

---

## **TOTAL QUALITY MANAGEMENT (TQM) AS A COMPETITIVE TOOL IN COMMERCIAL BANKING IN ZIMBABWE.**

**Tariro Mavaza<sup>1</sup>,**

**Douglas Halimani<sup>2</sup>,**

**Linda Gumbo<sup>3</sup>,**

**Dzapasi Farai<sup>4</sup>**

GREAT ZIMBABWE UNIVERSITY-ZIMBABWE

### **ABSTRACT**

The research intended to investigate how Total Quality Management can be effectively used by retail banks to improve their competitiveness in view of growing intense competition existing in that industry. The preliminary chapter introduces the reader to the research problem and the literature review was meant to be an expansion on the research background. The researcher employed the descriptive research design because it was relatively cheap and less time consuming. The survey and observation method were used to collect data from the field. However, research instruments used were questionnaires and observation guidelines to solicit data from the respondents. Data was analysed qualitatively for unstructured questions and statistically for structured questions. Pie charts, bar graphs, line graphs and tables were used to explicitly present the findings. The findings substantially revealed that Post Savings Bank and Agribank had a weak implementation of Total Quality Management system as compared to Standard Chartered Bank and BancABC. As a result, it was discovered that the latter banks had more satisfied and loyal customers which significantly contributed to them being more competitive to POSB and Agribank. A Chi- square Test was carried and it confirmed the relationship between Total Quality Management and customer satisfaction. A binary logistic regression was then done to model the relationship.

**Keywords:** Total Quality Management, Service Quality, Customer satisfaction, Competitive tool

## **Introduction**

Banking is a business based on trust and confidence. It is not a once time product provision business but one that requires a special relationship between a bank and its clients. In that vein, confidence and trust among a bank's clients can only be earned if a bank provides undoubtedly excellent service. The period from 2003 to 2009 witnessed an unprecedented economic meltdown in Zimbabwe which had a huge negative impact on the banking system. It resulted in hyper-inflation figures as well as an acute shortage of cash in the market. This resulted in the public losing confidence in the banking system as the quality of service they were receiving from it reached an all time low. Since the Reserve Bank of Zimbabwe (RBZ) announced the introduction of multicurrency system in the economy in February 2009, a cautious return of confidence in the banking system has seen a substantial increase, though from a low base, in the overall usage of banking platforms.

However even though confidence is returning to the banking sector, an economic research has discovered that an estimated \$2 billion continues to be transacted through the informal sector. It is anticipated that any bank that manages to hold onto that unbanked money will surge much above its competitors in this tough sector. The sector has witnessed fierce competition with the introduction of new banks like BancABC, Trust Bank, Royal Bank, Ecobank and the reopening of the Zimbabwe's economy. Zimbabwe commercial banking sector has sixteen players which is dominated by four big ones which claim over fifty five percent of the market share. The banking industry's net income grew from US\$9.8million in December 2009 to US\$85.5million as at December 31 2116, according to the Reserve Bank of Zimbabwe. In the current global competitive banking environment, banks are driven towards achieving excellence through the adoption of innovative strategies to produce high quality services that retain and attract new customers. To be able to retain the current customers and even attract others, banks need to maintain continuous improvement programs that enable them to efficiently use the available resources and improve their operational efficiency. TQM strategy was built on the fact that it is a management philosophy that seeks to satisfy customers through continuous improvements (Kumar et al; 2000), and it can help banks increase their customer satisfaction and loyalty (Al-Mansour, 2007)

As public confidence in banks gathers momentum and stiff competition among banks increases this research was aimed at assessing the influence of the TQM as a source of competitive advantage in retail banking. Confidence is a key driver of the financial sector and the researcher strongly feels that such confidence from the public can only be obtained through exceptional service delivery. The products that banks offer are basically the same and can be imitated but the researcher believes that it is the supplementary part of the product (service quality) which makes a difference. Kotler (2007) asserts that an organisation should aim to offer products and services whose perceived value should surpass the customer's expectations and by so doing the clients will be satisfied resulting in them building a long term relationship. This research is to contribute to the body of knowledge in that readers and other researchers will see the impact of TQM in winning

---

back defectors and “doubting Thomases”.

## **2.0 Literature Review**

Despite the extensive work conducted in the literature of TQM practices, there is no universal and agreed upon definition of the TQM strategy (Reed et al, 1995) as different people define it differently. ISO 8402: 1994 define TQM as: “Management approach of an organization centered on quality, based on the participation of all its members and aiming at long-term success through customer satisfaction and benefit to all members of the organization and society.” Kumar et al. (2009) defined TQM as the holistic management approach that integrates all organisational activities to satisfy customers’ needs and meet their expectations towards achieving overall organizational objectives.

### **2.1 What constitutes a superior service quality in retail banking ?**

Quality of service may be the only enduring feature that differentiates one bank from another since banking products are almost the same but what matters is the way the product is offered and quality aspects associated with those products. Parasuraman et al, (1988) define service quality as the difference between what the customer feels that a service provider should offer and his perception of what the service provider actually offers. However, Cronin and Taylor (1992) argue that only perceptions of performance derive service quality and expectations have no value in determining service quality. On the other hand, Lovelock and Wirtz, (2007) maintain service quality should also be viewed from a competitors’ viewpoint through benchmarking in order to attain a competitive advantage. Zeitham et al (1990) feel that effective service quality should be customer focused referring to both internal customers (employees) and external ones (customers and other stakeholders).

### **2.2 Key Banking Services that determine Quality of Service**

Generally the key banking services that need to be regularly evaluated for quality improvement are:

1. Processing time of key products and services e.g. loans, new accounts, ATM cards, credit cards, cheque encashment.
2. Waiting times like down time and queuing time.
3. Customer complaints handling, written or verbal.
4. Friendliness and efficiency.
5. Accuracy and timeliness of statements of accounts and records.
6. Effective interest rates inclusive of all service and hidden charges.
7. Promptness in responding to customers inquiries such as answering the phone, the number of rings before phone is picked up, the number of transfer before the caller talks to the right person.
8. Lost customer accounts.

### **2.3 Impact of TQM on Customer Satisfaction**

According to Stanton (2001) services are those separately identified and essentially intangible activities that provide want satisfaction and that are not necessarily tied to the sale of a product or another service. Service system therefore is an integration of all the components involving a large number of individual employees working for the purpose to satisfy the varying needs of customers. To meet the multiple needs and conflicting priorities of such a wide base of customers can be a challenge in service industries. It should be appreciated that customers are more sensitive to service quality and service delivery than in manufacturing because they are always in contact with front-line service personnel as opposed to the case of factory workers.

Different authors have defined satisfaction in different ways but Giese and Cote (2000) found that three overall components within virtually every definition of satisfaction might be identified as these capture the specifics of the concept. These components are

- A response (affective or cognitive)
- The response concerns a particular focus( e.g. expectations, product and consumption experience).
- The response takes place at a particular point in time (e.g. after choice, after transaction, after consumption based on accumulated experience).

Yi (1991) categorized customer satisfaction definitions as either as an evaluation process or as an outcome of evaluation process. Satisfaction as an evaluation process is based on the disconfirmation of expectations paradigm. Consumers form expectations towards service performance and these expectations later serve as standards against which actual service performance is evaluated (Oliver, 1980; Churchill and Suprenant, 1982) so it is actually the comparison of expectations and actual perceived performance that results in confirmation or disconfirmation. If expectations are met, confirmation takes place otherwise disconfirmation occurs. Disconfirmation may be positive (when perceptions exceed expectations) or negative (when expectation exceed perceptions). Therefore satisfaction is the result of confirmation and positive disconfirmation whereas negative disconfirmation guides to dissatisfaction.

Zeithamal and Bitner (2000) found that satisfaction is related to relief. Studies by Folkes et al (1987) also investigated the relationship between satisfaction and emotion. These studies documented that satisfaction is clearly related to effective evaluations and effective evaluations are antecedents to satisfaction.

There are two different types of evaluations of customer satisfaction from economic psychology perspective. One is transaction-specific satisfaction and the other is cumulative satisfaction (Johnson et al 1995). Satisfaction that occurs strictly at time of the service delivery is referred to as transaction- specific satisfaction (Parasuraman et al, 1988) whereas cumulative satisfaction approach defines satisfaction as customer's overall experience to date with a service provider (Johnson and Farnell 1991). Farnell et al (1996) argue that cumulative satisfaction construct is

better able to predict subsequent behaviours and economic performance over a transaction specific because customers make repurchase evaluations and decisions based on their purchase and consumption experience to date, not just a particular transaction or episode (Johnson et al 2001).

Many experts concur that the most powerful competitive trend currently shaping business strategy is service quality (Abdullah, 2006) because of its apparent relationship to customer satisfaction (Bolton and Drew 1991a). It has been a long standing debate in the literature whether service quality is an antecedent for satisfaction or vice versa. Bitner (1990) and Bolton and Drew (1991b) suggest that satisfaction is an antecedent of service quality. Zethaml et al (1993) used both terms as synonymous because both use expectations and perceptions as key antecedent constructs and both are related to the behavioural intentions, which affect financial success of the organizations.

De Ryter et al (1997) merged the concepts of service quality and satisfaction in an integrative model and tested the model empirically. This model concluded that satisfaction should be treated as a super ordinate construct to service quality as higher levels of service quality results in increased satisfaction. Edonsomwan (1993) strongly believe that the sole purpose of a customer and market driven firm is to be profitable by satisfying customers through competitive and excellent quality services focusing on continuous improvement. Bateson (1995) argues that traditional organisations measure their competitive performance according to bottom-line financial results and quick returns on investments whereas a customer driven firm focuses on customer satisfaction, market share, long term profitability, quality orientation and total productivity.

### **2.3 Customer Satisfaction and Bank Reputation**

Customer satisfaction has a huge impact on the bank's brand as well as its competitiveness in the market. Schultz (1999) asserts that if a person is not happy with a service he can use a voice response - the customer appealing to the retailer for redress for example, a refund or can offer a private response by expressing dissatisfaction about the service to friends or boycott the bank. Solomon et al (1999) feel the word of mouth communication can be very dangerous to a bank's reputation. Information from those we know or talk directly tends to be more reliable and trustworthy than that received through more formal channels. Mansour (2007) concurs and feels banks should look upon their customers as their best salesperson because they are the users of the products and their desire to recommend them to their friends and family comes from their sincere delight and surprise. He further argues that salesmen are usually perceived with less credibility by customers because they want to meet certain quotas and earn commissions.

A negative word of mouth is weighted more heavily by consumers than a positive comment. Lehtonen and Maenpaa (1997) says that according to one study 90% of unhappy consumers will not do business with a company again. Each of these people is likely to share their bad

experiences with at least nine other people and 13% of these disgruntled customers will go over to tell more than thirty people of their negative experience.

### **2.5 Critical success factors for Total Quality Management implementation.**

To identify the TQM critical success factors, Al-Marri et al (2007) used the data collected from 250 UAE banks to carry out their empirical study. They identified sixteen TQM success factors namely top management support, strategy, continuous improvement, benchmarking, customer focus, quality department, quality system, human resources management, recognition and rewards, problem analysis, quality technology, service design, employee, service scopes, service culture and finally social responsibility. Their results showed that all these factors are positively related to the TQM success and consequently performance. The study concluded that TQM strategy is essential to the banking industry and other service-oriented organizations to create and sustain their competitive advantage

A TQM study by Tsang and Antony (2001) analysed TQM practices in UK. The results focused on 11 critical factors of quality management. These were continuous improvement, team and involvement, customer focus, top management commitment and recognition, training and development, quality systems and policies, supervisory leadership, communication within the company, supplier partnership, measurement and feedback and cultural change. It was found that customer focus is the most successful driven factor for TQM programs in UK service organisations.

Samat and Saad (2006) conducted a study on TQM practices, service quality and market orientation. The main purpose of this study was to explore the relationship between TQM practices and market orientation. Structured questionnaires were distributed to managers of 175 service organisations in the northern region of Malaysia. The results showed that employee empowerment, information and communication, customer focus and continuous improvement had a significant effect on service quality whereas only employee empowerment and customer focus had a significant effect on market orientation.

### **3.0 Methodology**

The researcher used descriptive research designs because a descriptive study attempted to obtain a complete and accurate description of the situation that was prevailing in retail banking environment during the period under study. The design was able to provide the researcher information to determine the perceptions of the service characteristics and service quality. In addition this method was easy to use, more practical and relatively cheaper compared to experimental design.

#### **3.1 Selection of Banks**

The researchers used four banks namely Standard Chartered Bank and Banc ABC (which hereafter shall be referred to as “upper tier banks”) as well as Agribank and POSB (which hereafter shall be

---

referred to as “lower tier banks”). The researchers felt ranking of banks by RBZ into top or bottom tiers can be a proxy for a bank’s competitiveness in the market. This is because issues of market share, growth and financial fundamentals are considered and if a bank scores well on these parameters then one can conclude that it is a competitive bank.

Standard Chartered Bank and Banc ABC were chosen because they are international banks and the researcher felt their services conforms to international standards. Standard Chartered Bank was the first bank to revolutionise bank service delivery by offering ATM service way back in 1996. BancABC is one bank that has been expanding and opening new branches countrywide. Furthermore, both banks have strong financial credentials. Agribank and POSB were chosen from the lower tier. The researcher chose them because these banks have some government interest and as such are operated somehow along government lines. Government services is generally believed to be poor hence it is for this reason they were selected. Furthermore, despite the two banks having the widest branch networks in the country, the researcher feels the two banks generally have low market perception. The researcher used two branches for each of the selected banks located in Zvishavane and Masvingo towns. The population of the study was individual retail customers of the selected banks. A sample of 90 individual customers was used in the study and the primary objective was to gauge customer satisfaction. Questionnaires were distributed to them which at the end would lead them to rate their bank’s service and be classified as either a satisfied or a dissatisfied customer.

### **3.2 Research Instruments**

Personal interviews were conducted with the banks’ management teams to determine their bank’s commitment to Total Quality Management through identifying the presence of the key enablers of TQM in their banks. The banks were then grouped into two groups: Strong TQM and Weak TQM. The researcher used Judgement Sampling to select bank management staff to engage in interviews. TQM is supposed to be a strategic issue which is spearheaded right from the top management. The researcher felt such data could be obtained from the operations director or his/her equivalent in a bank. Using the method, the researcher was able to secure four interviews for the four banks. The researcher used Convenient Sampling for bank customers as respondents. The main reason this was chosen was because this was the easiest and cheapest method available to the researcher. The researcher would first ask the bank customers if they were interested in filling in the questionnaire as they come for their banking services. If the customer was willing, then one would be given the questionnaire. Using this approach, the researcher made an attempt to distribute the questionnaires evenly across gender and age. The method also enabled the researcher to distribute the questionnaires to the real account holders with the respective bank instead of some people who could have been transacting on behalf of others. The method was also used during the month end when most banks were busy and when most bank customers were withdrawing their salaries.

The questionnaire used in this study consists of three parts. The first part contains questions on

---

personal profiles of the respondents. Part B contains questions on respondents' perception of the service quality they are receiving from their banks according to five dimensions. The final part of the questionnaire is where the respondent had to provide his/her verdict on the bank's service delivery that is satisfied or not.

### **3.3 Observation Method**

Cohen and Manion (1994) define an observation method as a method by which a researcher records respondent's overt behaviour and takes note of physical conditions and events. The researchers used uniformity which would enable easy comparison among the banks under study. The method was also chosen because the information obtained related to what was currently happening, it was complicated by either past behaviour or future intentions or attitudes. The method was also independent of respondent's willingness to respond and as such was relatively less demanding of active cooperation on the part of respondents. The method also enabled the researcher to make personal evaluation and compare them with respondent's evaluation obtained through other means used.

The method had the problem that the researcher had to endure long hours (2 hours for each of the four banks under study) in observing and initially was mistaken for a bank official. The second problem was minimised by choosing a suitable position in the bank from which to observe. The method also had a problem that some respondents would be aware of the observer and once conscious of that, they would alter their behaviour. In a bid to reduce this limitation, the researcher decided to complete the observation checklist in a newspaper. Some respondents would believe the researcher was just a person reading the newspaper waiting possibly for an appointment with a branch manager.

### **3.7 Data Collection Procedures**

These are procedures that were followed in administering instruments and collection of data from the subjects under study. The researchers made appointments with bank management by sending e-mails in advance and used the cell phone to remind them of the date of appointment. E-mails were used because they were relatively cheaper and were fast in reaching the management. Use of cell phones was easy because the researcher managed to get the manager's cell phone numbers before the depth interview.

The distribution of questionnaires to non managerial banks was done by the researcher. The respondents were given the questionnaires at their knockoff time and then asked to complete at home the questionnaire. The researcher then picked up the questionnaires the following morning when the banks opened. The distribution of questionnaires to bank customers was done physically by four research assistants who were finalists in Degree of Banking from Great Zimbabwe University and the researcher himself. The use of research assistants was necessitated by the fact that the researcher wanted the distribution of questionnaires to be done roughly during the busy month end period for all the banks under study. The researcher gave

the assistants some induction prior to their tasks. The researcher self administered the management interview guide and the observation checklist. The researcher interviewed the management and entered the solicited information on the interview guide and recorded information observed from banking hall and recorded the behaviour of bank staff as they served their clients.

#### **4.0 Presentation and Discussion of Results**

The study sought to evaluate the role played by TQM in improving the performance of retail banks as a source of competitive advantage. The research found out that there is a better understanding of TQM among staff in the upper tier banks as compared to those in the lower tier. TQM is a top down process that requires top management to lead the way. Without this leadership there is little hope for TQM regardless of how committed some members of the staff may be. This confirms the argument that TQM demand top management support and their full commitment (Chuan and Soon, 2000)

The study revealed that most staff at Standard Chartered Bank and BancABCare empowered when compared to those of Agribank and P.O.S.B. Empowerment is an attempt by management to give responsibility to staff. In TQM initiatives, service quality management requires that decisions be made as low as possible down the organisation to enable quick decision making and enhance flexibility within the bank. This greatly reduces problem solving turnaround time for clients which is a critical factor in determining customer satisfaction. Customers dislike situations where they are referred to several people before a solution is provided. This supports Draft (2004) who argues that properly empowered employees are well placed to maximise their potential and can come up with creative ways to ensure service quality.

The study indicated that there is a strong relationship between service quality and customer satisfaction and loyalty. If TQM program is successfully implemented as done by upper tier banks, it is easier to create a very loyal clientele base judged by the length of period a customer stays with one bank. The Chi-Square sought to statistically prove the relationship between TQM and customer satisfaction.

#### **Statistical Test**

Using SPSS a bivariate Logistic Regression analysis was employed to predict the probability that a participant would claim a satisfactory service quality delivery from his/her bank. A test of the full model was significant at Chi-Square(1, N=92)=38.57,  $p < 0.001$ .

The Model had an overall success rate of correct classification of respondents of 80.4% an improvement from 51.1% of a Model without TQM as a variable. Employing a 0.05 criterion of statistical significance TQM coefficient is significant. The Odds Ratio indicates that when holding all other variables constant a customer with a strong TQM is about 20 times more likely to be satisfied than a customer of a bank with a weak TQM system. The following Model was developed.

Logit(p)=1.917-3.041(strong TQM)

**Model Summary**

Step	-2 Log likelihood	Log Cox & Snell R Square	Nagelkerke R Square
1	88.923 <sup>a</sup>	.342	.457

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

**Omnibus Tests of Model Coefficients**

	Chi-square	Df	Sig.
<b>Model Summary</b>			
Step			
1			
a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.			
Block	38.573	1	.000
Model	38.573	1	.000

**Variables in the Equation**

	B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
							Lower	Upper
Step 1 <sup>a</sup> TQM(1)	-3.041	.576	27.908	1	.000	.048	.015	.148
Constant	1.917	.479	16.017	1	.000	6.800		

a. Variable(s) entered on step 1: TQM.

**Classification Table<sup>a</sup>**

Observed	Predicted	customer satisfaction		Percentage Correct
		no	yes	
		Step 1 customer satisfaction No	40	5
Yes	13	34	72.3	
Overall Percentage			80.4	

a. The cut value is .500

(1) Garuin, D.A (1988). *Managing Quality*. The Free Press. New York.

- (2) Griffin, R.W (2006). *Management*. 7<sup>th</sup> Edition. Houghton Mifflin Company. New York.
  - (3) Gronroos, C (2006) *Services Management and Marketing. A Customer Relationship Management Approach*. 2<sup>nd</sup> edition. John Willey and Sons. Toronto.
  - (4) Gronroos, C (2007) *Service Management and Marketing*. 3<sup>rd</sup> edition. Willey: Chichester, New York.
  - (5) Jobber, D (1998) *Principles and Practice of Marketing*. 2<sup>nd</sup> Edition. McGraw-Hill.
  - (6) Juran, J.M (1982) *Upper Management and Quality*, Juran Institute. New York.
  - (7) Kotler P. (2007). *Marketing Management. Planning Analysis, Implementation and Control*. 9<sup>th</sup> Edition. Prentice Hall. New Jersey.
  - (8) Lovelock, C. (2007). *Services Marketing*. Prentice Hall International. Mexico.
  - (9) Manina, R.F. (2001). 'Mapping the world of Customer Satisfaction.' Harvard Business Review, May June.P30.
  - (10) Lucey, T. (2004). *Costing*. 6<sup>th</sup> Edition. Thompson London.
  - (11) Lovelock, D and Wirtz, J. (2007). *Service Marketing*. People Technology. Strategy. Pearson Taipei.
  - (12) Mckeuna,E and Beech, N. (2008). *Human Resource Management*. 2<sup>nd</sup> Edition, Prentice Hall. Toronto.
  - (13) Peter, J.P and Donnelley, J.H Jr (2009) *Marketing Management, Knowledge and Skills*, 9<sup>th</sup> Edition. McGraw-Hill. San Francisco.
  - (14) Porter, M.E. (1985). *Competitive Advantage Creating and Sustaining Superior Performance*. Prentice Hall. New Jersey.
  - (15) Scultz, H.B (2008). *Human Resources Management*. 7<sup>th</sup> Edition. Oxford University Press. Cape Town.
  - (16) Skin, J. (1998). *The Random House College Dictionary*. New York.
  - (17) Zeithaml, V.A, Parasuraman, A, and Berry, L. (1990). *Conceptual Model of Service Quality and Its Implementation of Future Research*. Journal of Marketing 49,(Fall), pp. 41-50.
  - (18) Zithaml, V.M, Bitner, M.J (2004). *Services Marketing. Integrating Customer Focus Across the Firm*. McGraw-Hill. Irwin. Boston.
  - (19) Wilson, R.M.S and Gilligan, C. (1997) *Strategic Marketing Management, Planning, Implementation and Control*. Butterworth-Heineman. Oxford.
  - (20) Strickland, T. (2003) *Strategic Management Concept and Cases*. McGraw-Hill Irwin. Lisbon.
  - (21) Thompson (2002). *Total Reward, Executive Briefing*. CIPD. London.
  - (22) David, G.A (1993). *Competing on the Eight Dimensions of Quality*. Harvard Business Review. Massachussets.
  - (23) Feigerbarum, A.V. (2004). *Total Quality Control*, McGraw-Hill, New York.
-

- (24) Lancasters, G. (2005). *Research Methods in Management*. British Library. UK.
- (25) Kolter, A, Junior (1991). *TQM Understanding the Basis of "total quality management."* National Management Association. Michigan.
- (26) Johnson,R.S (1993). *TQM Leadership for Quality Transformation*. ASQC Quality Press Milwaukee.
- (27) Saunders, M. (2003). *Research Methods for Business Students*, 3<sup>rd</sup> Edition. Pearson Education, India.
- (28) Stalh, M.J. (1995). *Total Quality in a Global Environment*. Blackwell Publishers Cambridge, USA.

**APPENDIX F**

Chi-Square Test on the impact of TQM on customer satisfaction.

- (1) Null Hypothesis: Strong TQM has no impact on customer satisfaction that is, strong TQM and customer satisfaction are independent.
- (2) Statistical Test: Chi-square test.
- (3) Level of significance: 5%
- (4) Calculation of difference value:

	Number of not satisfied customers	Number of satisfied customers	Total
Strong TQM	12	34	46
Weak TQM	39	5	44
Total	51	39	90

The expected frequency of not satisfied customers of a bank with a strong TQM can be calculated as follows

$$\text{Expectation (AB)} = \frac{(A)x(B)}{N}$$

Where A - represents strong TQM.

B - not satisfied customers

N - total number of bank customers

$$\text{Expectation of (AB)} = \frac{46x51}{90} = 26.07$$

**Table of Expected Values**

	Number of not satisfied customers(B)	Number of satisfied customers (b)	Total
Strong TQM: (A)	(AB) = 26.07	(Ab) = 19.93	46
Weak TQM: (a)	(aB) = 24.93	(ab) = 19.07	44
Total	51		90

**Table: Calculation of Chi-square**

Group	Observed Frequency	Expected Frequency	(O <sub>ij</sub> - E <sub>ij</sub> )	(O <sub>ij</sub> - E <sub>ij</sub> ) <sup>2</sup>	(O <sub>ij</sub> - E <sub>ij</sub> ) <sup>2</sup> /E <sub>ij</sub>
AB	12	26.07	-14.07	197.96	7.59
Ab	34	19.93	14.07	197.96	9.93
Ab	39	24.93	14.07	197.96	7.94
AB	05	19.07	-14.07	197.96	6.38

$$x^2 = \sum \frac{(O_{ij} - E_{ij})^2}{\sum_{ij}} = \sum = 35.84$$

(v) Critical Value: degrees of freedom in this case is

$$(r-1) (c-1) = (2-1) (2-1) = 1$$

The table value of X<sup>2</sup> for 1 degree of freedom is at 5% level of significance is 3.841.

(vi) Interpretation: The calculated value is much higher than the table value hence we reject the null hypothesis. One can therefore conclude that a strong TQM has an impact on customer satisfaction.

## References

- (29) Schultz, D.E (1999) Manage Customers. Not loyalty programmes. Marketing news 4 January.
- (30) Solomon, M, Bamossy Bamossy, G and Askegaard C (1999) Customer Behaviour. A European Perspective. Prentice Hall. Paris.
- (31) Bakson, I.E.G. and Hoffman, K.D (1996) Managing Service Marketing. Text and Readings. The Dryden Press. Philadelphia.
- (32) Porter, M. E (1985) Competitive Advantage. Creating and Sustaining Superior Performance. Prentice hall. New jersey.
- (33) Kotler, P, Keller, K.V, Koshy, A and Jha, M (2009) Marketing Management. A Southern Asian Perspective. 13<sup>th</sup> Edition. Dorling Kindersley, India.
- (34) Drury, C. (2003) Management and Cost Accounting. South Western. London.
- (35) Jobber, D (1998). Principles and Practices of Marketing 2<sup>nd</sup> Edition. McGraw-Hill.
- (36) Palmer, A (2005) Principles of Service Marketing. 4<sup>th</sup> Edition. McGraw-Hill. Berkshire.
- (37) Strickland, T (2003) Strategic Management. Concepts and Cases. McGraw-Hill, Irwin. Lisbon.
- (38) Heuducks, K.B and Sigal V.R (1997) Does Implementing an Effective Total Quality Management Programme Actually Improve Performance? Empirical Evidence from Films that have Won Quality Awards. Management Science Volume 1, number 9.

- (39) Eaton, J.S and Jarell S.L (1998). The Effects of Total Quality Management on Corporate performance: An Empirical Investigation. The University of Chicago.
- (40) Samson, D and Terziovski, M (1999). The Relationship Between Total Quality Management Practices and Operational Performances, Journal of Operations Management Volume 17.
- (41) Cohen, K.I and Manion, L (1994). Research Methods in Education. Croom Helm. Beckenham.
- (42) Cole, G.A (1997). Strategic Management. Book Power. Hampshire.
- (43) Drury, C (2003). Management and Cost Accounting. South Western. London.
- (44) Adousom wan, J.A (1993). Customer and Market-drive Quality Management ASQE. Quality Press. Wisconsin.
- (45) Garuin, D.A (1988). Managing Quality. The Free Press. New York.
- (46) Griffin, R.W (2006). Management. 7<sup>th</sup> Edition. Houghton Mifflin Company. New York.
- (47) Gronroos, C (2006) Services Management and Marketing. A Customer Relationship Management Approach. 2<sup>nd</sup> edition. John Willey and Sons. Toronto.
- (48) Gronroos, C (2007) Service Management and Marketing. 3<sup>rd</sup> edition. Willey: Chichester, New York.
- (49) Jobber, D (1998) Principles and Practice of Marketing. 2<sup>nd</sup> Edition. McGraw-Hill.
- (50) Juran, J.M (1982) Upper Management and Quality, Juran Institute. New York.
- (51) Kotler P. (2007). Marketing Management. Planning Analysis, Implementation and Control. 9<sup>th</sup> Edition. Prentice Hall. New Jersey.
- (52) Lovelock, C. (2007). Services Marketing. Prentice Hall International. Mexico.
- (53) Manina, R.F. (2001). 'Mapping the world of Customer Satisfaction.' Harvard Business Review, May June.P30.
- (54) Lucey, T. (2004). Costing. 6<sup>th</sup> Edition. Thompson London.
- (55) Lovelock, D and Wirtz, J. (2007). Service Marketing. People Technology. Strategy. Pearson Taipei.
- (56) Mckeuna,E and Beech, N. (2008). Human Resource Management. 2<sup>nd</sup> Edition, Prentice Hall. Toronto.
- (57) Peter, J.P and Donnelley, J.H Jr (2009) Marketing Management, Knowledge and Skills, 9<sup>th</sup> Edition. McGraw-Hill. San Francisco.
- (58) Porter, M.E. (1985). Competitive Advantage Creating and Sustaining Superior Performance. Prentice Hall. New Jersey.
- (59) Scultz, H.B (2008). Human Resources Management. 7<sup>th</sup> Edition. Oxford University Press. Cape Town.
- (60) Skin, J. (1998). The Random House College Dictionary. New York.

- (61) Zeithaml, V.A, Parasuraman, A, and Berry, L. (1990). Conceptual model of Service Quality and Its Implementation of Future Research. *Journal of Marketing* 49,(Fall), pp. 41-50.
- (62) Zeithaml, V.M, Bitner, M.J (2004). *Services Marketing. Integrating Customer Focus Across the Firm.* McGraw-Hill. Irwin. Boston.
- (63) Wilson, R.M.S and Gilligan, C. (1997) *Strategic Marketing Management, Planning, Implementation and Control.* Butterworth-Heineman. Oxford.
- (64) Strickland, T. (2003) *Strategic Management Concept and Cases.* McGraw-Hill Irwin. Lisbon.
- (65) Thompson (2002). *Total Reward, Executive Briefing.* CIPD. London.
- (66) Stewart, J (2005). *Managing Change Through Training and Development, 2<sup>nd</sup> Edition.* Kogan Page. London.
- (67) Trout, J. (1997). *The New Positioning: The Latest on the World's Number 1 Business Strategy.* McGraw-Hill. New York.
- (68) Saunders, M.N.K, Lewis, P and Thornhill A (1997) *Research for Business Students.* 3<sup>rd</sup> Edition. Prentice Hall. Harlow.
- (69) Beardwell, I, Holden, L. and Claydon, T. (2004). *Human Resources Management: Contemporary Approach.* Pearson Education. Essex.
- (70) Barney, B.G. (2002). *Gaining and Sustaining Competitive Advantage, 2<sup>nd</sup> Edition.* Pearson Education. New Jersey, USA.
- (71) David, G.A (1993). *Competing on the Eight Dimensions of Quality.* Harvard Business Review. Massachusetts.
- (72) Feigerbarum, A.V. (2004). *Total Quality Control,* McGraw-Hill, New York.
- (73) Lancasters, G. (2005). *Research Methods in Management.* British Library. UK.
- (74) Kolter, A, Junior (1991). *TQM Understanding the Basis of "total quality management."* National Management Association. Michigan.
- (75) Johnson,R.S (1993). *TQM Leadership for Quality Transformation.* ASQC Quality Press Milwaukee.
- (76) Saunders, M. (2003). *Research Methods for Business Students, 3<sup>rd</sup> Edition.* Pearson Education, India.
- (77) Stalh, M.J. (1995). *Total Quality in a Global Environment.* Blackwell Publishers Cambridge, USA.
- (78) Wagrner, J, (1994). *Business Statistics.* Juta and Company Ltd, Kenyan Publishers.
- (79) Thyer, (1993). *Single Systems, Research Design.* Sage Publication. London.
- (80) Rajaram, S and Sivakumar, M. (2009). *Total Quality Management.* Dreamtech Press. New Delphi.
- (81) Alswidi, A.K and Mahmood (2011). *Fostering the Performance of Banks Through Total Quality Management (TQM) Practices: A Bank Branch Perspective.* *European Journal of Social Sciences* – Volume 19, number 2.
-

(82) Bhat,V. and Cozzolino, J Total Quality: An Effective Management Tool.

(83) Reed, R, Lemark, D.J, Mero, N.P (2000). Total Quality Management and Sustainable Competitive Advantage. Journal of Quality Management.