

## Influence of Internal and External Environmental Factors on Operational Excellence of Manufacturing Sectors in Malaysia

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### Abstract

The manufacturing sector in Malaysia has been recognized as an important sector due to its significant contribution toward the nation's economic growth. This sector is the most significant contributor to total exports of the country and the second largest contributor to the gross domestic product (GDP). However, the total shares of Malaysia's manufacturing exports in the world market declined due to competitive and globalized market condition. Consequently, it is essential to investigate the factors that affect operational excellence to remain competitive and achieving excellence in the business. This study aims to examine the internal and external environmental factors that affect the operational excellence in the Malaysian SMEs manufacturing sector. The literature have demonstrated that an investigation on operational excellence lacks particularly in Malaysian SMEs sector. In addition, the impact of internal and external environmental factors on operational excellence has received little attention in the literature especially in the SMEs sector. Therefore, the conceptual model has been developed based on a comprehensive review of the previous study. This paper presents a conceptual framework that investigates the internal and external environmental factors that affect operational excellence as well as their relationship on operational excellence in the Malaysian SMEs manufacturing sector. The contribution of this paper is to identify the influence of internal and external environmental factors towards the operational excellence. Thus, this study proposed a conceptual framework for SMEs manufacturing sectors in Malaysia.

**Keywords:** External Environmental Factors, Internal Environmental Factors, Manufacturing Sector, Operational Excellence, Operational Management, Small and Medium Enterprises (SME).

## Introduction

Small and medium enterprises (SMEs) have been recognized as the pillar of economic and social developments in many countries around the world (Halim and Zain, 2011). SMEs play a vital role in the country's economies by providing job opportunities and enhancing country exports and also a supplier to other manufacturing industries (Mohd Ali & Abdul Talib, 2013). In Malaysia, SMEs are significantly contributed to the development of the Malaysian economy and the roles of SMEs are crucial in shaping the economic landscape of Malaysia in achieving high-income nation status by the year 2020 (Mahmud & Hilmi, 2014). There are several categories in Malaysian SMEs sectors such as services, manufacturing, construction, mining and quarrying sectors. The manufacturing sectors are one of the crucial sectors to the economic development of the country. The manufacturing sectors in Malaysia are dominated by SMEs sector. The manufacturing sector is the largest contributor to total exports of the country and the second largest contributor to the gross domestic product (GDP). However, the total shares of Malaysia's manufacturing exports in the world market declined due to intense competition from emerging economies such as China, India and Vietnam (Eleventh Malaysia Plan, 2015). This situation is supported by the Global Competitiveness Index (GCI) which shows that in 2014, Malaysia was ranked low.

Furthermore, the success of SMEs is crucial to the country's economic growth. However, SMEs faced variety of barriers that affect their performance to survive in the businesses (Mat Yunoh & Mohd Ali, 2015). Operation management is one of the critical functional areas and also an important point which affects the SMEs performance (Urban & Naidoo, 2012). Additionally, SMEs are threatened by barriers that may occur in the operation functional area. To overcome the obstacles and challenges, SMEs should develop the requisite operations and management skills which affect the operational areas (Pycraft et. al., 2003). Therefore, SMEs must the pursuing operational excellence to improve their performance and still growth in the business (Abdul Wahab, Ismail, & Muhayiddin, 2016; Lee, Lim, Ma, & Xu, 2013).

SMEs need to search for new, innovative, flexible and imaginative ways to survive in the business competition. The organization needs to rebuild themselves by creating new strategies and ideas to achieve business excellence to become a leader in the market competition (Yew & Ahmad, 2014). The organization is require to pursue excellence in their business by seeking long-term business success to respond actively to survive with the challenges (Jaeger et. al., 2014). One of the ways to achieve excellence is by pursuing operational excellence. Operational excellence is one of the important aspects of business excellence which is an aspect of organizational structure that strives for improvements in key operational performance metrics (Shehadeh, Zu'bi, Abdallah, & Maqableh, 2016).

Moreover, achieving operational excellence is a requirement to the organizations. However, how to achieve operational excellence and sustain competitive advantages still the main questions among the organizations (Dahlgaard-Park & Dahlgaard, 2007; Yew & Ahmad, 2014). Many organizations seeking for the excellence but unfortunately many of them failed to achieve the excellence level due to the lack of understanding of the factors that influence operational excellence (Dahlgaard-Park & Dahlgaard, 2007). Additionally, the guidelines that describe how to achieve operational excellence is remained unclear (Mohammad, Mann, Grigg, & Wagner, 2011). The organizations require practical and detailed guidance to achieve operational excellence (Sharma & Kodali, 2008). Consequently, it is essential to identify the key success factors that affect the operational excellence in order to be competitive in the business (Heizer & Render, 2004; Oakland, Tanner, & Gadd, 2002).

The operational excellence is an important topic and has been an issue in both academia and industry. Review on the related literature have shown that there are limited studies conducted on the operational excellence and mostly focus on other types of performance (Shehadeh, Maqableh, Al-zoubi, Akhorshaideh, & Al-sham, 2016) and also lack of study conducted on the SMEs sectors especially in Malaysia (Abdul Wahab et al., 2016; Yew & Ahmad, 2014). Thus, this study attempts to help to fill the gap by investigating the effect of internal and external environmental factors on operational excellence in Malaysian SMEs sector by examining their impact on operational excellence. This study aimed to develop a conceptual framework that purposely for SMEs in Malaysian manufacturing sectors.

## **Literature Review**

### **Operational Excellence**

The deployment of operational excellence is gaining attention by the international industrialist who is concerns to improve the organization and increase productivity, agility and quality of an organization (Elouarat, Saadi, & Kouiss, 2011). Operational excellence focused on operational performance and sustainable organizational performance. Operational excellence emphasizes on the performance of internal operations of a company where the excellence will prove quality improvement, flexibility improvement, delivery improvement, productivity improvement, cost and waste reduction (Susanti, Dachyar, & Yadrifi, 2015).

Additionally, operational excellence also concerned the better performance and effectiveness in all dimensions of the organization. Operational excellence is not only about operation performance such as cost, time, quality, and flexibility metrics but also about sustainable performance such as handling people and resources efficiently to support the business growth (Dunggan, 2011). In order to enhance customers value, operational excellence does not only concern on the production process, consistency and reduce waste but also concern on creating value through interaction performance of employees, customers and supply chain (Miller, 2014).

Operational excellence involves the continuous improvement of the efficiency and effectiveness of the business processes. Operational excellence assures both organizational efficiency and effectiveness through reducing cost without decreasing volume of output and quality, reducing waste of time, raw materials, unnecessary processing, and energy used in transportation, storing, and operating plant (Booz Allallen, 2014). Moreover, operational excellence provides a competitive advantage to the organization by giving greater satisfaction to the customers. The organization achieves the operational excellence will lead them towards excellence in internal organizational processes of production and its delivery to the customers with a high score of satisfaction. The strength of internal organization then will reward the organization with the competitive advantages which in turn leads to the sustainability of the organization (Ojha, 2015).

The importance of the operational excellence to the organizations has been acknowledged in the literature. Treacy & Wiersema (1997) stated that operational excellence is one of the disciplines and value propositions that organizations can choose to compete with their competitors in the business environment. Operational excellence is the design and management to maximize operating profit by continuous operational excellence in production and delivery system which can deliver customers the right value of products and services. The organizations that pursue the operational excellence will provide value to the

customers with a combination of speed, quality, price and ease of purchase and it will differentiate them in the market competition (Assen, 2011).

### **Internal Environmental Factors**

The internal environment factors is a corporate environment that is in the organization and normally has direct and specific implications to the organizations (Hubeis & Najib, 2008). The internal environment consists of resources and capabilities of a firm which the strengths and weaknesses of internal factors will determine whether the company can take advantage of existing opportunities while avoiding threats (Barney & Hesterly, 2010; Shannahan et al., 2010). The internal environment factors are the critical elements where it will affect the organization management systems to achieve excellent results. The excellence results of an organization are determined by the internal management systems where appropriate management systems are very important and highly needed to the organization to achieve the excellence performance (Calvo-Mora, Picón-Berjoto, et al., 2014).

### **Operation Strategy**

Operation strategy can be viewed as the effective use of production capability and technology for achieving business and corporate goals such as profit, innovation, customization, product flexibility, product reliability, quality, response, delivery reliability and after sales service (Kim & Lee, 1993). Operations strategy involves the overall transformation process in the business. It concerns how to achieve a sustainable competitive advantage through long-term development of its operations resources and processes (Slack & Lewis, 2002, 2011). Operation strategy was a good determinant factor of operational excellence (Yew & Ahmad, 2014). Shehadeh et al., (2016) also revealed that the operation strategy factor was the highest contributor factor on operational excellence.

### **Organizational Structure**

Organizational structure can be defined as the way that the labor is divided into different tasks and then its coordination is achieved among those tasks (Mintzberg, 2007). For most small firms, firm performance is determined by the organizational structure where labor is the most important input to small firms. The effectiveness of organizing and transforming inputs such as labor and capital into sellable product and services will contribute to the firm performance (Meijaard, Brand, & Mosselman, 2005).

### **Process Management**

Process management is important to the firms where it allows the firms to adapt to the continuously changing requirements of the market. Process management is one of the best practice management principles that help the firms to sustain competitive advantage (Hung, 2006). The process management is one of the key areas that are important to improve the SMEs productivity of the basic elements to achieve the operational excellence in the complex environment (Lee et al., 2013; Pellissier, 2009).

### **External Environmental Factors**

Every organization has to deal with its external environment where it is almost completely outside the organization's control. External environment refers to the external setting in which an organization works and have been found as factors that influence the organizational direction, action, structure and internal processes (Samuel, 2013). In addition, the most key failures of SMEs are influenced by the external factors and they are the most crucial factors were that have an impact on the organizations (Ihua, 2009). According to Alblas, Peters, & Wortmann (2014), external environmental factors affect the organization to compel organization to take appropriate actions and manage their sustainability

development. It will affect the organization to improve the sustainability of the products and operation by reducing costs, improve quality, manage risks and acquire social image through competitive advantages. The opportunities, threats and environmental that change from the external factors will encourage the organization to operate efficiently and effectively and improve their performance (Damanpour, Walker, & Avellaneda, 2009).

### The Conceptual Framework

Based on a comprehensive review of the previous study, a conceptual framework has been developed for Malaysian SMEs manufacturing sector which consists of internal as an independent variable, external environmental factors as a moderating variable and operational excellence as a dependent variable. The relationships between the variables in this study are shown in Figure 1.

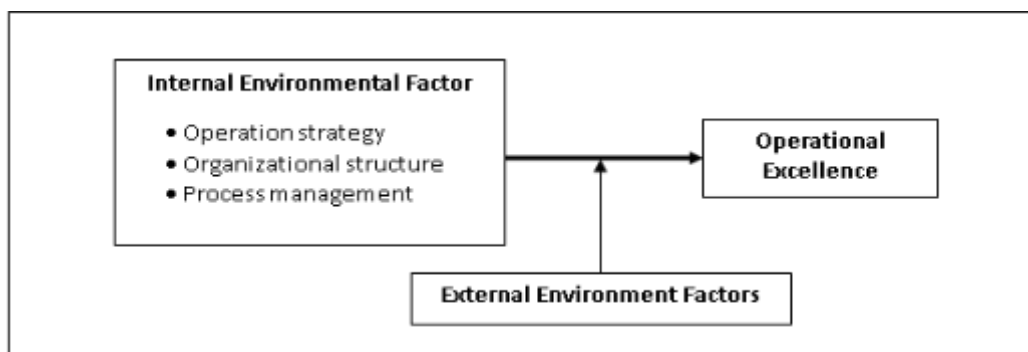


Figure 1: Conceptual Framework

### Discussion and Conclusions

The performance of the manufacturing sector has been generally encouraging, with positive growth in GDP and exports. The manufacturing sector accounts the largest contributor to the total exports and the second largest to GDP. However, the share of Malaysia's manufacturing exports in the world market is declining due to facing stiff competition from emerging economies such as China, India and Vietnam. In addition, operation management is one of the major barriers and challenges faced by SMEs manufacturing sector which affects the business performance. Many of SMEs have failed to grow and as a result it accounted to the high mortality rate of SMEs because they were encountered by barriers that occurred in the operation functional area (Mbizi, Hove, Thondhlana, & Kakava, 2013; Nurach, Thawesaengskulthai, & Chandrachai, 2011; Pahurkar, 2005). Thus, it is absolutely important to the SMEs to improve their operations management by pursuing the operational excellence to remain competitive in business environment (Ifeanyichukwu, 2010; Urban & Naidoo, 2012).

Furthermore, operational excellence is an important topic and often considered synonyms in terms of operations. However, research on operational excellence is still limited where there is a lack of research and discussion on operational excellence in the SME sectors particularly in Malaysian SMEs manufacturing sector context. Additionally, research on the factors or strategy to attain the operational excellence in the context of SMEs like Malaysia remains unclear. Previous study on the relationship between factors influencing and operational excellence is still limited and mostly focused on big company context and is still lacking in the SME context (Abdul Wahab et al., 2016; Yew & Ahmad, 2014).

Therefore, this paper contributes to identifying the influence of internal and external environmental factors towards operational excellence. This paper proposed a conceptual



framework purposely for SMEs manufacturing sectors in Malaysia. Further investigation will be conducted by using this proposed conceptual framework to verify the relationships between all variables in this study. This will help SMEs owners and managers in the SMEs manufacturing sector to have body of knowledge and have a better understanding of the factors that influence the operational excellence.

## References

- Abdul Wahab, M. H. A., Ismail, M., & Muhayiddin, M. N. (2016). Factors Influencing the Operational Excellence of Small and Medium Enterprise in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 6(12), 285–297.
- Alblas, A. A. A., Peters, K. K., & Wortmann, J. C. H. (2014). Fuzzy sustainability incentives in new product development. *International Journal of Operations & Production Management*, 34(4), 513–545. <http://doi.org/10.1108/IJOPM-10-2012-0461>
- Assen, M. F. Van. (2011). Position paper - Operational Excellence for Services, 1–13.
- Barney, J. B., & Hesterly, W. S. (2010). *Strategic management and competitive advantage: Concepts*. Prentice hall Englewood Cliffs, NJ.
- Dahlgaard-Park, S. M., & Dahlgaard, J. J. (2007). Excellence – 25 years evolution. *Journal of Management History*, 13(4), 371–393. <http://doi.org/10.1108/17511340710819606>
- Damanpour, F., Walker, R. M., & Avellaneda, C. N. (2009). Combinative effects of innovation types and organizational Performance: A longitudinal study of service organizations. *Journal of Management Studies*, 46(4), 650–675. <http://doi.org/10.1111/j.1467-6486.2008.00814.x>
- Eleventh Malaysia Plan. (2015). *Eleventh Malaysia Plan 2016-2020: Anchoring Growth on People*.
- Elouarat, L., Saadi, J., & Kouiss, K. (2011). Teaching of operational excellence in Moroccan universities and high schools A major lever for a competitive Moroccan company. In *1st World Engineering Education (WEE) Flash Week, September 27-30, 2011, Lisbon, Portugal*.
- Halim, N. A., & Zain, M. S. N. (2011). The Internationalization Theory and Malaysian Small Medium Enterprises ( SMEs ). *International Journal of Trade, Economics and Finance*, 2(4), 318–322.
- Heizer, J., & Render, B. (2004). *Operations management* (Eight Edit). Pearson Prentice Hall.
- Hubeis, M., & Najib, M. (2008). Strategic Management in the Development of Organizational Competitiveness. *Elex Media Komputindo Gramedia Group, Jakarta*.
- Hung, R. Y. Y. (2006). Business Process Management as competitive advantage: A review and empirical study. *Total Quality Management and Business Excellence*, 17(1), 21–40. <http://doi.org/10.1080/14783360500249836>
- Ifeanyichukwu, O. C. (2010). *Organizational performance improvement in an oil producing facility in Nigeria through operational excellence*. North-West University.
- Ihua, U. B. (2009). SMEs Key Failure-Factors : A Comparison between the United Kingdom and Nigeria. *Journal of Social Science*, 18(3), 199–207.
- Jaeger, A., Matyas, K., & Sihn, W. (2014). Development of an Assessment Framework for Operations Excellence (OsE), based on the Paradigm Change in Operational Excellence (OE). *Procedia CIRP Conference on Manufacturing Systems Development*, 17, 487–492. <http://doi.org/10.1016/j.procir.2014.01.062>
- Kim, Y., & Lee, J. (1993). Manufacturing strategy and production systems: An integrated framework. *Journal of Operations Management*, 11(1), 3–15.

- [http://doi.org/10.1016/0272-6963\(93\)90029-O](http://doi.org/10.1016/0272-6963(93)90029-O)
- Lee, A. J. L., Lim, R. Y. G., Ma, B., & Xu, L. X. X. (2013). Improving productivity of the SMEs in Singapore - Case studies. *2013 IEEE International Conference on Industrial Engineering and Engineering Management*, 73–77. <http://doi.org/10.1109/IEEM.2013.6962377>
- Mahmud, N., & Hilmi, M. F. (2014). TQM and Malaysian SMEs Performance: The Mediating Roles of Organization Learning. *Procedia - Social and Behavioral Sciences*, 130(10), 216–225. <http://doi.org/10.1016/j.sbspro.2014.04.026>
- Mat Yunoh, M. N., & Mohd Ali, K. A. (2015). Total Quality Management Approach for Malaysian Food Industry : Conceptual Framework. *International Journal of Business and Social Science*, 6(1), 152–161. <http://doi.org/10.12720/joams.1.4.405-409>
- Mbizi, R., Hove, L., Thondhlana, A., & Kakava, N. (2013). Innovation in SMEs: A review of its role to organisational performance and SMEs operations sustainability. *Interdisciplinary Journal of Contemporary Research In Business*, 4(11), 370–389. Retrieved from <http://search.proquest.com/docview/1355488473?accountid=458&nhttp://linksource.ebsco.com/linking.aspx?sid=ProQ:abiglobal&fmt=journal&genre=article&issn=20737122&volume=4&issue=11&date=2013-03-01&spage=370&title=Interdisciplinary+Journal+of+Contemporary+Re>
- Meijaard, J., Brand, M. J., & Mosselman, M. (2005). Organizational structure and performance in Dutch small firms. *Small Business Economics*, 25(1), 83–96. <http://doi.org/10.1007/s11187-005-4259-7>
- Miller, A. (2014). Redefining Operational Excellence : New Strategies for Maximizing Performance and Profits Across the Organization. *The Journal of Applied Management and Entrepreneurship*, 19(4).
- Mintzberg, H. (2007). *Tracking Strategies:Towards a general theory*. Oxford University Press 2007.
- Mohammad, M., Mann, R., Grigg, N., & Wagner, J. P. (2011). Business Excellence Model: An overarching framework for managing and aligning multiple organisational improvement initiatives. *Total Quality Management & Business Excellence*, 22(11), 1213–1236. <http://doi.org/10.1080/14783363.2011.624774>
- Mohd Ali, K. A., & Abdul Talib, H. H. (2013). Total Quality Management Approach for Malaysian Food Industry : Conceptual Framework. *Journal of Advanced Management Science*, 1(4), 405–409. <http://doi.org/10.12720/joams.1.4.405-409>
- Nurach, P., Thawesaengskulthai, D., & Chandrachai, A. (2011). Innovative Performance Management Model for SME in Thailand, 1–16.
- Oakland, J., Tanner, S., & Gadd, K. (2002). Best practice in business excellence. *Total Quality Management*, 13(8), 1125–1139. <http://doi.org/10.1080/095441202000000008>
- Ojha, S. K. (2015). Operational Excellence for Sustainability of Nepalese Industries. *Procedia - Social and Behavioral Sciences*, 189, 458–464.
- Pahurkar, R. N. (2005). An Empirical Study of Problems faced by SME ' s for Sustainable Strategic Development Department of Management Sciences ( PUMBA ) University of Pune, (Lukács).
- Pellissier, R. (2009). Innovation in operational excellence in a complex environment. In *PICMET: Portland International Center for Management of Engineering and Technology* (pp. 811–825). <http://doi.org/10.1109/PICMET.2009.5262041>
- Samuel, K. (2013). the Effects of Change Management in an Organisation : a Case Study of National University of Rwanda ( Nur ). *Wyno Journal of Management & Business Studies*, 1(1), 1–18.

- Shannahan, K. L. J., Shannahan, R. J., & Alexandrov, A. (2010). Strategic Orientation and Customer Relationship Management: A Contingency Framework of CRM Success. *Journal of Comparative International Management*, 13(1), 1–13.
- Sharma, M., & Kodali, R. (2008). Development of a framework for manufacturing excellence. *Measuring Business Excellence*, 12(4), 50–66. <http://doi.org/10.1108/13683040810919962>
- Shehadeh, R. M., Maqableh, M., Al-zoubi, M. O., Akhorshaideh, A. O., & Al-sham, M. K. (2016). Review the Operational Excellence Factors of Service Firms : A Literature Review. *European Journal of Business and Management*, 8(3), 1–11. Retrieved from <https://www.researchgate.net/publication/301215194>
- Shehadeh, R. M., Zu'bi, M. F., Abdallah, A. B., & Maqableh, M. (2016). Investigating Critical Factors Affecting the Operational Excellence of Service Firms in Jordan. *Journal of Management Research*, 8(1), 157–190. <http://doi.org/10.5296/jmr.v8i1.8680>
- Slack, N., & Lewis, M. (2002). *Operations Strategy* (First Edit). Pearson Education Limited.
- Slack, N., & Lewis, M. (2011). *Operations strategy* (Third Edit). Pearson Education Limited.
- Susanti, Y. S. N., Dachyar, M., & Yadrifi. (2015). Analysis of Factors that Support the Operational Excellence in Telecommunication-Supporting Companies. *International Journal of Applied Engineering Research*, 10(15), 35461–35465.
- Treacy, M., & Wiersema, F. D. (1997). *The discipline of market leaders: Choose your customers, narrow your focus, dominate your market*. Basic Books.
- Urban, B., & Naidoo, R. (2012). Business sustainability: empirical evidence on operational skills in SMEs in South Africa. *Journal of Small Business and Enterprise Development*, 19(1), 146–163. <http://doi.org/10.1108/14626001211196451>
- Yew, O. F., & Ahmad, H. (2014). The Effect of Change Management on Operational Excellence moderated by Commitment to Change : Evidence from Malaysia. *International Journal of Innovation and Applied Studies*, 9(2), 615–631.