

Total Quality Management Factors in Bahrain Higher Education Institutions: Influences on their Performance

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Abstract:- Previous studies showed ambiguous results of the relationship between Total Quality Management (TQM) factors and institution's performances. This study investigated the impacts of TQM factors on various performance measures in the Higher Education Institutions (HEIs) in the Kingdom of Bahrain. The study's main objectives are to distribute structured questionnaires to top management, quality management leaders, academic employees and staff who are involved in the Higher Education Institutions. Also, it aims to evaluate the effect of TQM factors on various performance measures as perceived by the targeted population through analysis of the questionnaire's results. The sample was selected from the members involved in 13 institutions located in the kingdom of Bahrain, but only 8 institutions gave the opportunity and approval to do this research subject on their floor. This paper decided on Management Commitment and Leadership, Measurement and Evaluation, Process Control and Improvement, Employee Involvement, Education and Training, Student Focus and Other-Stakeholders as the factors of TQM based on the literature review. It also included multiple performance measures, namely, Operational performance, Employee performance, Innovation performance and Social responsibility performance to cover all aspects of institution's performance. This study has shown that different TQM factors significantly affect different institution's performance outcomes. It is recommended that Institutions should keep implementing total quality management practices with all variables and taking into account the TQM factors that improve the overall institution's performance.

Keywords:- Higher Education Institutes (HEI), Institutional Performance, Total Quality Management (TQM).

I. INTRODUCTION

A. Research Background

Nowadays, speedy changes of technology, falling quality, varying demographics, privatization and internalization in education have led to the use of the concept of Total Quality Management (TQM) in education. Also, several factors have contributed to raising public concerns over higher education institutions quality, quality management and improvement devices such as performance indicators, accreditations, programs, institutional assessment and quality audits. This has paved way for the implementation of quality management principles, methodologies, and tools to be

applied by the Higher Education sector for its continuous improvement. Based on Pushpa L (2015) ,cited that, Total quality management (TQM) is a way of managing to improve the effectiveness, efficiency, cohesiveness, flexibility and competitiveness of a business as a whole. As defined by British Standard Institution, TQM consists of a "management philosophy and company practices which aim to harness the human and material resources of an organization in the most effective way to achieve the objectives of the organization. Moreover, his insight into the field of Total Quality Management has provided a useful understanding of the underlying principles of Total Quality Management and has formed the basis against which subsequent researchers have formulated and verified critical success factors of Total Quality Management. Quality improvement has become a considerable force throughout the world, Although methods to improve and manage quality are numerous, it can be said that TQM is a critical determinant in the success of not only the manufacturing organizations, but also, Higher Education Institutions. Intensified global competition and increasing demand for higher quality in education have instigated an increasing number of HEIs to invest substantial resources in adapting and implementing Total Quality Management procedures, tools and techniques. Total Quality Management is defined as an integrative management philosophy and a set of guiding principles, representing the foundation of a continuously improving institution. It constitutes the application of sound management principles, quantitative measurement methods and human resources with an underlying aspiration of improving all departments within an institution, surpassing the current and future needs of the stakeholders and increasing the overall performance. This paper focused on evaluating the effect of TQM factors in the Higher Education Institutions particularly in the Kingdom of Bahrain on the Institutions' performance to guarantee persistent change and quality in Higher Education Institutions.

B. Statement of the problem:

Studies about TQM implementation in the Kingdom of Bahrain need to be expanded, particularly with the absence of embracing all the essential components of the educational procedure, which may influence the performance and enhancement of the educational organization ,for this reason a set of research questions defined as: 1.What is the status of TQM factors as perceived by Top management, Quality Management Leaders, Academic Employees and Staff in terms of :(a. Management Commitment and Leadership b. Measurement and Evaluation c. Process Control and Improvement d. Employee Involvement e. Education and

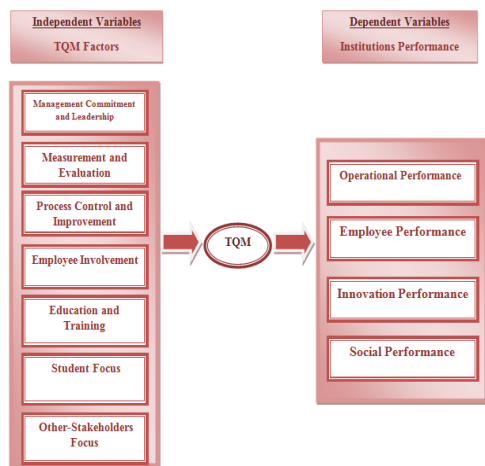
Training f. Student Focus g. Other-Stakeholders Focus).
 2. What is the status of Institution's performance as perceived by Top management, Quality Management Leaders, Academic Employees and Staff in terms of : (a. Operational Performance b. Employee Performance c. Innovation Performance d. Social Responsibilities Performance)
 3. Is there a significant relationship between TQM factors and institutions performance?
 4. What are the TQM factors that will influence the Institution's performance?

C. Research Hypotheses

According to the questions of this paper, the following null hypotheses have been suggested:

H₀₁: There is no significant relationship between Management Commitment and Leadership Factor and Institutions' performance.
 H₀₂: There is no significant relationship between Measurement and Evaluation Factor and Institutions' performance.
 H₀₃: There is no significant relationship between Process Control and Improvement Factor and Institutions' performance.
 H₀₄: There is no significant relationship between Employee Involvement Factor and Institutions' performance.
 H₀₅: There is no significant relationship between Education and Training Factor and Institutions' performance.
 H₀₆: There is no significant relationship between Student Focus Factor and Institutions' performance.
 H₀₇: There is no significant relationship between Other-Stakeholders Focus Factor and Institutions' performance.

D. TQM Conceptual Model



E. Scope and Limitation:

The scope is to evaluate the TQM factors and its effect on Higher Education Institutions performance in the Kingdom of Bahrain. The study does not intend to pinpoint the shortcomings of the performance of any university but rather explore the level of the effect of TQM factors on the Institution's performance.

The main target populations of the study are top management, quality leaders, academic employees and staff in the higher education institutions. The intended population of the study was for all public and private universities in the kingdom of Bahrain. However, only few private universities accepted conducting the questionnaire of this paper. The rejection from the other universities has led to a small sample of 60 respondents only. Another reason for having a relatively small sample is the fact that the targeted population of the research is top management, Quality leaders, Academic employees, and staff. Furthermore, the study request for apparent information about actual TQM factors and performance, but the respondents may give desired data, which influenced their organizations to look great.

II. RESEARCH METHODOLOGY

This paper is a descriptive research since the data was collected based on questionnaires. The study used a quantitative method, which was designed to get some information on an institution's top management, quality management leaders, academic employees, and staff on their preference and perspective on the implementation of total quality management in their institutions.

The sample was selected from the members who involved in the institutions located in the Kingdom of Bahrain. The population of the study was included top management, quality management leaders, academic employees, and staff. The sample was selected from the members involved in 13 institutions located in the kingdom of Bahrain, but only 8 institutions gave the opportunity and approval to do this research subject on their floor.

The questionnaire adopted the items of Muhammad Asif, Muhammad Usman Awan, Muhammad Khalid Khan and Niaz Ahmad of their research, 2011. with the title " A model for total quality management in higher education". The research identified the critical success factors of TQM in Pakistani universities.

The questionnaire divided into three parts. The first part, demographic information about the respondents. Second part, items included a five-point Likert-type scale anchored from (1= Not Important; 2= Slightly Important; 3= Moderately Important; 4= Important; 5= Very Important) which indicates respondents' opinions about the importance of the TQM factors, and third part items included a five-point Likert-type scale anchored from (1= Not Achieved; 2= Slightly Achieved; 3= Moderately Achieved; 4= Achieved; 5= Highly Achieved) which indicates respondents' opinions about the achievements of Institutions performance.

The reliability and validity were tested for the reason of adapting a pre-existing instrument that used to measure a key variable in this study. From the Reliability Analysis statistics that have been made through the SPSS, the "Cronbach's Alpha Test" measured the degree of consistency of the survey result;

it was applied for quantitative data on the pilot test sample 13 responses.

Reliability Statistics		
Measured Variables	Cronbach's Alpha	No of Items
TQM Factors	.978	36
Institution's Performance	.968	24
Overall Reliability Statistics	.986	60

Table 1. Summary of Reliability Statistics for TQM Factors and Institutions' Performance

Weighted Mean was used to define the status of TQM factors and institutions' performance as perceived by top management, quality management leaders, academic employees, and staff. This study performed bivariate correlation analysis to identify the correlation of TQM factors with measures of the institution's performance.

III. SUMMARY OF FINDINGS

The following findings of this study have been tested to measure the effect of TQM factors on the institution's performance to fulfill the study purpose by enquiring into TQM factors through higher education institution's performance in the kingdom of Bahrain as perceived by top management, quality leaders, academic employees, and staff.

A. Weighted Mean Measurement

This section presented the weighted mean scores that measured between TQM factors (Management Commitment and Leadership, Measurement and Evaluation, Process Control and Improvement, Employee Involvement, Education and Training, Student Focus and Other-Stakeholders Focus) with Institution's performance (Operational Performance, Employee Performance, Innovation Performance and Social Responsibilities performance). The result showed that the weighted mean scores of the TQM factors (Management Commitment and Leadership, Measurement and Evaluation, Process Control and Improvement, Employee Involvement, Education and Training and Student Focus) all between (3.5-4.49) which means all these factors are Important. The only factor that shows Moderately Important is Other-Stakeholders Focus factor where the weighted mean score was between (2.5-3.49), all this scored resulted from top management, quality leaders, academic employees, and staff. It has been found the weighted mean scores of all institution's performance measures showed scores between (3.5-4.49) which means all performances achieved in the higher education institutions in the kingdom of Bahrain as perceived by top management, quality leaders, academic employees, and staff.

B. Bivariate Correlation Analysis

This section presented SPSS measurement of Bivariate Correlation Analysis that used to measure the relationship

between TQM factors (Management Commitment and Leadership, Measurement and Evaluation, Process Control and Improvement, Employee Involvement, Education and Training, Student Focus and Other-Stakeholders) with Institution's performance (Operational Performance, Employee Performance, Innovation Performance and Social Responsibilities performance). The result found that all TQM factors are positively related to all institution's performance measures with differences in the level of the relation between the factors and the performances.

C. Hypotheses Testing

Testing the study hypotheses was done through all the seven TQM factors has no significant relationship to higher education institutions' performance in The Kingdom of Bahrain. The result shows that the hypothesis testing of all TQM factors (Management Commitment and Leadership, Measurement and Evaluation, Process Control and Improvement, Employee Involvement, Education and Training, Student Focus and Other-Stakeholders Focus) with institution's performance (Operational Performance, Employee Performance, Innovation Performance and Social Responsibilities Performance) rejected the null hypothesis; as there were a positive statistical significant correlations between each factor with each institution's performance, respectively.

IV. CONCLUSIONS

TQM is an approach that aims to enhance quality and performance which will exceed or meet customer expectation. This can be accomplished by incorporating all quality-related functions, procedures and all stake holders in all through the organization in order to improve the organization's performance and sustainability. The findings gave an output, that overall TQM factors improve all Institution's performance measures. Management Commitment and Leadership factor improves operational and social responsibilities performance, where Measurement and Evaluation factor enhances the employee and innovation performance. Process Control and Improvement factor improves the innovation performance. Employee Involvement factor strongly improve the operational performance with high enhancement on employee and social responsibilities performance. It has been found that successful Education and Training factor enhances both employee and social responsibilities performance. Moreover, effective Student Focus factor effort increases operational performance. Finally, Other-Stakeholders Focus factor effort improves innovation performance. It can be concluded that TQM factors improve different performance measures in the educational institution. All aspects of TQM factors should be effectively managed in the institution this because each factor in TQM improves various aspects of institution's performance. The synergy among the TQM factors comes out about crucial improvements in the institution's performances. The institution should enhance employee involvement, institution structure and effective the innovation to implement TQM successfully.

RECOMMENDATIONS

This section proposed some recommendations about how TQM can be implemented in educational institutions in the kingdom of Bahrain under the light of the analysis of the gathered data, it is recommended that:

- Higher education institutions should enhance the employee performance in terms of Management Commitment and Leadership factor, such leadership will drive quality strategy in an organization and nurture the creativity of the employees, where they are should be able to take an action immediately when required. The quality circles should be also consisting members who are open to excellent improvement and can manage the time to collaborate on high improvement efforts.
- Institutions need to improve the operational performance and social responsibilities performance in terms of measurement and evaluation factors. Where these factors effect directly the overall institutions' performance.
- Institutions need to improve the social responsibilities performance and employees performance in terms of Process Control and Improvement factor, Where Employees must identify opportunities for continuous improvement. If employee involvement is key to the attainment of customer satisfaction, managing the process is key to engaging an institution's employees to take responsibilities for what they are doing in relation to satisfying the customers.
- Institutions should focus on the Employee Involvement factor to enhance the innovation performance of the institutions. Moreover, institutions need to do progress on its employee performance and social responsibilities performance to achieve the highest quality.
- Institutions should improve the operational performance in terms of Education and Training factor, where this factor improves directly the overall institutions' performance.
- Institutions should concentrate on students focus factor to improve employee performance and innovation performance, where Quality should be customer driven. Employees should be well aware of the concept of internal and external customers. They should care about meeting and exceed the customer expectations. There must be a focus on customer feedback and accordingly, the process should be driven.
- Institutions should concentrate on Other-Stakeholders Focus factor to improve the social responsibilities performance, operational and employee performance to achieve THE highest quality and gaining the stakeholder satisfying.
- Other Recommendations stated to:
- Ministry of Education, the ministry should focus on implementing the TQM practices in all Higher Education Institutions to reach the highest quality of education.
- Academic Community, the academic community should do continuous studies on the importance of total quality

management and what are the most important factors affecting their institutions to improve the students' satisfaction.

- Undergraduates and graduates students, the students should aware of the concept of TQM to look for the best institutions to gain a degree in the high level of education and to grow in professional and academic future careers.
- Future Researchers, the future researchers should try to focus on other important factors that affect the higher education institutions.

REFERENCES

1. T., F., & Z. (2010, July). Critical Success Factors Of Tqm In Service Organizations: A Proposed Model. Retrieved January 21, 2018, From https://www.researchgate.net/publication/232917892_Critical_Success_Factors_Of_Tqm_In_Service_Organizations_A_Proposed_Model.
2. S., & N. (2017, November). The Impact Of Tqm On Higher Education Institutions In South Africa. Retrieved January 21, 2018, From https://www.researchgate.net/publication/321331065_The_Impact_Of_Tqm_On_Higher_Education_Institutions_In_South_Africa.
3. S., & N. (2016, September). The Role Of Tqm On Improving Organisational Performance. Retrieved January 21, 2018, From https://www.researchgate.net/publication/316791340_The_Role_Of_Tqm_On_Improving_Organisational_Performance.
4. Zubair, S. S. (2013). Total Quality Management In Public Sector Higher Education Institutions . Journal Of Business & Economics, 5(1), 24-55. Retrieved January 21, 2018, From <https://pdfs.semanticscholar.org/Ce4a/154a2bb2e0686dfc9e0f4d4aa6c467364028.pdf>.
5. R. A., & S. I. (2012). Implementing Tqm Practices In Pakistani Higher Education Institutions. Pakistan Journal of Engineering, Technology & Science, 2(2224-2333), 1st Ser., 1-26. Retrieved January 21, 2018, From <http://journals.iobmresearch.com/index.php/pjets/article/view/692>.
6. A. B. (2013). The Effect Of Quality Management Practices On Organizational Performance In Jordan: An Empirical Study . International Journal Of Financial Research , 4(1), 93. Doi:10.5430/Ijfr.V4n1p93.
7. Erguvan, M. M. (2016). A Framework For Implementation Of Total Quality Management In Georgian Higher Education Institutions In The Context Of International Black Sea University. Retrieved January 21, 2018, From https://www.ibsu.edu.ge/upload/menu_items/doctorat_defence/mehmet_murat_erguvan/abstract_english_m_murat_erguvan.pdf.
8. S. (2015). The Implementation Of Total Quality Management In Order To Improve Production

- Performance and Enhancing the Level of Customer Satisfaction. 19, 1016-1022. Retrieved January 21, 2018, From <https://doi.org/10.1016/j.procy.2015.02.145>.
9. Achieving Excellence Together [www.Moe.Gov.Bh/Hec](http://www.moe.gov.bh/hec) Kingdom Of Bahrain Higher Education Universities And Institutions Annual Report 2012. (2012). Retrieved January 21, 2018, From <http://moedu.gov.bh/hec/uploadfiles/reports/hec%20annual%20report%20single%20page.pdf>.
 10. C. %. (2012). Achieving Excellence Together Annual Report 2012. Retrieved January 21, 2018, From [http://www.Moe.Gov.Bh/Hec](http://www.moe.gov.bh/hec).
 11. Abu Hasan, H. F., Ilias, A., Abdrahman, R., & Abdrazak, M. Z. (2008). Service Quality And Student Satisfaction: A Case Study At Private Higher Education Institutions. *International Business Research*, 1(3), 163-175.
 12. Abu Warda, Shirinhamed Mohamed (2007). 'Proposed Model For Measuring The Quality Of Educational Services: Application To Institutions Of Higher Education In Egypt', Working Paper, Pp. 1-51.
 13. Douglas A. & Douglas J. (2006). 'Campus Spies: Using Mystery Students To Evaluate University Performance'. *Educational Research*, 48(1), Pp. 111-119.
 14. Ahmed Badah (2006). 'Suggested Model For Total Quality Management In The Jordanian Public Universities', *Journal Of The Association Of Arab Universities*, Edition. 46, Pp. 89.
 15. Ashoor, Yusuf Hasi & Alabadla, Talalothamn (2007). 'Measuring The Quality Of Educational Services In The Higher Education: The Case Of Mba Program At Gaza Islamic University', *Journal Of Alaska University*. 11(1), Pp. 98-128.
 16. K. H. (N.D.). Introduction And Implementation Of Total Quality Management (Tqm). Retrieved February 5, 2018, From <https://www.isixsigma.com/methodology/total-quality-management-tqm/introduction-and-implementation-total-quality-management-tqm/>.
 17. Ater, J. A. (2013, April). Challenges Facing The Implementation Of Total Quality Management Practices In Public Secondary Schools In Kenya (A Survey Of Schools In Migori County). Retrieved February 5, 2018, From <https://pdfs.semanticscholar.org/eeaf/b6aa35876854f4ce6d064746672775d44484.pdf>.
 18. Ian Michael Roffe, (1998) "Conceptual Problems of Continuous Quality Improvement And Innovation In Higher Education", *Quality Assurance In Education*, Vol. 6 Issue: 2, Pp.74-82, <https://doi.org/10.1108/09684889810205723>.
 19. C. J., & E. P. (2015/10/03). Total Quality Management Practices And Performance Outcomes In Spanish Service Companies. *Total Quality Management & Business Excellence*, 26(9-10), 958-970. [Doi:Http://Www.Tandfonline.Com/Doi/Abs/10.1080/14783363.2015.1068588?Src=Recsys&Journalcode=Ctqm20](http://www.tandfonline.com/doi/abs/10.1080/14783363.2015.1068588?src=recsys&journalcode=ctqm20).
 20. Basir , S. A., J. D., J. D., & A. D. (2017, March 17). The Influence Of Academic Culture On Quality Management System Iso 9001 Maintenance Within Malaysian Universities. Retrieved February 5, 2018, From <https://doi.org/10.1080/1366080x.2017.1298199>.
 21. R. A., F. D., F. C., & S. G. (2010). Performance Indicators And Corporate Social Responsibility: Evidence From Portuguese Higher Education Institutions. *International Journal Of Banking Accounting And Finance*, 2(3), 251-274. [Doi:10.1504/Ijbaaf.2010.033500](https://doi.org/10.1504/Ijbaaf.2010.033500).
 22. J. G. (2013, January 1). Social Responsibility Performance Of Educational Institutions Of Higher Learning In Nigeria By Justin Mgbachidinioha Gabriel And Nwadike George. Retrieved February 5, 2018, From [https://www.Researchgate.Net/Publication/262726071_Social_Responsibility_Performance_Of_Educational_Institutions_Of_Higher_Learning_In_Nigeria_By_Justin_Mgbachi_Odinioha_Gabriel_And_Nwadike_George](https://www.researchgate.net/publication/262726071_Social_Responsibility_Performance_Of_Educational_Institutions_Of_Higher_Learning_In_Nigeria_By_Justin_Mgbachi_Odinioha_Gabriel_And_Nwadike_George).
 23. A, Q. A., T. (2012, March 26). Higher Education Review Unit Institutional Follow-Up Review Report - Ahliauniversity. Retrieved February 5, 2018, From <http://moedu.gov.bh/hec/uploadfiles/inst-review-en/ahlia-en2.pdf>.
 24. A, Q. A., T. (2011, November 16). Institutional Follow-Up Review Report – Ama International University-Bahrain Retrieved February 5, 2018, From [http://www.Bqa.Gov.Bh/En/Reports/Pages/Default.aspx](http://www.bqa.gov.bh/en/reports/pages/default.aspx).
 25. A,Q.A.T.(2011, April 25). Institutional Follow-Up Review Report – Arab Open University. Retrieved February 5, 2018. From [http://www.Bqa.Gov.Bh/En/Reports/Pages/Default.aspx](http://www.bqa.gov.bh/en/reports/pages/default.aspx).
 26. A,Q.A.T. (2012, December 10). Institutional Follow -Up Review Report-University of Bahrain. Retrieved February 5, 2018. From [http://www.Bqa.Gov.Bh/En/Reports/Pages/Default.aspx](http://www.bqa.gov.bh/en/reports/pages/default.aspx).
 27. N. Z., S. M., Mat Saman, M. Z., Mdariff, M. S., S. S., & R. A. (December 2012,). Critical Success Factors of Total Quality Management Implementation In Higher Education Institution: A Review. *International Journal Of Academic Research In Business And Social Sciences*, 2, 12th Ser., 2222-6990. Retrieved February 5, 2018, From [http://www.Hrmars.Com/Admin/Pics/1341.Pdf](http://www.hrmars.com/admin/pics/1341.pdf).
 28. [28] C. Z., Ö E., S. Z., & B. M. (2012). Total Quality Management Practices' Effects On Quality Performance And Innovative Performance. Retrieved March 1, 2018, From [https://www.Sciencedirect.Com/Science/Article/Pii/S1877042812009111#!](https://www.sciencedirect.com/science/article/pii/S1877042812009111#!).
 29. [29] M. K., & B. T. (2018, February 8). Relationship Of Ethical Leadership, Corporate Social Responsibility And Organizational Performance. Retrieved March 1, 2018, From [File:///C:/Users/Academic%20assistant/Downloads/Sustainability-10-00447.Pdf](file:///C:/Users/Academic%20assistant/Downloads/Sustainability-10-00447.Pdf).
 30. R. K., M. Y., & G. A. (2016, February 19). Is The Relationship Between Innovation Performance And Knowledge Management Contingent On Environmental

- Dynamism And Learning Capability? Evidence From A Turbulent Market. Retrieved March 1, 2018, From <https://link.springer.com/article/10.1007/s40685-016-0032-9>.
31. Nadim, Z. S., & Al-Hinai, A. H. (2016). Critical Success Factors Of Tqm In Higher Education Institutions Context. Retrieved March 1, 2018, From <https://www.waljatcollege.edu.om/journal/pdf/factors-tqm.pdf>.
 32. Sanders, J. (2014). Process Management, Innovation, and Efficiency Performance: The Moderating Effect Of Competitive Intensity. Retrieved March 1, 2018, From <https://ir.stthomas.edu/cgi/viewcontent.cgi?referer=https://www.google.com/bh/&httpsredir=1&article=1029&context=ocbopmtpub>.
 33. E. Sofijanovaa, & Chatleska2, V. (2013). Employee Involvement And Organizational Performance: Evidence From The Manufacturing Sector In Republic Of Macedonia. Retrieved March 1, 2018, From <https://pdfs.semanticscholar.org/432c/Aa34880b9ec5ad4a13a3775e2e1b9e1fb870.pdf>.
 34. Ones, D., Willness, C., & Madey, S. (2014). Why Are Job Seekers Attracted By Corporate Social Performance? Experimental And Field Tests Of Three Signal-Based Mechanisms. Retrieved March 1, 2018, From <http://amj.aom.org/content/57/2/383>.
 35. Kanorio, K. C. (2014, November). Total Quality Management Practices and Operational Performance Of Commercial Banks In Kenya. Retrieved March 1, 2018, From http://erepository.uonbi.ac.ke/bitstream/handle/11295/76526/Kathaari_Total%20quality%20management%20practices%20and%20operational%20performance.pdf?sequence=4.
 36. Khan, N., Ahmad, Iqbal, N., & Haider, N. (2014). Relationship Of Training And Education With Employee Performance In Financial Institutions. Retrieved March 1, 2018, From <https://www.scipress.com/IJSHS.41.150.pdf>.
 37. Kumar, V., Batista, L., & Maull, R. (2010, November). The Impact Of Operations Performance On Customer Loyalty. Retrieved March 1, 2018, From <https://pubsonline.informs.org/doi/pdf/10.1287/serv.3.2.158>.
 38. De-Mello, R., Marcon, R., & Alberton, A. (2011, September). Performance Effects Of Stakeholder Interaction In Emerging Economies: Evidence From Brazil. Retrieved March 1, 2018, From <http://dx.doi.org/10.1590/S1807-76922011000300007>.