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Research paper

A Descriptive Perception vs. Achievement Analysis of Continuance Improvement in Malaysian ISO 9001-Certified Smes

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Abstract

In today's competitive market, organizations are required to continuously improve their business processes and maintaining continuous improvement of ISO 9001 benefits. Besides continuous improvement, current literature claims that the common benefits of the ISO 9001 certification are "Customer satisfaction focus", "Management & Review", "Organizational performance" and the factors for TQM implementation (e.g Supplier quality management, Vision and plan statement). The purpose of this paper is to compare the level of perception vs. achievement of factors maintaining continuance improvement for 27 randomly selected Malaysian ISO 9001 certified SMEs as a primary study. Respondents of this study rated organizational performance is the most importance aspect of successful factor of ISO 9001, followed by organization's highest level of achievement. This study also finds that the most important construct of TQM implementation is quality system improvement and the highest level of organization's TQM implementation achievement is customer relationship. This study also shows that there is a significant difference between companies' perception of the level of important and achievement in factors for successful of ISO 9001 and TQM implementations. For practitioners, this study addresses how continuous improvement has evolved and how to maintain benefits from ISO 9001 certifications.

***Keywords*:** *Successful ISO 9001; Continuous improvement; ISO 9001 benefits; ISO 9001 barriers; TQM implementation, Customer Satisfaction*

1. Introduction

Organizations are increasingly focusing on providing superior quality products and services. The most popular quality approaches are based on ISO 9000 quality management system (QMS) and total quality management (TQM) (Feng, Terziovski & Samson, 2008). From the ISO 9000 series quality system standards, ISO 9001 standard has a clear objective to develop broader and deeper business excellence [1]. The ISO 9001 implementation maintains and embraces business quality in many filed, from small business [2] to large enterprises [3]; and from health [4,5] to learning and cultural context [6,7]. Research trends provide updated investigations on how motivation of ISO 9001 certified-organizations impacts the depth of ISO 9001 implementation and how the depth of implementation impacts organizational performance [8]. The progress of ISO 9001 implication, particularly in developing countries, is not only a significant research topic, but also has captured a lot of attention within the business world [9].

2. Literature Review

Relevant literature suggests that successful ISO 9001 application is principally depending on maintaining quality in management performance [10–12], employee focus [12,13], customer relationship [14,15] and any aspects of quality process in general. Notwithstanding the scholar agree that the imperative continuance improvement of ISO 9001 certified enterprises, the disparity between the management perception and the company achievement on successful ISO 9001 application are not well understood. Companies get certified without taking their perception of adopting the procedures into consideration. This paper presents findings of a study gathered from 27 manufacturing SME companies in Malaysia to describe the level of perception vs. agreement on successful ISO 9001 application. This survey is also conducted as the preliminary examinations for a more comprehensive future overload study which is ongoing at the time of writing this paper.

3. Methodology/Materials

Reviewing the related literature shows that the most commonly factor for ISO certified companies to be successful are: implementation perceived benefits [16], continuous improvement [17,18], customer satisfaction focus [18–20], organizational performance [21], employee focus [22–24], and TQM implementation [6,25]. These factors help in the ISO 9001 continuance improvement, and measured using a survey adapted from earlier 12 surveys. Ultimately, seven variables, namely 1) successful ISO 9001, 2) organizational performance, 3) barriers of ISO successful, 4) benefits of the ISO implication, 5) employee focus, 6) customer focus, and 7) TQM implementation, were used in the survey. There are two parts of the survey where Likert-scale were used, where the first was to measure the perception/agreement level, and the second part measured achievement/experienced of continuance improvement

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in ISO 9001 certification. The paper-questionnaires were distributed among 27 randomly selected manufacturing SMEs in Malaysia to obtain the reference values for describe how well the Malaysian organizations adopt the ISO 9001 continuance improvement.

4. Results and Findings

A number of 27 randomly selected manufacturing SMEs in Malaysia was asked to participate for the present survey. These companies have 11 to 20 years of working history, with at least 50 employees each. The majority of these companies have been certified for six years.

Five factors measuring successful of ISO 9001 including**:** continuous improvement, customer satisfaction focus, management & review, organizational performance, benefits from implementing ISO 9001 system. From these five factors, organizational performance is rated as the most important factor from the respondents' point of view (Mean: 4.28, SD: 0.57), while the highest level of organization's achievement was also organizational performance (Mean: 3.57, SD: 0.61).

Barriers of success of ISO 9001 are measured by three factors: disappointment experienced, ISO 9001 barriers from managers' point of view, and misconceptions about ISO 9001. ISO 9001 barriers from managers' point of view accounted for the highest barriers of success of ISO 9001, and misconceptions about ISO 9001 is rated as the biggest limitation they experienced for the success of ISO 9001.

Seven factors that measure TQM implementation including: employee focus, customer focus, ISO 9001 implementation, supplier quality management, vision and plan statement, evaluation, and quality system improvement. From the survey, it is found that the most important construct of TQM implementation is quality system improvement (M: 4, SD: 0.53), and the least important factor is recognition and reward (M: 3.54, SD: 0.8). In term of TQM implementation achievement, the highest level of organization's TQM implementation achievement is customer relationship (M: 3.62, SD: 0.6), and the lowest level is supplier quality management (M: 3.31, SD: 0.69), and recognition and reward (M: 3.31, SD: 0.72).

Apart from the descriptive judgments, results of paired t-test samples statistics demonstrates the level of agreements on performing all factors measuring success of ISO 9001 are significantly different from the level of achievements in selected companies. This indicates that respondents assumed that their perceptions on the importance of continuous improvement, customer satisfaction focus, management and review, organizational performance, and benefits from implementing ISO 9001 System are higher than what they achieved.

The result of paired t-test samples statistics proves that among seven factors measuring TQM implementation there are significant different between the level of perception vs. achievement in ISO 9001 implementation, supplier quality management, vision and plan statement, evaluation, and quality system improvement. The results also show that these companies achieved what they have expected from employee participation, recognition and reward, and education and training. Regarding the best practices for resolving customer complaints, respondents think they still far from their expectation, while in regards of customer relationship, they have achieved what they assume to be important. Other factors of TQM implementation, including ISO 9001 implementation, supplier quality management, vision and plan statement, evaluation, and quality system improvement, were different in terms of important expectation vs. achievement. The results are presented in the table below.

Table 1: Results of paired sample t-test

Variables and constructs		**Level of Important**		**Level of Achievement**		**Paired samples statistics**	
1.Successful of ISO 9001		M	SD	M	SD	T	Sig
	Continuous improvement	3.9	0.48	3.32	0.51	5.17	0
	Customer satisfaction focus	3.88	0.53	3.43	0.6	3.48	0
	Management & Review	3.89	0.44	3.35	0.52	3.94	0
	Organizational performance	4.28	0.57	3.57	0.61	6.01	0
	Benefits from implementing ISO 9001 System	3.92	0.41	3.33	0.45	5.92	0
2. Barriers of Successful of ISO 9001							
	Disappointment experienced	3.57	0.73	3.02	0.88	2.92	0.01
	ISO 9001 Barriers	3.68	0.88	3.15	0.85	2.03	0.05
	Misconceptions about ISO9001	3.25	0.91	3.24	0.64	0.46	0.65
3. TQM implementation							
3.1 Employee Focus							
	Employee participation	3.62	0.75	3.48	0.48	0.88	0.38
	Recognition and reward	3.54	0.8	3.31	0.72	1.44	0.16
	Education and training	3.64	0.73	3.43	0.75	1.14	0.27
3.2 Customer focus							
	Best Practices for Resolving Customer Complaints	3.78	0.52	3.56	0.57	2.13	0.04
	Customer relationship	3.85	0.61	3.62	0.6	1.96	0.06
3.3 ISO 9001 implementation		3.84	0.54	3.46	0.53	3.6	0
3.4 Supplier quality management		3.82	0.58	3.31	0.69	3.18	0
3.5 Vision and plan statement		3.81	0.6	3.51	0.61	2.54	0.02
3.6 Evaluation		3.76	0.44	3.43	0.57	3.97	0
3.7 Quality system improvement		4	0.53	3.6	0.5	3.81	0

Note: 1: M: mean, SD: standard deviation

5. Conclusion

In today's competitive market, the ISO 9001-certified organizations are required to continuously improve their business processes in which to maintain continuous improvement of ISO 9001 benefits. Many certified SMEs manufacturing companies received quality performance benefits in maximizing the performance of their businesses, which is important to develop better quality management beyond ISO 9001 certification [9]. A complete ISO 9001 Quality Management System which addresses all the requirements of ISO 9001, enables the organizations to identify, measure, control and improve various core business processes that will ultimately lead to business performance improvement [26].

Using descriptive analysis and paired sample t-test, the study emphasizes the importance of top management in ISO 9001's adoption and perception among Malaysian SMEs. The findings of this study show that there are existing gaps between "importance expectation" and "experience" for companies. These results indicate that respondents' perceptions on the importance of continuous improvement, customer satisfaction focus, management and re-

view, organizational performance, and benefits from implementing ISO 9001 System are higher than what their organizations have achieved. This study has revealed that Malaysian SMEs managers have a high level of the agreement on the ISO 9001 continuance improvement. These results can provide a reference base for those selected companies to practice.

It has becoming a global trend to achieve good quality among trading companies around the globe [27]. Achieving the ISO 9001 quality management system certificate becomes the first priority for the quality level recognition of Malaysian companies. The company's leaders' expectation of the certification, plays an important role during the ISO 9001 continuance improvement. Therefore, their attitude may affect the result of certification. This study emphasizes the perception and expectation of ISO 9001 from managers' viewpoints, and the results are in-line with the results of the similar study done by Liao (2014).

The results show that management of ISO 9001 certified-companies mostly have positive perceptions of ISO 9001, resulting in positive attitudes in the workplace. The attitudes are influenced by the standard contribution to organizational continuance quality improvement [28]. Since the ISO 9001 philosophy has a broad scope, and its implementation can be achieved in many ways, many SMEs may not be aware of how and where to begin, or how to sustain ISO 9001 principal and TQM [9]. Accordingly, SMEs need to understand their own perception about the improvement, before embarking on their quality journey (Temtime, 2003).

Understanding the idea of TQM is a diligent and complex undertaking, as different standards and activities are not communicated in a dialect which SMEs promptly comprehend, and the conventional culture and qualities of the SME may not be helpful for TQM. It is troublesome for SMEs with moderately restricted administration capacities and assets to secure new abilities and information independent from anyone else. SMEs cannot depend on inner capacities and assets to an indistinguishable degree from bigger organizations. Outside sponsorship from governmental organizations will frequently be a noteworthy determinant for the accomplishment of SME organizations [9].

ISO certification is expected to help organizations to enhance quality and efficiency, improve communications, achieve competitive advantage and an increase in market share, reduce costs and achieve a higher stock price [29]. As this study has presented, organizations have a high level of understanding of the purpose of ISO certification. The main motivators behind the implementation of certified quality system in Malaysia are to enhance the efficiency of the quality system, and to cope with pressures from competitors and foreign partners. The principal perceived benefits of ISO 9001 for Malaysian organizations include improved documentation, improved efficiency of the quality system and more effective supplier selection [29]

5.1. Limitations and suggestions for the future studies

Since this study is a preliminary study to prepare for the massive data collection which is started approximately one year and still ongoing at the time of writing this descriptive paper, The findings of this study could not be generalized for all manufacturing SMEs in Malaysia due to the limited number of participating SMEs. However, considering continuous improvement as a business philosophy and quality management strategy, this research found a knowledge gap of company perception and expectations of ISO 9001. This paper could be used as a conceptualization-based research for future investigations.

Considering the importance of continuous improvement philosophies, future studies are offered to answer these questions:

1. Are Malaysian organizations that pursuing continuous improvement successful?
2. Are the principals beyond the ISO 9001 certification successfully achieved by Malaysian organizations?
3. Is there any framework to guide SME?

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