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Article info:

Received 06.06.2021.

Accepted 20.12.2021.

UDC – 005.6

DOI – 10.24874/IJQR16.01-16



THE IMPACT OF TQM ON BUSINESS PERFORMANCES BASED ON BALANCED SCORECARD APPROACH IN MALAYSIA SMEs

Abstract: Total Quality Management (TQM) is a tool to involve employees in the continuous improvement. SMEs are a well-known as the vital sector to Malaysia's Gross Domestic Product (GDP). However, SMEs still face issues of their performances. Most of SMEs have issue in TQM implementation due to the lack of awareness and accepting of TQM. The objective of this paper is to examine the TQM implementation amongst SMEs, in order to enhance their performance by using Balanced Scorecard (BSC). 130 respondents from Malaysia SMEs in manufacturing sector have been sent in this survey. Finally, 64 respondents have responded, representing 49.2 of response rate. The result shows that TQM practices have positive and significant relationship towards the BSC with $r=0.64$ at $P<0.05$. Hence, TQM practices also have significant relationship with all of the four BSC perspective with $p<0.05$. This study demonstrated that TQM is important tool for improving BSC performance.

Keywords: Total Quality Management; Business Performance; Quality Management; SMEs; Balance Scorecard; Performance Measure; Manufacturing.

1. Introduction

Many organization apply TQM techniques to enhance their performance such as product quality, cost, delivery and safety (Ahmad et al., 2016; Riley et al., 2010). As the expectations of customers are increasing in global market, it is important for a company to constantly enhance their products performance to improve their competitiveness. TQM is one of the management tool that can be implemented for quality improvement. Based on Khanam et. al, TQM is important management approach to increase quality performance and incorporate all process to satisfy customers' requirements (Khanam et al., 2016). TQM

can be explained as an idea and a set of managerial values that incorporates essential tools, enhancement practices and practical tools.

TQM originated from Japan in the 1970s, after that spread to the USA in 1980s and lastly was brought to Europe in 1990s. The meaning of TQM refers to "Total" is everything, "Quality" is the excellence degree and "Management" refers to the way or action of an organisation to control, plan and direct the business toward certain goals (Chandra et al., 2016). Therefore, the philosophy of TQM acts as a management guiding principle (Saleem et al., 2012). It is a management practice, to improve product or service quality and manage the ways of firms

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to obtain excellence (Chandra et al., 2016). Furthermore, the purpose of TQM is to sustain business goal and recognise customer needs inseparable (Chandra, 2013; Dedy et al., 2016). Thus, TQM requires to focus on managing the whole firms, that excels in all products and services dimension that are essential to customers (Alsughayir, 2016). To satisfy customer current needs and latent needs by offering them with higher quality product and service. Firm need to explore and identify organisation advantages and consequences (Mahmud & Hilmi, 2014) such the involvement of customers, suppliers and management in order to exceed or meet customer expectations (Adeniyi & Yemisi, 2013), through product and services (Cua, McKone & Schroeder, 2001; Rexhepi et al., 2018). Therefore, TQM can enhance the method of doing business compared with the traditional way (Romle et al., 2016).

According to Juran and Godfrey (1998), TQM concept, tools, methods and philosophy are used to manage the quality. However, the implementation of TQM concepts is complicated because firms are required to transform their management system to apply these practices (Corredor & Goñi, 2011). Besides that, majority of the research focused on examining the impact of TQM on business performance and analysis of mechanisms that can lead to management improvement (Powell, 1995; Hendricks & Singhal, 2001; Sila, 2007). On top of that, quality management can be categorised into two, which are soft practice and hard practices (Abdullah & Tari, 2013). TQM practices refer to soft aspect and TQM tools & techniques refer to hard aspect (Saleem et al., 2012). However, the TQM concept examines and evaluates in different dimensions (Soft TQM and Hard TQM) with a separate effect which leads to ambiguous relationships result between TQM and business performance (Jiménez-Jiménez & Martínez-Costa, 2009).

Besides, Ahmad et. al, (2013) states that TQM has a significant impact on business performance such as quality and productivity (Ahmad, Zakuan, Jusoh, Tasir, & Takala,

2013). SMEs also are acknowledged as a form of backbone towards Malaysia's GDP and economy. Based on SMEs Master plan's (2012- 2020), SMEs contributes 32.0% of Malaysia income, 59.0% of manpower and 19% of total trades. It shows that the influences of SMEs towards Malaysia's GDP and the significance of SMEs in Malaysian trade and industry. In this study, Balanced Scorecard (BSC) is applied for measure business performance. BSC is a management tool as an inclusive instrument to appraise performance (Mehralian et al., 2017). Kaplan and Norton have explained the basic of BSC as a new way for evaluating business performance (Galankashi et al. 2016). BSC can be classified in four main categories; (1) financial, (2) customer, (3) internal business processes, and (4) learning and growth (Galankashi et al., 2016).

1.1 TQM and Business Performance

TQM has been used decades ago in order to enhance greater quality of SMEs (Ahmad, Zakuan, Jusoh, & Takala, 2013). Researchers were trying to come up with a model that can include all the essential factors of TQM into one in order to respond to the highly competitive market (Galankashi et al., 2016). TQM is a comprehensive tools of quality practices to enhance the organisation to succeed its aims, at the same time fulfill customers' needs to complete business achievement (Ahmad et al., 2014; Galankashi et al., 2016). According to SMEcorp (2016), SMEs can be classified into two areas which is manufacturing and services sectors (Shahbaz et al., 2018). Besides, SMEs can be more flexible and responsive to customer's demand than large organisations (Malekifar et al., 2014). SME also play a vital role as a key factor of growth in order to attain a comprehensive and stable growth (Love & Roper, 2015). According to Love et. al (Love & Roper, 2015) also SMEs generate opportunities for employment, growth trades and act as vendors to big enterprises (Shan et al., 2016).

According to Kumar et al., (2009), company implementing TQM practices could lead to business performance improvement. Based on the previous study, TQM implementation has a significant relationship with business performance which leads to better results in financial performance (Meftah Abusa & Gibson, 2013; Valmohammadi & Roshanzamir, 2015), customer satisfaction (Idris, 2011; Tseng, 2010), productivity (Agus & Hassan, 2011; Cetindere et al., 2015), quality (Carlos Pinho, 2008; Martínez-Costa et al., 2008), innovation (Cetindere et al., 2015), employee satisfaction (Kaur et al., 2015; Meftah Abusa & Gibson, 2013). Therefore, firms need to emphasise with quality and customers requirement are able to achieve through employees' participation, motivation and continuous improvement compared to non-TQM firms (Joiner, 2007). To gain a sustainable competitive advantage compared to firms that do not adopt TQM practices (Valmohammadi & Roshanzamir, 2015).

However, the data from Mosadeghrad (2014), indicated inconsistency result between TQM and business performance. The inconsistent result can be caused by several factors such as TQM practice elements or business performance measurement across different country or studies (Meftah Abusa & Gibson, 2013), cultural changed (Saleem et al., 2012), time factor (Alsuhaimee & Arabia, 2015), effectiveness of top management provide a program for training and orientation, and coordination among cross-functional teams or departmental (Idam, 2014). On the other hand, most of the previous studies examined the relationship between TQM and business performance on automotive industrial (Dubey, 2015; Venkateshwarlu et al., 2011; Zakuan et al., 2010) and there was limited empirical evidence focusing on E&E industrial (Tari et al., 2015). Whereas for Malaysia, there are also limited studies relating to TQM practices and business performance (Abdullah, 2010; Idris, 2011).

1.2 Balance Scorecard

The aim of BSC is a measurement for supporting long term strategy in order to manage performance. In general, a BSC system is considered to be a performance measurement system, a strategy evaluation system, and a communication tool, at the same time, defined by the following four distinct perspectives (Lin et al., 2013). Lin et al (2013) also stated that BSC gives a valuable tool for enabling employees to understand the company's situation, a must if the company is to achieve the dynamism it needs to be competitive in the long run. In addition, it also provides useful documentation for continually developing those measures for control which most quickly will guide the company towards achieving its goals and its vision. Based on literature review, four dimensions have been identified for BSC; (1) financial perspective, (2) customer perspective, (3) internal process perspective and (4) learning & growth perspective.

First, financial performance measures indicate whether the company's strategy, implementation and execution are effectively contributing to the bottom line improvement of a firm. Financial goals include achieving profitability, maintaining liquidity and solvency both short term as well as long term, growth in sales turnover and maximizing wealth of shareholders. Second, customer perspective emphasizes the satisfaction of the customers. Recent management philosophy has shown an increasing realization of the importance of customer focus and customer satisfaction in any business (Lin et al., 2013). Third, internal processes perspective refers to internal business processes. Dimension based on this perspective allow the managers to know how well their business is running and whether its products and services conform to customer requirements. Fourth, learning and growth perspective includes employee training and corporate cultural attitudes related to both individual and corporate self-improvement. The learning and growth

perspective involves a determination of employee capabilities and skills, technology, and a corporate climate needed to support a strategy (Martello & College, 2016).

1.3 Relationship Between TQM and Balance Score card

BSC is an measurement that shows how good a company achieves its aims (Valmohammadi & Ahmadi, 2015). In highly competitive world, companies have to use more creative and innovative management methods to stay competitive (Ahmad, Ariff, Zakuan, Takala, & Jusoh, 2013; Md Fauzi Ahmad et al., 2018). BSC goals is to keep stability between short-term and long-term, between monetary and non-monetary and between inside and outside result viewpoints (Chan, Ahmad, Zaman, & Ko, 2018). BSC is a performance assessment and have been used widely, but study related to the practices of BSC in SMEs are limited (Rasi et al., 2018). The integration between BSC and TQM will fill the gap and contribute to new findings. Previous studies show that TQM have improved organisation performance and business performance. Therefore, the following hypotheses has been developed (Shan et al., 2016):

H1: There is a significant relationship between TQM and BSC (figure 1).

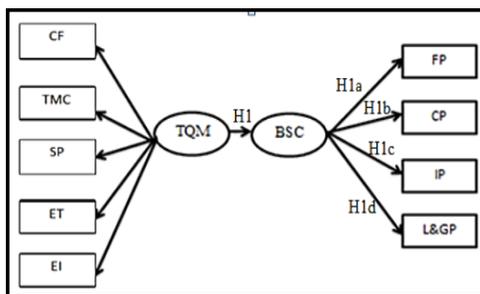


Figure 1. Research Framework

H1a: There is a positive relationship between TQM and financial perspective.

H1b: There is a positive relationship between TQM and customer perspective.

H1c: There is a positive relationship between TQM and internal process perspective.

H1d: There is a positive relationship between TQM and learning and growth perspective.

2. Methodology

Majority of the researches in TQM tend to use SPSS to analyse research data through survey method (Akhter, 2015; Carlos Pinho, 2008; Fotopoulos & Psomas, 2010; Kafetzopoulos et al., 2015; Mahmood et al., 2014; Meftah Abusa & Gibson, 2013; Subrahmanya Bhat & Rajashekhar, 2009; Talib et al., 2013). Garth (2008) viewed that SPSS can support researcher to compute conclusion and do statistical analysis. Mahmood et al., (2014) used SPSS analyse in two approaches namely, measuring the reliability and the bivariate correlation of dependent variable (DV) and independent variable (IV). Besides that, SPSS also involved descriptive statistics for means and frequencies; t-test of hypothesis for the mean difference; correlation analysis; and stepwise regressing analysis (Meftah Abusa & Gibson, 2013). Furthermore, SPSS can also use multiple regression analysis to test hypotheses (Coakes, Steed & Dzidic, 2006). Therefore, author used SPSS for windows version 22.0 to analyse and interpret the collected data from the survey questionnaire in the first phase. The descriptive statistics and quantitative data have been analysed by SPSS and the findings were tabulated to show the frequency distribution, standard deviation, percentage and mean (Tobertge & Curtis, 2013). Besides that, it is also used to test the hypotheses such correlations and independent sample t-test by using SPSS.

The questionnaire used in this study contained three sections; Demographics, TQM and BSC approach. A 7 point Likert scale have been applied in instrument development. The measurement scale used in 7 point Likert scale were; (i) Strongly Disagree, (ii) Disagree, (iii) Slightly Disagree, (iv) Neither Disagree or Agree, and

(v) Slightly Agree, (vi) Agree, and (vii) Strongly Agree. The instruments have been validated by experts in academicians and industry players. Statistical Package for Science Social (SPSS) was used for data analysis. Descriptive analysis and Spearman correlation analysis are used to analyse the data for the purpose of understanding the extent level of TQM enablers and correlation among variables (Ahmad et al., 2013).

3. Result

Based on the SME Corp’s directory, there are a total of 130 companies were listed. The empirical data were collected using a total 130 survey which were randomly distributed to the respondents via online survey tools namely Survey Monkey. 70 survey were retrieved, and out the 70 survey that were retrieved, 6 of them were incomplete. Total useable questionnaires for further analysis are 64 survey. It represented 49.2% of response rate. Statistical Package for Science Social (SPSS) was used for data analysis. Descriptive analysis and Spearman correlation analysis are used to analyse the data for the purpose of understanding the extent level of TQM enablers and correlation among variables.

3.1 General profiles of respondents

The first aspect analysed was the general profiles of the respondents. The breakdown of the respondents was based on the size of the companies as shown in Table 1. The number of employees determines the company size and is used to categorise the company into Small and Medium Enterprise. This study categorised small and medium sized enterprises (SMEs) as companies with between 0 and 300 employees. As summarised in Table 1, the company size is quite diverse between the respondents. About 31.3% of the respondents are from the companies that employ between 0 and 50 employees and 59.4.0% of the respondents have between 51 and 300 employees.

Table 1. Respondents’ Total Number of Employees

Total number of employees	Frequency	Percent
0-50	20	31.3
51-300	38	59.4
Total	64	100.0

After an initial understanding of the company size, it was felt important to identify whether they have implemented some certification system. In terms of quality certification, almost 35.9% of the respondents have MS ISO 9001:2000 (Malaysian standard adopted from ISO 9000) certification as shown in Table 2.

This is followed by ISO 14000 (environmental management system) certification with 4.7%. The survey results show that the implementation of certification amongst SMEs is still in low level. This indicates that SMEs need to emphasize quality and environmental management systems in the future improvement.

Table 2. Respondents’ Quality Certification

Certification	Frequency	Percent
MS ISO 9001	23	35.9
MS ISO 1400	3	4.7
TS16949	0	0.0
OHSAS18001	0	0.0
None	16	25.0
Others	22	34.4
Total	64	100.0

3.1 Reliability Test

Cronbach’s alpha is used to determine the internal consistency of the items of each construct (Refaie & Hanayneh, 2014). To identify the highest reliability coefficient items of the subset, the critical factors of TQM and BSC were factor into the reliability test by using SPSS. The Cronbach’s alpha value requires greater than 0.7 in internal consistency to reflect scale reliability is high (Hair et al., 2014). Based on the alpha results for all constructed items, it requires to

eliminate the items which are below the value and recalculate again to verify the scale improvement. Table 3 shown all variables were accepted since the Cronbach Alpha value is more than 0.7. Therefore; there is no item need to be deleted.

3.2 Normality Test

In the research study, there were two main normality test which is Kolmogorov-Smirnov for sample size >50 and Shapiro-Wilk for <50 sample size. According to Table 4, the result shows that p-values are less than 0.05 which can be categorised as not normal.

Table 3. Reliability Test Result

Dimensions	Questions	Alpha
Top Management Commitment	6 items	0.895
Customer Focus	5 items	0.936
Training and Education	6 items	0.856
Strategic Planning	5 items	0.783
Employee Involvement	4 items	0.852
Financial Perspective	3 items	0.703
Customer Perspective	3 items	0.728
Internal Process Perspective	3 items	0.741
Learning & Growth Perspective	3 items	0.734

Table 4. Normality Test

Kolmogorov-Smirnova			
Statistic		df	Sig.
TQM	.135	64	.005
BSC	.112	64	.046

3.3 Spearman Correlation Test

Spearman's correlation coefficient varies from -1 to +1 to describe the strength of relationship. The nearer the absolute number to 0, the weaker is the relationship between the two variables. Therefore, in this section the main objective was to determine whether the TQM practices have significant relationship SMEs performances using BSC. In order to obtain the result, Spearman correlation test had been used. Table 5 and

Table 6 show the relationship between the TQM practices and BSC. Table 5 showed that TQM and BSC were significantly correlated; $r(64) = 0.664$, with $P < 0.05$. Table 6 shows that TQM have significant relationship with BSC perspective. TQM has highest correlation with internal process perspective (rank 1), followed by learning and growth (rank 2), financial perspective (rank 3) and customer perspective (rank 4).

Table 5. Relationship between TQM and BSC

		BSC	Result
TQM	Correlation Coefficient	.664**	Positive
	Sig. (2-tailed)	.000	Sig.

Table 6. Relationship between TQM and BSC Perspective

		TQM	Result	Rank
Financial Perspective	Correlation Coefficient	.497**	Positive	3
	Sig. (2-tailed)	.000	Sig.	
Customer Perspective	Correlation Coefficient	.452**	Positive	4
	Sig. (2-tailed)	.000	Sig.	
Internal Process Perspective	Correlation Coefficient	.572**	Positive	1
	Sig. (2-tailed)	.000	Sig.	
Learning and Growth Perspective	Correlation Coefficient	.560**	Positive	2
	Sig. (2-tailed)	.000	Sig.	

4. Discussion

The result shows that TQM is vital management tool for improving SMEs performance. TQM has significant relationship with all BSC perspectives. The result shows that TQM has the highest correlation with internal process perspective. It shows that TQM is effective tool for improving related process in an organization such as production floor and service department. TQM also can improve learning and growth perspective. It is surprising that financial and customer perspective are rank 3 and 4. Overall result show that non-financial perspective have higher rank compared to financial perspective in SMEs. Internal process and learning and growth perspective

should be given emphasized outcome in TQM practices in the future.(Shan et al., 2016)

5. Conclusion

TQM practices have positive and significant relationship towards BSC with $r=0.64$ at $P<0.05$. Hence, TQM practices also have significant relationship with all of the four BSC perspective at $p<0.05$. This study shows that TQM practices are essential to enhance business performances in SMEs.

Acknowledgement: Appreciation to MOHE and ORRIC, University Tun Hussein Onn Malaysia for supporting this research and also to the Faculty of Technology Management (H328).

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