

ANALYSIS ON THE RELATIONSHIP BETWEEN TOTAL QUALITY MANAGEMENT (TQM) AND OPERATIONAL PERFORMANCE OF MICRO, SMALL AND MEDIUM ENTERPRISES (MSMEs) IN PANGLONG

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Abstract

This study aims to analyze the relationship between total quality management (TQM) and operational performance of micro, small and medium enterprises in Panglong. Customer focus, employee knowledge and education, employee quality management, process management and quality practices of top management all play critical roles in improving the operational performance of micro, small and medium-sized enterprises (MSMEs) of Myanmar. Micro, small and medium-sized firms must overcome several obstacles in order for the country's economy to thrive. This study addresses this issue. A quantitative technique is used in this research. Data were acquired through personal interview with structured questionnaire. Data are collected from April 2023 to May 2023. To reach research objectives, multiple linear regression analysis is applied. Among the total quality management practices, the findings of the study suggested that only process management and quality practices of top management have positively significant effect on operational performance of MSMEs in Panglong. The study's findings have a number of implications for MSME management including the importance of production process and quality practices of top management or owners in achieving better performance standards.

Keywords: Customer Focus, Employee Knowledge and Education, Employee Quality Management, Process Management, Quality Practices of Top management and Operational Performance

Introduction

Economic development is an important role for most developing nations. By boosting productivity and creating jobs, micro, small and medium-sized enterprises (MSMEs) have an important role to play. These appears to be a substantial and expanding corpus of academic study on the speed of innovation, which is defined as the time passed between the original idea and the final market introduction of a new product. Myanmar, as a developing economy, is confronted with the difficulty of matching specification and expectations in terms of sales and service supply, which has resulted in significant economic waste and in calculable difficulties in the country. In general, it is a management concept that aims to incorporate all organizational tasks to objectively meet consumers' needs. Its goal is to make quality less on an operational issue and more of a concern for the whole organization. All units, departments, and divisions of the company will be responsible for total quality management.

Businesses today operate in increasingly competitive and dynamic markets require goods to be brought to the market faster, global competitiveness, an exponential increase in innovation, and changing consumer expectations are promoting product quality improvements and requirements for rapid product development. A sustained enterprise keeps its ability to acquire both

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short-term and long-term benefits in a leading competitive market. This is essential for future growth.

In the context of small and medium-sized manufacturing industries, only few academics have addressed total quality management practices in MSME's operational performance. Scholars have claimed that there exists a positive relationship between total quality management and MSME's operational performance. Nevertheless, believes that TQM has a negative impact and a less-than-optimal outcome on the performance of MSMEs. The result of these contradictory and inconsistent findings and there is a shortage of research that explores the relationship between TQM and MSMEs performance, especially in Panglong setting, an investigation is truly needed to bridge this gap.

A deeper knowledge of TQM practices of firms in Panglong will be gained from this research. Specifically, this study will try to answer the question: Are there any direct impacts of total quality management practices on MSMEs operational performance in Panglong.

As a result, improving the performance of MSMEs necessitates effective TQM practices. Consequently, the purpose of this study is to investigate the relationship between total quality management and operational performance of micro, small and medium enterprises (MSMEs) in Panglong.

Objective of the Study

The main purpose of this study is to examine whether the TQM practices of MSMEs can support business firms to increase their operational performance. The specific objective of the study is:

- To analyze the effect of TQM practices on operational performance of MSMEs in Panglong

Method of the Study

This study focuses on the factors influencing MSMEs performance in Panglong. In this study, both primary and secondary data are used. According to the data from Loilem township municipal association, there are 412 MSMEs in Panglong last year. The Roasoft sample size calculator is used for sample size. It is taking into account a confidence interval of 90 %, margin of error of 5 %. A simple random sampling method is used for the sample. 176 MSMEs are chosen as sample by simple random sampling method. In these sample businesses, number of small foods shops and restaurants are 58, grocery stores are 23, stationery shops are 10, hardware shops are 8, motor cycle repairs are 8, sewing shops are 6 equipment and accessories shops are 5 and the rest 58 businesses are 10 shops are lathes, dried tea leave shops, workshops, clothing shops, betel leave and nut shop, purified drinking water manufacturing businesses, furniture shops, beauty salons, printing services, pharmacy (drug stores), fuel shops, handsets and accessories, etc.,

Personal interview method is applied by using structured questionnaire with 5-point likert scale. Secondary data are sourced from relevant websites, previous papers, international journals and textbooks. The descriptive and linear regression methods are applied for data analysis.

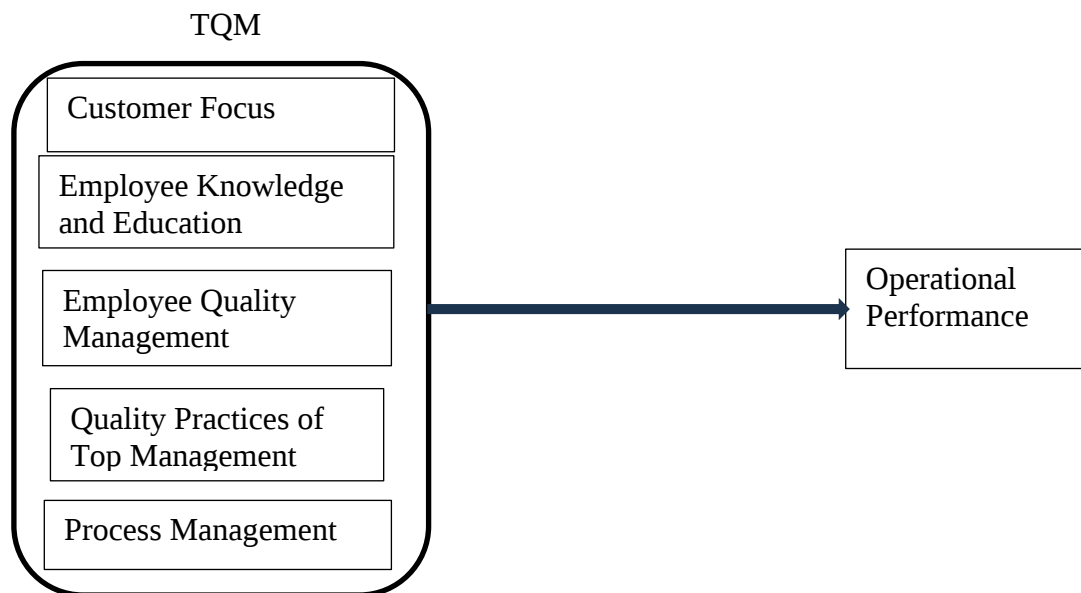
Conceptual Framework of the Study

Conceptual model of this study is adapted to two previous researchers' models which are closely related to basic assumptions of this study. the first model focus on investigating the role of innovation speed in mediating the relationship between total quality management and performance of small and medium-sized enterprise in Nigeria. The main objective of the second model was to find out the effect of total quality management on operational performance of commercial banks in Mombasa County, Kenya (Nyamari, 2017).

The first model adapted by this study is developed by Niyi Anifowose, Ghasemi and Olaleye (2022). The findings of this study suggested that total quality management is positively related to operational performance which has a substantial on the nexus between total quality management (TQM) and small and medium-sized enterprises'(SME) performance. The second model considered in this study is the model developed by Nyamari (2017). This previous model pointed out that TQM practices as independent variables had a significant relationship with operational performance. Additionally, TQM practices were realized to have a positive effect on operational performance such that as TQM practice varies, the latter varies to a large extent.

Conceptual Model of the Study

The conceptual model of this study is developed by covering the factors mentioned above with theoretical aspects, and previous researchers' findings. The conceptual model of this study is shown in Figure (1).



Source: Own Compilation

Figure (1) Conceptual Model of the Study

In this study, the five major assumptions are developed: customer focus, employee knowledge and education, employee quality management, process management and quality practices of top management are relation to operational performance of MSMEs in Panglong. The concept adapted that TQM is a set of controllable practices that businesses use to produce the response they want, operational performance.

Analysis and Results

The main purpose of the study is to analyze the effect of TQM practices on operational performance of MSMEs in Panglong. To explore this effect, the study intends to identify the TQM practices such as customer focus, employee knowledge and education, employee quality management, process management and quality practices of top management that influence the operational performance of MSMEs in Panglong. The descriptive statistics and multiple linear regression analysis were conducted to analyze the effect of TQM on operational performance.

Profiles of MSMEs in Panglong

The profile of MSMEs in Panglong consists of kinds of businesses and their contribution. In the last year, there are 412 MSMEs in Panglong (Loilem township municipal association). This study is based on these 412 businesses. According to the business number, MSMEs businesses are divided into two categories: above ten shops and below 10 shops. Types of businesses which have more than 10 shops are restaurants and food shops, grocery stores, stationery stores, hardware shops, motorcycle repair shops, sewing shops and equipment and accessories shops. Types of business which have less than 10 shops are lathes, dried tea leave shops, workshops, clothing shops, betel leave and nut shop, purified drinking water manufacturing businesses, furniture shops, beauty salons, printing services, pharmacy (drug stores), fuel shops, handsets and accessories, etc.,

Among 412 businesses, the largest portion of businesses (33 %) is small food shops and restaurants. The reason is that Panglong is the town where Panglong University is located. Both of day and distance students study at Panglong University. Most of the students come from other towns around Panglong. In addition, most of the university teachers come from Yangon, Mandalay and Taungyi. Therefore, demand for food has exceeded supply. The second largest portion (13 %) is grocery stores. Both kinds of stationery and hardware shops have five percent contribution rate each. Moreover, motorcycle repair shops and sewing shops are four percent each of all MSMEs businesses in Panglong. Three percent of all MSMEs businesses are equipment and accessories shops. The rest percent of businesses consists of 10 shops are lathes, dried tea leave shops, workshops, clothing shops, betel leave and nut shop, purified drinking water manufacturing businesses, furniture shops, beauty salons, printing services, pharmacy (drug stores), fuel shops, handsets and accessories, etc.,

Relationship between Total Quality Management (TQM) and Operational Performance

The analysis on the relationship between total quality management and operational performance is conducted by using survey data. In this study, TQM practices are concerned with customer focus, employee knowledge and education, employee quality management and process management and quality practices of top management. Operational performance measurements consist of customer satisfaction, quality development, cost management, responsiveness and productivity. The TQM practices of surveyed businesses can be seen with the mean value data. Firstly, practices concerning customer focus can be seen in Table (1).

Table (1) Customer Focus

Sr.	Items	Mean	Std.Dev
1	Analyzing customer needs	4.133	0.720
2	Publicizing customer needs to all employees	4.044	0.790

Sr.	Items	Mean	Std.Dev
3	Measuring customer satisfaction periodically	3.978	0.747
4	Acting on customer complaints/feedback	4.244	0.640
5	Having systems to manage customer relationships	4.133	0.620
	Overall Mean	4.106	

Source: Survey Data (2023)

As shown in Table (1), customer focus mean score of respondents is high (4 and nearly 4). It can be concluded that they show strength in performing customer focus activities. According to the results of each item, it is found that they are rarely measure customer satisfaction periodically. However, they are mainly acts on customer complaints and feedback. The reason for this is that most of the businesses believe, if there is no complaint, customers are satisfied. In fact, only some portion of unsatisfied customers are complaint. The rest portion of unsatisfied customers are no complaint. In reality, number of unsatisfied customers are not equal to number of customer complaints. Therefore, the businesses should take into account these facts.

After that, the analysis focuses on practices of businesses on employee knowledge education. The employee knowledge education practices of surveyed businesses can be assessed with the mean values shown in Table (2).

Table (2) Employee Knowledge and Education

Sr.	Items	Mean	Std.Dev
1	Evaluating educational programs	3.222	1.136
2	Having knowledgeable and knowing-how employees	3.778	0.729
3	Having educated employees in subjects concerning their specialty and daily work	3.600	0.830
4	Absorbing educational subjects by employees	3.244	0.949
5	Providing resources for educational reasons	3.311	1.032
	Overall Mean	3.431	

Source: Survey Data (2023)

As shwon in Table (2), employee knowledge education mean score of respondents is in acceptable level (greater than 3). It can be concluded that, the businesses indicate level of intensity in performing employee knowledge education activities. To maintain long-term customer satisfaction and loyalty, employee knowledge education is important. According to the result of each item, the employees have enough knowledge and know-how. However, it can be found that there is some extent of weakness in performing and evaluating educational programs such as training and development programs.

The next part is analysis on practices of businesses for employee quality management. The level of commitment of businesses to employee quality management practices can be seen with mean values shown in Table (3).

Table (3) Employee Quality Management

Sr.	Items	Mean	Std.Dev
1	Awarding employees who improve quality	4.000	0.762
2	Evaluating employees	4.044	0.633
3	Motivating employees to improve their performance	4.022	0.832
4	Collecting data from employees regarding their satisfaction	3.911	0.814
5	Collecting data from employees regarding their suggestions for improvement	3.778	0.894
6	Taking initiatives by employees	3.289	0.937
7	Taking into consideration quality data from employees during their daily work	3.644	0.901
	Overall Mean	3.812	

Source: Survey Data (2023)

As shown in Table (3), three variables of employee quality management mean scores are fairly high (greater than 4). It can be concluded that the businesses indicate strengths in providing quality award, evaluating employee performance and motivating employees to improve their performance. The rest four variables mean scores are in the acceptable because the mean scores are greater than 3. It can also be concluded that the businesses point out their strengths in data collection regarding employee satisfaction and suggestions for improvement, encouraging employees to take initiatives and taking into consideration daily work quality data from their employees.

Another part of the analysis is focused on process management. The level of concentration of businesses to process management practices can be seen with mean values shown in Table (4).

Table (4) Process Management

Sr.	Items	Mean	Std.Dev
1	Detecting process and product nonconformities through internal audits	3.778	0.788
2	Recording and analyzing process quality data	3.800	0.780
3	Determining-evaluating the critical processes	3.756	0.767
4	Detecting the points/places where time is lost to minimize the cost of the internal processes	3.778	0.698
5	Providing employees with work instructions	3.889	0.769
6	Formulating specific organizational structure to support quality improvement	3.889	0.708
	Overall Mean	3.815	

Source: Survey Data (2023)

As shown in Table (4), process management overall mean score of respondents is in tolerable level (greater than 3). It can be concluded that the businesses reveal their level of concentrated in practicing process management. Process management of businesses should be

systematic approach to ensure that effective and efficient business processes are in place. According to the results of each item, all employees are provided with clear work instructions and specific organizational structure has been formulated to support quality improvement. However, it can be noticed that there is somewhat weakness in determining and evaluating the critical processes. This is because potential biases, challenges in data interpretation, and resource intensives are occurred in determining and evaluating the critical processes. It requires careful planning and a systematic approach to address these limitations effectively.

The later element is analysis on quality practices of top management. The extent of execution to quality practices of top management can be examined with mean values shown in Table (5).

Table (5) Quality Practices of Top Management

Sr.	Items	Mean	Std.Dev
1	Setting the quality issues on the agenda of the managers' meetings	3.911	0.663
2	Participating actively in quality improvement efforts by top management	3.933	0.648
3	Giving the authority to employees to manage quality problems	3.733	0.882
	Overall Mean	3.859	

Source: Survey Data (2023)

As shown in Table (5), the highest mean score is concerned with “Top management actively participates in quality improvement efforts”. It can be said that top managers are actively participate in standardizing processes and structure to reduce variation, achieving predictable results, and improving outcomes for customers, customer service systems, and organizations.

According to the results of each item, the lowest mean score is related with “Top management gives the authority to employees to manage quality problems”. It can be exclaimed that top managers are rarely put into practices in involving employees in planning, distributing information and, encouraging learning and growth. This is because many managers hesitate to empower their employees because they are stuck on the traditional view of empowerment, which is giving employees extra authority.

The last item is the dependent variable of the study. This is operational performance of the businesses. The level of execution to improve operational performance can be scrutinized with mean scores shown in Table (6).

Table (6) Operational Performance

Sr.	Items	Mean	Std.Dev
1	Better customer satisfaction as compared to key competitors	3.778	0.788
2	Better quality development as compared to key competitors	3.622	0.771

Sr.	Items	Mean	Std.Dev
3	Better cost management as compared to key competitors	3.467	0.688
4	Better responsiveness as compared to key competitors	3.778	0.816
5	Better productivity as compared to key competitors	3.711	0.721
	Overall Mean	3.671	

Source: Survey Data (2023)

As shown in Table (6), operational performance mean score of respondents is in the acceptable level (greater than 3). It can be concluded that the businesses show enough strength in executing operational performance. According to the results of each item, it can be seen that the highest mean score is related with “customer satisfaction of our organization is better as compared to key competitors” and “responsiveness of our organization is better as compared to key competitors”. It can be said that the businesses focus on meeting customer expectations than the competitors through their products and services, and it can also be assumed that how quickly and efficiently an organization responds to the needs of its customers. It is determined by assessing how quickly customer inquiries and complaints are answered and how effectively recommendation is implemented and feedback is received. On the other hand, the lowest mean score is related with “cost management of our organization is better as compared to key competitors”. It can be understood that the businesses are some extents of weaknesses in the process of planning and controlling the costs associated with running a business. In the cost management process, collecting, analyzing and reporting cost information to more effectively budget, forecast and monitor costs are included.

Analysis on the Effect of TQM Practices on Operational Performance

This analysis intends to test the relationship between TQM practices and operational performance. In this study, multiple linear regression analysis is conducted to test this relationship. The results for the effect of TQM practices on operational performance are shown in Table (7).

Table (7) Relationship between TQM practices and Operational Performance

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	Sig	T	Tolerance	VIF
	B	Std. Error	Beta				
(Constant)	0.563	0.312		0.073	1.802		
Customer focus	0.057	0.063	0.054	0.370	0.898	0.873	1.145
Employee knowledge and education	0.086	0.061	0.094	0.161	1.407	0.722	1.385
Employee quality management	0.025	0.086	0.025	0.772	0.291	0.432	2.313

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	Sig	T	Tolerance	VIF
	B	Std. Error	Beta				
Process management	0.285	0.091	***0.285	0.002	3.143	0.388	2.574
Quality practices of top management	0.363	0.081	***0.357	0.000	4.467	0.500	1.999
R			0.667				
R.Square			0.445				
Adjusted R.Square			0.429				
Durbin-Watson			1.936				
F (P<0.05)			27.874				

Source: Survey Data (2023)

*, **, ***: Indicate statistical significance at the 10 % level, 5 % level and 1% level

As shown in Table (7), R^2 (proportion of the variance in the dependent variable accounted by model) is 0.445 and adjusted R^2 is 0.429. Thus, the model has accounted for 42.9 % of the variance in the dependent variable. It is found that the relationship between process management and operational performance is positively significant at 99 % confidence interval. A unit increase in “process management” will lead to 0.285 units increase in effect on operational performance while taking all other independent variables at zero. In addition, it is also found that the relationship between quality practices of top management and operational performance is positively significant at 99 % confident interval. A unit increase in “quality practices of top management” will lead to 0.357 units increase in effect on operational performance while taking all other independent variables at zero. However, the relationship between customer focus, employee knowledge and education, employee quality management and operational performance are not significant.

There is no autocorrelation in sample because the Durbin Watson value is 1.936 (nearly 2). All VIFs (variance inflation factor) of independent variables are less than 10. Thus, there is no problem of multi collinearity (correlation between independent variables). According to the results from the survey, it can be concluded that there is an effect of process management and quality practices of top management on operational performance of MSMEs in Panglong.

To increase the level of operational performance of MSMEs in Panglong, process management and quality practices of top management should be emphasized by owners or managers of MSMEs in Panglong. The rest variables such as customer focus, employee knowledge and education, and employee quality management are not too supportive to increase the level of operational performance.

Conclusion

The study extracted significant research findings that have emerged from the analysis of research data on customer focus, employee knowledge and education, employee quality management, process management, quality practices of top management and operational

performance of MSMEs in Panglong. Based on the results of findings from regression analysis, both of process management and quality practices of top management are important to increase the operational performance.

Operational performance is increased because of detecting process and product non conformities through internal audit, recording and analyzing process quality data, determining and evaluating the critical process, detecting the points/places where time is lost to minimize the cost of the internal processes, providing employees with work instructions and formulating specific organizational structure to support quality improvement. Furthermore, high operational performance is come from setting the quality issues by top management on the agenda of the managers' meeting, participating actively by top management in quality improvement efforts and giving the authority to employees by top management to manage quality problems.

However, according to the results from the analysis on the effect of TQM practices on operational performance, some TQM practices such as customer focus, employee knowledge and education and employee quality management are not relevant practices to increase the level of operational performance.

After evaluating the several aspects of operational performance, the conclusion is that there is a need to evaluate strategic TQM practices using multilevel analysis that would consider both micro and macro contents. The study discovers two general themes: process management and quality practices of top managements that play a significant role in operational performance of businesses particularly MSMEs in Panglong.

Suggestion and Recommendation

Total quality management is a cogent construct in manufacturing firms, and previous research has highlighted its impact on several financial and non-financial organizational outcomes. The current study aimed to identify the influence of TQM on operational performance. The results revealed that two TQM practices: process management and quality practices of top management positively influence the operational performance of MSMEs in Panglong. These findings suggest that the significance of process management and quality practices of top management will enhance MSMEs' operational performance. The study also revealed that for any manufacturing firm (micro, small and medium) to flourish in its day-to-day operations, there is a need to actively integrate process management and quality practices of top management to get their benefits. However, it is recommended that management empowers and regularly involves its employees. Continuous improvement should be part of all the processes and job description. Top management should create the right culture through proper hiring. Business process reengineering can help micro, small, medium and large manufacturing companies capture customers' hearts.

This study's findings can help Panglong manufacturing owners/managers understand the importance of quality management and continual improvement. It may inspire owners/managers to dedicate organizational resources to TQM adoption for greater performance. Organizations should practice constant value making through employee training for the fast transformation and actualization of the enterprise's goals.

Contributions of the Study

For practitioners, the current study has very important insights into increasing the operational performance with the help of process management and quality practices of top

management. This study provides vital clues for managers while making strategies to increase the operational performance among MSMEs in Panglong. This study provides evidence that MSMEs can increase their performance through detecting process and product non conformities through internal audit, recording and analyzing process quality, determining and evaluating critical processes, detecting the points/places where time is lost to minimize the cost of the internal processes, providing employees with work instructions, formulating specific organizational structure to support quality improvement, setting quality issues on the agenda of the managers' meetings, actively participating of top management in quality improvement efforts and giving the authority to employees to manage quality problems. Hence, the current research is much more productive for Panglong MSMEs.

This study has implications for owners/managers. Although owners or managers recognize the importance of TQM practices, their implications for and demands on the rest of the organization are often ignored in the process toward its success. This study calls on firm owners/managers to be aware of the importance of process management and quality practices of top management.

This study makes a considerable contribution to the existing literature on production and operations management, and TQM practices of MSMEs, particularly in regards to explaining the performance of Panglong MSMEs.

Needs for Further Studies

The current study has different limitations that may influence the results. This study did not consider the control variables. Control variables (as operational performance can be heavily influenced by them) include age, R&D expenditure, firm size (some MSMEs may be quite large), and industry technological orientation (high-tech versus low-tech firms). The study has a small sample size, which may affect the final outcomes. Additionally, the current study is based on a quantitative research method. However, mixed method (quantitative and qualitative) may help to get accurate results. Moreover, this study does not classify the types of firms into the categories.

Although the results provide new insights to current research, this field is far from well developed, and a continued research effort is needed to understand TQM practices and their integrated influences on firm's operational performance.

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