

The Moderating Effect of Organizational Climate on the Relationship Between of Total Quality Management (TQM) on Organisational Sustainability: The Case of the Hotel Industry in Saudi Arabia

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Abstract: This study aimed to investigate the moderating impact of organizational climate on the Total Quality Management (TQM) organizational sustainability relationship in the context of the Saudi hotel industry firms. It also aimed to examine the direct relationship between TQM and organizational sustainability. The sample of the study consisted of 204 middle managers working in 932 hotels located in five Saudi cities namely Mecca, Madinah, Riyadh, Jeddah and the Eastern Province. After collection, data was analyzed with the help of Partial Least Squares (PLS) structural equation modeling. Based on the obtained analysis results, a positive and significant relationship was found between TQM and organizational sustainability indicating support for H₁, and a positive and significant moderating effect exists from organizational climate on the relationship between TQM and organizational sustainability in the context of the Saudi hotel industry firms. Some suggestions for the further extension of the study were provided at the end.

Key words: Total Quality Management (TQM), organisational climate, organisational sustainability, UUM, support

INTRODUCTION

The sustainability concept has garnered increasing attention in the past few decades in the community of global investment in varying industrial and service fields. In the context of the hotel industry, the past several decades have witness increasing awareness among investors and hotel management concerning the environmental and social impacts of the development and operations of hotels to the point where issues of sustainability have spread throughout the hospitality industry. This has been brought about by several factors like the owners and operator's inclination towards minimizing operational costs, transformation of investor attitudes towards the environment that coincides with rising corporate and social responsibility programs increased regulations on facility operations and development and a move towards a sustainability paradigm (Goldstein *et al.*, 2012).

Almost all aspects of hotel ownership and management are touched by issues of sustainability and

as such, this requires the consistency between environmental, social and financial factors for the promotion of responsible business operations in the long run. Although there is a lack of clear and universally acknowledged metrics, a notable shift towards sustainability is going on, driven by the increasing number of sustainability programs and initiatives that have proposed in the hospitality industry (through hotel owners, managers and operations) coupled with those of the environmental community.

Majority of prior studies that focused on TQM practices and organizational stability are of Western researchers and contexts with both developing and emerging nations left almost untouched as evidenced by Johnston (2007). He further stated that literature focused on the topic has been contributed by Western researchers and those from developed nations. Therefore, in this study, the researcher attempts to minimize the gap in literature by examining the relationship between TQM and organizational sustainability in the Saudi context, a developing and emerging nation.

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Literature review and hypotheses development

Total Quality Management (TQM) on organisational sustainability: Several researchers consider the concept of sustainability as one that is debatable, controversial and ambiguous although, majority of them agree that sustainability is considered as the ability or capacity to survive (Broekhuis and Vos, 2003; Giannetti *et al.*, 2010; Geels, 2010). More specifically, the relationship between sustainability and development concept is a new archetype of social, environmental and economic development that has spread around the globe in the current times (Brundtland, 1987).

According to Dyllick and Hockerts (2002) organizational sustainability is the capacity of firms to use their economic, social and environmental capital to contribute to sustainable development. Nevertheless, although the emerging notion of sustainability has arisen, the understanding of how to achieve it is still elusive (Mohrman and Worley, 2010). The lack of understanding on this achievement could be attributed to the lack of studies focused on the construct and on the factors that influence it (Mohrman and Worley, 2010).

As for TQM, it is viewed in light of the quality management principles application to the different levels and aspects of the firm (Dale, 2003). It entails a managerial system that covers all the tools and methods (Hellsten and Klefsjo, 2000) and it reduces and preserves resources as its major objective. This in turn relates it to organizational sustainability. It is thus crucial to emphasize that TQM should be referred to as an organizational value that encapsulates the cultural settings as well Hellsten and Klefsjo (2000) assignment of such value differs throughout scholarships.

Added to the above, TQM brings about the combination of the entire organizational efforts that is directed towards quality improvement, quality development and quality maintenance to achieve full customer satisfaction at different levels. It improves work quality and employee satisfaction through their involvement which consequently leads to building a good reputation for the company in the eyes of the customers and the public at large (Yusuf *et al.*, 2007). This reputation can be enhanced when the company takes part in community activities to improve the people's welfare and to sustain the environment. Developing on the guiding theory (Barney, 1991), the researcher proposes the following;

- H_1 : Total Quality Management (TQM) is positively associated with organizational sustainability

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behavior researchers have long been concerned with enhancing the understanding of employee-based perceptions of the working environment and the manner in which these perceptions affect work-based behaviors as well as attitudes. Pioneering studies reported that the surrounding of the workplace have significant outcomes on the employee-based perceptions as it was said to affect the level to which people take part in TQM practices perform superiorly and in turn, it impacts organizational sustainability (Likert, 1997; Gregor, 2000). Organizational climate is a construct that has been examined thoroughly and has been proven time and again to be useful in obtaining perceptions regarding the context of the workplace (Denisson, 2006; Ostroff *et al.*, 2003). Organizational climate is referred to as the experiential-based description of the workplace environment, the employee-based perceptions of policies (informal and formal), procedures and practices within the firm (Schneider, 2008).

Other studies like Hellriegel and Slocum (1974) and James differentiated between organizational and psychological climate. Psychological climate is in effect the individual's perceptions of his workplace environment at the individual level while organizational climate is a unit-level construct where personnel within an organization agree as to the general perceptions of the workplace (Joyce and Slocum, 1984). Several studies revealed that organizational climate have a critical moderating role on the new practices, (e.g., TQM) outcome (Ostroff *et al.*, 2003).

More and more studies are focusing on the index that reflects a strategic climate- climate addressing safety or on the designation of a set of climate-based dimensions (Ostroff *et al.*, 2003). By examining only a single dimension or a set of dimensions in the climate could overlook the broader setting within which they operate. This is why the multiple dimensions of the climate as a system have to be taken in its entirety. It is highly possible that organizational attributes could assist one another to make the overall effect of TQM more significant on sustainability when consider the impact of such attributes (Bowen and Ostroff, 2004).

More specifically, the first approach views organizational climate as a part of the perception of the individual integrated with the cognitive representation of the workplace-in that organizational climate is considered as the manifestation of the perceptions of the personnel at the individual level. The second approach considers the significance of the combined perceptions as the center of organizational climate (Whitley, 2002).

According to Wolpin *et al.* (1999) organizational climate is the shared perception of the status quo under the settings of the organization. In sum organizational

climate is a basic force in the context of any organization and it offers directions for examining organizational behavior, enabling researchers to study individual and group behaviors (Asif, 2011; Denison, 1996; Ostroff *et al.*, 2003). It is attributed with a specific moderating influence where the construct is able to change the relationship between strategic practices and aims (TQM and organizational sustainability) (Vartia, 1996; Bartram *et al.*, 2002) the researcher proposes the following hypothesis:

- H₂: Organizational climate moderates the relationship between TQM and organizational sustainability

MATERIALS AND METHODS

Research method and the study model: The study comprises of two major variables namely independent and dependent ones. TQM is the independent variable that manifests in the hospitality industry in Saudi Arabia's tourism sector, while organizational sustainability is the dependent one.

The study sample is represented by 20% of the total number of Saudi hotels (186 hotels)-a percentage obtained from the study conducted by Bartlett *et al.* (2001) who contended that 20% of the total number of population is sufficient to represent it. The current study sample size numbered 204 indicating that it is sufficient for factor analysis.

As for the measurement of constructs, forty one items were adopted to measure TQM from Kumar *et al.* (2011), Demirbag *et al.* (2006) and Prajogo and Sohail (2004). Meanwhile, organizational stability is measured by seven items adopted from Stettler and organizational climate is measured by fifteen items adopted from Suarez *et al.* (2013).

RESULTS AND DISCUSSION

Data analysis and results: In the present study, data was described and analyzed through the use of IBM SPSS to test the hypotheses.

Descriptive statistic: The results of the descriptive statistics obtained from running the continuous variables in SPSS, Version 22 are listed in Table 1 and they comprise of the values of mean, standard deviation, minimum and maximum.

Testing the normality of the error terms: To explain normality, the symmetrical curve with the highest

Table 1: Descriptive statistics of continuous variables

Variables	N	Min	Max	Mean	SD
Total Quality Management (TQM)	204	1.000	6.000	4.922	0.957
Organisational Climate (COCLIM)	204	1.400	6.000	4.944	1.011
Organisational Sustainability (COSUS)	204	1.667	6.000	4.899	1.042

frequency of squares found on the extremes of small and medium frequencies are known as normality (Pallant, 2010). In this regard, the normal distribution of scores of both the independent and dependent variables can be examined by focusing on the values of their skewness and kurtosis (Kline, 1998; Pallant, 2010). In the field of social science, the constructs characteristics have numerous scales and measures that may be positively or negatively skewed (Pallant, 2010). On the other hand, kurtosis is the score of measurement describing the distribution level of observations around the mean.

As for the values of skewness, the scores ranging from +1 to -1 are considered significantly skewed based on the criteria established by Hair *et al.* (2007). However, Kline (1998)'s criteria states that values of skewness should fall between +3 and -3 in order to be considered acceptable. Considering the above two criteria, the skewness values of this study satisfies that of Kline (1998)'s criteria but not those of Hair *et al.* (2007).

With regards to the kurtosis values, Coakes and Steed (2003) established the criteria to be between +3 and -3 to be acceptable. However, the values of kurtosis in the present study fell out of this range and therefore, skewed data is addressed by the researcher by employing SPSS as suggested by Chin (1998) (Table 2).

Correlation analysis: The summary of the results of the correlation analysis is presented in Table 3. From the Table 3, it can be seen that the correlation results remained under 0.90 and thus, they satisfy the recommendations laid down by Gujarati and Porter (2009) who stated in order for the multicollinearity issue not exist, the correlations should not exceed 0.90. With regards to the variables tolerance values (Table 4), their average is 1 whereas the VIF values all meet the criterion provided by Hair *et al.* (2010). In sum, both VIF and tolerance values of the variables fall within the acceptability range indicating the absence of the issue of multicollinearity.

Regression results of model (based on organisational sustainability): The outcome of the regression of customer satisfaction are presented in Table 5 where R² value is 0.494 indicating that the model explained 0.491 of the variance of customer satisfaction-in other words, 49% of the dependent variable's variance is explained by its

Table 2: Results of skewness and kurtosis for normality test

Variables	SD	Skewness		Kurtosis	
	Statistic	Statistic	SE	Statistic	SE
Total Quality Management (TQM)	0.957	-1.091	0.170	1.499	0.339
Organisational Climate (COCLIM)	1.011	-0.960	0.170	0.107	0.339
Organisational Sustainability (COSUS)	1.042	-0.878	0.170	-0.089	0.339

Table 3: Results of pearson correlation analysis

Variables	1	2	3
Total Quality Management (TQM)	1		
Organisational Climate (COCLIM)	0.874***	1	
Organisational Sustainability (COSUS)	0.703***	0.717***	1

***Correlation is significant at the 0.01 level (2-tailed)

Table 4: Multicollinearity test

Model (1) (Constant)	Collinearity statistics	
	Tolerance	VIF1
Total Quality Management (TQM)	1.000	1.000

Dependent variable: COSUSV

Table 5: Regression results of model (dependent customer's satisfaction)

Variables	Standardized coefficients		
	β	t-value	Sig.
Total Quality Management (TQM)	0.70	14.04	0.000
R ²			0.494
Adjusted R ²			0.491
F-value			197.162
F-significant			0.000

independent counterparts. Moreover, F value is significant (F = 197.162, p<0.01) which shows that the model is valid.

Hierarchical multiple linear regression results: A moderating variable is described as a variable that moderately impacts the causal effects from the independent variable (TQM) to the dependent variable (organizational sustainability). This study considers organizational climate as the moderating variable. According to Hair *et al.* (2010), the moderating variable supports the relationship or changes it by strengthening/weakening it. The moderating effect hypothesis states that:

- H₂: There is a moderating effect of organizational climate on the relationship between Total Quality Management (TQM) and organizational sustainability in the case of the hotel industry firms in Saudi Arabia:

The moderating effect of organizational climate on the TQM-organizational sustainability relationship was investigated in the context of the Saudi hotel industry firms by using hierarchical regression analysis that entailed the development of three models (Table 6). The

analysis results confirmed the validity of all models and good fits with R² values of 49, 53 and 54% for the first, second and third model, respectively.

On the basis of the obtained results organizational climate moderates the relationship between TQM and organizational sustainability in a positive and significant manner (Table 6) which reveals that H₂ is supported.

Total Quality Management (TQM) and organisational sustainability: According to the findings of prior studies and based on proposed theories in literature, the present study proposes a positive relationship between TQM and organizational sustainability in the Saudi hotel industry. Based on the statistical results, TQM and organizational sustainability has a positive and significant relationship at the level of significance of 0.01 ($\beta = 0.70$, t = 14.04, p<0.01).

Prior studies results support this one as they also found a positive and significant relationship between TQM and organizational sustainability. In relation to this, the concept of quality has become a major factor in the current global competition. Customers demand better product quality in the market and this has urged majority of companies to provide them in order to remain competitive. The challenge meted out by the global competition is being tackled by many businesses by investing in significant resources with one of them being adopting and implementing TQM practices in their resources. TQM refers to the action plan to generate and deliver products and services that can meet or exceed customers' needs through better, cheaper, faster, safer, easier processing compared to their rivals, this is being done by garnering the participation of all employees and through effective top management leadership (Lakhal *et al.*, 2006). Hence, it is crucial for manufacturing firms to concentrate on quality as this affects the business performance through its production costs and earnings (Gaspersz, 2005).

The moderating effect of organisational climate on the relationship between Total Quality Management (TQM) and organisational sustainability: This study proposes a moderating influence of organizational climate on the TQM-organizational sustainability relationship in the Saudi hotel industry as stated in the chapter of methodology. The results show that a positive and significant moderating influence exists from organizational

Table 6: The moderating effect of the corporate image on the relationship between customer knowledge and customers' satisfaction variables

Variables	Model 1			Model 2			Model 3		
	β	t-value	p-value	β	t-value	p-value	β	t-value	p-value
TQM	0.70	14.04	0.000	0.32	3.28	0.000	-0.08	-0.39	0.700
Coclim				0.43	4.39	0.000	0.01	0.03	0.970
TQM*coclim						0.810	2.32	0.02	
R ²			0.494			0.538			0.550
Adjusted R ²			0.491			0.534			0.544
F-value			197.162			117.175			81.605
F-value Sig.			0.000			0.000			0.000

***, **, *p<0.01, 0.05, 0.10

climate to the TQM-organizational sustainability relationship at the significance level of 0.05 ($\beta = 0.81$, $t = 2.32$, $p < 0.05$) indicating support for H_3 .

The positive and significant effect of organizational climate on the TQM-organizational sustainability relationship may be attributed to the fact that organizational climate refers to the shared perception of the organizational members of what the organizational is like in light of its practices, policies, procedures, routines and rewards. Such practices, policies, procedure and rewards are covered under human resource management practices of the organization. In other words, organizational climate can be deemed to represent the representation of the human resource practices perception, making it a predictive value of organizational performance as compared to human resource practices on their own (Bowen and Ostroff, 2004).

CONCLUSION

This study primarily aimed to examine the moderating impact of organizational climate on the TQM-organizational sustainability relationship in the Saudi hotel industry firms. It also aimed to examine the direct relationship between TQM and organizational sustainability. The study sample size consisted of 204 middle managers working for 932 Saudi hotels in the cities of Mecca, Madinah, Riyadh, Jeddah and the Eastern Province selected through random sampling. The data obtained from the study sample was analyzed through the Partial Least Squares (PLS) structural equation modeling. According to the results, a positive and significant relationship was found between TQM and organizational sustainability indicating support for H_1 . Also a positive and significant moderating effect was also found from organizational climate to the relationship between total quality management and organizational sustainability in the context of the Saudi hotel industry firms.

LIMITATIONS

Similar to all studies, the present study has its limitations with the first one being that the context of the

study is confined to Saudi firms in the hotel sector. In regards to this, future studies can consider the variables in the context of GCC countries of Oman, Qatar, Bahrain and Kuwait or other countries in order to contribute to the policy market in the hopes of enhancing the antecedent variables of TQM, change agent and organizational climate. This would in turn, lead to enhanced organizational sustainability. The second limitation concerns the study of a few variables relationship namely TQM and organizational sustainability while there are other variables that are also worth examining like leadership organizational culture, among others that can be taken into account by future studies. The third limitation concerns the moderating variable focused on namely the change agent-future studies can focus on other possible moderating variables like organizational culture, regulation, among others, that research towards the improvement of organizational sustainability. Lastly, the results showed that the R² of sustainability was 49% based on statistical analysis, showing that the variables in the model managed to explain 49% of organizational sustainability variance.

SUGGESTIONS

This shows that some other variables have the potential to enhance organizational sustainability and future studies should look into them and examine their influence accordingly.

REFERENCES

Asif, F., 2011. Estimating the impact of denison's 1996 What is the difference between organizational culture and organizational climate? A native's point of view on a decade of paradigm wars. *J. Bus. Res.*, 64: 454-459.

Barney, J., 1991. Firm resources and sustained competitive advantage. *J. Manage.*, 17: 99-120.

Bartlett, J.E., J.W. Kotrlík and C.C. Higgins, 2001. Organizational research: Determining appropriate sample size in survey research. *Inform. Technol. Learn. Perform. J.*, 19: 43-50.

- Bartram, D., I.T. Robertson and M. Callinan, 2002. Introduction: A framework for examining organizational effectiveness. *Organizational Eff. Role Psychol.*, 2002: 1-10.
- Bowen, D.E. and C. Ostroff, 2004. Understanding HRM-Firm performance linkages: The role of the strength of the HRM system. *Acad. Manage. Rev.*, 29: 203-221.
- Broekhuis, H. and J.F.J. Vos, 2003. Improving Organizational Sustainability using a Quality Perspective. University of Groningen, Amsterdam, Netherlands.
- Brundtland, G., 1987. *Our Common Future*. WCED and Oxford University Press, New York.
- Chin, W.W., 1998. The Partial Least Squares Approach to Structural Equation Modeling. In: *Modern Methods for Business Research*. Marcoulides, G.A. (Ed.). Sage Group, California, USA., pp: 307-341.
- Coakes, J.S. and L.G. Steed, 2003. *SPSS: Analysis Without Anguish Using SPSS Version 11.0 for Windows*. John Wiley and Sons, New York, USA., ISBN-13: 978-0470802779, Pages: 248.
- Dale, G.B., 2003. *Managing Quality*. 4th Edn., Blackwell Publishing, USA.
- Demirbag, M., E. Tatoglu, M. Tekinkus and S. Zaim, 2006. An analysis of the relationship between TQM implementation and organizational performance: Evidence from Turkish SMEs. *J. Manuf. Technol. Manage.*, 17: 829-847.
- Denison, D.R., 1996. What is the difference between organizational culture and organizational climate? A native's point of view on a decade of Paradigm wars. *Acad. Manage. Rev.*, 21: 619-654.
- Denison, D.R., 2006. Organisational culture can it be a key lever for driving organisational change. *Int. Handb. Organisational Culture Clim.*, 4: 347-372.
- Dyllick, T. and K. Hockerts, 2002. Beyond the business case for corporate sustainability. *Bus. Strategy Environ.*, 11: 130-141.
- Gaspersz, V., 2005. *Total Quality Management*. Gramedia Pustaka Utama Press, Jakarta, Indonesia.
- Geels, F.W., 2010. Ontologies, socio-technical transitions (to sustainability), and the multi-level perspective. *Res. Policy*, 39: 495-510.
- Giannetti, B.F. C.M.V.B. Almeida and S.H. Bonilla, 2010. Comparing energy accounting with well-known sustainability metrics: The case of Southern Cone Common Market, Mercosur. *Energy Policy*, 38: 3518-3526.
- Goldstein, J.H., G. Caldarone, T.K. Duarte, D. Ennaanay and N. Hannahs *et al.*, 2012. Integrating ecosystem-service tradeoffs into land-use decisions. *Proc. National Acad. Sci.*, 109: 7565-7570.
- Gregor, M.D.M., 2000. A note on organisational climate. *Organisational Behav. Hum. Perform.*, 16: 250-279.
- Gujarati, D.N. and D.C. Porter, 2009. *Basic Econometrics*. 5th Edn., McGraw-Hill Companies Inc., New York, USA., ISBN-13: 978-0073375779, Pages: 944.
- Hair, J.F., W.C. Black, B.J. Babin, R.E. Anderson and R.L. Tatham, 2007. *Multivariate Data Analysis*. 6th Edn., Pearson Education, Upper Saddle, New Jersey.
- Hair, Jr. J.F., W.C. Black, B.J. Babin and R.E. Anderson, 2010. *Multivariate Data Analysis*. 7th Edn., Prentice Hall, Upper Saddle River, NJ., ISBN-13: 9780138132637, Pages: 785.
- Hellriegel, D. and J.W. Slocum, 1974. Organizational climate: Measures, research and contingencies. *Acad. Manage. J.*, 17: 255-280.
- Hellsten, U. and B. Klefsjo, 2000. TQM as a management system consisting of values, techniques and tools. *TQM. Mag.*, 12: 238-244.
- James, L.R. L.A. James and D.K. Ashe, 1990. The meaning of organizations: The role of cognition and values. *Organizational Clim. Culture*, 5: 40-84.
- Johnston, A., 2007. Higher Education for Sustainable Development. International Action Research Project, Paris, France.
- Joyce, W. and J. Slocum, 1984. Collective climate: Agreement as a basis for defining aggregate climates in organizations. *Acad. Manag. J.*, 27: 721-742.
- Kline, R.B., 1998. *Principles and Practice of Structural Equation Modeling*. Guilford Press, New York, ISBN: 9781572303379, Pages: 354.
- Kumar, C., A. Igarria, B. D'autreaux, A.G. Planson and C. Junot *et al.*, 2011. Glutathione revisited: A vital function in iron metabolism and ancillary role in thiol-redox control. *EMBO J.*, 30: 2044-2056.
- Lakhal, L., F. Pasin and M. Limam, 2006. Quality management practices and their impact on performance. *Int. J. Qual. Reliab. Manage.*, 23: 625-646.
- Likert, R., 1997. Organisational climate: Relationship to organisational structure, process and performance. *Organisational Behav. Hum. Perform.*, 11: 139-155.
- Mohrman, S.A. and C.G. Worley, 2010. The organizational sustainability journey Introduction to the special issue. *Organizational Dyn.*, 39: 289-294.
- Ostroff, C., A. Kinicki and M. Tamkins, 2003. Organizational Culture and Climate. In: *Comprehensive Handbook of Psychology*, Volume 12: Industrial and Organizational Psychology, Borman, W.C., D.R. Ilgen and R.J. Klimoski (Eds.). John Wiley and Sons, New York, USA., ISBN-13: 978-0471666745, pp: 565-594.

- Pallant, J., 2010. SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS. 4th Edn., McGraw-Hill International, New York, ISBN: 9780335242399, Pages: 352.
- Prajogo, D.I. and A.S. Sohal, 2004. Transitioning from total quality management to total innovation management: An Australian case. *Int. J. Q. Reliab. Manage.*, 21: 861-875.
- Schneider, I.I., 2008. Motivation and organisational climate. *J. Personnel Psychol.*, 29: 371-392.
- Suarez, P.E., J. Muniz, P.E. Fonseca and C.E. Garcia, 2013. Assessing organizational climate: Psychometric properties of the CLIOR. *Scale Psicothema*, 25: 137-144.
- Vartia, M., 1996. The sources of bullying-psychological work environment and organizational climate. *Eur. J. Work Organ. Psychol.*, 5: 203-214.
- Whitley, R., 2002. Developing innovative competences: The role of institutional frameworks. *Ind. Corporate Change*, 11: 497-528.
- Wolpin, R., T. Burke and A. Green, 1999. *Psychology of Motivation*. Irwin Industrial Tools Manufacturing Company, Huntersville, North.
- Yusuf, Y., A. Gunasekaran and G. Dan, 2007. Implementation of TQM in China and organisation performance: An empirical investigation. *Total Q. Manage.*, 18: 509-530.