Volume and Issues Obtainable at Center for Sustainability Research and Consultancy

Review of Economics and Development Studies
ISSN:2519-9692 ISSN (E): 2519-9706
Volume 5: No. 3, 2019
Journal homepage: www.publishing.globalcsrc.org/reads

Uncovering the Myths of TQM in Readymade Garment Sector of Pakistan: An Interpretive Structural Modeling Approach

[1] Abdul Aziz Khan Niazi, [2]Tehmina Fiaz Qazi , [3]Kamran Yousef Sandhu

[1]University of Engineering and Technology, Lahore, Pakistan, azizniazi@uet.edu.pk
[2]University of Engineering and Technology, Lahore, Pakistan, tehmina.qazi@gmail.com
[3]University of Engineering and Technology, Lahore, Pakistan, dr.k.sandhu@hotmail.com

ARTICLE DETAILS

History
Revised format: 30 June 2019
Available Online: 31 July 2019

Keywords
Total Quality Management (TQM), Garment Industry, Pakistan

JEL Classification:
M11, L15

ABSTRACT

Quality has always been center of gravity for superior competitive advantage. TQM has captured attention of both practitioners and academicians because it is an important management practice for improving performance. This research is aimed to provide insight of the challenges faced by readymade garment industry of Pakistan for implementation of TQM principles. In depth literature, Interpretive Structural Modeling (ISM) and Matriced' Impacts Croise's Multiplication Appliquée a UN Classement (MICMAC) analyses have been employed to investigate the phenomena under study. Discourse of literature revealed that there are twenty challenges in implementation of TQM. Lack of employee trust in senior management is the most critical challenge to be addressed that occupies bottom of the model. Lack of formalized strategic plan for change and lack of leadership occupy highest position in the model hence attracts least attention. MICMAC analysis revealed that lack of consistency of purposes autonomous, lack of evaluation procedures and benchmark indices and obsolete technology are independent and all other challenges fall in linking quadrant. Whereas no such challenge is exclusively categorized as dependent, however, most of the linking factors have high degree of dependence as well. This study is useful for the organizations which are in process of implementing TQM practices.

Corresponding author's email address: azizniazi@uet.edu.pk
Recommended citation: Niazi, A. A. K., Qazi, T. F. and Sandhu, K. Y. (2019). Uncovering the Myths of TQM in Readymade Garment Sector of Pakistan: An Interpretive Structural Modeling Approach. Review of Economics and Development Studies, 5 (3), 531-540
DOI: 10.26710/reads.v5i3.717

1. Introduction

In the era of Generalized System of Preferences (GSP) Plus regime, quality of product and services is the most important aspect for the growth of an organization. Total Quality Management (TQM) is one of the most important and popular management concepts, invented by Americans for quality control in production but ultimate results were witnessed in Japan. This term has passed through various phases since 1920s from quality control to modern term TQM. It is a quest for continuous improvement and from its inception, quality control managers are struggling to adopt quality management practices to reap its benefits (Fundin et al. 2018). Pakistan is lagged behind as far as TQM implementation is concerned. Pakistan is now trying to embark on implementation of modern TQM regime.

Anecdotal evidences can be found for implementation of TQM in Pakistan haphazardly. Despite of abundant resources being utilized in readymade garments sector, implementation of TQM to get maximum benefits are far below from the international standards. Change of mindset and change of culture if not conducive, implantation of TQM principles becomes difficult in this regard (Haffar et al. 2016).

Emerging digital economy and globalization urge organizations to adopt various methods to enhance organizational performance. TQM is an important tool, which is widely used by both manufacturing and service industry to expedite not only performance of organization (Anil & Satish, 2016; Bajaj et al. 2018) but also performance of employees (Psomas & Jaca, 2016). Most of the organizations are not fully aware of advantages of TQM as it supports wider range that includes leadership, customer satisfaction, and employee engagement, continuous process improvement, supplier partnership and performance measures (Jaeger & Adair, 2016). Their focus towards implementation of TQM to get desired standards is required. Hence, lack of awareness of system up-gradation results into low productivity and reworks following-on into high cost of products and services. Keeping in view importance of TQM, companies are required to get full benefit out of it by implementing TQM practices in true spirit. There is a consensus that implementation of TQM process is central to long-term success of organization. Having said that, less attention has been devoted to examining the challenges faces to implement TQM in readymade garments. This research is aimed to explore literature on readymade garments rather rigorously and provide insight of challenges faced by readymade garment industry of Pakistan for implementation of TQM principles.

2. Literature Review

Industries in Pakistan are facing major pressures of incorporating quality practices in their systems. Following relevant studies have been carried out in different sectors of Pakistan: Fatima and Ahmad (2005) have emphasized that Pakistan readymade garment industry needs to pay attention in adopting advanced quality management practices if they want to remain viable. Though quality is a critical success factor, Pakistan's knitwear industry has yet to be traversed to incorporate quality philosophy as a part of business strategy (Fatima & Ahmad, 2006). Aswan et al. (2009) explored that top management is not committed in implementing TQM; they have further concluded that process design is the most critical success factor in implementation of TQM in pharmaceutical companies of Pakistan. Kurehsi et al. (2010) have found a significant gap between knowledge of current quality management techniques and their usage by entrepreneurs of service sector SMEs of Pakistan. In connection to service sector, Khan (2011) study has identified barriers in implementing TQM in service organization in Pakistan. Mahmood et al. (2014) have conceived a model by taking nine factors (i.e. top management support, quality information availability, quality information usage, employee training, employee involvement, product/process design, supplier quality, customer orientation and factual approach to decision making) wherein the performance of Pakistani aviation manufacturing industry has been measured through TQM. Arshad and Su (2015) have identified significant positive impact of TQM implementation on service quality and service innovation in the Pakistan's financial service firms. Both public and private sector hospitals of Pakistan provide good service quality that ensures patients loyalty but private sector hospitals are more efficient than public sector hospitals because of good management and financial policies (Shabbir et al. 2016). Fahim et al. (2017) have concluded that construction industry of Pakistan is struggling to implement six-sigma as it is functioning in traditional way. Iqbal and Asrar-ul-Haq (2017) have concluded that knowledge sharing plays a mediating role between TQM practices and employee performance of Pakistani software houses. Similarly, Iqbal and Asrar-ul-Haq (2018) found the positive significant relationship between TQM practices and performance of employees of software houses of Pakistan.

Without top management commitment, implementation of TQM practices and desired results can never be achieved. Using ISM, a six-level model has been conceived by Veltmeyer and Mohamed (2017) and among sixteen TQM variables, top management commitment was found to be the most influential variable. Along with top management commitment, empirical study has also found leadership as the most important factor in implementing TQM philosophy in healthcare sector of Palestine. Among various factors, the highest level of TQM implementation is realized with the leadership factor (Baidoun et al., 2018). Joiner (2007) argued that competitive advantage of an organization is based on fulfilling the need of a customer. TQM has emerged as a management approach focused on customer satisfaction and geared toward the improved organization performance. Banuro et al. (2017) proposed a framework that guides the companies to imply the quality of product and service in order to achieve competitive advantage and exceed customers' expectation. Guiding framework requires awareness among the complete workforce of an organization. There are different models available like Juan (1993) etc. that can be taken to develop and implement the framework. A formal strategic planning requires clear vision with explicit

process and rules for generating alternative strategies to monitor and control mechanism of all the activities that will bring a positive change for future growth and development. In connection to the findings presented aforementioned, Baidoun et al. (2018) also provided the evidence of strategic planning gains 64.4% of weightage in successful implementation of TQM. Rules of behavior are being supported by an organizational culture and composed of collective believes, norms and values. It is evident that the business performance is positively correlated with TQM organizational culture (Fu et al. 2015). Supportive culture for quality management is always the key element for continuous improvement of business performance (Panuwatwanich & Nguyen, 2017). Inadequate knowledge of TQM practices leads towards improper planning, confusion among management, and inadequate support to management, lack of full implementation, etc. Based on the findings of Honarpour et al. (2017), knowledge management and TQM are positively associated with each other, improvement in one construct leads to improvement in other construct Finding of Ooi (2014) revealed that TQM practices such as HRM and strategic planning have significant impact on knowledge management like knowledge acquiring, sharing and its application. Company resources are combination of tangible and intangible resources and absence or weak support results into low quality and low productivity. With respect to financial resources, it has its own importance and without proper support and availability of financial resources, tangible and intangible assets both are being affected by the same. Mosadeghrad (2014) paper reports the findings that inadequate resources are one of the major reasons of failure of implementation of Temin, the era of fast growing technology, biggest challenge to organizations is change management. Commitment and will of the leader to change the culture and mind set of people by providing them guidelines is the need of the present era. The change can be welcomed by employees through development of culture of accepting change from the leadership (Van Rossum et al. 2016) and communicating the benefits this change will bring along with it. Silva et al. (2014) asserted that TQM culture has direct influence on process improvement. Jaeger and Adair (2016) study reveals the perceived benefits of TQM when deploy in true spirit. Iqbal and Asrar-ul-Haq (2018) measured the mediating role of change readiness of employees between TQM and employees' performances. TQM is a vision and that can only be achieved by developing and implementing qualitative long and short-term plans that finally meet the company objectives. Successful implementation of quality management systems demand clarity in vision followed by plans in a consistent manner till the objectives are accomplished (Kumar et al. 2018). Confrontational environment of an organization results into the lack of trust among management and workers of an organization. Prevailing distrust deteriorates any system to perform. In this regard, Bugdol (2013) has proposed three methods of trust development in TQM context namely: applying the key elements of TQM, consider the value systems of the organization and applying trust. Training and education with respect to the TQM is actually different from traditional types of trainings. Traditional types of trainings are based on specific topics. On the other hand, trainings required for TQM are based on philosophy of continual improvement. Empirical evidence provides the evidence of a decline in TQM because of many tools; methods and practices are not incorporated into the automated TQM systems (Bernardino et al., 2016). It further probes the reasons that adequate trainings are no longer prevalent which has stopped circulating the TQM practices. For implementation of TQM, there is need to engage the entire workforce supported with organizational operations to achieve high process quality. Proper system to initiate the TQM activities ensures the engagement of workforce which begets the quality results. To speed up the performance and to establish transparency, benchmarking has been proved to be a strategic tool to find gaps for an organization (Braadbaart, 2007). To achieve this purpose a performance quality management system must be developed which ensures the quality performance is measured against the set standard and take further necessary action if deviates. Sweis et al. (2016) reveal that leadership and top management commitment play a pivotal role towards performance improvement by benchmarking of TQM practices. To get supreme advantages from TQM, there is need to allocate reasonable and required budget for up gradation of system as well as human resource. Investing in staff to develop their skills and hands on with the requirements of TQM system is indispensable to get explicit benefits of TQM implementation. Jaeger and Adair (2016) based on their study of perception of TQM benefits, practices and obstacles in Kuwait, derived the result that lack of resources is the most important obstacle in TQM implementation.

Without specific and targeted objectives, training designed for TQM or any other area results into wastage of time and money. Similarly, in developing countries, consultancies and trainings for some advanced TQM practices cost very high. Khanna and Gupta (2014) have developed a competency-based training module that comprises of 15 competencies for the success of 5'S' and TQM implementation. Fair performance measurement criteria, reward and recognition have always been proved a strong tool to motivate company employees for better performance. Reward system enhances the effectiveness of TQM (Allen and Kilmann, 2001). In connection to this, it is also evident that perceiving fair incentive and reward system encourages employees to put extra effort in success of implementing

TQM practices (Haffar et al., 2016). Barriers between departments result into the slowing down of sharing of information and finally delays in production process. In this context, team plays a pivotal role and teamwork is the most influential TQM practice and it has a significant impact on organization performance (Qasrawi et al. 2017). They have also found that, comparing any other TQM practices, teamwork more positively influenced knowledge acquisition and knowledge sharing. In addition to this there is strong relationship among knowledge sharing and quality management (Hamdounet et al. 2018). TQM practices can only be successful, if the organization is able to develop an initial impression of perceived worth in the mind of its employees. Therefore, TQM should perceive the practices of continuous improvement and learning that fosters the development which requires accumulation of organizational capabilities through its employees (Garcia-Sabater et al. (2016) is also pertinent to mention here that CSR should be embedded in the mind of the employees as it is significantly connected with the quality management and in turn it has a positive relationship with the business performance.

Same constructs have also been investigated and the findings revealed that the implementation of TQM and CSR influence the hotel industry in Spain (Benavides-Velasco et al. 2014). Flexible environment gives the opportunity of discussion and sharing of ideas which leads to clarity in organization vision and strategic goals. On the other hand, organizations having bureaucratic management style and tight control of management over employees, suppresses the creative abilities of employee resulting into tough environment. Enhancing employees' autonomy and encourage them to share their opinion is extremely important for innovation and improved quality performance (Hung et al. 2011). TQM leaders believe that value addition in process is everyone's responsibility which cannot be achieved in screwed environment (Kumar & Sharma, 2017).

Modern Technology has brought robust change in the manufacturing process resulting into robust increase in production process. Even latest technology has become the competitive advantage of 21st century organizations. Ferdousi et al. (2018) have found a positive relationship of Information Technology (IT) with TQM adoption. Study further reveals that developing IT infrastructure ensures the quality products and services which leads to competitive advantage of the organization. New technology deployment reduces the cost of production with better quality product (Junior et al. 2014). Another findings revealed that technology transfer alone cannot improve the quality performance unless the deployment of TQM (Bolatan et al. 2016). Above representation of literature clearly underpins twenty challenges are critical to TQM (Table 1).

Table 1: List of TQM Challenges

	Influencing Factors
1	Inadequate Knowledge of TQM
2	Lack of Guiding Framework for TQM
3	Inability to Change Organizational Culture
4	Lack of Formalized Strategic Plan for Change
5	Lack of Continuous Training and Education
6	Resistance to Change
7	Lack of Evaluation Procedures and Benchmark Indices
8	Lack of Reward and Recognition
9	Lack of Support
10	Bureaucratic Organizational Structure
11	Obsolete Technology
12	Coordination Barriers among Departments
13	Lack of Top Management Commitment
14	Lack of Effective Measurement Criteria
15	Lack of Leadership
16	Lack of Employee Trust in Senior Management
17	Lack of Consistency of Purpose
18	Training With no Purpose
19	Lack of Customer Focus
20	Lack of Resources

3. Methodology

It is an exploratory study that follows qualitative paradigm of research. It used classical methodology of Interpretive Structural Modeling (ISM) in combination with Matriced' Impacts Croise's Multiplication Appliquée a UN Classement (MICMAC) analysis as methodological choice. Primary data has been collected from a homogeneous medium sized panel of experts from readymade garments industry of Pakistan. The panel comprised of sixteen experts having experience of more than ten years concerning the implementation of TQM practices. The data was collected according to classical procedure used in ISM studies. Standard procedure of ISM and MICMAC was applied and ISM Model (Figure 1) and driving-dependence diagram (Figure 2) have been prepared.

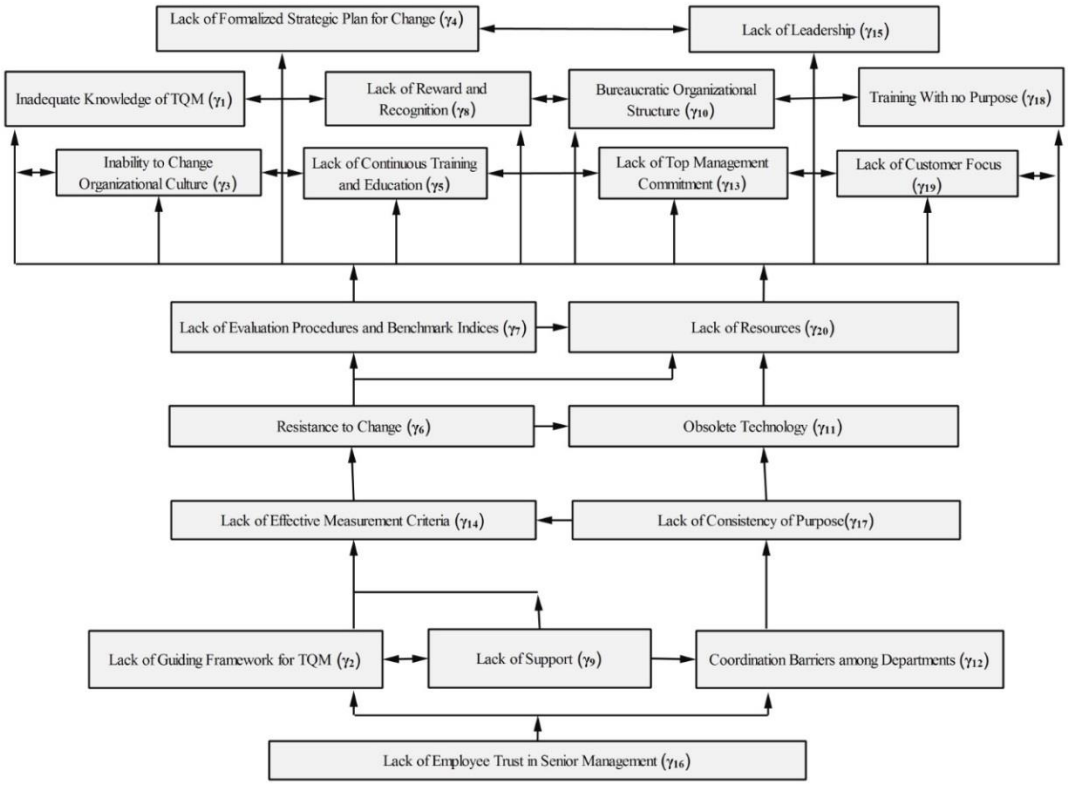

Figure 1: ISM Model

ISM model (Figure 1) shows that lack of employee trust in senior management is the most significant factor since it occupies bottom level. It should attract maximum attention of the management to implement TQM practices. This is a challenge that has powerful effect on other counterparts. Lack of guiding framework for TQM, lack of support and coordination barriers among departments have lesser severity than that of level-1 but still have moderate severe effect on other levels. Challenges like: lack of effective measurement criteria, lack of consistency of purpose, resistance to change, obsolete technology, lack of evaluation procedures and benchmark indices and lack of resources have fairly moderate linking role. Whereas all other factors fall on top level and are necessarily less severe as compare to lower levels.

3.1 MICMAC Analysis

MICMAC is analysis of driving and dependence power of the factors. Driving power has been plotted on the continuum of y-axis (i.e. weak to strong) whereas dependence is plotted on x-axis (i.e. weak to strong). MICMAC analysis has been divided into four quadrants (i.e. autonomous, independent, linkage and dependent). The factors have therefore been shown on the co-ordinates of driving and dependence to strike classification and relevant quadrant.

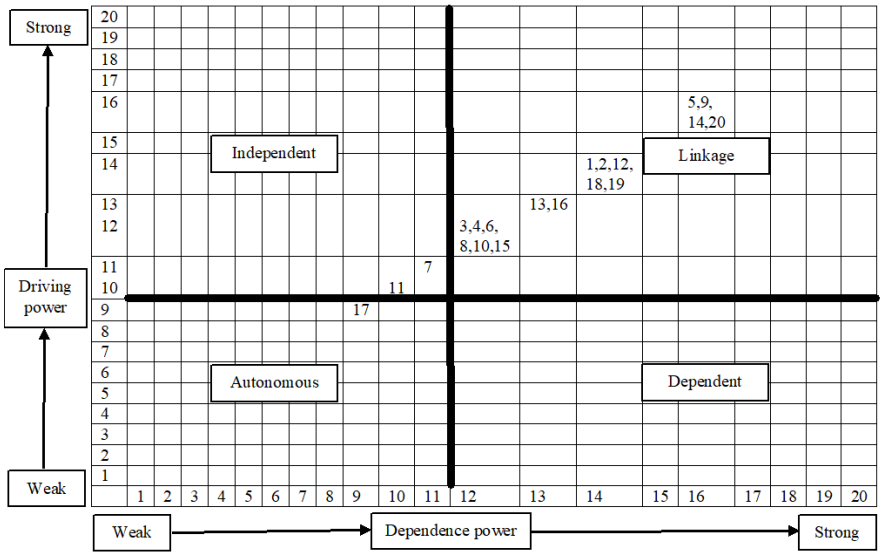

Figure 2: Driving-Dependence Diagram

Autonomous: These factors are relatively disconnected from the system. Barrier 17 falls in the first quadrant representing autonomous which has weak dependence and weak driving power.

Independent: These factors have high driving power and weak dependence. There are two factors i.e. 7 and 11 fall in second quadrant representing independent.

Linkage: These factors are linking factors in the model. They have high dependence and high driving power and they are relatively unstable and change in these factors causes corresponding change in other factors as well as a feedback change in them-selves. This quadrant contains: 1, 2, 3, 4, 5, 6 8, 9, 10, 12, 13, 14, 15, 16, 18, 19 and 20.

Dependent: These factors have high dependence but low driving power. In Figure 2 there is no such factor appearing in quadrant namely dependent. That necessarily means, there is no clear cut dependent factor, however, factors 5, 9, 14 and 20 have high dependence power but since they also have high driving power as well therefore appear in linkage quadrant.

4. Discussion and Conclusion

ISM model provides the hierarchy of the factors which need to be analyzed. Lot of research has been surpassed on identification and hierarchicalization of barriers in implementation of TQM practices using ISM. The barriers which have not been addressed previously and incorporated in this study are: inadequate knowledge of TQM, lack of continuous training and education, lack of support, bureaucratic organizational structure, obsolete technology, lack of employee trust in senior management, lack of consistency of purpose and training with no purpose. Previous studies (Table 2) conclude that lack of top management commitment is the most critical barrier in implementation of TQM practices in diverse organizations that urges much attention of the TQM practitioners to underpin this issue. However, in this study, the ISM model ranks lack of employees trust in senior management as the most crucial factor in implementation of TQM practices in readymade garment industry of Pakistan.

Table 2: Comparison of Results with Previous Studies

Research Studies	Focus of Study	Technique Applied	Number of Factors	Findings of the Study
Study in hand	Challenges faced by TQM practitioners in readymade garment industry of Pakistan to implement TQM practices	ISM	20	Lack of employee trust in senior management
Muruganantham et al. (2018)	Barriers to implement TQM practices in automotive sector of India	ISM	21	Lack of top management commitment

Veltmeyer & Mohamed (2015)	Structural inter-relationships among TQM variables	ISM	16	Top management commitment
Mehta et al. (2014)	TQM implementation in engineering education in India	ISM	13	Quality mission and vision statement
Talib et al. (2011a)	TQM practices in service sector in India	ISM	17	Top management commitment
Talib et al. (2011b)	Barriers to TQM implementation	ISM	12	Lack of top management commitment

TQM has become very important factor which can dictate the fate of the organizations in today's complex world. The aim of this study is to investigate the challenges faced by implementers of TQM practices in real world particularly that of readymade garment industry of Pakistan. The study is envisaged on thorough review of literature and ISM method in combination with MICMAC analysis. Findings of the study revealed that lack of employee trust in senior management is the most critical challenge to be addressed that occupies bottom of the model. Lack of formalized strategic plan for change and lack of leadership occupy highest position in the model hence attracts least attention. All other factors lie in between bottom and the top having different vitality on the continuum of preference. MICMAC analysis revealed that lack of consistency of purpose is autonomous, lack of evaluation procedures and benchmark indices and obsolete technology are independent and all other challenges fall in linking quadrant. Whereas no such challenge is exclusively categorized as dependent, however, most of the linking factors have high degree of dependence as well. Results of the study are very much aligned to the results of the previous studies including: Talib et al. (2011b) wherein the focus of study was barriers of TQM implementation and Muruganantham et al. (2018) wherein focus of study was barriers of TQM practice in the automotive sector. The study has contributed an ISM model towards the body of knowledge. It also contributed valuable insight by way of uncovering the direct and indirect relations among different factors of TQM and classifying them on the basis of driving and dependence power. It is useful for management of the companies, TQM managers and policy makers of quality management. This empirical investigation will help individuals and firms associated with readymade garments and textile industry to set priorities in TQM. As a way forward, if TQM challenges are addressed and properly implemented can ensure management to successfully implement TQM practices. Moreover, TQM implementation will bring a sound contribution to the readymade garment industry of Pakistan. This study is subject to limitation like data collection from one city of Pakistan that represented a particular segment. Therefore, it would be worth examining to the other sectors with the same setting to strengthen the generalizability of the findings. The study can act as a catalyst for future researchers and future research could employ longitudinal design to comprehend the change in perceived challenging factors in implementation of successful TQM practices in readymade garment industry.

References

Allen, R. S., & Kilmann, R. H. (2001). The role of the reward system for a total quality management based strategy. Journal of Organizational Change Management, 14(2), 110-131.

Anil, P. A., & Satish, K. P. (2016). Investigating the relationship between TQM practices and Firm's performance: A conceptual framework for Indian organizations. Procedia Technology, 24(3), 554-561.

Arshad, A. M., & Su, Q. (2015). Role of total quality management in service innovations: An empirical study of Pakistan's financial services firms. The Journal of Applied Business Research, 31(3), 274-295.

Awan, M. U., Raouf, A., Niaz Ahmad, N., & Sparks, L. (2009). Total quality management in developing countries: A case of pharmaceutical wholesale distribution in Pakistan. International Journal of Pharmaceutical and Healthcare Marketing, 3(4), 363-380.

Baidoun, S. D., Salem, M. Z., & Omran, O.A. (2018). Assessment of TQM implementation level in Palestinian healthcare organizations: The case of Gaza Strip hospitals. The TQM Journal, 30(2), 98-115.

Bajaj, S., Garg, R., & Sethi, M. (2018). Total quality management: A critical literature review using Pareto analysis. International Journal of Productivity and Performance Management, 67(1), 128-154.

Banuro, F. Y., Ntiri-Ampomah, A., & Banuro, J. K. (2017). Contradictions in TQM implementation: A proposed balance from the Ghanaian perspective. The TQM Journal, 29(4), 564-578.

Benavides-Velasco, C. A., Quintana-García, C., & Marchante-Lara, M. (2014). Total quality management, corporate social responsibility and performance in the hotel industry. International Journal of Hospitality Management, 41, 77-87.

Bernardino, L. L., Teixeira, F., Jesus, A. R., Barbosa, A., Lordelo, M., & Lepikson, H. A. (2016). After 20 years, what has remained of TQM? International Journal of Productivity and Performance Management, 65(3) 378-400.

Bolatan, G. I. S., Gozlu, S., Alpkan, L., & Zaim, S. (2016). The impact of technology transfer performance on total quality management and quality performance. Procedia-Social and Behavioral Sciences, 235, 746-755.

Braadbaart, O. (2007). Collaborative benchmarking, transparency and performance: Evidence from The Netherlands water supply industry. Benchmarking: An International Journal, 14(6), 677-692.

Bugdol, M. (2013). Selected proposals and possibilities of trust development within the TQM concept. The TQM Journal, 25(1), 75-88.

Fahim-U., Thaheem, M. J., Siddiqui, S. Q., & Khurshid, M. B. (2017). Influence of Six Sigma on project success in construction industry of Pakistan. The TQM Journal, 29(2), 276-309.

Fatima, M., & Ahmad, E. (2005). Quality management in Pakistan's readymade garments industry. Quality Engineering, 17(3), 459-65.

Fatima, M., & Ahmad, E. (2006). Quality management in Pakistan's knitwear industry. Quality engineering, 18(1), 15-22.

Ferdousi, F., Baird, K., Munir, R., & Su, S. (2018). Associations between organizational factors, TQM and competitive advantage: Evidence from an emerging economy. Benchmarking: An International Journal, 25(3), 854-873.

Fu, S. L., Chou, S. Y., Chen, C. K., & Wang, C. W. (2015). Assessment and cultivation of total quality management organizational culture - An empirical investigation. Total Quality Management & Business Excellence, 26(1-2), 123-139.

Fundin, A., Bergquist, B., Eriksson, H., & Gremyr, I. (2018). Challenges and propositions for research in quality management. International Journal of Production Economics, 199, 125-137.

Garcia-Sabater, J. J., Marin-Garcia, J. A., & Perello-Marin, M. R. (2012). Is implementation of continuous improvement possible? An evolutionary model of enablers and inhibitors. Human Factors and Ergonomics in Manufacturing & Service Industries, 22(2), 99-112.

Haffar,M., Al-Karaghouli, W., Irani, Z., Djebarni, R., & Gbadamosi, G. (2016). The influence of individual readiness for change dimensions on quality management implementation in Algerian. International Journal of Production Economics, 207, 247-260.

Hamdoun, M., Jabbour, C. J. C., & Othman, H.B. (2018). Knowledge transfer and organizational innovation: Impacts of quality and environmental management. Journal of Cleaner Production, 193, 759-770.

Hogarth, R. M. (1978). A note on aggregating opinions. Organizational Behavior and Human Performance, 21, 40-46.

Honarpour, A., Jusoh, A., & Long, C.S. (2017). Knowledge management and total quality management: A reciprocal relationship. International Journal of Quality & Reliability Management, 34(1), 91-102.

Hung, R. Y. Y., Lien, B. Y-H., Yang, B., Wud, C-M., & Kuo, Y-M. (2011). Impact of TQM and organizational learning on innovation performance in the high-tech industry. International Business Review, 20(1), 213-225.

Iqbal, A., & Asrar-ul-Haq, M. (2017). An empirical investigation on TQM practices and knowledge sharing mediation in software industry. The TQM Journal, 29(5), 725-743.

Iqbal, A., & Asrar-ul-Haq, M. (2018). Establishing relationship between TQM practices and employee performance: The mediating role of change readiness. International Journal of Production Economics, 203, 62-68.

Jaeger, M., & Adair, D. (2016). Perception of TQM benefits, practices and obstacles: The case of project managers and quality management representatives in Kuwait. The TQM Journal, 28(2), 317-336.

Joiner, T. A. (2007). Total quality management and performance: The role of organization support and co-worker

support. International Journal of Quality & Reliability Management, 24(6), 617-627.

Jung, D. I., & Lee, H.W. (2016). Crossing the management fashion border: The adoption of business process reengineering services by management consultants offering total quality management services in the United States, 1992–2004. Journal of Management and Organization, 22(5), 281-298.

Junior, M. V., Lucato W. C., & Vanalle R. M. (2014). Effective management of international technology transfer projects Insights from the Brazilian textile industry. Journal of Manufacturing Technology Management, 25(1), 69-99.

Khan, M. A. (2011). An empirical study of barriers in implementing TQM in service organizations in Pakistan. Asian Journal of Business Management Studies, 2(4), 155-161.

Khanna, V. K., & Gupta, R. (2014). Comparative study of the impact of competency-based training on 5 "S" and TQM: A case study. International Journal of Quality & Reliability Management, 31(3), 238-260.

Kumar, V., & Sharma, R. R. K. (2017). Relating management problem-solving styles of leadersto TQM focus: an empirical study. The TQM Journal, 29(2), 218-239.

Kumar, P., Maiti, J., & Gunasekaran, A. (2018). Impact of quality management systems on firm performance. International Journal of Quality & Reliability Management, 35(5),1034-1059.

Kureshi, N., Qureshi, F., & Sajid, A. (2010). Current health of quality management practices in service sector SME: A case study of Pakistan. The TQM Journal, 22(3), 317-329.

Mahmood, K., Mahmood, I., Qureshi, A., & Nisar, A. (2014). An empirical study on measurement of performance through TQM in Pakistani aviation manufacturing industry. International Journal of Quality & Reliability Management, 31(6), 665-680.

Mehralian, G., Nazari, J. A., Zarei, L., & Rasekh, H. R. (2016). The effects of corporate social responsibility on organizational performance in the Iranian pharmaceutical industry: The mediating role of TQM. Journal of Cleaner Production, 135(1), 689-698.

Mehta, N., Verma, P., & Seth, N. (2014). Total quality management implementation in engineering education in India: An interpretive structural modelling approach. Total Quality Management & Business Excellence, 25(1-2), 124-140.

Mosadeghrad, A. M. (2014). Why TQM programs fail? A pathology approach. The TQM Journal, 26(2), 160-187.

Muruganantham, G., Vinodh, S., Arun, C. S., & Ramesh, K. (2018). Application of interpretive structural modelling for analyzing barriers to total quality management practices implementation in the automotive sector. Total Quality Management & Business Excellence, 29(5-6), 524-545.

Ooi, K. B. (2014). TQM: A facilitator to enhance knowledge management? A structural analysis. Expert Systems with Applications, 41(11), 5167-5179.

Panuwatwanich, K., & Nguyen, T. T. (2017). Influence of Total Quality Management on performance of Vietnamese Construction Firms. Procedia Engineering, 182, 548-555.

Psomas, L. E., & Jaca, C. (2016). The impact of total quality management on service company performance: evidence from Spain. International Journal of Quality and Reliability Management, 33(3), 380-398.

Qasrawi, B. T., Almahamid, S. M., & Qasrawi, S. T. (2017). The impact of TQM practices and KM processes on organizational performance: An empirical investigation. International Journal of Quality & Reliability Management, 34(7), 1034-1055.

Shabbir, A., Malik, S. A., & Malik, S. A. (2016). Measuring patients' healthcare service quality perceptions, satisfaction, and loyalty in public and private sector hospitals in Pakistan. International Journal of Quality & Reliability Management, 33(5), 538-557.

Silva, G. M., Gomes, P. J., Lages, L. P., & Pereira, Z. L. (2014). The role of TQM in strategic product innovation: an empirical assessment. International Journal of Operations & Production Management, 34(10), 1307-1337.

Sweis, R. J., Saleh, F. I. M., Dahiyat, S. E., Sweis, N. J., Saleh, R. A., & Diab, H. (2016). Benchmarking of TQM practices in INGOs: A literature review. Benchmarking: An International Journal, 23(1), 236-261.

Talib, F., Rahman, Z., & Qureshi, M. N. (2011a). An interpretive structural modelling approach for modelling the

practices of total quality management in service sector. International Journal of Modelling in Operations Management, 1(3), 223–250.

Talib, F., Rahman, Z., & Qureshi, M. N. (2011b). Analysis of interaction among the barriers to total quality management implementation using interpretive structural modelling approach. Benchmarking: An International Journal, 18(4), 563-587.

Van Rossum, L., Aij, K. H., Simons, F. E., Van der Eng, N., & Ten have, W. D. (2016). Lean healthcare from a change management perspective: The role of leadership and workforce flexibility in an operating theatre. Journal of health organization and management, 30(3), 475-493.

Veltmeyer, J., & Mohamed, S. (2017). Investigation into the hierarchical nature of TQM variables using structural modeling. International Journal of Quality & Reliability Management, 34(4), 462-477.