

THE EFFECT OF INTENSITY OF QUALITY MANAGEMENT ON CUSTOMER SATISFACTION

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ABSTRACT

This paper presents the effects of quality management (QM) on customer satisfaction according to intensity degrees. The intensity degrees were grouped into two, namely highly extensive and less extensive. The data were analysed based on questionnaires returned by 205 departmental heads attached to local authorities in West Malaysia. Samples under study were chosen using stratified random sampling. The results reported that there exists a significant difference in customer satisfaction between highly extensive and less extensive samples. Data analysed indicated the highly extensive samples scored a higher mean of customer satisfaction than less intensive samples. This study adds value to the literature by revealing the intensity of QM being practised as a significant predictor of higher levels of customer satisfaction. The implication of this study is that managers should intensify the practices of QM, especially benchmarking, employee empowerment, and continuous improvement, and that they have to avoid the minimalist approach when implementing these practices.

Keywords: Quality Management, Public Service, Malaysia

1. INTRODUCTION

Providing services at a level similar to or higher than customer expectation is a never ending agenda of public departments in Malaysia. Without doubt, good service provided by public departments would have a substantial effect toward economic development and government image. Acknowledging this strong belief, the Malaysian government has geared up efforts to improve quality service of public departments since public service has also contributed toward the level of a nation's competitiveness index (Ibrahim, 2009). Apart from various transformation plans executed by the Malaysian government, quality management (QM) has never been an isolated agenda. The seriousness of the Malaysia government toward consistently improving public service can be unearthed based on initiatives such as the Prime Minister Quality Award and Quality Day.

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Considering the induction of QM into public service has been for more than 40 years, the issue on the effectiveness of its implementation should not be a question. In addition, various studies had proven QM as an effective strategy for fulfilling customer satisfaction (Siddiqui&Rahman, 2007). However, the issue of achieving customer satisfaction has never been a simple and easy issue to settle, but QM is never a magical solution. Although QM has progressively developed across public services, public complaints are never ending. Inferior quality was recorded as among the most popular complaint forwarded by the people at large (Said et al., 2009). Thus, the issue of effectiveness of QM implementation into public services is urgently needed to be addressed. The effort to reveal the cause of inconsistency between the implementation of QM and the still-not-encouraging service quality of public departments deserves urgent attention from researchers.

Due to the bottom line of implementing QM being to improve customer satisfaction, the relationship between the two is postulated to be in a positive manner. However, the high number of complaints received from the public (Said et al., 2009), instead of QM being in place for many years, is a deserved research question to explore. The ignorance on this issue by researchers may also lead some of the public to blatantly criticise the practice of QM in the Malaysian public service, including local authorities, as being ineffective and unsuccessful. If this issue is left without any investigation to find possible flaws, opponents of QM may question about the transferability of QM philosophy from the manufacturing environment, where it had been migrated to the public service environment. However, this criticism deviates from the opinion of proponents of QM, where they believed that QM is a generic strategy that is applicable to all kinds of industries (Sousa, 2003). Taking local authorities in Malaysia as research subjects, this study looked for possible explanations for the variability of successful implementation rate of QM. This study referred to the numerous public complaints to represent a general belief that the issue of customer satisfaction in local authorities is still unresolved.

According to literature, not all implementing organisations of QM had successfully secured good effects (Terziovski, 2006). Thus, there are researchers that investigated the different characteristics of successful and non-successful implementations of QM. They revealed the non-successful implementing organisations are considered to be imitators (Yusof &Aspinwall, 2000), minimalists (Prajogo& Brown, 2006), and low adopters (Lee et al., 2009). However, none of these studies had revealed the effect of intensiveness of implementation on QM-results. The intensiveness of implementing QM as a possible factor for determining QM-results were theoretically proposed by several authors. As such Awan et al. (2008) suggested that QM is a step-by-step approach consisting of critical factors that must be implemented with full commitment from the managers (Siddiqui&Rahman, 2007). However, this issue is still lacking the required empirical analysis.

There are organisations that have just introduced QM into their organisation or have just been awarded with ISO 9000 certification, and they are likely to have successfully embraced the full philosophy of QM completely (Terziovski& Power, 2007). However, to say that all organisations follow this trend would be a serious misconception since the introduction of QM or being certified by an ISO authority is only the starting point, though the intensiveness of implementing QM is an implementation issue that probably has impact on the success rate of

QM. Due to the small amount of existing literature on the issue of different performance effects that may exist for different levels of intensiveness in implementing QM, this present study aims to broaden the boundary of knowledge by highlighting this deserving issue and giving it due attention. The premise of this study is that there exists a difference of customer satisfaction levels for the different levels of intensiveness of implementing QM.

2. PROBLEM STATEMENT

In a study conducted by Claver and Tari (2008), they found that not all implementing organisations of QM had reported positive results. Their finding is one of many studies that reported the same outcome. For opponents of QM, those findings strengthen the belief that QM is not a performance driven strategy across organisations. This phenomenon has led critics that QM fails to bring positive performance effects into implementing organisations (Terziovski, 2006). However, to mark QM as not an effective performance driven strategy is never a resolved debate. On the other hand for the proponents of QM, the insignificant relationship between QM and performance could be associated with implementation issues rather than QM as the subject matter. In other words, the real answer could be unearthed rather than putting blame on QM without understanding the real picture. There are organisations that implement QM just for the sake of being part of the QM-crowd (Prajogo & Brown, 2006) or being termed as a *minimalist*. This approach of implementing QM is hardly able to deliver positive results. In addition, this minimal implementation strategy goes against the philosophy of QM, which is, if QM has to be implemented, it must be done with full commitment. The literature has reported that the minimalist approach of implementing QM fails to positively contribute toward good performance (Lee et al., 2009; Terziovsk et al., 2003). Therefore, the intensity of implementing QM is one of the possible explanatory factors for QM to be successful or otherwise. However, this issue remains unclear and deserves urgent attention from researchers. Thus, this study had sought to answer the following research question: Does intensity of implementing QM cause different results of customer satisfaction

3. RESEARCH OBJECTIVE

As an empirical effort to investigate the issue narrated in the previous section, this study aimed to examine the customer satisfaction effect of highly intensive and less intensive implementations of QM. In order to achieve this objective, five critical factors of QM were investigated, namely customer focus, benchmarking, employee empowerment, continuous improvement, and quality information systems.

4. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The literature on the relationship between QM and customer satisfaction has been published considerably (Fryer et al., 2007; Sit et al., 2009; Terziovski, 2006). This section elaborates these previous findings. The significant findings on the said relationship provide evidence to justify the suitability of selecting customer satisfaction as a criterion variable for research on QM.

For significant relationships, researchers, among others, had reported that QM is a significant predictor of customer satisfaction (Siddiqui & Rahman, 2007; Terziovski, 2006). Table 1.0

summarises a few previous studies that reported significant results on the relationship between critical factors of QM and customer satisfaction. Although in the introductory section of this paper QM was explained as having a set of critical factors, previous researchers (Sit et al., 2009) had investigated each critical factor individually when testing the relationship between QM and customer satisfaction. The scholars agreed that the critical factors of QM are distinct factors that are interrelated with each other (Sousa, 2003), and thus can be studied independently. The discussion on how each of these critical factors contributes significantly to customer satisfaction is offered after Table 1. These five factors have been reported in the literature as critically important for QM to be successful (Awan et al., 2008)

Table 1: Significant Relationship between Critical Factors of QM and Customer Satisfaction

Critical Factors Studied	Authors
Customer Focus	Nilsson et al., (2001); Siddiqui&Rahman (2007); Sit et al., (2009)
Benchmarking	Magd & Curry (2003); Magd (2008)
Employee Empowerment	Wirtz, Heracleous, &Pangarkar (2008)
Continuous Improvement	Fryer et al., (2007)
Quality Information Systems	Bandyopadhyay (2003); Sit et al., (2009)

Table 1 indicates customer focus as one of critical factor of QM. The definition on quality that have been offered by scholars and quality awarding bodies also clearly connects it with the customer's expectation (Ortner, 2000). Failure to meet this expectation is a generally accepted conclusion that QM in the implementing organisations does not work. Organisations that implement customer focus are required to give careful attention to all the related activities that can improve customer satisfaction. Among others are to establish strong relationships with customers; get customers involved in a new plan, service, or product introduced; collect information on customer needs via close interaction; and develop infrastructure within the organisation to disseminate information on customers (Sousa, 2003). In previous studies (Nilsson et al., 2001; Siddiqui&Rahman, 2007), the authors had documented the practices of customer focus to be a significant predictor of customer satisfaction.

In order to understand the changes in the customer expectations, then it is advisable for an organisation to evaluate what is happening around them. To ensure that the organisation does not lag behind with what others are doing, they need to compare themselves with others. This is known as benchmarking and it covers the benchmark of processes, benchmark of products, and benchmark of management strategies (Carpinetti&Melo, 2002). Through this assessment, an organisation tries to look for the best practices, including the best practices that are believed to be contributing to customer satisfaction. However, the assessment between two organisations is not restricted to inter-organisations, but the assessment of inter-departments within the same organisation is also a possible choice, and known as internal benchmarking (Camp, 1989).

Apart from the practice of benchmarking, people within an organisation play a prominent role in the implementation of QM (Ortner, 2000). They should be encouraged to actively participate

in the activities that are linked to QM. As commented by Ortner (2000), even with the most advanced technology used in the organisation, the targeted quality standard may be difficult to achieve if the people are lacking the motivation and do not take seriously the requirements of quality. The empowerment practice in QM organisation through the formation of quality circle groups has been found to be significantly associated with the services provided (Pereira & Osburn, 2007), which in turn would fulfil the expectation of the customers. The role of employees is deemed to be critically important in a service organisation like local authorities, because delivering service involves mutual interaction between personnel and client, and the service delivering process is customised to meet heterogeneous needs of clients (Nilsson et al., 2001) but within the allowable framework of a local authority.

Furthermore, the implementing organisations of QM always seek for continuous improvement (Fryer et al., 2007; Terziovski & Power, 2007). The idea of QM as a one-off reformation drive was never a successful story due to the fact that organisations work in a continuous changing environment. As such, the expectation of customers is believed to be changing from time to time (Ortner, 2000), thus requires organisations to always check and revise what has been done so they will never take a wrong step. In Japanese organisations, this continuous improvement effort is known as Kaizen, where the process of betterment is undertaken as stage-by-stage, continuously, and consistently (Ortner, 2000). How the practice of continuous improvement has made certain organisations differ from the other organisations has been revealed by Terziovski and Power (2007). According to them, the ISO 9000 certification would only deliver intended results if the organisation improves various aspects of their business in a continuous manner.

Quality information system is an aspect needed to support the communication among the organisational members regarding QM related issues (Siddiqui & Rahman, 2007; Terziovski, 2006). Communication is a thrust for QM to be properly executed (Borsese et al., 2003). Through effective communication, data related to quality management in general and customer management in specific, can be gathered and analysed for the purpose of designing plans, implementing control, or taking appropriate corrective action (Siddiqui & Rahman, 2007). As a result, any highlighted issues related to the customers can be effectively resolved. For instance, data collected on customers should be properly and speedily communicated to the design and engineering department for them to design products that not only best match with, but exceed customer expectations (Bandyopadhyay, 2003).

Although the preceding paragraphs had discussed that QM is a significant predictor of customer satisfaction, the link between the two constructs is subject to its implementation process (Awan et al., 2008). According to these authors, any flaws in the implementation process would deteriorate the QM results. A similar conclusion was derived by Claver and Tari (2008), where they reported QM is not a significant predictor of performance. These reports provide evidence that the performance effect of QM may depend on the intensiveness of its implementation. As such, the literature reported that organisations which implemented QM just for the purpose of fulfilling the minimum criteria set by the quality awarding body, would fail to reap the significant benefits of implementing it (Lee et al., 2009). The authors concluded that the implementation of QM has to be intensively done rather than ceasing at the minimal point.

However their study had limitedly investigated the performance effect of ISO-organisations and not QM-organisations, leaving the intensity issue among implementing organisation of QM relatively untouched.

For the purpose of this paper, the focus is on the intensity of implementing each critical factor of QM as a possible explanatory factor for the different performance effect of customer satisfaction achieved by organisations. This study gauged the intensity of QM by measuring the intensity of each critical factor of QM being institutionalised by the samples. Since the existence of each critical factor can be identified through the activities housed by the samples, the more related activities identified, the more intensive the organisation is regarded as being involved in QM. The previous study conducted on the impact of intensity of QM on the results received was limited to the study on the comparison between ISO and non-ISO organisations (Sun, 2000), and low and high adopters of ISO (Lee et al., 2009). However, the comparison of performance effects between two different levels of QM intensity, particularly in the local authority seems to have received scant attention from the scholars. Therefore, this paper focuses on the said issue by specifically investigating the differences of customer satisfaction levels that may exist between two different intensities of implementing QM.

Based on the above discussion, this study postulated that the impact of each critical factors of QM on customer satisfaction is different between the highly intensive and less intensive implementers. Therefore, this study posited the following five hypotheses:

- H1: There is a difference between the levels of customer satisfaction of highly intensive customer focus and less intensive customer focus organisations.
- H2: There is a difference between the levels of customer satisfaction of highly intensive benchmarking and less intensive benchmarking organisations.
- H3: There is a difference between the levels of customer satisfaction of highly intensive employee empowerment and less intensive employee empowerment organisations.
- H4: There is a difference between the levels of customer satisfaction of highly intensive continuous improvement and less intensive continuous improvement organisations.
- H5: There is a difference between the levels of customer satisfaction of highly intensive quality information systems and less intensive quality information systems.

5. METHODOLOGY

This study used questionnaire as the research instrument to collect data. To assure the content validity of constructs, relevant literature was reviewed for adapting the items in developing the questionnaire. Table 2 tabulates the sources and items used to develop this questionnaire. In addition, experts from the Quality Management Research Institute of a university were consulted. All items were measured using a five-point Likert scale ranging from one to five, where the higher score indicates higher intensity of QM being practiced or higher level of customer satisfaction, and vice versa. The average score of all items associated to each construct was considered the final score for that construct.

Table 2: Sources for the Development of the Research Instrument

Constructs (Previous Studies)	Items used to Measure the Constructs
Customer Focus (Mady, 2009; Zu, 2009)	<ul style="list-style-type: none"> • Customer feedback is used effectively • Actively seeks ways to improve quality of service • Aware of the results of customer surveys • Customer complaints are examined by managers
Benchmarking (Ahire et al., 1996; Black & Porter, 1996)	<ul style="list-style-type: none"> • Engaged in extensive benchmarking • Benchmark the level of customer satisfaction • Benchmark the service process • Benchmark the level of servicescapes
Employee Empowerment (Mady, 2009)	<ul style="list-style-type: none"> • Employees are responsible for error free output • Involvement of operational workers in quality related decisions • Employees are given authority to provide quick solution for problems
Continuous Improvement (Mady, 2009; Zu, 2009)	<ul style="list-style-type: none"> • Quality initiative is an ongoing process • Continuous improvement is practised in all operations • Continuous improvement overrides short-term results
Customer Satisfaction (Chan, 2004; Fuentes-Fuentes, 2004)	<ul style="list-style-type: none"> • Customers are satisfied with the services delivered • Service delivered to customer in stipulated time • Have good reputation among customers

5.1. Sampling

The sampling frame was self-developed by researchers based on a list of all departments attached to city councils (CC) and municipal councils (MC) in West Malaysia. One of the apparent characteristics of local authorities in Malaysia is that they all fall into three different categories, namely district, municipal, and city councils. District councils represent smaller-sized local authorities and city councils represent the biggest-sized councils. Acknowledging the possible bias on findings due to the effect of organisational size on QM-performance, the approach was taken to exclude district councils. According to Haar and Spell (2008), the effect of QM on performance is different between different sizes of organisations. The respondents of this study were the heads of each department.

The samples were randomly identified. A stratified random sampling was deemed to be the most appropriate with the characteristics of samples under study. This sampling approach is appropriate for a sample with intra-group heterogeneity and inter-group homogeneity (Sekaran, 2003). As for the local authorities, there are many similarities among the inter-local authorities as they are governed under the same Local Government Act 1976. They are also centrally monitored by the same Ministry of Housing and Local Government. However, each intra-local authority has diverse departments with diverse activities, functions, and objectives.

Table 3: Sampling and Responses

	Sampling Frame (Number of Departments)	Randomly Selected Samples	Number of Questionnaires Returned	Percentage of Response %
<i>City Hall /Council</i>				
Kuala Lumpur	22	22	14	63.64
Johor Bahru	7	7	6	85.71
Alor Setar	8	8	5	62.50
Melaka	13	13	10	76.92
Ipoh	9	9	9	100
Shah Alam	12	12	10	83.33
Petaling Jaya	14	14	12	85.71
<i>Municipal Council</i>				
Batu Pahat	6	6	5	83.33
Johor Bahru Tengah	9	9	8	88.89
Kluang	6	-		
Muar	7	7	5	71.43
Sungai Petani	10	10	8	80.00
Kulim	10	10	8	80.00
Langkawi	8	8	7	87.50
Kota Bharu*	8	-		
Alor Gajah	11	11	9	81.82
Seremban*	11	-		
Nilai	6	-		
Port Dickson	9	9	7	77.78
Kuantan	11	11	10	90.91
Temerloh	13	13	10	76.92
Manjung	10	-		
Taiping	8	-		
Kuala Kangsar	7	7	6	85.71
Teluk Intan	8	-		
Kangar	8	8	7	87.50
Pulau Pinang	10	10	8	80.00
Seberang Prai	10	10	10	100
Ampang Jaya	10	10	8	80.00
Kajang*	10	-		
Klang	10	10	8	80.00
Selayang	11	-		
Subang Jaya	9	9	9	100
Sepang	7	-		
Kuala Terengganu*##	7	-		
Kemaman	7	7	6	85.71
Total	342	250	205	82.00

Notes: #Kuala Terengganu MC was granted the status of City Council since 1 January 2008.

*These local authorities were the local authorities involved in the pilot study.

The sample selection was completed using procedures as follows:

- First, all local authorities within the sampling frame were divided into two; either CC or MC.
- Then, all 85 departments attached to seven CCs were selected as samples due to the small number involved.
- Next, 18 MCs were randomly selected out of 25 MCs. The number of departments attached to these 18 MCs is 175 departments. The selection process was stopped at the 18th MC based on the decision to select 250 samples. This figure was derived based on the number of samples appropriate for statistical analysis as well as taking into consideration the possibility of non-responding respondents.
- The information of samples selected and response received is summarised in Table 3.

6. FINDINGS

Table 4 tabulates the results of the reliability analysis. Results indicated that all constructs have a value of Cronbach alpha surpassing the benchmark mark of 0.60 (Hair et al., 1998). A further examination revealed if any items representing the related constructs were to be dropped the value of alpha would decrease. Thus, it can be concluded that all items are statistically important to their represented constructs.

Table 4: Reliability Test Results

Constructs		Cronbach Alpha if item deleted	Cronbach Alpha of the construct
Customer Focus	Item 1	0.737	0.795
	Item 2	0.714	
	Item 3	0.768	
	Item 4	0.744	
Benchmarking	Item 1	0.798	0.845
	Item 2	0.789	
	Item 3	0.831	
	Item 4	0.786	
Employee Empowerment	Item 1	0.464	0.682
	Item 2	0.681	
	Item 3	0.553	
Continuous Improvement	Item 1	0.739	0.770
	Item 2	0.766	
	Item 3	0.542	
Quality Information Systems	Item 1	0.768	0.827
	Item 2	0.764	
	Item 3	0.777	
	Item 4	0.816	
Customer Satisfaction	Item 1	0.684	0.750
	Item 2	0.747	
	Item 3	0.506	

Table 5 tabulates the results of the exploratory factor analysis. As shown in the table, all items had nicely loaded onto their respective factors with a factor loading higher than the value of 0.40 (Hair et al., 1998). An eigen-value of greater than 1.0 for each factor indicated that each of them is represented by adequate theoretical items (Kaiser, 1970 in Hair et al., 1998). The KMO value of 0.889 indicated that the application of factor analysis was appropriate for the data under study.

Table 5: Factor Analysis Results

Constructs	Factor Loadings	Eigen-value	% of variance explained	Cumulative variance explained
Customer Focus	0.611-0.739	8.238	39.227	39.227
Benchmarking	0.693-0.805	1.532	7.296	46.523
Employee Empowerment	0.461-0.680	1.321	6.293	52.816
Continuous Improvement	0.482-0.802	1.242	5.916	58.732
Quality Information Systems	0.536-0.732	1.056	5.030	63.762
Customer Satisfaction	0.487-0.868	1.027	5.010	68.772

Table 6 reports the results of the correlations between every critical factors of QM and customer satisfaction. The results indicated that all critical factors of QM under study had significant correlation with customer satisfaction. In other words, these findings are congruous with the discussion in the literature that customer satisfaction is a criterion variable of critical factors of QM.

Table 6: Correlation between QM and Customer Satisfaction

Constructs	Coefficient Correlation
Customer focus	0.535*
Benchmarking	0.465*
Employee Empowerment	0.423*
Continuous Improvement	0.506*
Quality Information Systems	0.531*

Notes: *p< 0.05

Table 7 summarises the samples of the study. Each critical factors of QM are represented by highly intensive implementers as well as less intensive implementers. As can be seen, the number of highly intensive implementers and less intensive implementers for different critical factors differ with each other. As such, the number of highly intensive implementers for customer focus was 139 respondents, however the highly intensive implementers for quality information systems was only 44. This kind of data would lead to the conclusion that although all samples had implemented QM in their respective organisations, variation between the critical factors may exist. In other words, the data justified the significance of conducting this research by investigating each critical factor separately, rather than investigating QM as a single package of factors.

Table 7: Classification of Samples

Critical Factors of QM	Level of Intensity	Number of Respondents
Customer Focus	High	139
	Low	66
Benchmarking	High	110
	Low	95
Employee Empowerment	High	86
	Low	119
Continuous Improvement	High	124
	Low	81
Quality Information Systems	High	44
	Low	161

The samples were classified into highly intensive and less (or low) intensive organisations by averaging the cumulative score of each factor. As such, the customer focus was measured using four items with the score of each item ranging from one to five. The cumulative score for all these four items was divided by four to obtain an average score for the customer focus, where the possible average score ranged from one to five. The score of four and below was classified as less intensive, and the score above four to five was classified as highly intensive. This same procedure was applied to the other critical factors.

Table 8 tabulates the means and standard deviations of customer satisfaction for the high and low levels of intensiveness of each critical factor. These results revealed that highly intensive implementers of all critical factors had secured higher mean scores of customer satisfaction, as compared to the low intensive implementers. However, to further confirm if any differences can be statistically justified between the two groups of samples, independent samples T-Test was performed. Results of the said test, as tabulated in Table 9, were used to test the hypotheses under study.

Table 8: Means and Standard Deviations

Critical Factors of QM	Level of Intensity	Customer satisfaction	
		Mean	SD
Customer Focus	High	3.79	0.559
	Low	3.25	0.556
Benchmarking	High	3.85	0.482
	Low	3.36	0.645
Employee Empowerment	High	3.86	0.512
	Low	3.45	0.622
Continuous Improvement	High	3.84	0.504
	Low	3.28	0.612
Quality Information Systems	High	4.01	0.554
	Low	3.51	0.586

Table 9 indicates the results of the hypotheses testing. Out of five hypotheses under study, three hypotheses namely, H2, H3, and H4 were supported. In other words, the level of customer satisfaction between highly intensive and less intensive implementers is significantly different for three critical factors, namely benchmarking, employee empowerment, and continuous improvement. However H1 and H5 were not supported during this study. Therefore, these results indicated that there is no significant difference in the levels of customer satisfaction for highly intensive and less intensive implementers of customer focus and quality information systems.

Table 9: Independent Sample T-Test: Lavene's Test

Hypothesis Under Study	Variables	Levene's Test for Equality of Variances		Results
		F	Sig	
H1	Customer Focus	0.803	0.371	not supported
H2	Benchmarking	11.346	0.001*	supported
H3	Employee Empowerment	5.349	0.022*	supported
H4	Continuous Improvement	7.968	0.005*	supported
H5	Quality Information Systems	1.960	0.163	not supported

Notes: *p<0.05

7. DISCUSSION

Many authors had reported that customer satisfaction is a result of effective QM (Siddiqui&Rahman, 2007; Terziovski, 2006). However, the literature has proposed that successful implementation of QM is subject to other various contingency factors. Thus, it is important for researchers to investigate as many factors as possible. Among these factors, this study indentified the intensity of implementing QM as a study area that is less researched. The issue of intensity of implementation has become of interest due to the premise that the implementation issue of QM is not limited to just a 'yes-or-no' implementation, but how intensive the implementation would be over time. In other words, an organisation may get started to initiate QM, but they may institutionalise it during very selective activities or departments. In other words, they do not really consider a fully-fledged implementation of QM. Thus, the introduction point should not be equally understood as intensively implemented, as this would lead to a misunderstanding about the effect of QM on performance. As an analogy, the runner of a 100 metre competition who stops immediately after the starting gun would never receive the same award with the winner who completes running the track, even though both runners are labelled as 100 metre runners.

The findings of this study reported that H2, H3, and H4 of this study were supported. This means that the intensity of benchmarking, employee empowerment, and continuous improvement being in place would be considered as a matter for customer satisfaction. In other words, the highly intensive implementers of these critical factors would secure significantly different results as compared to less intensive implementers.

The practice of benchmarking allows an organisation to benchmark itself with others, and the practice of benchmarking has been reported as a useful tool for local authorities in UK (Magd& Curry, 2003). Through this practice, organisations would ensure which areas that would need to be improved, and which areas that need to be maintained. Based on this finding, this paper urges local authorities in Malaysia to intensify the information and expertise sharing among them since the availability of information and data has been recognised in the literature as among the ingredients for successful benchmarking (Goncharuk, 2009). This is probably not a big problem for local authorities as they hardly compete with other. However, good performance by all the local authorities, rather than a few of them, would uphold the reputation of the public service in Malaysia.

Employee empowerment brings a positive effect to the working environment as this practice would encourage them to give suggestions for improvement, which in turn would lead them to feel as being part of the team of executing QM. This situation would eliminate the conflict that may arise between the individual objectives and organisational objectives (Merchant, 1982). This condition provides them a supportive ambience to work as a team. According to the literature, employees who work collectively rather than work competitively results in providing better service to the customers (Tjosvold et al., 1996), and in turn satisfy their expectation. Therefore, the findings of this study implied that the employee should be involved extensively in planning, executing, and/or monitoring the development of QM being put in place. The result of this study that reported the intensity of employee empowerment being practised would have an impact on the customer satisfaction is supported by previous authors such as Wirtz, Heracleous, and Pangarkar (2008). According to them, all employees, particularly frontline workers, are expected to be fast when dealing with the customers, and their empowerment and suggestions would only improve their performance, and thus ultimately improve customer satisfaction.

Another philosophy behind QM is that QM is a continuous agenda. Thus the survival of its implementation relies upon the culture of doing things always better than before. In other words, continuous improvement requires slow but steady progress in various aspects in organisations, which includes input, process, and output. Continuous improvement means doing improvement incrementally rather than radically (Larson, Arif, & Aburas, 2008). According to Fryer et al., (2007), the improvement on selective aspects of an organisation may cause the improvement to fail to bring overall positive consequences. Their proposition was in line with findings of this study where samples that institutionalise higher intensive continuous improvement gained customer satisfaction that is significantly higher than their relatively less intensive counterparts.

However the results of H1 and H5 of this study were not supported. In other words, there is no significant difference between the customer satisfaction of highly intensive and less intensive implementers of QM regarding these two critical factors, namely customer focus and quality information systems. This finding is probably due to the nature of local authorities as governmental institutions, where the flexibility given to design their work process is limited, thus this might inhibit them to satisfy the various kinds of customer expectations. According to Hood et al. (1998), public organisations are limitedly free to design their strategies, but work within the controlled framework set by the higher political authorities. In the case of Malaysia,

the authorities given to the local authorities are subjected to the Ministry of Housing and Local Government as well as State Government. Although the strict regulation imposed on local authorities may improve their accountability, the effect on better service performance is invisible (Boyne, 2003).

The insignificant difference of customer satisfaction for different levels of quality information systems intensiveness is congruous with an article by Bandyopadhyay (2003). According to him, the effectiveness of quality information systems is related to the specific information needs of an organisation. In other words, the good effect of having quality information systems does not solely depend on how intensive it is, but the advancement of it must be in tandem with the organisational needs. The advanced information systems that are suitable for the well-developed townships, like Kuala Lumpur, perhaps do not really match with the needs of less developed areas like Kota Bharu. In other words, the more important issue of quality information systems is not how advance the systems are but how suitable the systems are to meet the organisational needs. As such, a big organisation with more complex issues may have quality information systems consisting of databases of management databases, customer databases, design and engineering databases, inspection and quality control databases, maintenance databases, and production planning databases (Bandyopadhyay, 2003). However, for a smaller organisation, they may only require a smaller number of databases. As such, the design, engineering, inspection, control, and maintenance databases may be combined as one single database.

However, the correlation test as reported in Table 6.0 indicated that there was a significant correlation between these two critical factors and customer satisfaction. This finding is in line with a previous study that found customer focus to have significantly contributed to customer satisfaction (Siddiqui&Rahman, 2007), and quality information systems is a critical determinant of customer satisfaction (Bandyopadhyay, 2003).

8. MANAGERIAL IMPLICATIONS

For managers of local authorities, the findings of this study provide important implications to consider. The intensiveness of implementing QM, particularly the critical factors of benchmarking, employee empowerment, and continuous improvement, does have a significant effect on customer satisfaction. Therefore, managers should focus on these factors when designing activities, training, or new initiatives. By focusing on these factors, managers may save on fund spending and effort by avoiding doing something that may have a less significant effect. For the other two factors, namely customer focus and quality information systems, there are also important and proven in this study as associated with customer satisfaction. However the intensity of implementing these two factors perhaps is not a big issue. As tabulated in Table 7.0, among the five critical factors of QM investigated in this study, customer focus is the factor with highest number of intensive implementers. This means that, most local authorities have already implemented customer focus intensively. For the quality information systems, the number of intensive implementers is relatively low as compared to the other critical factors. However, the current development of information systems in local authorities is believed to be in tandem with the focus of the Malaysian government toward intensifying the usage of information technology in the management of public organisations.

9. LIMITATIONS; RECOMMENDATIONS AND CONCLUSION

Two limitations attached to this study should be highlighted. The implication drawn from the finding should never neglect the said limitation. However, the limitations reported here do not weaken the significance of the revealed findings. The limitations are related to the issue of single informant and subjective measurement of customer satisfaction without taking into account the issue of customer expectation.

The use of single informants from each department as respondents may raise the issue of adequacy of knowledge of the informant on the items asked in the questionnaire. However, for a small organisation, this issue is not a severe problem (Huselid & Becker, 2000). As for this study, each department is considered small organisations as having employees of less than 50 individuals. This study also used a subjective measure of customer satisfaction variable instead of objective measure. However, the usage of subjective measure in measuring performance seems to be widely applied and accepted in the literature (Terziovski, 2006). This study also focused on customer satisfaction without taking into consideration the possible effect of customer expectation. Based on these three limitations, future research could benefit by extending this study using more than one informant for each department; evaluating objective data of customer satisfaction, i.e. number of complaints received as well as considering the variable of customer expectation as part of research framework.

In short, this study has reported that the intensity of QM practices, specifically referring to benchmarking, employee empowerment, and continuous improvement, is a matter for customer satisfaction. More intensive QM being implemented would result in higher levels of customer satisfaction. In general, the literature has associated customer satisfaction with QM practices. Although this paper agrees with that general belief, the findings of this study suggested a clearer association, namely that QM implementing organisations can reap better customer satisfaction under the condition of QM being institutionalised intensively. Thus, these findings imply that the manager of a local authority should examine the intensity of QM being exercised if they found that the public response toward their service quality as being unsatisfactory.

REFERENCES

- Ahire, S. L., Golhar, D. Y., & Waller, M. A. (1996). Development and validation of TQM implementation constructs. *Decision Sciences*, 27(1), 23-56.
- Awan, H. M., Bhatti, M. I., Bukhari, K., & Qureshi, M. A. (2008). Critical success factors of TQM: Impact on business performance of manufacturing sector in Pakistan. *International Journal of Business and Management Science*, 1(2), 187-203.
- Bandyopadhyay, J. (2003). A total quality information management system for auto parts manufacturers in the United States. *International Journal of Management*, 20(2), 187-193.
- Black, S. A., & Porter, L. J. (1996). Identification of the critical factors of TQM. *Decision Sciences*, 27(1), 1-21.

- Borsese, A., McDowall, R. D., & Andrade, J. M. (2003). Communication: the essential factor when implementing management systems. *Accreditation and Quality Assurance*, 8(1), 2-12.
- Boyne, G. A. (2003). Sources of Public Service Improvement: A critical review and research agenda. *Journal of Public Administration Research and Theory*, 13(3), 367-394.
- Camp, R. C. (1989). *Benchmarking: The Search for the Industry Best Practice that Leads to Superior Performance*. Quality Press: Madison.
- Carpinetti, Luiz, C. R., & Melo, A. M. D. (2002). What to benchmark? A systematic approach and cases. *Benchmarking: An International Journal*, 9(3), 244-255.
- Chan, Y. C. L. (2004). Performance measurement and adoption of balanced scorecard: A survey of municipal governments in the USA and Canada. *International Journal of Public Sector Management*, 17(3), 204-221.
- Claver, E., & Tari, J. J. (2008). The individual effects of Total Quality Management on customers, people and society results and quality performance in SMEs. *Quality & Reliability Engineering International*, 24(2), 199-211.
- Fryer, K. J., Antony, J., & Douglas, A. (2007). Critical success factors of continuous improvement in the public sector: A literature review and some key findings. *The TQM Magazine*, 19(5), 497-517.
- Fuentes-Fuentes, M. M. (2004). The impact of environmental characteristics on TQM principles and organisational performance. *Omega*, 32(6), 425-442.
- Goncharuk, A. G. (2009). Improving of the efficiency through benchmarking: a case of Ukrainian breweries. *Benchmarking: An International Journal*, 16(1), 70-87.
- Haar, J. M., & Spell, C. S. (2008). Predicting total quality management adoption in New Zealand: The moderating effect of organisational size. *Journal of Enterprise Information Management*, 21(2), 162-178.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate dataanalysis*. 5th ed. USA : Prentice Hall.
- Hood, C., James, O., Jones, G., Scott, C., & Travers, T. (1998). *Regulation inside government*. Oxford, England: Oxford University Press.
- Huselid, M. A., & Becker, B. E. (2000). Comment on 'measurement error in research on human resources and firm performance: how much error is there and how does it influence' by Gerhart Wright, Mc Mahan and Snell. *Personnel Psychology*, 53, 835-854.
- Ibrahim, J. (2009). Daya Saing Malaysia Melonjak: PM, BeritaHarian. (26 February 2009). (In Malay)
- Larson, M., Arif, M., & Aburas, H. M. (2008). Incremental changes and efficiency leaps in the improvement of internal effectiveness. *Management Research News*, 31(8), 583-594.
- Lee, P. K. C., To, W. M., & Yu, B. T. W. (2009). The implementation and performance outcomes of ISO 9000 in service organisations: An empirical taxonomy. *International Journal of Quality & Reliability Management*, 26(7), 646-662.

- Mady, M. T. (2009). Quality management practices: An empirical investigation of associated constructs in two Kuwaiti industries. *International Journal of Quality & Reliability Management*, 26(3), 214-233.
- Magd, H. A. E. (2008). Understanding benchmarking in Egyptian organisations: an empirical analysis. *Benchmarking: An International Journal*, 15(6), 742-764.
- Magd, H., & Curry, A. (2003). An empirical analysis of management attitudes towards ISO 9001:2000 in Egypt. *The TQM Magazine*, 15(6), 381-390.
- Merchant, K. A. (1982). The control functions of management. *Sloan Management Review (Summer)*, 43-55.
- Nilsson, L., Johnson, M. D., & Gustafsson, A. (2001). The impact of quality practices on customer satisfaction and business results: product versus service organisations. *Journal of Quality Management*, 6(1), 5-27.
- Ortner, H. M. (2000). The human factor in quality management. *Accreditation and Quality Assurance*, 5(4), 130-141.
- Pereira, G. M., & Osburn, H. G. (2007). Effects of participation in decision making on performance and employees attitude: A Quality circles Meta-analysis. *Journal of Business and Psychology*, 22(2), 145-153.
- Prajogo, D. I., & Brown, A. (2006). Approaches to adopting quality in SMEs and the impact on quality management practices and performance. *Total Quality Management & Business Excellence*, 17(5), 555-566.
- Said, J., Hui, W. S., Taylor, D., & Othman, R. (2009). Customer-Focused strategies and information technology capabilities: Implications for service quality of Malaysian local authorities. *International Review of Business Research Papers*, 5(3), 241-256.
- Sekaran, U. (2003). *Research methods for business: A skill building approach*, 4th ed. New York: John Wiley and Sons.
- Siddiqui, J., & Rahman, Z. (2007). TQM principle's application on information systems for empirical goals: A study of Indian organisations. *The TQM Magazine*, 19(1), 76-87.
- Sit, W., Ooi, K., Lin, B., & Chong, A. Y. (2009). TQM and customer satisfaction in Malaysia's service sector. *Industrial Management & Data Systems*, 109(7), 957-975.
- Sousa, R. (2003). Linking quality management to manufacturing strategy: an empirical investigation of customer focus practices. *Journal of Operations Management*, 21(1), 1-18.
- Sun, H. (2000). Total quality management, ISO 9000 certification and performance improvement. *International Journal of Quality & Reliability Management*, 17(2), 168-179.
- Terziovski, M., & Power, D. (2007). Increasing ISO certification benefits: a continuous improvement approach. *International Journal of Quality & Reliability Management*, 24(2), 141-163.
- Terziovski, M. (2006). Quality management practices and their relationship with customer satisfaction and productivity improvement. *Management Research News*, 29(7), 414-424.

- Terziovski, M., Powell, D., & Sohal, A. S. (2003). The longitudinal effects of the ISO9000 certification process on business performance. *European Journal of Operational Research*, 146, 580-595.
- Tjosvold, D., Moy, J., & Sasaki, S. (1996). Managing for customers and employees in Hong Kong: The quality and teamwork challenges. *Journal of Market-Focused Management*, 1(4), 339-357.
- Wirtz, J., Heracleous, L., & Pangakar, N. (2008). Managing human resources for service excellence and cost effectiveness at Singapore Airlines. *Managing Service Quality*, 18(1), 4-19.
- Yusof, S. M., & Aspinwall, E. (2000). Total quality management implementation frameworks: comparison and review. *Total Quality Management*, 11(3), 281-294.
- Zu, X. (2009). Infrastructure and core quality management practices: how do they affect quality? *International Journal of Quality & Reliability Management*, 26(2), 129-149.