

An Empirical Study on Critical Success Factors of TQM in Banking Industry

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Abstract

This study is aimed to scrutinise and confer the critical success factors affecting TQM implementation in the banking industry of Bangladesh. After conducting FGD with mid-level bankers and an in-depth literature review, a questionnaire has been developed and checked the reliability by academicians, research scholars, and field experts in the banking sector. The results were analysed and summarized through Partial Least Square-based Structural Equation Modeling PLS-SEM. The study revealed a very important loophole in the banking sector of Bangladesh and that is, customer relationship is not getting that much attention that it needs to be. As a service industry, banks need to focus on supplier and supplier partnership which can play the core role in proving uninterrupted services along with quality to customers. Conforming to the result of the study, supplier partnership is not taken into consideration for quality purposes. TQM implementation is a very new concept in the context of Bangladesh. Even though, the highest managerial body has little knowledge, information and understanding about the critical success factors for TQM implementation. It is highly projected that the findings of this study would make an original as well as a practical contribution to the banking industry.

Keywords: Total quality management, private commercial banks, banking industry.

Paper Category- Research paper

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Introduction

The outcomes of globalisation are open marketplace, international trade and rapid technological innovation which affecting businesses worldwide at a great extent. New ways of thinking and comprehensive strategies are an absolute must to cope up with an environment which is denoted by swift changes in technology, customer needs and preferences, government regulation, social structure and ideology in particular, leads high requirement of quality. According to Bose (2002) globalization, increasing competition and advances in communication and information technology is the indicators of contemporary economy which imposing companies espousing approach designed as customer-centric through concentrating on customer relationships management over the traditional marketing dogmas. And this situation leads a drastic shift from products and services towards customers that most of companies synchronize to their strategies (Teo *et al.*, 2006). The needs of the different groups of people are furnished by the banking sector which is considered as the substantial industry in the service sector. Remarkably, the quality of service in the commercial banks contributes a superior role in high engrossment industries (Angur *et al.*, 1999; Elango and Gudep, 2006). Undeniably, the pre requisite of the triumph of service organizations like banks are based on providing the best service excellence. The financial sector of Bangladesh is small and underdeveloped, consist of banking sector and capital market sector which is emerging but developing. Banking sector has been coupled with dynamic changes

over the last few years. In Bangladesh, banks have tremendously grown in relation to increased revenue, bonds, guarantees, assets and variety services in terms of their products. However, dynamic changes such as continued growth has been a major driving force in the banking industry of a country and Bangladesh is not exception of that. This industry has been faced with organizational efficiency challenges, stiff competition, complex demands of real time and digital customer, the changeover from high in-house costs to more responsive and manageable services, amendment in government regulation, difficulty to cope up central bank regulations and customers changing demands to technology friendly services. Business environment are evolving hence banks have to change their thinking and strategy on how things are done. To stay relevant, banks need to step up their game and align their processes with quality. Quality at this highly competitive era, has considered as a deliberate instrument for measuring business performance. As banks are the underpinning of a modern economy, quality service of banks is highly required. In this regard precise consideration should be paid to the quality of the service which pointedly mark the customer loyalty in banking sector. In response to the challenges of globalization together with the fast enhancement in information technology, not only have risen competition in business sector intensely but also created an urge for the companies to adopt a various strategic attitude to obtain competitive advantages. As a result, quality management becoming a

substantial aspect especially in a competitive sector like banking all over the world. The concept of TQM in banking has developed over years with a new and strong focus on customer relationship (Talib *et al.*, 2012). According to Venkateshwarlu (2011) Total Quality Management is a management attitude, intentions to uphold the standard qualities in procuring inventories for raw materials, enables to maintain the standard quality of goods, allows to practice standard qualities in manufacturing processes and logistics and distribution processes, last but not the least brings the satisfaction of the traders and end purchasers with the first-rate performance of products and services. Globalization, industry growth, technological change and fierce competition in banking sector continuously increasing the role as well as importance of TQM implementation focusing on realignment of operational strategies in order to manage internal and external environment with changing levels of dynamism and difficulty. TQM integrates all organizational managerial functions with an aim to satisfy customers need that lead to higher organizational performance.

Upgrading the quality of products and services is vigorous for surviving in a rapidly shifting business environment and good number of organizations all over the world have started to realize and appreciate that. Over the last several decades, the progress and application of an operative quality management system has become successful evident to inhabit gainful setting and to be more competitive on the global marketplace. Alike every

corporate, banks are also striving to espouse quality parameters. Operating the business activities according to the global requirements is an absolute must so as to appeal new customers and retain existing one. As a result, banking sector all over the world facing serious challenges from local and global competition and started to espouse the TQM approach to satisfy global competitiveness in little range. Magnitude of literature review advocates that immense research work has been done on the quality of services, but limited focus carried on TQM in banking sector. Many researchers like Ahmed (2002); Neyer (2000); Sureshchandar *et al.*, (2002); Meyer and Dornach (1997) have identified the absolute need of research work in this area in order to understand the better way of applying TQM. They also argued about the critical success dimensions for implementing TQM in order to achieve sound financial accomplishment, fulfilment of customer requirements, high employee involvement and surpass in quality of service. Adopting TQM practices not only beneficial for surviving in the market but also achieve desired growth in the business.

Studies on TQM which have been conducted till now, banks have got less attention. In Bangladesh the issue of TQM is quite new but this sector is thriving at the same time facing challenges in the issue of quality to cope up with global environment. Considerable lack of literature with respect to TQM and critical success factors for TQM implementation in this sector attempt to bridge the gap. Therefore, this study has emerged as an

attempt and design to examine the critical success factors for implementation of TQM in the context of private commercial banks operating in Bangladesh. Aligning with the aim of the research, the study has designed to explore the following critical success factors for TQM implementation.

To explore the level of top management leadership in TQM implementation

- To investigate the practice of customer relationship in TQM implementation
- To examine the level of supplier partnership in TQM implementation
- To scrutinize employee involvement in TQM implementation
- To explore the activities of continuous improvement in TQM implementation

To identify the influence of organizational culture on TQM implementation

2. Review of Literature & Hypothesis Development

2.1 Critical Success Factors of TQM

Critical success factors may be observed as variables which govern firm presentation over the fruitful implementation of TQM. The factors and practices which are essential for the effective orientation of TQM can be considered as CSFs (Yusof & Aspinwall, 1999). These might be the predominant settings and drivers essential for a firm to attain its vision (Wali et al., 2003). According to Karuppusami and Gandhinathan (2007) CSFs of TQM are the fundamental to the triumph of organizations, which required efficient management and proper monitoring for further improvement. Extant literature has echoed a lot of studies that identified

critical success factors of TQM. The literature review conducted by Aquilani et al. (2017) stated that 103 academic papers covering the CSFs of TQM were available by that year. So, TQM is getting more and more consideration day by day indeed. Fotopoulos and Psomas (2010) researched Greek companies and recognized nine critical factors which lead to the sustainability of a company. “Leadership, employee management and involvement, strategic quality planning, supplier management, process management, customer focus, continuous improvement, information and analysis, and knowledge and education” are the factors. Othman et al. (2020) have shown leadership, management of staff, information, and analysis, and customer attention as strong predictors of competitive advantage in the banking sector. Twenty critical factors analysed by Mahapatra and Khan (2006) are accountable for the successful application of TQM in the service industry. Success factors are a set of considerable elements that support the organization in accomplishing its drives for restored business performance (Gupta & Mittal, 2020). Almost all of the literature of TQM identified employee involvement, empowerment, top management leadership, and commitment, and customer relationship as crucial elements in successful TQM implementation (Bowen et al., 1989; Brower, 1994; Camp, 1989; Deming, 1982; Knol et al., 2018; Kohli & Singh, 2015; Mendelowitz, 1991; Sahoo & Yadav, 2017). These factors may be considered as a prerequisite to or motivations for

TQM implementation (Wali, 2003). A voluminous literature has been considered from different ranges like manufacturing, service, and banking to explore the critical success factors of TQM implementation. Apart from the notable researchers, some other areas have been explored like from quality Guru's (Crosby, 1979; Deming, 1982; Feigenbaum, 1991; Ishikawa, 1985; Juran, 1988), quality awards (Malcolm Baldrige National Quality Award, The Deming Award, European Quality

Award). These studies contribute a considerable number of substantial success factors for TQM implementation. Besides the theoretical literature, the critical success factors of TQM which are referred to and considered in this study, are acknowledged by many conventional quality and business excellence models and criteria such as MBNQA, EFQM, and Malaysian Quality Management Excellence Award (QMEA) illustrated below table.

Insert Table 2.1

Table 2.1
CSFs of TQM in Banking Sector. Table Constructed with an Exhaustive Literature Survey. (Sorted on recent year order)

<i>Critical Dimensions</i>	<i>Literature Evidence</i>	<i>Related Constructs</i>	<i>Explanation</i>
Top Management Leadership	Hossin and Islam (2017); Sreenivas and Babu (2017); Anil and Satis (2016); Al-Ettayem and Zubi (2015); Priya (2015); Idam et al. (2014); Mwaniki and Okibo (2014); Jamali et al. (2010); Selvaraj (2009); Lenka and Suar (2008); Al-marri et al. (2007).	Top management commitment, top management involvement, top management support, transformational leadership.	EFQM, MBNQA, QMEA Top management leadership is the degree to which leaders and top management assign TQM objectives, deliver the required resources equipped for quality improvement efforts, and appraise TQM implementation. (Bon & Mustafa, 2013).
Employee Involvement	Sreenivas and Babu (2017); Hossin and Islam (2017); Anil and Satis (2016); Priya (2015); Idam et al. (2014); Selvaraj (2009); Lenka and Suar (2008); Al-Marri et al. (2007).	Employee involvement, motivation, and retention of good employees, employee satisfaction service culture, employee empowerment.	EFQM, MBNQA, QMEA Employee involvement is the level at which employees are dedicated, encompassed, and concerned with the TQM activities. (Bon & Mustafa, 2013; Rao et al., 1999).
Customer Relationship	Sreenivas and Babu (2017); Hossin and Islam (2017); Anil and K. P. (2016); Al-Ettayem and Zubi (2015); Priya (2015); Mwaniki and Okibo (2014); Idam et al. (2014); Selvaraj (2009); Lenka and Suar (2008); Al-Marri et al. (2007).	Customer focus quality information analysis QIA, customer satisfaction, customer relationship total customer relationship management (TCRM). customer focus,	MBNQA, EFQM, QMEA The organization needs to be customer positioned to attain high customer satisfaction through studying and understudying needs and demands (Bon & Mustafa, 2013).

			customer orientation.	
Supplier Partnership	Anil and Satis (2016); Mwaniki and Okibo (2014).	Supplier management, supplier relationship.	quality EFQM	Establishment of cooperative relationships with suppliers in order to manage their procedures more efficiently (Tari et al., 2007).
Continuous Improvement	Sreenivas and Babu (2017); Hossin and Islam (2017); Anil and Satis (2016); Idam et al. (2014) ; Al-Ettayem and Zubi (2015); Al-marri et al. (2007); Lenka and Suar (2008).	Continuous improvement, product design product innovation, state-of-the-art technology.	MBNQA, EFQM, QMEA	Continuous improvement leads to increase and sustain improvement in all organization functions, operations, and departments. (Bon & Mustafa, 2013; Lafley & Charan, 2008).
Organizational Culture	Anil and Satis (2016); Al-Swidi and Mahmood (2012); Kaluarachchi (2010); Al-Marri et al. (2007).	Learning organization, appropriate culture.		Organizational culture is a system of meanings, morals, and principles held together in an organization that varies from organization to organization and refers to action (Mas'ud, 2004).

2.2 Top Management Leadership

Due to the high level of cut-throat competition and the persistent process of change in the contemporary business environment, management of all sorts of the organization is under pressure to implement quality systems for achieving reduced production process errors and maximum profit aiming to customer satisfaction. Providing high-end service has converted to a deliberate domineering for senior management all over the world and in this regard, a good number of quality tools and techniques have been introduced and practiced for achieving this management goal whereas Total Quality Management (TQM) demonstrated to be amid the utmost operative quality practices that have been implemented. A very recent study on the leadership of TQM conducted by Bouranta (2021), exposed that transformational leadership has a positive consequence on customer focus, human resource management, process

management, strategic planning, and learning which were addressed as the TQM implementation regardless of the industry type, manufacturing or service. Moreover, the author concluded that the service industry requires employee education and transformational leadership has a more positive influence on employee education in the service industry rather than manufacturing. Research on TQM has constantly come over the strong association between fruitful TQM implementation and leadership (Ehrenberg & Stupak, 1994; Rao et al., 1997; Zairi, 2002). Many scholars such as Venkatraman (2007); Kanji et al. (1999) have recognized and addressed the importance of leadership for successful TQM implementation. In general, they have contended that top management's capability to make a vision and endorse change is at the core of the effective implementation of TQM. The strong role of top management through strong commitment is very critical in the

implementation process of TQM and stereotypically acts as a frontrunner and driving force for generating values, goals, and structures for customer's need fulfillment (Yunoh & Ali, 2015). Top management commitment ranked first and established as fundamental for implementing TQM initiatives successfully in the findings of the study conducted by (Gupta & Mittal, 2020). Through active participation in quality improvement programs, top management can demonstrate their commitment (Durairatnam et al., 2020).

2.3 Customer Relationship

Quality begins with the customer- A recognized statement for TQM practices. In banking, parlance customer accepts the services offered by the banks. The process of economic liberalization, the globalization of markets, and swift changes in a business environment are heading toward a shorter product life cycle and making customers more demanding which ultimately creating organizations more challenging to meet customer satisfaction. Presently all types of organizations, smallest to largest, are under pressure to satisfy end customers due to the globalization of the economy (Krishnan, 2013). Customers must be the centre portion of organizational activities for any business to succeed in this raging environment according to the marketing concept (Ali & Raza, 2017; Raza & Hanif, 2013). Some literature addressed TQM as a culture of an organization devoted to total customer gratification through Continuous Quality Improvement instead of merely management perception (Talib et al.,

2011a; Vouzas & Psychogios, 2007). The customer's upshots are constantly unanticipated in-service industry (Ordanini et al., 2014). As a result, the banking sector should focus more on its customers' needs and expectations. Al-Swidi and Mahmood (2012), accentuated gauging the all-inclusive knowledge around the customers' needs, requirements, and expectations in designing services offered by the banks. Customer satisfaction can be gained by capturing customer voice (Chiguvi, 2016). At each level of the product development process, the integration of customers' judgment should be respected (Wang & Meckl, 2020).

2.4 Supplier Partnership

A quality performance is highly influenced by supplier quality (Flynn et al., 1994; Saraph et al., 1989). According to ISO 9000-2000, suppliers are considered as quality partners in the process of upgrading products and services. A deadline that is not possible to meet can produce an underrated selection of suppliers grounded on inadequate evidence about supplier specifications (Islam & Haque, 2012). Supplier quality management is measured as an indispensable issue of TQM implementation concluded on the focus of effective supplier quality management that lets the organizations create long-term supportive relationships with their suppliers concerning supplier efficiency after conducting supplier quality audits and participation in supplier quality events (Zhang et al., 2000).

2.5 Employee Involvement

Total Quality management is a shared alliance of management, employees, suppliers, and dealers to meet as well as surpass customer satisfaction levels indeed (Gupta & Mittal, 2020). The success of TQM leads to commitment to quality by the entire workforce of the organization (Singh & Dubey, 2013). Various attempts have been made by different researchers to demonstrate that TQM practices have a noteworthy relationship with HRM practices which leads to gaining competitive advantages (Ahmed & Siddiqui, 2020; Hataani & Mahrani, 2013). Arora and Gupta (2020) stated that employee engagement increases the belongingness among the employees toward their organizations and it is the key to success. The study exposed that the integration of HRM policies with TQM practices produces a direct effect on employee engagement. Knowledgeable employees are the prime requirement for maintaining high quality and to better comprehend quality-related matters and their contribution in TQM practices, the employees should receive training and be prearranged responsibility (Wang & Meckl, 2020). The study also emphasized employees' necessary knowledge to make constructive contributions to TQM heading toward innovation which is very important for reaching complete reimbursements and business superiority. Positive employee work attitudes should be fostered, which will act as mediators lead to propelling quality performance (Durairatnam et al., 2020).

2.6 Continuous Improvement

Conferring by Morgan and Murgatroyd (1994), continuous improvement in quality consequences is attained over refining every process involved in distributing them. Yusuf et al., (2007) identified the attitude of continuous improvement as moving up the never-ending notion in everybody's mind and every work. Yunoh and Ali (2015) claimed that continuous improvement is not a definite package but a continuous expedition that requires the involvement of every component of the organization. The study conducted by Lahidji and Tucker (2016) showed that the organizations have experienced high growth, which has entrenched continuous improvement in their corporate policy. In a competitive banking business, due to the very essence of success, customer satisfaction is a thoughtful consideration (Siddiqui, 2011). As a result, all sorts of organizations put effort into innovation to keep customer satisfaction remains which is the outcome of continuous improvement. In literature, the association between TQM and innovation is proclaimed a very close and complex relationship (Hoang et al., 2006; Martinez-Costa & Martinez-Lorente, 2008). Continuous improvement not only improves consequences but also improves the capability to produce future outcomes. Improvement never stops and an organization must recognize that no process, product, or service ever reaches perfection if it remains static (Al-khalifa, 2000). For achieving continuous improvement all processes should be combined and all the employees should

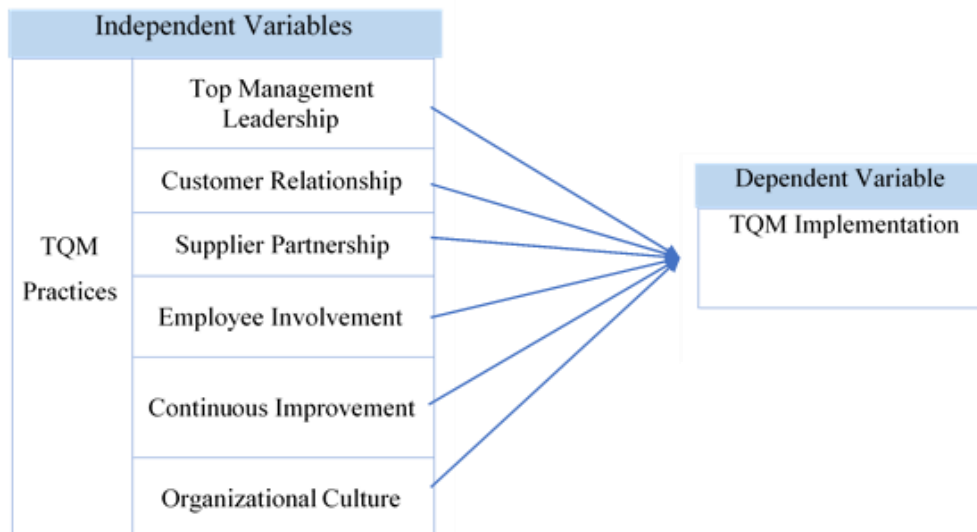
contribute through participation (Wang & Meckl, 2020).

2.7 Organizational Culture

Culture has been generically defined as, “the set of norms, beliefs, and values shared by members of the organization” (Cameron & Quinn, 1999; Detert, et al., 2000; Stock et al., 2007; Yu, 2007). Organizational culture according to De Long and Fahey (2000), is a broad concept that infers diverse levels of values, rules, and practices. The members of an organization are affected by an organizational culture that influences behaviour and performance, as well as the organization’s own external setting (George et al., 1999). Many works of literature evident that very few TQM

programs are fruitful, and the others fail mostly due to the divergence of two variables, cultural and structural factors (Burdett, 1994; Ehigie & McAndrew, 2005; Grant et al., 1994). Organizational culture is positively associated with successful TQM implementation which is suggested by many researchers (Beer, 2003; Detert et al., 2000; Gozukara et al., 2018). In a recent study, it is stated that adopting quality management practices leads to changes in organizational culture, and as a consequence, the successful implementation of TQM fosters by this new culture (Gupta, 2019).

2.8 Conceptual Framework



The research questions were examined and constructed from a hypothetical and observed standpoint after investigating and conversing with the prevailing

literature on TQM implementation and hypotheses have been drawn.

Insert Table 2.2

Table 2.2

Variables with Hypotheses

<i>Dependent Variables</i>	<i>Independent variables</i>	<i>Research Questions</i>	<i>Hypothesis</i>	<i>Null Hypothesis</i>
TQM Implementation	Top Management Leadership	To what extent does top management leadership support TQM implementation?	<i>H1 Top management leadership has significant influence on TQM implementation.</i>	<i>H0 Top management leadership does not have significant influence on TQM implementation</i>
TQM Implementation	Customer Relationship	To what extent does customer relationships support TQM implementation?	<i>H2 Customer relationship has significant influence on TQM implementation</i>	<i>H0 Customer does not have significant influence on TQM implementation</i>
TQM Implementation	Supplier Partnership	To what extent does supplier partnership support TQM implementation?	<i>H3 Supplier partnership has significant influence on TQM implementation</i>	<i>H0 Supplier partnership does not have significant influence on TQM implementation</i>
TQM Implementation	Employee Involvement	To what extent does employee involvement support TQM implementation?	<i>H4 Employee involvement has significant influence on TQM implementation</i>	<i>H0 Employee involvement does not have significant influence on TQM implementation</i>
TQM Implementation	Continuous Improvement	To what extent does continuous improvement support TQM implementation?	<i>H5 Continuous improvement has significant influence on TQM implementation</i>	<i>H0 Continuous improvement does not have significant influence on TQM implementation</i>
TQM Implementation	Organizational Culture	To what extent does organizational culture support TQM implementation?	<i>H6 Organizational culture has significant influence on TQM implementation</i>	<i>H0 Organizational Culture does not have significant influence on TQM implementation.</i>

3. Methodology of the Research

3.1 Method of Population & Sample

Sample size was determined according to Bartlett *et al.*, (2001) which is 119 with margins of error .03 and alpha .05 for continuous data for 10000 or more population and the number of populations in this study is compatible with the requirement (Bangladesh Bank Annual Report, 2020-2021). 150 questionnaires were distributed to 50 respondents from top level (Vice President, GM) and 100 respondents from mid-level (Branch Manager, Departmental Head). They have

been chosen as sample due to having the good understanding and detailed and better knowledge about the operation and quality management in bank. Generation of banks, number of employees, number of branches were considered as selection criteria of banks. Purposive sampling technique was used.

3.2 Data Collection Sources

The data has been collected through primary and secondary sources. Primary data was collected from the bankers of private commercial banks through self-administered questionnaire using

emailing during the time period of June, 2022 to September, 2022. Respondents read the questionnaire and rate their opinions on Likert scale. For literature review secondary sources were studied initially. Different related books, journals, academic and commercial abstracts, bibliographic databases, newspapers and Internet search engines were consulted. Secondary data was sourced from both public and private resourced sources like libraries, research institutions and printed materials.

3.3 Research Instrument

Questionnaire is the research instrument in this study used for collecting data. It was prearranged to project the questionnaire by using of 5-point Liker Scale, which enabled to collect data based on the level of agreement or disagreement of the respondents in statements agreed in the questionnaire. The questionnaire has 3 sections. They comprised of both structured (close-ended) and unstructured (open-ended) questions. The part which contained demographic information such as age, gender, designation, working experiences etc has been organised by the researcher. The other parts of the questionnaires in this study are designed through exhaustive literature review. Out of the 150 targeted respondents, 120 filled in and returned the questionnaires giving a response rate of 80 %.

3.4 Analysis Process

Statistical Package for the Social Science (SPSS Version 23) program was used for demographic statistics. PLS-SEM (SmartPLS-3) has been chosen as the statistical tool for analysing the survey

data. Choosing to use PLS-SEM on data distribution, in this study, explains to take advantage of both normal and non-normal datasets. The SEM is recognized as a more inclusive and spontaneous technique to research design and data analysis than any other statistical model (Hafeez et al., 2006). Originally developed by Wold (1974, 1980, 1982), though at the earlier period PLS-SEM was used in a science discipline, now is widely applied in many social science disciplines, including Accounting (Lee et al., 2011; Nitzl, 2016); Human Resource Management (Ringle et al., 2020); International business (Richter et al., 2016); Management information systems (Hair et al., 2017; Ringle et al., 2012); Marketing (Hair et al., 2012); Tourism management (Do Valle & Assaker 2016; Latan et al., 2018); Supply chain management (Lin et al., 2005); Operations Management (Peng and Lai, 2012).

3.5 Ethical Issues

In this study, the researcher pursued approval to carry out the study and prepared a letter which delivered to HR department of each bank. In addition, confidentiality and privacy of the information was also strictly guaranteed and the drive and determination of the research was explained to the respondents before engaging them in answering the questionnaires and interviews.

4. Analysis & Interpretation

4.1 Demographic Explanation

Insert Table 4.1

General information of respondents and participant banks have been framed out to

illustrate a sum-up explanation of the profile of the sample in this study. All respondents in this study work in private commercial banks of Bangladesh, and they have been chosen from the top and mid-level of management having sufficient data and knowledge regarding

quality issues and as a result, they can provide an accurate response to the study. Frequency analysis is used to illustrate the gender ratio, participants' position in management, and bank generation.

Table 4.1
Demographic Statistics

Gender	Male			Female		
	86.5%			13.5%		
Designation	Top Level		Mid-Level			
	30%		70%			
Department	General	Credit	Foreign Remittance	Business Development	HRD	Others
	44.9%	13.0%	4.3%	1.4%	7.7%	28.5%
Bank Generation	1 st Generation	2 nd Generation	3 rd Generation		4 th Generation	5 th Generation
	31.4%	31.9%	26.1%		6.3%	4.3%

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4.2 Measurement Model Assessment

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Insert Table 4.2
Measurement Model

<i>Constructs</i>	<i>Items</i>	<i>Loadings</i>	<i>Cronbach's Alpha</i>	<i>rho A</i>	<i>Composite Reliability</i>	<i>Average Variance Extracted (AVE)</i>
Continuous Improvement	CI1	0.774	0.775	0.78	0.856	0.598
	CI2	0.759				
	CI3	0.829				
	CI4	0.727				
Customer Relationship	CR1	0.827	0.703	0.714	0.834	0.627
	CR2	0.817				
	CR3	0.728				
Employee Involvement	EI1	0.779	0.759	0.769	0.861	0.675
	EI2	0.822				
	EI4	0.861				
Organizational Culture	OC1	0.703	0.768	0.766	0.852	0.591
	OC2	0.773				
	OC3	0.825				
	OC5	0.768				
Supplier Partnership	SP1	0.815	0.719	0.726	0.842	0.64
	SP2	0.762				
	SP4	0.82				
Top Management Leadership	TML1	0.701	0.722	0.756	0.843	0.644
	TML2	0.887				
	TML3	0.81				
TQM Implementation	TI1	0.743	0.732	0.737	0.832	0.553
	TI2	0.765				
	TI3	0.758				
	TI4	0.707				

Note: FL = factor loading; AVE = Average variance extracted; ρ_c = Composite Reliability; ρ_A = DijkstraHenseler's ρ_A .

Several scholars recommended items having a factor loading of 0.708 to pass for further proceedings (Hair et al., 2019) except exploratory researches where acceptable factor loading is 0.60 (Chin, 2010; Hair et al., 2011; Ramakrishnan et al., 2012). In case of testing the reliability of a study, the Cronbach's alpha, ρ_A , and

composite reliability should be more than 0.70 (Benitez et al., 2020; Hair et al., 2019). Average Variance Extracted (AVE) explicates the construct validity of a study where recommended value is 0.50 (Hair et al., 2019; Hair et al., 2011; Wah-Yap et al., 2012).

Insert Table 4.3
Discriminant Validity (Fornell–Larcker Criterion)

	CI	CR	EI	OC	SP	TI	TML
CI	0.773						
CR	0.581	0.792					
EI	0.394	0.523	0.821				
OC	0.663	0.511	0.617	0.769			
SP	0.434	0.427	0.553	0.524	0.800		
TI	0.605	0.508	0.536	0.605	0.463	0.744	
TML	0.515	0.525	0.638	0.557	0.522	0.590	0.803

Although the Fornell-Larcker criterion elucidates the discriminant validity, a heterotrait-monotrait ratio of correlations (HTMT) can give a more comprehensive result. Through, Monte Carlo simulation it was found that the HTMT ratio can give an efficient result to test the discriminant validity of a test than the Fornell-Larcker criterion by assessing the cross-loadings of the study (Benitez et al., 2020;

Henseler et al., 2015). The recommended Fornell-Larcker criterion exemplifies that, the squared root of the AVEs (diagonal values) should be higher than the correlation value among the latent constructs (Hair et al., 2019). Conversely, to achieve discriminant validity all the constructs should have an HTML ratio of more than 0.85 (Henseler et al., 2015).

Table 4.4
Discriminant Validity (HTMT Criterion)

	I	C	R	C	I	E	C	O	P	S	I	T
I												
R		0										
I		.792										
C		.519	.709									
P		.859	.676	.800								
I		.586	.600	.734	.692							
ML		.799	.702	.703	.790	.628						
		.700	.746	.860	.720	.711	.795					

Table 4.5
Summary of Measurement Model with Result, Referred Value, and Reference Sources

Parameter estimation	Analysis Value	Suggested Threshold	Reference
Cronbach's Alpha	0.703 to 0.775	Minimum 0.70 Maximum of 0.95 Recommended 0.70-0.90	(Hair et al., 2019)
rho_A	0.726 to 0.78	More than 0.70	(Hair et al., 2019; Benitez et al., 2020)
Composite Reliability	The composite reliability is from 0.832 to 0.861	Which is quite higher than the required value that is 0.7	(Gefen et al., 2000).
Average Variance Extracted (AVE)	0.53 to 0.675	AVE 0.50	(Hair et al., 2019)
Fornell–Larcker Criterion		The squared root of the AVEs (diagonal values) should be higher than the correlation value among the latent constructs	(Hair et al., 2019)
HTMT Criterion	between the range	HTMT < 0.90	(Hair et al., 2019)

4.3 Hypothesis Testing (Bootstrapping Results)

Hypotheses that were constructed in light of the research objectives and research questions were tested because of the coefficient parameter and the significant value generated from the 95% bias-

corrected confidence interval (BCa) of each independent variable. It was tested using the one-tailed rather than two-tailed test. Testing hypotheses using a one-tailed test is more appropriate when the hypothesis direction is clear, to minimize type II errors (Latan et al., 201

**Insert Table 4.6
Table 4.6**

Path coefficient * Significant level at 5% structural path significance in bootstrapping (PLS-SEM results.)
To declare a relationship to be statistically significant, the p-value should be less than 0.05 and the bias-corrected confidence interval should not have any zero (Ahmed et al., 2020; Hair et al., 2019).

<i>Hypotheses</i>	<i>Path</i>	<i>Beta</i>	<i>Std. Error</i>	<i>t- Statistics</i>	<i>P Values</i>	<i>Bias Corrected Confidence Interval</i>	<i>Results</i>
H5	CI -> TI	0.277	0.049	5.715	0		Supported
H2	CR -> TI	0.062	0.047	1.304	0.097		Not Supported
H4	EI -> TI	0.13	0.055	2.34	0.01	95%	Supported
H6	OC -> TI	0.166	0.049	3.39	0		Supported
H3	SP -> TI	0.044	0.065	0.676	0.25		Not Supported
H1	TML -> TI	0.217	0.056	3.859	0		Supported

Based on this analysis, continuous improvement, employee involvement, organizational culture, and top management leadership have significant positive effects on TQM implementation. From the analysis results, coefficient values (β , SE , t , p) for the relationships between continuous improvement → TQM implementation, Employee involvement → TQM implementation, Organizational culture → TQM implementation and Top management leadership → TQM implementation are (0.277, 0.049, 5.715, 0.00), (0.13, 0.055,

2.34, 0.010), (0.166, 0.049, 3.39, 0.00) and (0.217, 0.056, 3.859, 0.00) respectively, with 95% BCa < 0.05. This result exhibited that H1, H4, H5, and H6 are statistically supported. On the other hand, coefficient values (β) for the relationships between customer relationship → TQM implementation and supplier partnership → TQM implementation are 0.062 and 0.044 respectively with 95% BCa < 0.01. This result indicating that H2 and H3 are not supported

5. Discussion on Findings

The customers of banks, in this digital age, not only borrowing and depositing money but want to be fully embraced with the convenience of technology. Customer satisfaction is positively linked with customer loyalty as satisfied customers are more likely to persist with prevailing organizations regarding availing product or service which secures generation of regular revenue for the company. Worthwhile experience of customers with the service, leads success (Anderson & Sullivan, 1993; Fornell *et al.*, 1996; Pattanayak *et al.*, 2017). The sooner and better banks understand the requirements and preferences of customers, the greater the chance to tailor and launch services leads to customer satisfaction in this customer-centered industry. According to the study findings by Pattanayak *et al.* (2017), application of TQM dimensions in the banking sector would endure better, prompt, satisfactory and reliable service, which ultimately resultant customer satisfaction and consequently customer loyalty.

But the study revealed a very important loophole in the banking industry of Bangladesh that is customer relationship is not getting that much attention that it needs to be. On the contrary, in some cases, this aspect is fully ignored. Surprisingly, banks are developing and offering services to their customers regularly without considering them as the prime decision-makers of their banks. Banks need to understand the need and preferences of customers in terms of maintaining a long-term relationship, personal counseling before a purchase decision, emotional and psychological

needs, service with consistent quality, a guarantee of security, privacy, and confidentiality, use of the internet for transacting, discretionary portfolio management, global accessibility and so on.

As a service industry, banks need to focus on supplier and supplier partnership can play the core role in providing uninterrupted quality services to customers. According to the result of the study, supplier partnership is not taken into consideration for quality purposes. The possible reasons might be addressed as focus on short, rather than long term partnership, no principles for improving partnership, lack of information for suppliers' quality data, selecting suppliers based on prices rather than the quality system, lack of proper suppliers' evaluation system and lack of understanding to incorporate suppliers as an input for quality services.

There is a very strong, direct, and significant relationship exists between top management commitment and Total Quality Management implementation in the banking sector of Bangladesh. Top management is accountable for founding policies, guidelines, and strategic objectives, aligning quality policies with the quality statement, creating a culture of continuous improvement as well as demonstrating leadership and direction for quality management within the organization.

Continuous improvement has a momentous effect on TQM implementation. Through continuous improvement is not well introduced and trained by management as one of the critical success factors of TQM in Bangladesh, according to the study result,

there is a practice of continuous improvement.

The fundamental of TQM is culture and the study revealed that culture is dominant for TQM implementation in the banking sector of Bangladesh.

Employee involvement also has a significant impact on TQM implementation. Quality movement is employee-driven. Therefore, employee involvement in making decisions regarding the development of quality goals and strategies, customer-related problem solving, incorporating the voice of customers, promoting branding, and retaining customers with more than quality services.

6. Conclusion

The economy of the globe has witnessed so many fierce changes that put every type of business organization under pressure due to the impact of high information technology on decisions, planning, and action, tremendous growth in customers' value awareness and value demands, breakdown in the conventional boundaries of entrepreneur leaders and managers, growing complexities of modern business functions and structures, emerging markets with information, communication and knowledge-based services. Considering all these, gaining competitive advantage requires finding a new way and TQM is getting attention as well appreciation in this regard. The study is saddled with the findings by inspecting the extent of TQM practices in the banking sector of Bangladesh which is realizing the dire need to respond to the strategies of competitors as fast as possible. TQM first seemed in the

manufacturing sector, but progressively the service sector is also appreciating the benefit of TQM. Doubtlessly the epoch of TQM is upon us. But without proper planning and effective utilization of critical success factors it may become just a fad. TQM is a relatively new spectacle in the banking sector of Bangladesh. According to the literature evidence, there is a deficiency of facts and knowledge regarding the prime components persuading the process of TQM implementation like customer relationship and supplier partnership. TQM programs are aligned with the goals to understand customers, surpass needs, satisfy through providing quality products and services which can be achieved by supplier partnership. Therefore, banks should always emphasize the leadership quality aligned with the vision of customer satisfaction through maintaining customer relationships which can be provided by empowered and efficient human resources, supplier partnership.

7. Implication

Quality is a multidimensional concept and aspects rather than considered as a whole. The dimensions of quality must be recognized not only to a sheltered competitive position in the industry but also to elude forsaking of poor performance caused by any measurement. TQM should be focused, studied, and analysed to get them available in the chosen format. TQM implementation is a vital management practice to maintain good progress along with the new service technologies which will add value and value and create a strong image in the

banking sector which is the most vibrant actor in the financial market to promote economic growth. At this juncture, the present study could contribute a lot to implement TQM successfully. The identification of critical success factors of TQM not only strengthens the knowledge and understanding of successful TQM implementation but also enriches the prevailing literature in the context of the banking sector of Bangladesh as well as developing countries. Likewise, this finding will also create a platform for the decision-makers to formulate an effective strategy for the successful implementation of TQM along with the proper utilization of limited resources.

8. Contribution to Knowledge

This research will make a worthwhile contribution to knowledge on theoretical and practical levels. The proposed framework identified the most important factors for implementing TQM in the banking sector. The study also provides insights into quality management practices which contributes to academic knowledge. Moreover, this study might be considered as the beginning of the TQM journey in the banking sector and future service sectors. Islamic banking can also draw attention in line with the variables of this study. The study also convey invitation to other researchers to explore Total Quality Management. Another way round, the present study opens the scope and potentiality for future research which is necessary to improve quality management and development in Bangladesh. Other independent variables can be adopted and mediating or moderating variables should also be

introduced and examined. Future studies could be carried out to update this research in terms of methodology, sample, variables, and period. Application of qualitative techniques and integrating approaches like quality function deployment (QFD), Data Envelopment Analysis (DEA), Fuzzy-QFD, Fuzzy-Analytic Hierarchy (AHP) which are very effective TQM tools can be studied to comprehend the relationship between the present TQM model and customer satisfaction. The discussion on findings and implications would act as a designed platform to the field of TQM for successful implementation and also make a wake-up call for analysing trends, figures, gaps, and infirmity in implementing TQM.

9. Recommendations

The banking industry of Bangladesh is still in its infancy in TQM issues. As a result, there is a lacking of empirical study in this regard. It is hoped that this study will create a platform on TQM ground and provide a foundation of knowledge in a holistic and homegrown context. Above and beyond, national academics and practitioners would be reinvigorated to increase their interest in this research area. As this study has covered several management issues, some recommendations have arisen from that viewpoint.

- To motivate and justify managers to invest resources along with time implement TQM programs to enhance organization performance.
- To make a vibration to all types of banks public and specialized as well, to take note of the importance of the

customer to improve the performance by introducing QC, TE, adopting QS, developing effective HRM and SM.

- To identify the gaps and create opportunities for further improvement and contributes to the enhancement of quality of services.
- To provide guidelines for qualified experts in evaluating the effectiveness of their current TQM program.
- To enrich the understanding of TQM practices for implementation at the aim of creating that should be a constructive effect on customers' satisfaction.
- To build a distinguished differentiation in services for gaining sustainable competitive advantage.
- To make the bank more market-oriented by focusing on customer satisfaction which leads to loyalty. Market-oriented banks can respond swiftly and antedate the future needs and preferences of their customers. As a result, higher value for the business is created.
- To understand the relationship between improved customer satisfaction and higher market share and profit.
- To establish support among co-workers, sufficient acknowledgment from the organization, and a culture of

teamwork for the effective implementation of TQM.

- To create awareness of TQM among the employees by confirming the development of supportive structure for effective functioning of TQM.
- To change employees' views, conduct, and attitude toward quality continuous training and education programs should be outlined.
- To arrange rewards and be recognized for quality improvement efforts.
- To allow a culture for proving constructive feedback along with a focus on continuous improvement from both management and employees stand.
- To align human resource planning, operational process, and employee engagement program with the quality policy.
- To generate a learning environment which is the foremost condition of continuous improvement.

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