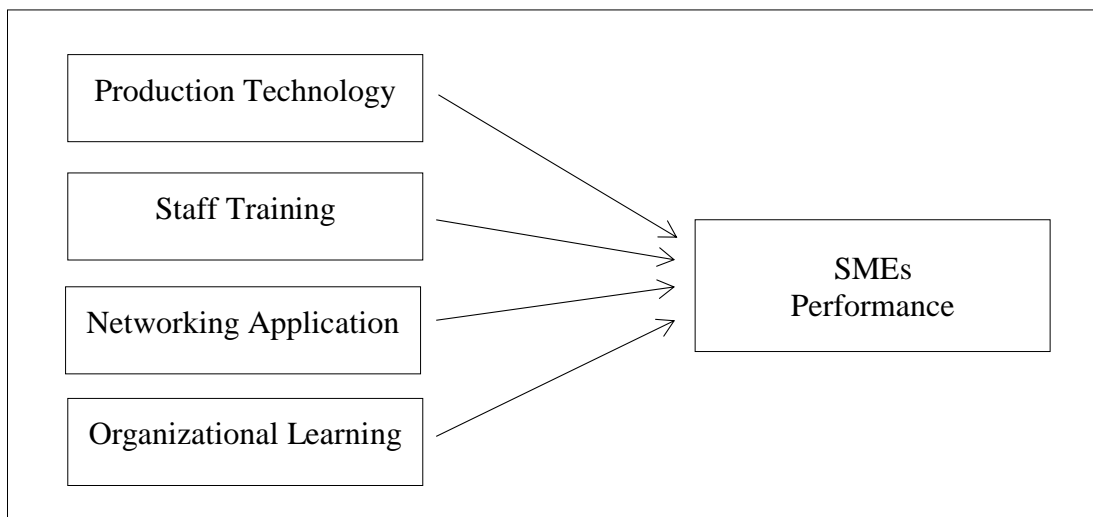


Figure 1: Conceptual Model

## Methodology

To explore performance within manufacturing SMEs, a questionnaire survey was conducted. Questionnaires were chosen to collect data, as they were deemed suitable for gathering collecting accurate information. A quantitative research method is suitable for measuring phenomena (Hair, Black, Babin, Anderson, & Tatham, 2006) and enables this study to generalize in identifying SMEs performance patterns. Questionnaires are also the main method of data collection in many previous SMEs performance studies (Ahmad, 2014; Azam, 2015; Baregheh, Rowley, Sambrook, & Davies, 2012)

### *Questionnaire Design*

All questions used a five-point Likert-style rating scale to elicit respondents' view of the level of engagement of their organization with the activities embedded in the statements, on a scale from "Strongly Agree" (5) to "Strongly Disagree" (1). Further questions gathered data on the respondent's characteristics, including age, highest education level, and a number of working experience working with the company. Also, organizational profile, including a year of establishment, size (in terms of a number of employees) and specific market share. The questionnaire was first piloted with business consultants, academicians, and then piloted by distribution to SME's manager. Piloting resulted in minor changes in the use of terminology, and in the order and presentation of questions.

### *Data Collection and Analysis*

The questionnaire was distributed via two channels in order to optimize response:

- (1) Mailing questionnaires were distributed to firms in Selangor and Negeri Sembilan through SME Corp. database (54 questionnaires)
- (2) Questionnaires were distributed and collected in person by lead author at a number of festivals and exhibitions held throughout Selangor and Negeri Sembilan (98 questionnaires) manufacturing SMEs located in Selangor and Negeri Sembilan.

The process of questionnaires distribution and collections generated a convenience sample as respondents complete the questionnaires on their willingness. Respondents were top management which includes CEO, owner-manager, and executive with managerial positions. Respondents are aware of their firm's strategy, organizational culture, and be in a position to comment on the flow of knowledge around the entire organization. A total of 152 usable questionnaires were collected. Data were first entered and coded in Excel, and then imported into IBM SPSS 22, for descriptive analysis.

## **Findings**

This section first offers a demographic background of the respondent consisted of respondent's characteristics, organizational profile, and descriptive statistics. Then, the analysis also included Correlation and Multiple Regression Analysis.

### *Demographic Background*

The study sampled 152 SMEs in Malaysia. The descriptive analysis indicates that 36.2 percent of respondents were between 31 to 40 years old which majority was diploma holder (constituted 37.5 percent). In addition, 37.5 percent had been working with the company between one to five years. Meanwhile, with regards to organizational age (derived from the year of establishment), it is apparent that majority of the SMEs (62.5 percent) have been in business around one to 10 years. In terms of a number of employees, the majority of respondents indicated that having between five to 75 full-time and part-time employees. The finding also suggested that the majority of the respondents operating only in the local market. The profile of respondents is offered in Table 1.

### *Descriptive and Correlation Statistics*

Table 2 displays the descriptive statistics for the variables used in the study. The results indicated that the variables had modest to high mean values. The highest means were production technology, which represents the major determinants of SMEs performance. Table 2 also shows the relationship of factors influencing SMEs performance. Pearson correlation was used to examine the coefficient of all variables, to check multi-collinearity, and test the linear relationship between variables. In general, bivariate correlations provided confidence that the measures were functions properly. The coefficient can take any value ranged between -1 and +1, which represents perfect negative correlation (the indirect relationship between variables) or perfect positive correlation (the direct relationship between variables); additionally, a value of 0 indicates that the two variables being tested are perfectly independent and no relationship exists. All factors are significantly correlated with SMEs performance. Organizational learning and staff training have the highest correlation with SMEs performance. This implies that Malaysian manufacturing SMEs should continuously focus on learning and training for improving their operations, productivity and performance.

Table 1  
Company Profile

Variable	Frequency		Percentage (%)	
<u>Age</u>				
▪ 20-30	36		23.7	
▪ 31-40	55		36.2	
▪ 41-50	44		28.9	
▪ More than 50	17		11.2	
<u>Highest Education Level</u>				
▪ Primary school certificate	12		8.3	
▪ High School (PMR/SPM/STPM)	26		18.1	
▪ Diploma or equivalent	54		37.5	
▪ Bachelor's Degree or equivalent	40		27.8	
▪ Master Degree/Ph.D.	12		8.3	
<u>Working experience with the company</u>				
▪ Less than a year	33		22.8	
▪ Between 1 to 5	53		36.6	
▪ Between 6-10	42		29.0	
▪ More than 10	17		11.7	
<u>Years of company have been established</u>				
▪ Between 1 to 10	90		62.5	
▪ Between 11 to 20	39		27.1	
▪ More than 20	15		10.4	
<u>Number of employment</u>				
	<u>Full-Time</u>		<u>Part-Time</u>	
▪ None	-		37 25.9	
▪ Between 5 to less than 75	145 95.4		63 44.1	
▪ Between 75 to less than 200	7 4.6		43 30.1	
<u>Market Share (Percent)</u>				
	<u>Locally</u>		<u>Internationally</u>	
▪ Less than 20	-		109 74.7	
▪ 21-40	-		28 19.2	
▪ 41-60	10 6.8		9 6.2	
▪ 61-80	14 9.6		- -	
▪ 81-100	122 83.6		- -	
<b>N=152 (Number of respondents)</b>				

Table 2  
Descriptive Statistics and Pearson Correlations among Variables

		Mean	SD	Variables				
				1	2	3	4	5
1	Production Technology	3.8918	0.57752	1				
2	Staff Training	3.5918	0.64270	0.537**	1			
3	Networking Application	3.8238	0.55620	0.630**	0.384**	1		
4	Organizational Learning	3.7757	0.59232	0.554**	0.677**	0.604**	1	
5	SME Performance	3.7714	0.60413	0.685**	0.750**	0.656**	0.884**	1

Notes: \*\*Correlation is significant at the 0.01 level (one-tailed), SD- Standard Deviation

### Testing the Research Hypotheses

To test research hypotheses of this study, multiple regressions were performed by using the IBM SPSS software. Results are shown in Table 3. Overall, the *F*-statistics produces ( $F=236.839$ ) were significant at 1 percent level ( $\text{Sig.} < 0.01$ ), thus confirming that there is a statistically significant relationship between all factors and SMEs performance. The adjusted  $R^2$  was 0.862. Thus, factors can significantly account for 86.2 percent in SMEs performance. In particular, positive associations were found for all factors. To sum up, the empirical analysis supported all hypotheses and to a certain extent, these findings are understandable. Based on Table 3, it indicated that the most important factors that affect organizational performance among Malaysian manufacturing SMEs are organizational learning, followed by staff training and production technology and networking application.

Table 3  
Results of Multiple Regression

	Dependent Variable: SMEs Performance			
	Standardized $\beta$	<i>t</i> -value	<i>F</i>	Adjusted $R^2$
Production Technology	0.177	4.136	236.839	0.862
Staff Training	0.232	5.361		
Networking Application	0.120	2.782		
Organizational Learning	0.557	11.681		

Notes: \*\*Correlation is significant at the 0.01 level (one-tailed), SD- Standard Deviation



## **Discussion**

The findings from this study suggest the following; production technology, staff training, networking application and organizational learning are important for SMEs' business performance. With regard to production technology, it is crucial for the SMEs to move from semi-machine to fully machine operated in the production. In addition, as most SMEs have limited fund, selecting and buying a suitable machine that is matched with the firm's need and the cost is important. Also, SMEs should be aware that staff training is central to business performance. Limiting the fund for staff training is not the right move. In order to utilize staff training, again, finding the suitable workshop, seminar or technical training which is related to the firms' requirement is essential. This study also found that networking application is important. Joining business associations is useful in enhancing the SMEs business performance. The SMEs is suggested to invest some money to become a member of such association, for example, Federation of Malaysian Manufacturers (FMM). In term of organizational learning, the SMEs should embrace the learning culture in the organization. The SMEs should find ways for improvement from time to time, for example, better customer profiling and implement the certain quality system. Organizational learning all in all should be customer centered. Although small in size, that does not mean the SMEs should limit its learning.

### ***Managerial Implications***

The findings of this study have important managerial implications. First, we confirm that selection of factors and positioning it within the industry are important contributors to SMEs performance. Second, we see that good implementation of organizational learning is even more important. Additionally, if our findings of the relative importance can be generalized, it would suggest that the critical issue in firm success and development is not only primarily in the selection of section factors, but also the building on how effective and organize SMEs to utilize it in the company.

### ***Limitations and Future Research***

Several limitations should be considered when applying the results of this study. First, the study was conducted in Selangor and Negeri Sembilan; therefore, additional research is needed at states in Malaysia. Second, the setting of respondents was SMEs in manufacturing industry; conducting a survey over SMEs in different sectors is time-consuming and costly. In addition, the data were gathered on quantitative in nature; hence, future research should use other sources for more causal evidence.

Regarding future research consideration, more research is also needed on the issue of organizational learning especially in handling business activities more efficiently and effectively. SME needs to easily adapt to environmental changes through the ability to identify information and utilize it for generating solutions. In order to increase better performance, SMEs could apply organizational learning as a mediator to bridge production technology, staff training, and networking application. In addition, further studies involving more companies that established more than five years must be conducted to confirm the validity of the results to higher levels of statistical confidence. Moreover, the scope of study could be extended to other geographical areas with similar characteristics.

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