

# **The use of Total Quality Management as a business improvement strategy in Soweto furniture manufacturing SMMEs, South Africa**

**Lawrance Seseni**

Department of Quality and Operations  
University of Johannesburg  
Johannesburg, Auckland Park 2006, South Africa  
sesenilawrance@icloud.com

**Charles Mbohwa**

Department of Quality and Operations  
University of Johannesburg  
Johannesburg, Auckland Park 2006, South Africa  
cmbohwa@uj.ac.za

## **Abstract**

This study investigates the use of TQM as a business improvement strategy in furniture manufacturing SMMEs and the impact of supply chain management on product quality of furniture manufacturing SMMEs that are situated in Orlando Industrial Park and Freedom Park. It was discovered in this study that supply chain starts with the supplier and end with the customer. The study reveals that furniture manufacturing SMMEs must make relationships with all the stakeholders involved, including other organization as it helps to improve the competitiveness of the enterprise and it further helps with learning from enterprises. A long-term relationship needs to be made with the suppliers of the enterprise. This study adopted a mixed method approach by developing a case study, questionnaires were issued, observations were made and managers and owners were interviewed as well. This study adds knowledge on the impact of the supply chain on product quality. Further research must be made on the effectiveness of TQM on furniture manufacturing SMMEs.

## **Keywords**

Supply chain management, product quality, TQM, Manufacturing, Business Improvement Strategy

## **I. INTRODUCTION**

SMMEs in South Africa have the bigger pie of the business pie. They make a total of 97.5% from the overall South African businesses [15]. However, the number of manufacturing SMMEs in South Africa has been decreased since 1998. However, the remaining manufacturing SMMEs have been able to improve their sales margins. In contrary, the improved profit margins do not compliment employment by means of increasing employment in the country. These Manufacturing SMMEs are however challenged by the increased imports of products (furniture) that they sell in this country [3]. In order for SMMEs to make it the business world, they need to make sure that their quality is up to standard and they also need to compete on costs. Meaning they must offer good quality products at an affordable price. Furthermore, poor quality products and or service damage the good name of the enterprise and its competitiveness. When enterprises reduce costs they should not compromise quality because customers are sensitive towards poor quality products and or service [16].

The end-consumer of the product does not depend on the company alone but is beyond the producer of the product. Furthermore, it is stated that environment, products and delivery times are closely linked to customer satisfaction. This means that enterprises need to consider those factors (environment, products and delivery time) [1].

It is discussed that a well-connected enterprise will have processes that will improve the supply chain management performance through cutting costs, shortening delivery time, providing appropriate feedback, maintaining low inventory levels, and improving reliability [11]. The above mentioned will later improve the performance of the business. This will make the enterprise to be rewarded with loyal customers which will also contribute in marketing the enterprise through word of mouth channel. This marketing channel is cheap but yet very powerful.

## **Problem being investigated**

Customers are complaining about the service they receive from furniture manufacturing SMMEs in Johannesburg. Customers place orders and sometimes they do not get their products on time, and sometimes they get products that are faulty. This study aims to find out if furniture manufacturing SMMEs that are situated in Soweto use business improvement strategies, in particular, the Total Quality Management as it helps improve the quality of products and service.

### **Research objectives**

This study seeks to achieve the following objectives:

- I. To identify if Total Quality Management (TQM) is used as a business improvement strategy by furniture manufacturing SMMEs.
- II. To evaluate the effectiveness of supply chain in furniture manufacturing SMMEs.

### **Similar studies**

[6], conducted an empirical study on the relationship between Total Quality elements and the operational performance. This study focused on the manufacturing firms that were situated in Pakistan. They concluded that the implementation of Total Quality Management has a positive impact on the organizational performance.

## **II. LITERATURE REVIEW**

### **a. Quality**

Quality is defined as the continuous improvement of the product or service, systems and processes [12]. It is believed that high product quality or service increases the enterprise's competitive advantage. This means the organization may survive in the long run [10]. Firms need to provide quality products and services to their customers so that they are able to compete with other enterprises and gain a competitive advantage over them. This is so because customers are interested in high-quality products and services [6].

### **b. Total Quality Management in Manufacturing SMMEs**

Total Quality Management is a business improvement strategy that focuses on continuous improvement in the enterprise by means of involving everyone within the enterprise (all staff members). Everyone in the enterprise means the staff member who holds different positions (general employees to senior employees who serve in the executive positions) of the enterprise including customers [13]. Other big organizations especially in the western continent they have implemented it and it was a success. However, there is little evidence of implementing this business improvement strategy and its successes in developing countries [9].

[13], reported that it is possible for SMMEs to successfully implement Total Quality Management just like big firms are able to implement it. However, implementing total quality management in enterprises has its own pros and cons. The pros and cons of implementing Total Quality Management are as follows: structure, procedures, behavior, processes, people, and contact. Moreover, it is believed that SMMEs are different from large enterprises. SMMEs have limited manpower, limited finance for running the day to day operations of the enterprise, and limited skills. Therefore it is crucial that before SMMEs implement this business improvement strategy they must first modify it [10]. It has been reported that enterprises in Europe and Japan have implemented TQM and those enterprises have improved significantly. These enterprises were doing badly financially and otherwise. However, after successfully implementing this business improvement strategy it was reported that the enterprises were performing well. In addition, other well-known companies that have implemented TQM and benefited from it are Xerox which manufactures printing machines and software for other organizations, Ford which manufactures motor vehicles and Harley-Davidson which manufacture motorbikes [6].

Moreover, the adoption of Total Quality Management in SMMEs improves the overall enterprise's performance and it yields positive results on the quality in general [8]. In contrary, if the business fails to satisfy their customers it will have a negative impact on the enterprise. [14] Discussed that customers can switch suppliers because of the following factors:

1. Pull factors
2. Push factors

### **c. Pull factors**

Pull factors are factors that can make customers of the enterprise switch suppliers due to the service and products of the competitors and or alternatives being catchy or rather being attractive. The service and products of the competitors can be attractive because the competitors or those who are providing alternatives keep on improving their products. This can also be due to the enterprise (competitor or alternative) having a very good reputation, the experience that the competitor has and the providing lower prices by means of discounts and generally low prices.

### **d. Push Factors**

Push factors are factors that are influenced by needs of customers not met by the current supplier of the service or the supplier of the products. There are various things that can make customers' needs not to be met. This can be as a result of the current enterprise not handling complaints very well, poor product quality and when the service fails. In addition, most of the influences of push factors can be controlled by the enterprise that is currently servicing the customer [14]. The following figure illustrates the push and pulls factor. The figure is on the next page.

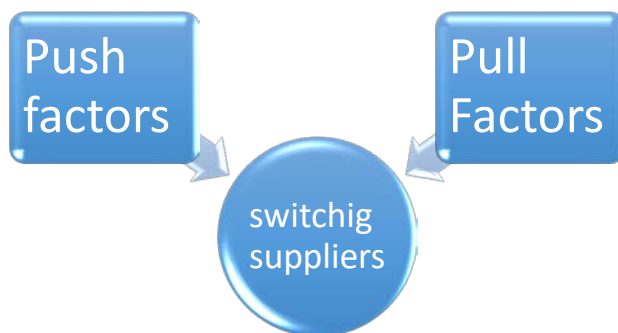


Figure 1 Reasons for switching suppliers

#### **e. Supply chain management**

The supply chain includes all the management functions and processes. It starts with suppliers that supply with raw materials to the enterprise and end with customers of the enterprise (end-users) [5].

In some of the industries, there are business competitions that happen amongst suppliers' rivals. However, it is very difficult to compete if the enterprise does not have good relationships with their suppliers. Moreover, for a good supply chain to take place, there must be an effective integration between the flows of production processes. This is regarded as a critical issue of supply chain management [7].

#### **f. The role of supply chain management**

It is of paramount importance for enterprises to work on supply chain management as supply chain management is regarded as a strategic tool for improving the enterprise's competitive advantage [17]. This makes it evident that if SMMEs follow strategic tools, they will reap financial results and their enterprises will grow.

#### **g. Collaboration in Supply Chain**

For the supply chain to be effective and efficient, there must be a collaboration between all involved parties. There must be a good working relationship between suppliers, the producers, other enterprises and lastly the end-users of the product. These relationships foster good relationships that may, in turn, create more opportunities for the enterprise and increase chances of business improvements. However, collaborations must start internally (inside the enterprise) then later taken externally [2].

#### **h. Elements of Supply Chain**

There must be an effective collaboration amongst the enterprise and all its stakeholders. As much as the enterprise will form collaborations with its suppliers, they must also form collaborations with their customers. Their positive working relationships should be for a long-term and be based on trust and transparency [4].

### **III. RESEARCH METHODOLOGY**

This study adopted a mixed method approach. With regards to qualitative and quantitative elements that were evident in this study are as follows: conducting interviews, observations and the filling of the research questionnaire (survey). All of this was conducted on furniture manufacturing SMMEs that are situated in Gauteng Province, South Africa.

#### **a. Sampling**

Gauteng is the economic heartbeat of South Africa. A large portion of the manufacturing SMMEs that are situated in Gauteng province that is why Gauteng manufacturing SMMEs are studied.

#### **b. Procedure**

The first step that was done was to review the literature that was gathered using the University of Johannesburg databases of journals that are freely available for all University of Johannesburg (UJ) students and academic staff. Journals were used to extract literature that was reviewed.

A case study was thoroughly constructed using 117 manufacturing SMMEs that are situated at Orlando Industrial Park, Pennyville Industrial Park, Pimville and Freedom Park. These SMMEs were given surveys (questionnaires) to fill in, they were also observed and interviewed. This study used SPSS to check the reliability of the study and it followed the Cronbach Alpha. This study has a Cronbach Alpha of .849 and the Cronbach Alpha based on the standardised item is .856.

#### **c. Case Study**

Orlando Industrial Park is blessed with a large number of SMMEs that manufactures house and office furniture. They sell their produce to nearby households, some of them sell to Indian shop owners that are situated in Kliptown and Johannesburg CBD, while some have sold

their furniture to foreigners and people who stay far from Soweto in Johannesburg. Their furniture was delivered to the Republic of Malawi and Venda in Limpopo Province, South Africa.

Most of these manufacturing SMMEs responded differently to quality management questions. Only one enterprise indicated that they use Total Quality Management as business improvement strategy with an intention of improving processes and delivery time to their clients. The remaining were clueless about business improvement strategies. They mentioned that their only interested is producing products and making money by means of selling.

With regards to the enterprises' employees, they range from 2 employees to 10 employees in each enterprise. However, they do have people who are hired on the temporal basis only when the enterprise has big projects. However, immediately the enterprise is done with the project they terminate their temporal employees' contract and call them again when they have other big projects.

With regards to producing of furniture, most of these enterprises buy cupboards that are ready to be assembled and painted. They have mentioned that they could not afford to buy cutting machines as they are very expensive and not easily serviceable. Some of these furniture manufacturing SMMEs buy their own cupboards and rent the machines when they want to cut the cupboards. They believe it is cheaper to do this compared to buying a ready to assemble cupboards. However, there are other furniture manufacturing SMMEs that cut and assemble themselves. The ones that cut and assemble them themselves have their own machinery that they use to cut cupboards, assembly those cupboards (manufacture) furniture and paint when done.

The enterprise owners and managers do not train their employees as they fear that they will acquire skills and after training, they may switch employers or even start their own enterprises and be direct competitors. They mentioned that they only employ people who know their work and are willing to work. They do this because they believe that training is costly and consumes lots of time that can be used for producing products.

**d. Findings and analysis**

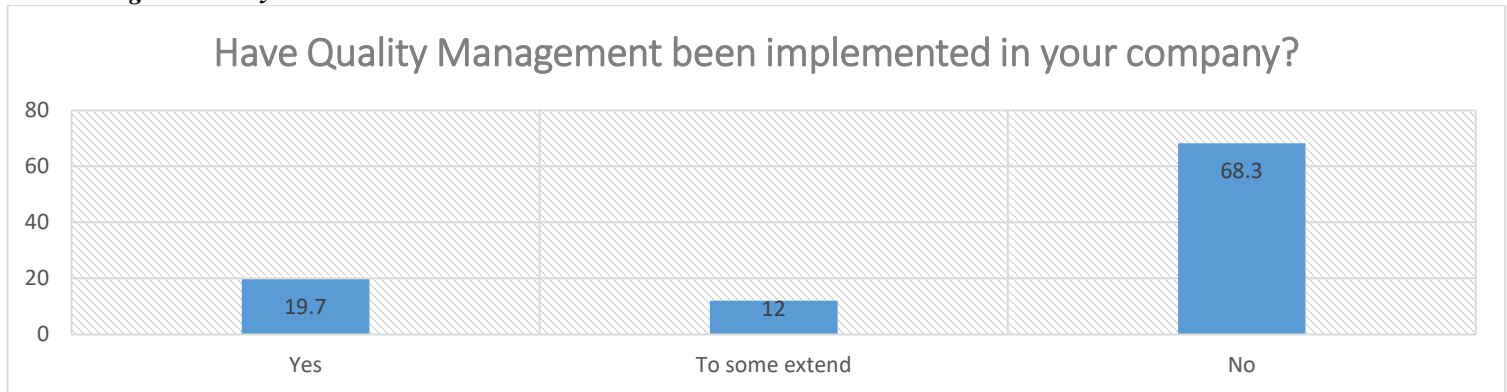


Figure 2 Implementing quality management in furniture manufacturing SMMEs

From a number of 117 enterprises that were studied, only 29 stated that they have implemented business improvement strategies in their enterprises. While 68.3% of the 29 studied SMMEs agreed that they have never implemented Quality Management in their enterprise. While 12% stated that they have used implemented quality to some extent. This shows that a large number of SMMEs that have been studied does not implement quality in their SMMEs. This can have negative implications on enterprises that do not implement quality management in their enterprises.

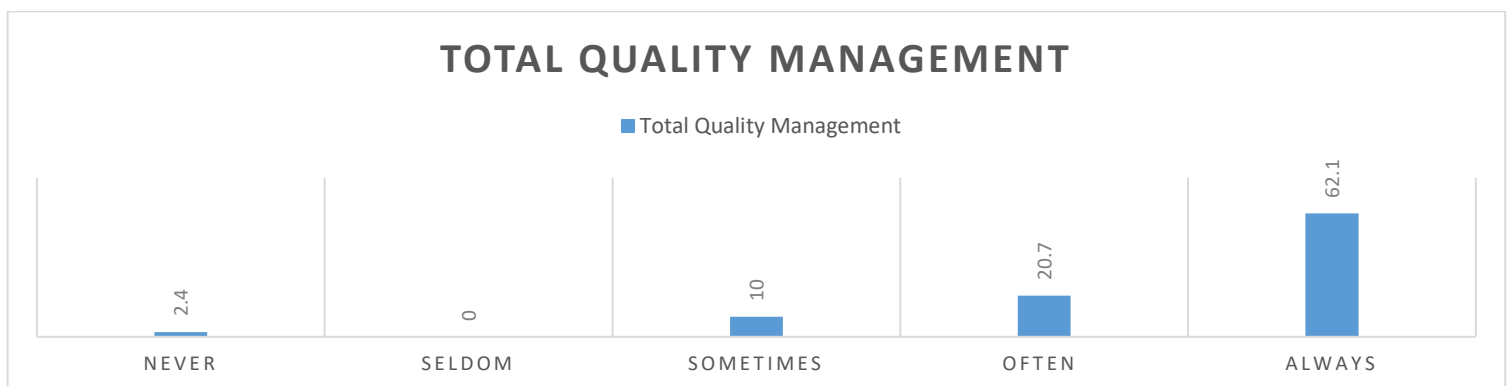


Figure 3 the use of TQM

From the 29 participants (SMMEs), only 62.1% agreed that they always use Total Quality Management. While 2.4% stated that they have never used this business improvement strategy. Total quality management is known for improving the enterprise's performance. It appears that Total Quality Management is the most preferred business improvement strategy that can be used by furniture manufacturing SMMEs that are situated in Gauteng Province. This will not be a shock if that 62.1% have improved their processes.

#### IV. DISCUSSIONS AND RECOMMENDATIONS

##### A. Discussions

###### a. Relationship between supply chain management and product quality

Based on the literature of this study, it is evident that supply chain starts with the supplier of the raw material to the delivery of the products to the customers who are the end-user of the product, which in this case is the user of furniture for home use or office use. Therefore, it is of paramount importance to buy raw material that is of good quality so that the finished product can be of good quality and be supplied to the customer when it meets customers' needs and expectations. This means that supply of goods from the supplier of the raw material has a relationship with finished products. The following figure illustrates the relationship between suppliers, producers of the products and the customers who use the products (furniture). This shows that if the supply chain is effective then quality management will be effective and customers will get products that they expect.



Figure 4 Relationship between supply chain and product quality

###### b. Total Quality Management as a business improvement strategy

It was discovered from the case study that the studied furniture manufacturers (SMMEs) do not use the business improvement strategies and particularly the Total Quality Management. In their study (Seseni & Mbohwa, 2016) they have discovered that they do not use quality initiatives because those quality initiatives are not known to them. This is not a good indication because it merely means that these furniture manufacturing SMMEs are clueless about quality improvements and only 29 from 117 use quality improvement.

###### c. Good working relations with suppliers

It is evident in the case study that enterprises work closely with their suppliers of cupboards that they use to make furniture and the place where other enterprises cut their cupboards. They work well together and there are no major problems as they have stated during unstructured interviews.

##### B. Recommendations

###### a. Lobbying with enterprise's stakeholders

Stakeholders of the enterprise who are customers, employees (junior staff, senior staff and everyone who works there, be it permanent and contract) and suppliers of the manufacturing SMMEs should make sure that they lobby with all stakeholders as this will help them improve their processes. This can be improved because the customers' needs will be known by the enterprise as customers will inform the enterprise about what they want and the enterprise will, in turn, deliver what is expected by the customers as they will know what to deliver and they will also purchase the right material from their suppliers. The material that is required by the end-user of the products which in this case is furniture. Be it for office use or for the household. Their customers will buy from them because they will be providing the products that are of the quality that they desire. The following figure illustrates the relationship between the enterprise's stakeholders, and how they are all interlinked to the enterprise.



Figure 5 Lobbying with enterprise's stakeholders

#### **b. Good working relationship with suppliers**

Working and having a very good relationship with their suppliers and other organizations that surround their enterprise will make them learn a lot from their suppliers. However, these relationships can only last and be effective if there is trust amongst all stakeholders and collaboration amongst all parties that are involved. When the enterprise has a good relationship with its suppliers, they get the privilege of buying on credit and pay later if the Enterprise is stranded. Furthermore, they can also get discounts from their suppliers if they have an effective collaboration. Even their suppliers can also refer them to potential customers. This will make the business to grow faster and make more money. This is what is needed in enterprises especially in SMMEs.

#### **c. Using Total Quality Management**

The enterprise should consider producing and selling good quality products at all times. This can only be achieved if the needs and expectations of customers are known and fulfilled. This will make the organization to be competitive and have increased inflow of cash. In order for furniture manufacturing SMMEs to achieve this, it means that they need to adopt the TQM which is a business improvement strategy because it focuses on the customer and it involves all the stakeholders in the enterprise.

### **V. LIMITATIONS AND FUTURE STUDIES**

This research only studied furniture manufacturing SMMEs that are located in Gauteng province, South Africa. Generalizing the findings and recommendations to all SMMEs will not be practical because the studied industry has its own challenges that it is facing that are not necessarily the same challenges that are faced by SMMEs who trade in other industries. Further research must be done on the effectiveness of Total Quality Management on furniture manufacturing SMMEs. This will help realize if TQM is an effective business improvement strategy that can be used by furniture manufacturing SMMEs. The second future study will look at the relationship between supply chain management and product quality. The primary objective of this study will be to test this relationship scientifically. This will be the second study because this study did not test the relationship scientifically. The discussions were based on questionnaires answers and case study.

### **VI. CONCLUSION AND IMPLICATIONS**

This research looked at the role of supply chain management and it was discovered in this research that it is of paramount importance in the organization. Total Quality Management in SMMEs was also looked into and findings state that it improves performance enterprise. Findings indicate that the furniture manufacturing SMMEs play a pivotal role in the economy. Some of these SMMEs even exports their products (furniture) to the SADEC region. However, these furniture manufacturing SMMEs do not invest heavily in ensuring quality in their products and services. Moreover, furniture manufacturing SMMEs should understand that failing to ensure quality is not only costly but the enterprise can lose customers due to them switching suppliers. Should furniture manufacturing SMMEs ensure quality, their cash flow will be favorable. They must also work on strengthening their relationships with all of their stakeholders as this has a positive impact on the quality of the products and service.

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## **Biography**

**Mr. Lawrance Seseni** is a University of Johannesburg student. Currently doing a Masters of Technology degree in Operations Management. His master's study is on Quality Management within SMMEs. In 2014 he was appointed as an academic tutor tutoring Entrepreneurship to National Diploma students who were in their second year of study. In 2016 he was appointed as an assistant lecturer in the first semester (5 months), his role was to lecture Entrepreneurship to first year National Diploma students in Small Business Management. He is now serving as a board of director with a portfolio of co-secretary of the IBASA YC (Institution of Business Advisers South Africa Youth Charter). He is also serving as a Strategic Adviser for Projects in the student organization called ENACTU University of Johannesburg. He served at Enactus University of Johannesburg since 2012 holding different portfolios. His research interests are on Knowledge sharing in SMMEs, service and product quality within SMMEs.