

The Assessment of Total Quality Management Practice in Amhara Regional State Textile Manufacturing Industry: The Case of Selected Textile Manufacturing Industries

Haile Shitahun Mengistie¹

Abstract

The main purpose of this paper was to assess Total Quality Management practices in textile manufacturing industries of Amhara region. It adopted a descriptive research design. The target population comprised all employees of selected textile manufacturing industries (Bahir Dar and Kombolecha). The total population were 1950. The sample size of 195 respondents was drawn using stratified random sampling. Questionnaires and semi-structured interview were used to collect primary data. The study concludes that a factual approach to decision making, top management commitment, and continuous improvement are among the highly practiced aspects of total quality management in textile manufacturing industries of Amhara region. While, supplier participation, employees' empowerment, and customer focus, are not practiced well in textile manufacturing industries of Amhara region, and communication practice and process approach at a moderate level. The study also found that there is no significant difference between the total quality implementation of both companies. The practice of total quality management in Amhara regional state textile manufacturing state is lower when it compared with textile or manufacturing industries of foreign companies.

Keywords: *Quality, total quality management, customer focus, top management commitment*

¹ Lecturer, Department of Management, Jinka University; Email; haileshitahun@gmail.com

Introduction

In the 20th century globally competitive marketplace the demands and requirements of customers are gradually increasing as they require not only improved quality of services and products based on their specifications but also flexible, responsive, and cost-effective producer or services provider (Foster, 2013). For this reason, many organizations are looking for different strategies including quality management approaches six sigma, lean, TQM, and others to survive in this dynamic environment and maintain a competitive advantage over their rivals. Continuous improvement of all business activities with a focus on the customers throughout the entire organization and an emphasis on flexibility and quality is one of the main means by which companies face up to these competitive threats. Total quality management (TQM) as a management process and philosophy it can be used to continuously improve all business activities or organizational functions (Dale et al., 2016).

Total quality management originated in the 1980s as a Japanese style management approach to quality improvement, and it became very popular during the 1990s, in Northern America and Western Europe. However, individual elements of the concept such as team building, problem-solving tools, statistical process control, design of experiments, customer service, and process documentation have been used by some organizations for years (Omachonu & Ross, 2005). It can be summarized as a management system for a customer organization that involves all employees in continual improvement with committed leaders support. It uses strategy, data or information, quality improvement tools, and effective communications to integrate and improve the quality discipline into the culture and activities of the organization and deploying process approach or management, system approach, and supplier quality management to integrate the activities smoothly within or among the organizations (Fredendall, 2001).

Amar & Zain (2001) concludes the adoption of TQM practices in many industries worldwide has indeed yielded positive benefits like major cost savings. to get such observed benefits organizations to have to identify critical success factors that leads the philosophy to be successful like top management commitment, human resource management, sufficient attitude towards quality, flexible organizational culture, fewer barriers in interdepartmental relation, presence of

well-defined data, well-defined customers and other, unless the implementation process and cost will be very long and high. United Nation Industrial Development Organization (UNIDO, 2007), described that enterprises in developing countries are unable to compete in international and foreign imported products, as a result of different constraints inhibited to them like finance and investment issues, international trading regulations and etc... However, as one critical factor such enterprises have to improve the quality of their products (delivering products that meet and exceed customer's requirement), to do this the enterprise has to adopt total quality management (TQM) as a strategy to improve their efficiency and quality performance.

TQM is widely implemented in both private and public sector organizations and plays the largest number of historical applications in the manufacturing industry including the textile manufacturing sector (Shah and Shah, 2012). A manufacturing company that possesses many complexities can be highly challenged when maintaining production goals and standards in conjunction with a major organizational change. Textile manufacturing is a complex industry involving many organizations, inputs (raw materials), and longer processes. In this sector customers have more options available to them for selecting a quality product at a much more competitive price. Therefore, the only way left out is to bring down the cost and generate more yields, with competitive quality products. TQM is the appropriate strategy to meet the double demand of competition and quality (Syduzzaman & Dulal, 2016). According to Lazibat et al. (2010), the textile manufacturing industry is a sector where quality is one of the key competitive factors, and current competition does not only concern the individual firm but, rather, involves the entire supply chain.

As a result of government reform and policy change, Ethiopia's textiles and clothing industry is achieving major development, aided by the presence of a cheap, skilled, and highly-motivated workforce and the availability of wide cotton production (Embassy of Ethiopia; Washington DC 2016). The Ethiopian textile – and apparel industry has huge potential and has grown an average of 51% over the last 5-6 years. The economic developments in the textile- and apparel sector show enormous growth in comparison to 2010/ 2011. The sector contributed an export amount of just over 160 million United States dollars (USD) in 2014/2015 with represents 6% of the country's total export and employed 37,000 workers. At current the textile- and apparel sector consist of around 130 medium and large-scale factories (Netherlands Embassy of Addis Ababa). However,

as a result of poor quality, the sector is not in a position to compete in the international markets (Daniel & Amare, n.d).

Statement of the Problem

A business organization produces goods and services to meet its customer's needs. Quality has become a major factor in a customer's choice of products and services (Rai Technology University, n.d). Many organizations increasingly applied the principles of total quality management to improve their quality, responsiveness, flexibility, and efficiency. TQM resulted in higher quality, improved customer satisfaction, better employee morale, and increased productivity and profitability. In order to improve the quality standard through TQM practices, governmental, non-governmental, and private organizations have to embark on reforms and programs to continuously improve product and service quality.

Excellence in the manufacturing system has become important to gain a competitive advantage (Subedi et al., 2008). To improve their competitiveness, organizations are looking for a higher level of effectiveness across all functions and processes of organizations that chosen total quality management as the strategy must use in business. If total quality management is implemented well it can assist an organization to improve its process, and better serve its society and its own members (Abusa, 2011).

This dynamic environment changes the ways to compete in the market. This type of competition is based on quality, cost, flexibility, and responsiveness. To improve competitive positions TQM is developed as the main strategy. Total Quality Management is the quality management strategy that aims at improving continuously through all areas of the organization to satisfy demanding customers. Implementing total quality management is the best strategy to improve organizational performance, product/service quality, and employee's performance (Idris, 2011).

The study conducted by Bunyan et al. (2014), on total quality management (TQM) practices in some selected manufacturing companies in Bangladesh, total quality management practice of the study shows that out of 11 major aspects of total quality management, total employee satisfaction, employees' commitment to the success of the organization, continuous improvement are highly

implemented aspects of total quality management. But the study doesn't giving emphasis on challenges inhibited the practice and employees attitude towards it.

Haile & Raju, (2016) conducted their study on the extent of TQM practices in Ethiopia manufacturing firms: An empirical evaluation; and they found that the practice of total quality management is low compared with foreign companies, is the one way to cope up from the pressure of foreign competitors. But the study doesn't consider challenges inhibited the practice and employees' attitude towards it.

Ethiopia is among the fastest-growing nations in the world. Due to this manufacturing sector and other sectors have shown a significant improvement. The Textile industry is one of the main manufacturing sectors which provide the highest employment and export contribution to the country. Even though the contribution of the textile sub-sector in terms of market share and GDP has increased over the last few years, the sub-sector is still being locked to compete in the international market and is dominated by imported products in the local market. Among the bottlenecks to compete for an international quality problem has the lion's share (major) contribution (Daniel & Amare, n.d).

In the country's textile manufacturing industries unnecessary scraps, defected or returned products, poor disposal of chemicals, low valued products are the main contributors and indicators of poor quality. In today's dynamic environment retaining and pulling customers is a very difficult task for organizations (personal observation, 2017). To do this there should provide nothing but a highly qualified product that depends on customers' requirements and specifications with the minimum possible cost unless it should be impossible even to survive. Therefore, product quality has to become one of the emerging issues in the Ethiopian textile manufacturing sub-sector to improve their competitiveness. The problems which contributed a lot towards the above series of quality problems of the sector can be reduced through the adoption of a proper quality management approach like total quality management. Based on this practical problem, the researcher wants to conduct a study on the practice of total quality management.

Despite many studies are conducted on the practice of total quality management, the previous studies focused on the principles of total quality management only. In this study, the major issues

that play an important role in total quality management like employees' awareness towards it, communication and decision-making practice, and challenges that inhibited the practice of TQM were included. The study will provide accurate information on the practice of total quality management practice for the regional textile industries and will provide a base for other related works in the country for textile and other sectors.

Review of Related Literature

Theoretical Literature Review

Quality has been with us for as long as there has been life on Earth, and people have been striving to create quality for as long as we have been around. Currently, In order to keep a competitive advantage in the market, organizations have for many years focused on the quality of their products. Different initiatives to increase the quality of products and services have evolved over the years. The early focus, at the beginning of the twentieth century, was on inspection, which included checking that the manufactured products met the industrial standard or specifications. During the past few decades, the focus in organizations has shifted from inspection to quality control of products (Kenneth, 2012).

The total quality movement had its roots in the time and motion studies conducted by Frederick Taylor in the 1920s when the principles of scientific management were applied wholesale in the US industries. Elton Mayo's hawthorn studies or human relation movement gives strong emphasis on the effect of employees' participation or involvement on productivity between 1927 and 1932 (Davis, 2014).

In recent years, total quality management (TQM) has drawn worldwide attention and it is being undertaken in both profit as well as non-profit organizations. Quality principles and tools can improve both manufacturing and general business processes; the goal is to exceed customer's expectations to achieve business strategy. It is a structured system for satisfying internal and external customers and suppliers by integrating the business environment, continuous improvement, and breakthroughs with development, improvement, and maintenance cycles while changing organizational culture (Rai Technology University, n.d).

TQM is not an imposition. It cannot be done to you or for you. For TQM to work, an institution must want to introduce it. It is not inspection. It is about always trying to do things right the first time and every time, rather than occasionally checking if they have gone wrong (Sallis, 2002, P.24).

Total quality management is a management philosophy based on continuous improvement in not only all functions (core or supportive) of business, but also people, processes, products (including services), and environments. Total quality management describes a management approach to long-term success through customer satisfaction (Matthews, 2006). It is recognized for emphasizing customer needs and contributing to organization's long-term efficiency and effectiveness through process orientation and continuous improvement (Steiber & Alange, 2012).

TQM is a philosophy for managing an organization centered on quality and customer satisfaction as the strategy for achieving long-term success. It requires the active involvement, participation, and cooperation of everyone in the organization, and encompasses virtually all of its activities and processes. Achieving and sustaining this pervasive focus on quality requires a significant long-term commitment on the part of the organization's leadership (Russell & Taylor, 2011).

Total quality management (TQM) has been widely accepted as a holistic (company-wide) management philosophy that strives for continuous improvement in all functions of an organization based on customer specifications or requirements. It is a set of instruments employed by the firm's management that aim to provide better value to customers by recognizing their observable and hidden needs and improve the efficiency of the producer. And it can be achieved if the total quality management concept is utilized from the source (acquisition of raw material) to customer service after sale not only limited to the company's core and supportive functions (Omachonu & Ross, 2005).

Total quality management is the mutual cooperation of everyone in an organization and associated business processes (partners) to produce value for products and services which meet and, hopefully, exceed the needs and expectations of customers. It is ever-evolving practices of doing business attempts to develop methods and processes that cannot be easily imitated by competitors (Dal et al., 2016).

Total quality management is the comprehensive process of satisfying the customer, starting with a request for a product or service through the delivery and use of the item that satisfies the request. It is the attention and control that must be given to all features of a product or service to ensure customer satisfaction. In addition to the obvious characteristics – such as form, fit, function, and reliability – total quality management involves maintainability, storability, appearance, end use of a product or service, efforts to accomplish error-free documentation and systems, and countless other aspects contributing to the overall value to the internal operations and to the external customer (George & Wiemershirch, 1998).

The concept of total quality management is based on three broad elements of the total quality philosophy (i.e., measures, people, and processes). The measures branch points out that quality can and must be measured and improved. The people branch deals that quality cannot be inspected in a product or service. Rather, it must be built by people who are empowered to do their jobs according to the right way. The processes branch points out that processes must be improved, continually and forever (Davis, 2014).

The main reason for the origin of the term TQM could be a substitution in the previously used term of Total Quality Control (TQC), the word control by management with the reasoning that quality is not just a matter of control, it has to be managed. This is reinforced by Deming's (1982) view that sampling inspection should be suppressed and also by Crosby (1979) who makes the point that control is not necessary when a zero defects level is achieved. The term control is sometimes understood as meaning control over the workforce's activities, and this is clearly not the aim of TQM (Godfrey et al., 1997).

Empirical Literature Review

The study conducted by Ayandele & Akpan (2015) on The Practice, Challenges, and Benefits of Total Quality Management (TQM) In Manufacturing Firms in Nigeria, concludes that continuous improvement and innovation from TQM practices positively correlate with quality performance. The study in general concludes that the successful implementation of TQM in Nigerian Breweries had significantly reduced their operating costs; waste were significantly reduced, and boost the

corporate image of Nigerian Breweries PLC. However, the study doesn't measure employees' awareness of total quality management.

Syduzzaman & Dulal (2016) conducted an Empirical Study on the TQM implementation in the Apparel Industry of Bangladesh. The purpose of the study is to check the feasibility of implementing a TQM framework and finding out its effects in the Apparel Manufacturing industry in Bangladesh by using questionnaire and interview to collect data. The result of the study on the present status of TQM implementation in Bangladesh clothing sector reveals that the past view of quality is that "increased quality will increase project costs", while today's view is that "improved quality saves money and increases business". Due to the availability of many suppliers for Apparel Manufacturing materials, there is no significant cost issue arises due to the fixed contractual amount during the duration of Apparel Manufacturing and to changes in the prices of materials. The result of the study on challenges in total quality management implementation reveals that lack of employee's clear idea about the quality, the poor commitment of top management, traditional culture of the organization, and lack of proper communication between foreign managers and local employees. The last finding of the study on the benefits or advantages of total quality management concludes that it's been found that production has been improved as total alters and rejections have been considerably reduced after implementing the proposed TQM framework.

Atakan & Ay (2009) conducted a study on Total quality management practices in textile and confection corporations in the Trakya region, Turkey. The purpose of the study is to determine the aspect for Total Quality Management of active corporations in the Trakya Region, by using a survey technique by questioning in person. The process is performed with 113 textile corporations chosen from 457 in 3 cities of the Trakya Region, using sampling methods with a %95 confidence interval and %8 margins of error. The study found that in the case region, the majority of corporations (53.1%) are using TQM procedures. While the remaining 46.5 % of corporations not using TQM, procedures are a result of not having sufficient information about TQM. The study also concludes that the most commonly experienced difficulty during the process of TQM is; a poorly planned production process and indifference of employees with a mean score of 3.48 and 3.38 respectively. The last finding of the study states that total quality management difficulties has not a significant relation with the size of the corporation.

Khalid et al (2011) conducted a study on TQM Implementation in Textile Manufacturing Industry to Success: Review and Case Study on Ihsan Yousaf Textile (PVT) Ltd, (Pakistan) using exploratory study design and cross-sectional data. The purpose of this study is to look at the various TQM implementation issues, particularly in small and medium enterprises (SMEs). A structured interview, questionnaires', and three short visits at the plant were the data collection instruments/techniques applied in the study. The result of the study on the company perception and practices towards TQM reveals that there is Top management intention on customer satisfaction through a continuous improvement culture and numerous measurements for quality performance and improvement. The study also reveals that their various quality initiatives like developing a mission statement, forming a quality committee, and ISO 9002 requirements are implemented. Lastly, the study investigated that positive intangible outcomes ranged from employees who realized the importance of quality improvement, to feel pride in work, quality improvement became part of their organizational culture, and improved communication. In addition, it improves teamwork, they feel that everyone was important, and everyone was acknowledged for his contribution major factors that contributed to TQM implementations are lack of human resources, lack of involvement in non-production functions, and achieve too much in a short time.

According to the study conducted by Awuor & Kinuthia (2013) on the total quality management practices in selected private hospitals in Nairobi, TQM among healthcare providers is a way of managing to improve the effectiveness, flexibility, and competitiveness of the healthcare facilities and services provided. It is also a method of removing waste, by involving everyone in improving the way things are done. The study concludes also that the failure of most healthcare administrators to see the true nature of the relationship between quality, efficiency, and competitive advantage is partially responsible for the lack of strong TQM philosophy in healthcare.

According to the study conducted by Gezae et al. (2016) on the Assessment of the Effective total quality management on performance at selective colleges in the Tigray regional administrative State, the major finding of the study states that the level of satisfaction and product/service quality had a statistically significant positive relationship with leadership, continuous improvement, and employee fulfillment. Whereas, surprisingly customer focus was negatively related to the level of

product/service quality and also it was not significantly associated with both level of satisfaction and product/service quality.

Materials and Methods

Population, sample, and sampling method

The target population of the study was targeted all permanent employees of Bahir Dar and Kombolcha textile factors which accounts for employees. These two selected companies are accounts for higher market share and job opportunities among textile manufacturing industries in the region. In this study, the descriptive research design was applied. Both probability sampling (stratified sampling techniques) and non-probability sampling (purposive or judgmental sampling) techniques were applied for this study. Stratified sampling techniques were applied for the employees of organizations because the target population is large and heterogonous. According to Muganda and Muganda as cited by (Kogohe, 2015) a sample size of 10% or more of the total population is adequate for a survey. Based on this, 195 employees are selected from the total 1950 Questionnaires and semi-structured interview were employed as data collection instruments.

Validity and Reliability

Validity is the degree to which the measurement questions in the questionnaire provide sufficient coverage of the investigative questions or research objectives. Validity assesses how well a measure or a set of measures represents the concept of the study (Saunders *et al.*, 2009). Determining content validity implies justifying each question in relation to the objectives of the study. For the current study, content validity was tested by two experts in logistics and supply chain management and management fields who examined the questionnaire, and their recommendations were implemented. Moreover, the questions were based on the literature and previously conducted studies. The reliability of the instrument is measured using Cronbach's alpha. The Cronbach's alpha coefficient greater than or equal to 0.6 is considered as reliable for social research.

Table 1*Cronbach Alpha Coefficient of Variables*

No		Items	Cronbach alpha
1		Customer focus	0.787
2		Continues improvement	0.908
3		Top management commitment	0.955
4		Employees empowerment	0.742
5		Supplier participation	0.821
6		Communication	0.681
7		Process approach	0.725
8		The factual approach of decision making	0.868

Sources; own survey, 2018

Results and Discussion

Background Information of Respondents

Among the respondents 148 (75.9%) were male and the remaining 47 (24.1%) were female. This shows that the majority of the respondents were male. With regard to age category 84 (43.1 %) were below 30 years, 61 (31.3%) were between 31 and 40 years, 33 (16.9%) of them are between 41 and 50 years, and the remaining 17 (8.7%) of the respondent were above 51 years old. This shows that the majority of employees are at youth and productive age. This implies employees would have a chance to empower their selves and gaining more knowledge on current customers and business trends. Furthermore, regarding the educational level of the respondents, the majority of respondents 136 (69.7%) are first-degree holders, followed by masters and diploma holders accounts 32 (16.4%) and 27 (13.8%) respectively. This shows that the majority of employees or respondents in both companies (86.1%) have a better educational level.

Level of TQM implementation

Customer focus practice is handled through eight statements. It achieves a 3.21 mean with a standard deviation of 0.212 and accounts for a percentage of 64.2. Based on this, the level of customer focus in the textile manufacturing industries of the region is lower when compared to other foreign manufacturing companies. For example, the study conducted by (Rabaya, 2013) on the status and challenges of total quality management application in selected Palestine chemical industries founded that the mean value of customer focus accounts for a mean value of 4.40, 3.56 in total quality management implementation of Libyan manufacturing companies (Abusa, 2011),

Table 2

Customer Focus Practice of Both Companies

No	Items	Mean	SD
1	The company examines its relationship with customers.	3.52	1.022
2	The products produced are compatible with customer's needs and requirement.	3.37	1.235
3	The company emphasizes assessing current and future customers' needs and expectations.	3.37	1.157
4	Customer's information collection tools like comment cards, questionnaires', and employee feedback are applied.	3.25	1.123
5	Customer's complains including root causes and feedback is studied to identify patterns of their needs.	3.17	1.180
6	Products are evaluated with customer's standards rather than industrial standards.	3.12	1.212
7	The company uses data on customer expectations when designing new products.	3.10	1.258
8	Product design development techniques like quality function deployment and concurrent engineering are applied.	2.83	1.059
Total		3.21	0.212

Source: own survey, 2018

Besides this, the managers or the interviewee response from both companies indicates that the companies have developed different mechanisms to improve customer satisfaction and considering

customers' requirements to provide compatible products like providing comment books at sales and show rooms, providing a phone number for customers to deliver their comments and complains, conducting marketing research to measure the trends of customer increment and satisfaction, and others. The managers also revealed that the companies have developed many product mixes for both foreign and domestic markets. In the case of domestic customers, companies provide their products to garment factories, blanket factories, foam and plastic factories, digital printers, and military and aid organizations based on their specifications like color and design choice, level of quality, and required amount. But in the case of foreign and domestic end users the companies provided its products with maximum industrial standards.

If the products are against the quality standard, the companies will be sold it at a lower price or in will be disposed of if the quality is extremely poor. The managers' response also responded that because of the companies' lack of capability to develop new products and processes and products are mostly provided with raw cloths and non-fashionable products, companies didn't emphasize on developing new products and processes and product design techniques are not applied. Lastly, managers reveal companies haven't a plan to develop new products in near future. However, the companies will develop new products in long run, if the current mix of products is outdated and customer's trend is decreased. Based on this customer focus practice of textile manufacturing industries of the Amhara region is based on examining company- customer relationships, assessing customer's needs, and producing compatible products. However, the emphasis on evaluating products according to customer's point of view, the usage of data during new product and process development, and product design development like quality function development and concurrent engineering are not applied to the industries. But the managers' responded companies are producing non-fashionable and stable products because of this, new products are not developed; data for new product development and product development techniques are not applied.

Based on this continuous improvement practice of textile manufacturing industries in ANRS is characterized by the higher implementation of tools like kaizen, competitive benchmarking, and formulating work teams, quality circles, and suggestion systems to improve the practice and lower

practice of evaluation of improvement rather than criticism, promotion of idea generation, and continuous development of new and value-added products.

Table 3

Continuous Improvement Practice of Both Companies

No	Items	Mean	SD
1	A continuous improvement approach like Kaizen, is applied in the company.	3.67	0.917
2	The company continuously measures the product and process quality in regard to world-class competitors (benchmarking).	3.64	1.068
3	Organizational mechanisms used to promote continuous improvements, such as work teams, quality circles, and suggestion systems are applied in the company.	3.45	1.113
4	The company encourages continual study and improvement of its products, services, and processes.	3.45	0.969
5	The aim of the evaluation is for improvement not for criticism.	3.39	1.037
6	Improvement teams (research and development teams) are promoted to develop new ideas.	3.20	1.092
7	The company is keeping on developing new products continuously.	2.97	1.123
Total		3.37	0.223

Source: own survey, 2018

This construct was handled through seven statements. It achieved 3.37 means with a standard deviation of 0.223. The result of the study shows that the level of continuous improvement in the textile manufacturing industry is higher than other manufacturing industries in the country. For example, a study conducted by (Haile& Raju, 2016) with a mean value of 3.24. However, the practice is lower compared to foreign companies, for example. A study conducted by (Rabaya, 2013) on status and challenges of total quality management application in selected Palestine chemical industries founded that the mean value of customer focus accounts for the mean value of 4.62, 3.58 in total quality management implementation of Libyan manufacturing companies (Abusa, 2011).

Besides this, the managers responses indicate that the companies are implement kaizen (a Japanese term of continuous improvement) as a program for improving the quality of products and competitive advantages of the organization with the help of the government and different experts. In addition to this the managers responded that companies are undertaking different competitive benchmarking from foreign textile companies located at leading textile manufacturing industries like Japan, Turkey, Bangladesh, Taiwan, and India and other manufacturing industries regarding the way to handle customers, material arrangement, and disposals, facility layout arrangement, enhancing social responsibility, and to improve the practice of kaizen.

Different methods for improvement like a quality circle (experts from the company and researchers from leading universities of the country conducted different experiments and comments to improve quality and organizational process), teamwork that are formed from different production departments (spinning, weaving, finishing, and processing, garment and other departments), continuous training of employees, and suggestion system are applied and the companies.

The company's research and development team are also undertaking many tasks to improve the companies' process and providing qualified products and the companies are undertaking technological transformations from technology institutions especially Bahir Dar University and Wello University and worked to improve university-industry linkage. The companies frequently measure its process and product quality even though the companies have limited practice in developing new products, different production units or departments applied proper quality control to improve quality consistently, and the companies develop proper valuation systems that can motivate employees for better. Managers and respondents or employees responded nearly the same response. According to them, the companies made the greatest effort to enhance continuous improvement practices and to improve things continuously, however, the practice of developing new ideas and products is limited. In the case of the research and development team (item number 6 of table 4.3) respondents provided the lowest response but Managers provides a positive response. Based on this, the researcher concludes research and development teams are performing many tasks and management provides adequate support to it, but it is not in the way that employees or respondents needed.

Top management commitment was handled through eight statements. It achieved 3.38 means with a standard deviation of 0.086 and accounts for a percentage of 67.6 %. The result of the study shows that the level of top management commitment in the textile manufacturing industry of the region is lower compared to foreign companies. For example, A study conducted by Rabaya (2013) on the status and challenges of total quality management application in selected Palestine chemical industries found that the mean value of 4.46, 3.73 in total quality management implementation of Libyan manufacturing companies (Abusa, 2011).

Table 4

Top Management Commitment Practice of Both Companies

No	Items	Mean	SD
1	Senior executives provide highly visible leadership in maintaining a quality environment (social responsibility).	3.53	1.104
2	Senior executives consistently participate in quality improvement issues.	3.46	1.123
3	Senior executives develop and publish clearly documented vision, corporate values/beliefs, purpose, and a mission statement.	3.42	1.111
4	The management adopts a strategic view on quality.	3.37	1.120
5	Senior executives translate the vision into measurable goals.	3.36	1.072
6	Senior executives seek information on needs and suggestions on quality improvement from different sources.	3.33	1.053
7	Top management allocates adequate resource toward quality improvement.	3.30	1.159
8	Top managers are anticipating change and make plans to accommodate it.	3.27	1.150
Total		3.38	0.086

Source: survey, 2018

Besides to this, the managers response (from the interview) responded that the management provides many incentives like furnishing open environment to participating employees, participating in quality improvement practices like in a laboratory, in research and development teams, and in meetings, providing measurable and tangible objectives of the companies to employees, conducting a consistent and regular on-site visit of the production process, and the management is committed to improve social responsibility like participating in sports events,

sponsoring environmental protection, adopting environmentally friendly and smokeless technologies, and etc. In addition to this, the management seeks or collects information from different sources (competitors and customers) and evaluating the accuracy and reliability of collected information to provide accurate decision-making practices regarding competitors and customers. Based on this, the management formulates short and long-term plans that have the ability to handle unknown and unforeseen changes and providing adequate or sufficient resources to perform the plan and improve quality. Lastly, the management contributes a great effort to pursue long-term business success and adopting strategic (long-term view) on quality. Formulate a clear policy towards quality, and reduce and minimize resistance to change.

In general, managers and respondents of textile manufacturing industries of the Amhara region provide nearly the same results. This indicates the levels of commitment of top managers are at the position of satisfying a majority of employees.

Employment empowerment can be constructed through eight statements. It achieved a 3.23 mean with a standard deviation of 0.117 and accounts for a percentage of 64.6 %. The result of the study shows that the level of employee's empowerment in the textile manufacturing industry of the region is at a good level. However, the practice is lower compared to foreign companies. For example, A study conducted by Rabay (2013) on the status and challenges of total quality management application in selected Palestine chemical industries found that the mean value of 4.17, 3.31 in total quality management implementation of Libyan manufacturing companies (Abusa, 2011).

Table 5*Employees' Empowerment Practice of Both Companies*

No	Item	Mean	SD
1	Everyone in an organization shares the responsibility for quality.	3.39	1.137
2	All employees have received training to improve quality improvement skills.	3.34	1.116
3	Constant employee awareness and feedback on status are provided and a reward and recognition process is established.	3.31	1.070
4	The company has a transparent and effective appraisal system for recognizing and rewarding employees.	3.30	1.063
5	Employees are encouraged to participate in decision-making programs related to quality.	3.23	1.108
6	Every employee thought has been taken into consideration to make any quality decision.	3.16	1.094
7	Employees are encouraged to identify problems and correct it in their own way.	3.11	1.132
8	Employees are more satisfied with their work and devote their individual development potential to the service of your organization.	3.06	1.090
Total		3.23	0.117

Source: Survey, 2018

Besides this, the managers responded (according to the interview) that the companies are implementing many strategies to empower and improving employee's performance. Among such practices, the companies provide excessive training and development to different groups of employees. Various categories of workers get different training to develop new and more efficient ways of carrying out their tasks and cutting down or eliminating waste. The training is mostly held by quality control engineers, production engineers, international companies, universities, and consultancy firms. The manager also responds that the company also provides educational opportunities from local universities and scholarships, workshops and purposive trips, effective and transparent performance measurement practices, user-friendly technologies and a simple safe working environment, encouraging employees to identify the problems and fix them and providing accurate information regarding how to evaluate their performance.

In addition, the manager outlined that industries are applying an evaluation practice that only considers the work or job rather than the employee relationship with subordinates or managers, a clear and precise performance measurement framework, and employees’ satisfaction is consistently measured.

Supplier participation or integration can be treated through seven statements. It achieved a 3.26 mean with a standard deviation of 0.205 and accounts for a percentage of 65.2%. The result of the study shows that the level of supplier participation or integration in the textile manufacturing industry of the region is at a good level. However, the practice is lower compared to foreign companies. For example, A study conducted by Rabaya (2013) on the status and challenges of total quality management application in selected Palestine chemical industries found that the mean value of 4.19, 3.68 in total quality management implementation of Libyan manufacturing companies (Abusa, 2011),

Table 6

Supplier Participation or Integration of Both Companies

No	Item	Mean	SD
1	The company concerns suppliers and partners during quality decisions and policy changes.	3.52	1.047
2	The company regularly performs supplier’s quality audits.	3.43	1.000
3	Different criteria like ISO standards are applied during suppliers' selection other than bidding on low-cost.	3.37	1.111
4	Suppliers are selected on the basis of quality aspects.	3.30	1.168
5	Collaborative working dimensions like strategic alignment, decision-making and governance, and communication and transparency are used.	3.25	1.149
6	The company makes great efforts to establish long-term relationships with suppliers.	3.03	1.162
7	The company encourages suppliers which show higher quality improvement through rewards and other incentives.	2.96	1.241
Total		3.26	0.205

Source: Survey, 2018

Besides this, the managers in the interview provided nearly the same result with respondents, that the companies have many long and short-term suppliers. Since the textile industry is a complex industry needed different raw materials, chemicals, ingredients, machineries and spare parts, suppliers are evaluated and participated on the type of suppliers that exist in the market. According to the manager response if the numbers of suppliers are higher the company will apply many screening processes to select the best and most competitive one.

The major suppliers are local cotton farmers located in Gondar (Metema), Humera, Middle Awash, Amibara, and Abebeo, ginning factories (ginneries) located at Gondar and Chagni, machinery and spare part manufacturers (Marzoli, Schala forest, Hebex, afro german, and Ziway caustic soda). In the case of cotton suppliers, the companies (textile manufacturing industries) are not taking any screening criteria rather than the lowest cost since there are not well organized and disintegrated suppliers have not the capability to handle the criteria due to longer relationships with them. In the case of other suppliers, the companies are applying different screening criteria like ISO standards, tax payment certifications, and others. Based on these suppliers which wine qualifications and providing better materials will be selected and the company performs the supplier's performance or quality audit in a regular period mostly in six months. In this condition, companies check the supplies in order to control further defects: If nonconformance exists it will automatically be returned to suppliers. In addition, the managers also responded that when the industries are changing their policies or applying a new method of working their consider suppliers and potentials to hand it to prevent additional costs of non-compatibility. In some cases, the company also participating with suppliers and customers (especially wholesalers) in decisions when the outcome has revolutionary or wider change. However, managers responded that the level of support given to suppliers and the process of establishing a long-term partnership with them is not that much sufficient or lower.

Communication practice is captured through seven statements. It achieved a 3.34 mean with a standard deviation of 0.382 and accounts for a percentage of 66.8%. The result of the study shows that the practice of communication in the textile manufacturing industry of the region is lower compared to foreign companies. For example, A study conducted by (Kenneth, 2012), 3.60 in the assessment of total quality management practices on organizational performance at intravenous infusions limited Koforidua (Kenya),4.28 in Identification of Critical Success Factors for Successful TQM Implementation in Textile Industries, Pakistan (Qurat-UI-Aan & Rashid, 2014).

Table 7

Communication Practices of Both Companies

No	Item	Mean	SD
1	It is clear- cut channel of communication in the company.	3.39	1.137
2	The roles of employees or individuals in quality are fully communicated.	3.36	1.137
3	The company disseminates the data and information to all employees.	3.35	1.145
4	There are no communication barriers among departments.	3.34	1.209
5	The communication strategy adopted in the company is consistent with the company's vision and mission.	3.33	1.156
6	Business goals are communicated to suppliers and customers.	3.31	1.166
7	All employees are informed about how the company performs its business.	3.27	1.155
Total		3.34	0.382

Source: Survey, 2018

Besides this, the managers responded that (according to the interview) companies many methods of verbal, written, visual, by example or any combination of these methods and implement effective communication practices like communicating the business mission and vision to all employees through billboards, memos, leaflets, and website. The managers also responded the company communicates the role of the individual to quality and communication barriers like slang or semantics are managed or avoided in the company, all information regarding the company like financial statements, reward, and recognition criteria, employees break and day off practice and other dates are provided through companies' website or periodic report issued in the company.

Besides, business goals are communicated to suppliers and customers to a limited extent. In addition, the company provides adequate information to individuals (researchers, exports, and others who needed it).

Process approach is constructed based on the following six statements. It achieved a mean value of 3.34 with a standard deviation of 0.900 and accounts for a percentage of 66.8%. The result of the study shows that the level of process approach or management in the textile manufacturing industry of the region is lower compared to foreign companies. For example, in A study conducted by Qurat-Ul-Aan & Rashid (2014) on the identification of critical success factors for Successful TQM Implementation in Textile Industries, in Pakistan found a mean value of 4.02, 3.51 in total quality management implementation of Libyan manufacturing companies (Abusa, 2011).

Table 8

Process Approach Practice of Both Companies

No	Items	Mean	SD
1	The major process in the company is well designed & continuously measured.	3.49	1.002
2	The company analyzes and measures of key processes capability.	3.40	0.905
3	The company Systematically identifies the key processes necessary to obtain the desired result and continuously improve its efficiencies.	3.34	0.942
4	The company focuses on factors that can lead to improving organizational activities (resources, methods, and materials).	3.33	1.128
5	A process-based performance measurement framework is applied in the company.	3.26	1.073
6	The organizational process has the capability to cope with the change in demand orders without incurring significant costs.	3.25	1.000
Total		3.34	0.900

Source: Survey, 2018

Besides this, the managers responded (according to the interview) that even though the industries are applying the continuous type of production and difficult to shrink and enlarge the production, the companies are applying many tasks to improve process flexibility like delayed differentiation,

automatic replenishing, and the company continuously measures the process capability like purchasing, spinning, weaving, finishing and processing, garment, and marketing and their interrelationship in a consistent manner.

Factual approach to decision scores a mean value of 3.42 with a standard deviation of 0.077 and accounts for a percentage of 68.4%. The result of the study shows that the level of factual approach to decision-making in the textile manufacturing industry of the region is lower compared to foreign companies. For example, in A study conducted by Qurat-Ul-Aan & Rashid (2014) on the identification of critical success factors for Successful TQM Implementation in Textile Industries, Pakistan found a mean value of 3.98, 3.51 in total quality management implementation of Libyan manufacturing companies (Abusa, 2011),

Table 9

A Factual Approach to Decision-Making Practice of Both Companies

No	Item	Mean	SD
1	Decisions in the company are based on accurate and verified data and information.	3.52	1.216
2	The company uses multiple types and sources of input in decision-making and choosing the alternate course of action.	3.46	1.216
3	Actions on quality management systems are based on audit reports, corrective actions, non-conforming products, customer complaints, etc.	3.45	1.036
4	Data and information analysis is made using established methods.	3.42	1.102
5	Relevant numerical data and verbal information is collected, structured, and analyzed in the company.	3.39	1.086
6	The company provides access to data to those who need them.	3.29	1.122
Total		3.42	0.077

Source: Survey, 2018

Besides this, the managers (based on interviews) responded that the availability of systematic records and sound documentation of quality information are essential elements for the efficient implementation of quality management. Due to this, the company performs many things like recording and keeping track of information exchanged between the various departments and

production units, data are stored and analyzed on the various stages of production to identify the originators of particular decisions. In addition, records serve to monitor progress in industrial production through the logging of such information as the percentage of non-conformance, the types of faults detected, the work done to prevent the recurrence of such faults, the rectification measures taken and the related costs, customer feedback, movement of sales is stored and maintained in both companies. Lastly, the company provides open access to data to individuals and institutions like auditors, researchers, consulting firms and etc.

4.3. Comparison of total quality management between companies

Using two tiled independent sample t-tests enables the researcher to examine the phenomena of the nature of two variables at a time. The significance level should be selected as appropriate. The most widely used significance level is 95% or 0.05. However, the level of significance can be ranged from 0.1 to 0.001 or 90% to 99%. The most common method of computing two tiled independent sample t-tests is p-value. P- Value greater than 0.05 (significance level) indicates a significant difference between two phenomena's or case companies (Bahir Dar and Kombolecha).

Table 11*Comparison of TQM Principles*

No	Variables	Bahir Dar		Kombloecha		T- value	P-value	Justification
		Mean	SD	Mean	SD			
1	Customer focus	3.13	0.217	3.28	0.277	-0.03844	0.971	Not significant
2	Continuous improvement	3.35	0.261	3.43	0.257	-0.03749	0.972	Not significant
3	Leadership and Top management commitment	3.39	0.810	3.36	0.132	-0.03173	0.976	Not significant
4	Employees empowerment	3.37	0.155	3.11	0.175	-0.03511	0.973	Not significant
5	Supplier participation and integration	3.48	0.240	3.05	0.464	-0.0354	0.974	Not significant
6	Communication	3.46	0.063	3.22	0.093	-0.03533	0.973	Not significant
7	Process approach	3.41	0.118	3.31	0.153	-0.03642	0.972	Not significant
8	Factual approach to decision making	3.40	0.103	3.41	0.152	-0.03734	0.972	Not significant

Source; survey, 2018

According to the above table (table 4.11), the p-value of all variables indicated is above the significance level or 0.05. This indicates there is no significant difference between the two companies (Bahir Dar and Kombloecha).

Conclusions and Implications

The study sought to assess the TQM practices of textile manufacturing industries of the Amhara regional state textile manufacturing industries. The study concluded total quality management is practiced well in both selected companies. The researcher found that a factual approach to decision making, top management commitment, and continuous improvement are among the highly practiced aspects of total quality management in textile manufacturing industries of the Amara region. While, supplier participation, employees' empowerment, and customer focus, are not practiced well in the textile manufacturing industries of the Amara region, and communication practice and process approach at moderate level. The researcher founds that total quality management practice of textile manufacturing industries of Amhara region is highly limited to current practice only not on future. The practice of total quality management in Amhara regional

state textile manufacturing state is lower when it compared with textile or manufacturing industries of foreign companies. In addition to this, statistical process control and level of involvement in quality is limited. Quality improvement tools like histograms, graphs or especially bar graphs, check sheets and cause and effect diagrams are applied in the companies.

Even though the quantitative result shows that a factual approach to decision-making, top management commitment, and continuous improvement are among the highly practiced aspects of total quality management in textile manufacturing industries of the Amhara region, some items indicated on these three variables there is critical gap existed, due to this, industries (textile manufacturing industries of Amhara region) should make decisions based on accurate data, should support and encourage research and development teams through allocating adequate resource, furnishing open and safe environment, encouraging new ideas, and increasing relationship between management and research and development teams, and the management should provide adequate resource (like time, human resources, and financial resources) to improve quality. Since the current environment is dynamic and full of uncertain events, management should anticipate change and plan to accommodate it.

Besides the above findings, supplier participation, employees' empowerment, and customer focus are least practiced in the textile manufacturing industries of the Amhara region. Both qualitative and quantitative data indicates that industries (textile manufacturing industries of Amhara region) should do many things to improve the practice especially developing the new and related product and applying product development techniques like quality function deployment and concurrent engineering, applying motivational empowerment practice through identifying employees performance and applying bias free appraisal systems, and organizations or textile manufacturing industries of the region should improve suppliers long and term capability through clustering scattered cotton producers and suppliers, providing better seed and technology for cotton production, identifying and reducing barriers to develop partnership and formulating inclusive organizational polies and strategies.

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