

ISSN: 1672 - 6553

JOURNAL OF DYNAMICS AND CONTROL

VOLUME 9 ISSUE 11: P37-48

IMPACT OF TOTAL QUALITY MANAGEMENT DETERMINANTS ON ORGANISATION PERFORMANCE IN BANKING SECTOR: A SMART PLS APPROACH

Dr. Mehak Gulati¹, Dr. Anju Singh²,
Dr. Surbhi Mathur³, Dr. Aditi
Kaushik⁴

^{1,3}Faculty of Management, Manipal University
Jaipur, India

²Dean, Indian Institute of Gems and Jewellery,
Mumbai (Sponsored by Ministry of Commerce
and Industry)

⁴Assistant Professor, United World Institute of
Management, Karnavati University,
Gandhinagar, Gujarat

IMPACT OF TOTAL QUALITY MANAGEMENT DETERMINANTS ON ORGANISATION PERFORMANCE IN BANKING SECTOR: A SMART PLS APPROACH

Dr. Mehak Gulati¹, Dr. Anju Singh², Dr. Surbhi Mathur^{3*}, Dr. Aditi Kaushik⁴

^{1,3}Faculty of Management, Manipal University Jaipur, India

²Dean, Indian Institute of Gems and Jewellery, Mumbai (Sponsored by Ministry of Commerce and Industry)

⁴Assistant Professor, United World Institute of Management, Karnavati University, Gandhinagar, Gujarat

¹mehak.gulati15@gmail.com, ²anjusinghchoudhary@gmail.com, ³mathursurbhi20@gmail.com, ⁴kaushik.aditi25@gmail.com

***Corresponding Author**

Abstract: Total Quality Management has been widely used by organisations for maintaining the quality, increasing productivity leading to increased customer satisfaction and profitability. The application of the TQM in service sector has also been quite evident with focus on leadership, continuous improvement in service quality and business performance. The banking sector has always been in immense pressure to improve the service quality. As banking involves personal involvement of the employees in providing the services to the customer, it is necessary that the middle level managers are also well trained and aware of the implementation of TQM. Earlier studies confirm the role of certain critical factors of TQM which are implemented organisation wide for its success. The present study aims to examine the impact of some of the determinants of Total Quality Management on the organisation Performance. Primary data has been collected from 350 branch managers of the banks from Jaipur city through a questionnaire. The dimension of Total Quality Management includes continuous improvement, Employee Training, Product Quality, Employee Empowerment and Customer Focus. The organisation performance is measured as Service Performance, Financial Performance and Managerial Performance. Smart PLS 3.0 has been used to determine the model to study the impact of TQM dimensions on Organisational Performance. The findings of the study indicate the overall effect of TQM on organisational performance with most of the dimensions having significant impact except amenities.

Keywords: Total quality management, Organisation Performance, Banking sector, Employee empowerment, SMART PLS

Introduction

Total Quality Management is an age old concept with its origin being traced in the production management. The total quality management aims to bring about quality improvement, waste management, and reduction in error. It focuses on continuous improvement with the application of appropriate strategy, process and combination of techniques. All the TQM are customer centric and process centric which is based on fact based decision-making. Exploring the definition of TQM leads to varied views. According to Spenser (1994) "TQM is a comprehensive management practice that captures signals from the established models of organisation and amplifies them to provide a methodology for use". TQM is believed to be a continuously evolving paradigm which enacts in the organisational set up through varied processes, systems and activities. Researchers often describe the term as per their suited subject matter and view. There has been a shift in the understanding and applicability of the concept. In the earlier studies the concept of TQM was considered to be a narrow concept for improving the product qualities but the recent studies considers it to be much broader as to cover all the aspects of an organisation performance through the process of continuous improvement Fisher, N. I., & Nair, V. N. (2009). The implementation of the TQM is thus organisation wide. This leads to focus on all the dimensions of the continuous improvement practices for the efficient and effective implementation of the TQM. The dimensions of the TQM are dominantly far more important to be explored and examined as the concept itself covers a wide arena. It becomes imperative to not leave any aspect of the firm untouched in the process of continuous quality improvement. The dimensions included in the implementation of TQM include those which affect the customer directly, the employee centric, the managerial functions centric, the product centric, and the process centric.

As the total quality management works organisation wide its impact on the performance of the organisation cannot be ignored. It is henceforth necessary to draw conclusions and examine the degree to which the TQM affect the organisation. The performance of the organisation is measured through

multiple aspects which can be broadly classified as financial performance and the non-financial performance containing the managerial and technical performances. It has been intensively studies that the productivity of an organisation improves as the quality of the performance improves. The efforts towards continuous improved at all the dimension including the entire supply chain focusing not only on the consumer but also on the key asset Human Resources can positively support the continuous progress and growth of the organisation. Hence, not only the product aspect of the firm is covered, the managerial aspects of a firm are continuously improved assuring the sustainable development of the firm. Many studies have been conducted till now to examine the association between the Total Quality management parameters and the organisational performance providing varied revelations. Shafiq, M., Lasrado, F., & Hafeez, K. (2019).Maqsood, M. B. (2019) measured the impact of TQM on the financial performance in the hospital. Salah, S. A. (2018) researched on TQM dimension in the Banking sector in Kenya. Similar study was conducted by Mavaza,T., HALimani D.,Farai D. (2017), with the aim to measure the implementation of the TQM that Post Savings Bank and Agribank, Standard Chartered Bank and Bank ABC.

Munyare, H., Kagiri, A., Kiaritha, H., (2016), conducted a study to examine the Quality management practices and its impact on the performance of the organisation in cement industry in Kenya.Carmona M., (2016), conducted a study to evaluate the role of TQM on the success of the business in Spanish Companies. Kampouridis, G., Yiannopoulos, A.C., Giannopoulos, G. I., & Tsirkas, S. A. (2015), conducted a study in Greek Steel industry to examine the impact of TQM parameters on the performance of the organisation.Singh, V., Kumar, A., & Singh T. (2018), evaluated the impact of TQM on the performance of Indian Industries. Betinah H., Ojiabo U., Alagah A.D. (2018) conduced similar study in manufacturing firms in Ghana and Oza S.H., Shiroya S.D. (2015), examined the relationship between TQM and the organisation performance in manufacturing sector in Gujarat and concluded on the importance of TQM affecting the customer satisfaction.

Conceptual Model

The present study aims to examine the impact of the determinants of Total Quality Management on the organisational Performance. In the present study the dimension of Total Quality Management includes Continuous Improvement, Employee Training, Product Quality, Employee Empowerment and Customer Focus. The organisation performance is measured as Service Performance, Financial Performance and Managerial Performance. The study is focused on the banking sector. As banking is a service industry and the quality management aspect does make a prominent impact on retaining the customers and attracting the new customers. The focus of the present study is to examine the selected determinant of TQM on the organisation performance rather than just focusing on the overall impact of TQM.

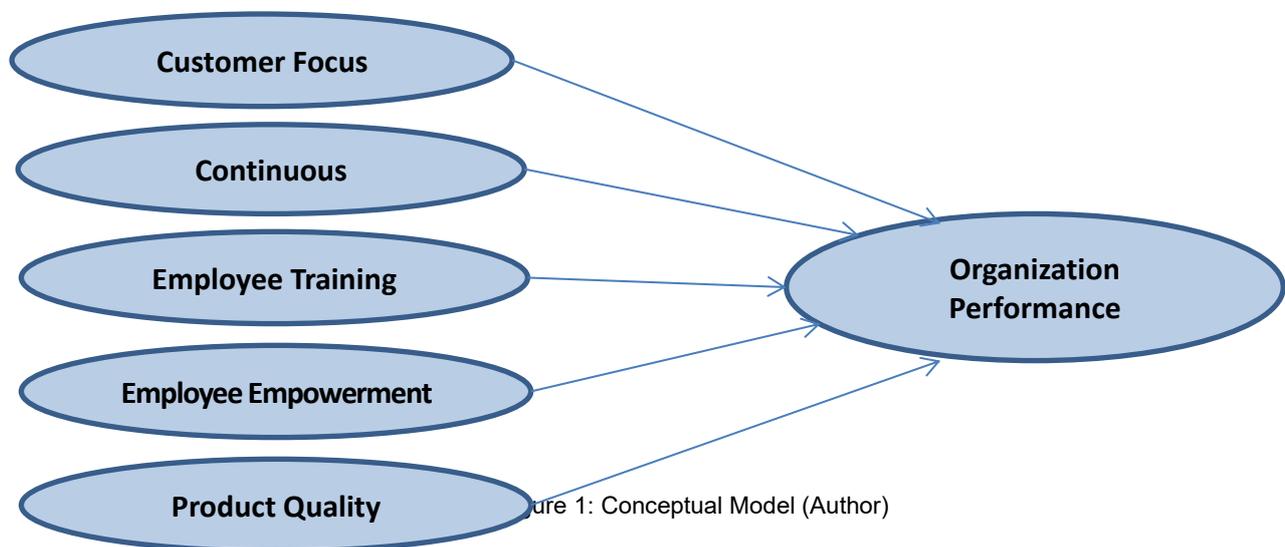


Figure 1: Conceptual Model (Author)

Hypothesis

HO1: There is significant impact of Employee Empowerment on Organisational Performance of Banks

HO2: There is significant impact of Product Quality on Organisational Performance of Banks

HO3: There is significant impact of Customer Focus on Organisational Performance of Banks

HO4: There is significant impact of Employee Training on Organisational Performance of Banks

HO5: There is significant impact of Continuous Improvement on Organisational Performance of Banks

Research Methodology

The present study is exploratory and descriptive in nature as it explores the role of determinants of Total Quality Management on the performance of the Banks. The study has been conducted in Jaipur City and on the selected private sector banks.

Sample Design

For the present study the data was collected from the banking professionals of variable private sector banks. The survey was conducted on a sample of 370 respondents, selected using stratified random sampling. The participants in the study included the banking professionals specifically the middle level managers of the HDFC Bank and ICICI Bank. The data has been collected from the branches of both the banks in all the four zones in Jaipur City, Rajasthan, India. The demographic profile of the respondents is given in table 1.

Table 1: Demographic Profile

		Frequency	Percent
Gender	Male	275	74.3
	Female	95	25.7
Age	18-30 Years	188	50.8
	31-40 Years	127	34.3
	41-50 Years	35	9.5
	51-60 Years	13	3.5
	Above 60 Years	7	1.9
Qualification	High School	19	5.1
	Graduate	192	51.9
	Post Graduate	154	41.6
	Others	5	1.4
Income	Upto 10000	27	7.3
	10001-20000	26	7.0
	20001-30000	119	32.2
	30001-40000	88	23.8
	Above 40000	110	29.7

Experience	Below 5 Years	228	61.6
	6-10 Years	116	31.4
	11-15 Years	24	6.5
	16-20 Years	1	.3
	Above 20 Years	1	.3
Awareness about TQM	Yes	334	90.3
	No	36	9.7
Importance of TQM	Yes	366	98.9
	No	4	1.1
	Total	370	100.0

Scale Development

The measurement instrument in terms of item scale was developed after examining and reviewing the existing validated questionnaires. However, these item scales available were developed for different sectors and in different countries; the majority of items were adopted from these scales. Further the item scale was pre-tested and further refined. The item scale comprises of first section on the demographic profile and general information about the banking of the respondents. The second section includes the statements related to the Total Quality Management determinants and the last section includes the statements related to the perception of the respondents towards the organisational performance including the financial performance, service performance and the Managerial Performance. For the measurement of the TQM, likert scale was used. Similarly, the items related to organisational performance was also measured on the likert scale. The construct of the study is given in table 2.

Table 2: Construct of the Study

Construct	Item	Description
Continuous Improvement	CI1	Degree to which customer queries are used as a tool for continuous improvement
	CI2	Degree to which continuous improvement is used as quality improvement
	CI3	Degree to which customer feedback is sought and used for betterment of the customer
	CI4	Degree to which continuous improvement is used as a tool for improving the process of the bank
	CI5	Continuous improvement effects the customer satisfaction
Product Quality	PQ1	Customer is getting good quality of product and services
	PQ2	Features of the product can be easy to understand
	PQ3	Product related queries are resolved on real time basis

	PQ4	Various product categories are available as per the customer demands and convenience
Customer Focus	CF1	Customer current and future needs are focused while delivering the products and services
	CF2	Feedback and customer retention are focused
	CF3	Extent to which the bank focuses on customer expectations
	CF4	Extent to which organization encourages interaction between the customers and the employees.
	CF5	After sale services for customer satisfaction
Employee Empowerment	EE1	New Ideas are encouraged and rewarded
	EE2	Employees contribution in organisational decisions is encouraged
	EE3	Freedom and authority to take actions for satisfying customer needs
	EE4	Importance of the contribution in the organization
	EE 5	Opportunities for growth and development are provided
Employee Training	T1	Receive training on relationship management and customer handling
	T2	Receive training on problem solving skills
	T3	Training and workshop on team building

Result and Discussion

The present study uses SMART PLS to examine the conceptual model. It examines the model as a measurement model, structural model to provide conclusion towards the objective of the study.

Measurement Model

The measurement model of the present study includes a reflective model and formative model. The aim of the measurement model is to measure the reliability and the validity of both the outer and inner model using multiple quality criterias.

Reflective Model

The outer model or the reflective model is examined on the various quality parameters. The Cronbach Alpha value of each construct was measured and reported for checking the reliability of the construct. Using Smart Pls 3.0. The items in the construct are selected on the basis of the review of previous studies and further tested. The model was validated using convergent validity, Average Variance Extracted (AVE) and Composite Reliability (CR). To find out if the items in the lateral construct are in tandem with each other, the convergent validity is measured. The outer loading of the reflective model helps to conclude on the convergent validity. The acceptance range of the loading is less than 0.708

and for the AVE it is 0.5 and the acceptance range for CR is 0.7.(Hair et al., 2019).

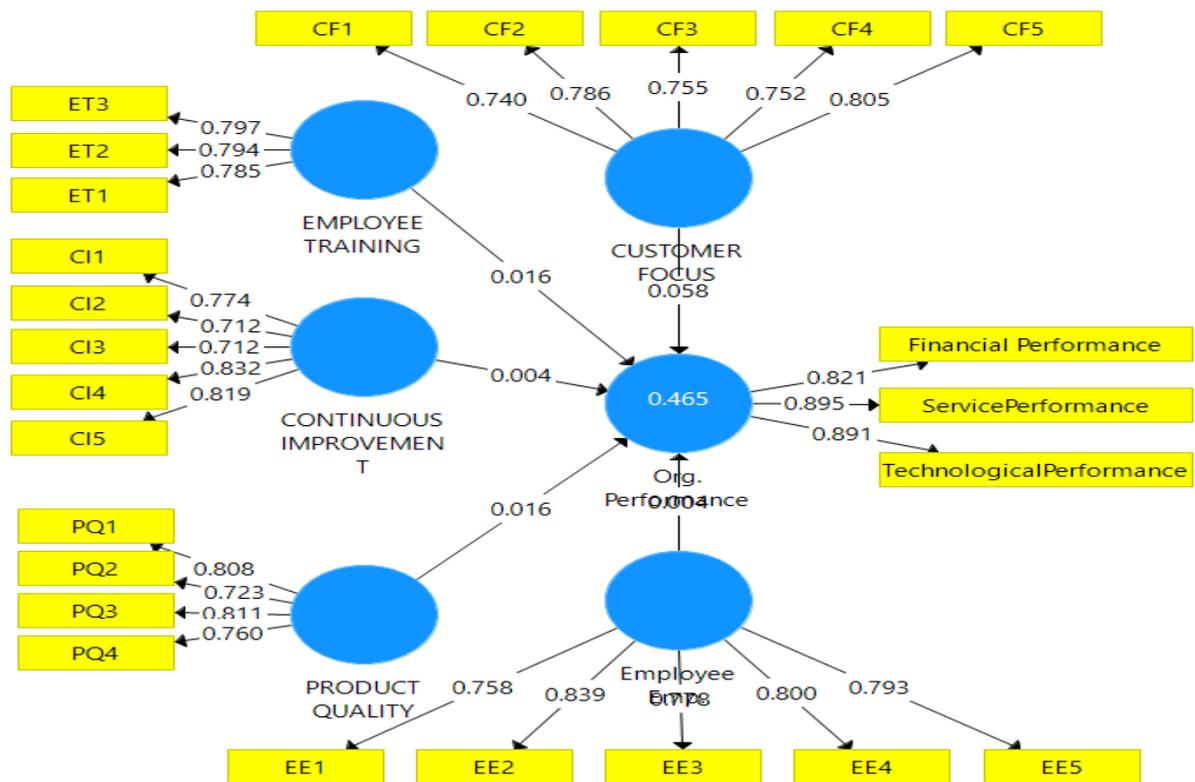


Figure 2: Reflective Model

The table 3 below provides these details. The loading for all the factors are above .70, the Cronbach Alpha value is also above the acceptance range of .70. The composite reliability for all the factors is greater than .70 and less than .90 and the Average Variance Examined is greater than .50. Hence, the measurement model is found to be fulfilling the basic assumptions of an acceptable model.

Table 3: Factor Loading and Convergent Validity

		Loading Weights	Cronbach's Alpha	CR	AVE
Customer Focus	CF1	0.740	0.878	0.878	0.59
	CF2	0.786			
	CF3	0.755			
	CF4	0.752			
	CF5	0.805			
Continuous Improvement	CI1	0.774	0.88	0.88	0.595
	CI2	0.712			
	CI3	0.712			
	CI4	0.832			
	CI5	0.819			

Employee Empowerment	EE1	0.758	0.895	0.895	0.63
	EE2	0.839			
	EE3	0.778			
	EE4	0.800			
	EE5	0.793			
Employee Training	ET1	0.785	0.835	0.835	0.628
	ET2	0.794			
	ET3	0.797			
Product Quality	PQ1	0.808	0.859	0.858	0.603
	PQ2	0.723			
	PQ3	0.811			
	PQ4	0.760			
Organisation Performance	Service Performance	0.895	0.902	0.903	0.756
	Technological Performance	0.891			
	Financial Performance	0.821			

As the internal consistency is found to be accurate for the variables, the next step is to measure the consistency in the construct. This is done through the measurement of discriminant validity. The HTMT or the Heterotrait -Monotrait test was checked to determine if the constructs in the model hold unique characteristics. The threshold limit of the test is of ≤ 0.85 (Henseler et al., 2015) whereas the limit suggested is also .90 (Gold et. al). The table 4 below shows the value of the constructs of the study.

Table 5: HTMT ratio for Discriminant Validity

	Continuou s Improveme nt	Custom er Focus	Empley e Training	Employee Empowerme nt	Produc t Quality
Customer Focus	0.877				
Employee Training	0.866	0.878			
Employee Empowerment	0.863	0.867	0.867		
Product Quality	0.896	0.881	0.896	0.887	
Organisation Performance	0.600	0.669	0.563	0.607	0.648

Formative Model

The evaluation of the formative model can be performed through the convergent validity analysis, Variance Inflation Factor analysis for collinearity r and through the statistical significance. (Hair et al., 2019). The measurement of the collinearity can be seen through the VIF value in the table 6 below. The VIF should be ≤ 3 for each indicator to be considered as not being negatively affected by collinearity. (Henseler et al., 2015).

Table 6: Collinearity Analysis

Items	VIF
CF1	1.771
CF2	1.856
CF3	2.471
CF4	2.055
CF5	2.422
CI1	2.228
CI2	1.963
CI3	1.822
CI4	2.036
CI5	2.483
EE1	2.237
EE2	2.449
EE3	1.871
EE4	2.265
EE5	2.692
ET1	2.216
ET2	1.996
ET3	1.770
PQ1	2.025
PQ2	2.060
PQ3	1.845
PQ4	2.107
Service Performance	2.920
Technological Performance	2.819
Financial Performance	2.363

As the values of the VIF are within the acceptable limit ie, less than 3, hence we can conclude that there exists no multi-collinearity between the variables.

The table 7 below shows the results of the bootstrapping. The bootstrapping was performed with 10,000 resamples in order to draw conclusions on the significance of the hypothesis in question. The path

coefficient and the t-statistics were measured to conclude about the impact of the dimensions of TQM on organisational performance.

Table 7: Outer Weights

	βeta	Standard Deviation	T Statistics	P Values	Decision
Continuous Improvement - > Org. Performance	0.104	0.088	1.183	0.237	Not Supported
Customer Focus -> Org. Performance	0.319	0.09	3.535	0.000	Supported
Employee Training -> Org. Performance	-0.045	0.074	0.606	0.544	Not Supported
Employee Empowerment -> Org. Performance	0.068	0.076	0.894	0.371	Not Supported
Product Quality -> Org. Performance	0.215	0.089	2.411	0.016	Supported

The results in the above table 7 shows that the hypothesis with the impact of customer focus and organisation performance and the product quality and organisation performance is found to be significant with p-value less than .05. The hypothesis of continuous improvement and organisation performance, employee training and organisation performance as well as employee empowerment and organisation performance is not found to be significant with the p-value greater than .05

Structural Model

The structural model finds out the operational relationship between the latent variables of the construct. This inner model of the study formulates the relationship between the conceptual variables of the measurement model(Aziz &Kamaludin, 2014). The conclusion on the hypothesis of the study can be drawn through the structural model. The present study is measuring the impact of the dimensions of Total Quality Management on the Organisation Performance of the Banking sector. In this case, there are five independent variables and one dependent variable, which is a formative model. The model can be examined further through the value of SRMR. For the model to be fit, it is imperative that the value of SRMR is less than 0.08.(Gefen et al., 2000). The SRMR value in the present study is within the acceptable limit being 0.44. Next the variance was measured through the R2 value. The R2 is 0.383 showing the variance in the organisation performance due to the dimensions of Total Quality Management. Only two dimensions, Product Quality and customer focus were found to be significant, hence the variance of these dimensions can be taken into account for the dependent variable, organisation performance. Further, the effect size of these two significant variables is to be analysed. The F-square value is important to ascertain the effect of the independent variable on the dependent variable. The effect size below .02 is insignificant as it is very low. The effect size above 0.2 till 0.15 is considered moderate.(Shmueli et al., 2019). Table 8 shows the outcome of the f-square statistics. The effect size for the customer focus and product quality is found to be greater than 0.02, 0.038 and 0.029 respectively. However, they are smaller than 0.15 which means that the effect size is moderate.

Table 8: Measuring Effect Size

	Organisation Performance
Continuous Improvement	0.005
Customer Focus	0.038
Employee Training	0.001
Employee Empowerment	0.002
Product Quality	0.029

Importance Performance Map Analysis

The importance Performance Map Analysis or IMPA is a used to ascertain the managerial implications of the model. The target variable of the study for which the importance chart is drawn is the dependent variable, in this case organisation performance. The highest performance is measured for the product quality followed by customer focus, employee empowerment, employee training and continuous improvement. However, as the results of only customer focus and product quality are found to be significant, the results of these independent variables are discussed. Customer focus is the highest importance variable followed by Product Quality. On the basis of the most important factor, the impact is examined on the dependent variable hence, if the value of Customer focus is increased from 51.856 to 52.856 the value of organisation Performance will be increased from 56.279 to 56.60032. This is the highest increase in the value of organisation performance, caused by the highest importance variable, customer focus. So, the organisation performance will be enhanced with the focus on the customer focus (Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. 2009). Product quality is another independent variable also falls on the median of the fourth quadrant of the IMPA graph. Hence, if the product quality is focused upon, the organisation performance can be improved relatively.

Findings and Conclusion

The present study is an effort to apply SMART PLS to investigate the role of Total Quality management dimensions on the organisation performance in banking sector. As banking sector is a central service sector, the quality dimensions are powerfully influencing the success of the organisation. The service sector specifically, the banking sector includes a whole gamut of parameters, which are accountable for retaining the customers and to build the image of the bank. The organisation performance is not just dependent on the internal efforts of the organisation to deliver the quality product but the people in terms of the employees of the organisation as well the unique preposition to add value to the customer also governs the success of the bank. Consequently, the present study aims to identify the effect of the dimensions of TQM on organisation performance. The results of the study are a mixed bag. The dimensions including or focusing primarily the employees are found to be not significant but the dimensions which are directly related to the customer are found to significant including the customer focus and the product quality. Thus, the findings of the study point out that the customer focus and the product quality are dominant. Under the present day circumstances, it is quite evident that this conclusion holds strong relevance as due to competitiveness the banking sector has to work upon maintaining the product quality and to focus on the customer needs. Both these aspects account for the customer satisfaction leading to the customer retention and increased sales. This off course leads to the long term sustainability of a service sector firm. The R2 value also shows that the variance in the organisation performance can be explained on the basis of the two factors. Though, the effect size (f square) for the two dimensions is not very strong and is found to be moderate. However, on the basis

of the importance and performance analysis it can be concluded that if we work upon these two parameters the organisation performance can be improved.

The findings of the study also points out that the factors including employee empowerment, employee training and continuous improvement holds importance, which we conclude on the basis of the IMP Analysis. However, the results for these three dimensions were insignificant, concluded on the basis of the p-value. The effect size for these dimensions is also found to be low which leads to the conclusion that the organisation performance in the selected private sector banks is not affected by these dimensions. It is also interesting to note that these factors are related to the employees, which are found to be insignificant. The factors related directly to the customers are found to be significant.

Nevertheless, the limitations of the study may affect the results. In order to scrutinize the role of the factors in the study, similar study can be conducted on another population, including the customers of the banks in different cities. The biasness of the employee can be also considered as the limitations of the study as the employee may not be willing to open up on providing information on the aspects of the study. The study can further be conducted in different service sectors like tourism and hospitality to cross examine the impact of these variables. Many other factors are not considered in the present study due to the paucity of time. All these factors can also be examined to measure the impact and to see a clearer picture.

There are many other dimensions including the top management which are part of total quality management of any firm. The evidences from the studies in the banking sector in India and TQM also suggests a diverse view. Although, it cannot be denied that quality management practices of the bank add to the success of the banking sector. The performance of the bank can be seen through the increased in sales and productivity. The banking firms if are able to create value to the customer, employees and other stakeholders, the growth of the sector cannot be denied. As per the present scenario, the banking professionals, relationship management and the customer focus is the prime motive for any bank to be successful. Keeping in mind, the above focus area and the increasing competitiveness, if the banking sector applies the quality measures through employee oriented and customer oriented programs, the performance of the banks can be increased. The blended approach which trickles down from the top management to the lower level employees with strong commitment from the top management would add to the accomplishment.

Banking being a service sector is a people industry, role of the people to create value for the people is the main goal. In this manner, the implementation of the quality parameters also moves down through people. In the present study, the demographics was the middle level employees who were directly involved with the customer. The results make us reflect upon the satisfaction level of the employees. The findings also show that the employees do not consider the employee training and employee empowerment to be affecting the organisation performance; this draws the attention towards exploring the role of employee in the success of the banking sector. The firms need to develop formal recognition and reward system, and internal system to draw the opinion of the employees freely to conclude on the improvement in the quality parameters of the banks. The results do provide sufficient evidence to endure the study with many other elements of quality management practices in the banking sector.

References

- Betinah H., Ojiabo U., Alagah A.D. (2018). *TQM and Organizational Success of Manufacturing Firms of Rivers State. International Journal of Advanced Academic Research*, 4 (5).
- Carmona - Márquez, F. J., Lea l- Millán, A. G., Vázquez - Sánchez, A. E., Leal-Rodríguez, A. L., & Eldridge, S. (2016). *TQM and business success: do all the TQM drivers have the same relevance? An empirical study in Spanish firms. International Journal of Quality & Reliability Management*, 33(3), 361-379.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). *Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. Behavior Research Methods*, 41, 1149-1160.

- Fisher, N. I., & Nair, V. N. (2009). *Quality management and quality practice: Perspectives on their history and their future. Applied Stochastic Models in Business and Industry*, 25(1), 1-28.
- Gefen, D., Straub, D., & Boudreau, M.-C. (2000). *Structural Equation Modeling and Regression: Guidelines for Research Practice. Communications of the Association for Information Systems*, 4(August). <https://doi.org/10.17705/1cais.00407>
- Gold AH, ArvindMalhotra AH (2001) *J. Manage. Inform. Syst.* 18 185-214.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). *When to use and how to report the results of PLS-SEM. European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). *A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Kampouridis, G., Yiannopoulos, A. C., Giannopoulos, G. I., & Tsirkas, S. A. (2015). *The relationship between TQM and financial performance of Greek companies of structural construction sector during crisis period. Journal of Economics and Business*, 18(1), 61-78.
- Maqsood, M. B. (2019). *TQM Practices and their Effect on Non-financial Performance: An Empirical Study of Pakistani Hospitals. Health Sciences*, 8(4), 147-162.
- Mavaza, T., Halimani D., Farai D. (2017). *Total Quality Management (TQM) as a Competitive Tool in Commercial Banking in Zimbabwe. International Journal of Research in Finance and Marketing (IJRFM). Vol 7 Issue 3, March 2017, pp91-106*
- Munyare, H., Kagiri, A., Kiaritha, H., (2016) *Effects of quality management practices on financial performance of cement manufacturing firms in Kenya. Prime Journal of Social Science (PJSS) ISSN: 2315-5051. Vol. 5(3), pp. 1333-1342.*
- Oza S.H., Shiroya S.D. (2015). *Does TQM leads to improvement in quality performance in manufacturing firms- Some empirical evidence. International Journal of Research*, 3(9), ISSN- 2350-0530(O) ISSN- 2394-3629(P)
- Salah, S. A. (2018). *Total quality management practices and performance of commercial banks in Garissa County, Kenya. International Academic Journal of Human Resource and Business Administration*, 3(1), 52-67.
- Shafiq, M., Lasrado, F., & Hafeez, K. (2019). *The effect of TQM on organisational performance: empirical evidence from the textile sector of a developing country using SEM. Total Quality Management & Business Excellence*, 30(1-2), 31-52.
- Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J. H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). *Predictive model assessment in PLS-SEM: guidelines for using PLSpredict. European Journal of Marketing*, 53(11), 2322–2347. <https://doi.org/10.1108/EJM-02-2019-0189>
- Singh, V., Kumar, A., & Singh T. (2018). *Impact of TQM on organizational performance: The case of Indian manufacturing and service industry. Operations Research Prospectives*, 5, 199-217.
- Spencer, B. A. (1994). *Models of organization and total quality management: a comparison and critical evaluation. Academy of management review*, 19(3), 446-471.