

Total Quality Management and Its Relationship with Local Work Culture in SME Manufacturing Industry of Oman

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ARTICLE INFO

ABSTRACT

Received: 15 Nov 2024

Revised: 01 Jan 2025

Accepted: 21 Jan 2025

This study examines the impact of total quality management (TQM) practices on local work culture of Oman within small and medium-sized enterprises (SMEs) in the manufacturing sector. A survey of 243 respondents revealed a significant positive correlation between top management support and various aspects of local work culture, including information systems, organizational structure, incentive systems, and operations. Top management support was found to strongly influence these dimensions, with correlation values ranging from 0.673 to 0.792. Regression analysis indicated that top management support explains 74.9% of the variation in local work culture. Information systems and operations showed the most significant influence, with unstandardized coefficients of 0.384 and 0.311, respectively. The study concludes by recommending that SMEs in Oman strengthen top management support, enhance information systems, and improve operations to foster a more supportive work culture. This would contribute to better organizational performance and sustainability in the manufacturing sector.

Keywords: Total quality management, Top management support, Local work culture, SMEs, Manufacturing sector.

INTRODUCTION

Oman is recognized as a country with a high human development index (HDI) and per capita gross domestic product (GDP). Manufacturing could be one of the key sectors that helps the sultanate of Oman maintain competitive wage levels within the Gulf Cooperation Council (GCC) region. In 2022, GDP per capita was \$23,541 in Oman, while average manufacturing salaries were approximately \$18,000. These salary levels are too high to support industries that rely on low-wage labour, suggesting the need for the implementation of TQM practices to reduce overall manufacturing costs. Therefore, the future development of industrial sector in Oman may largely depend on its ability to produce unique products and establish strong brand recognition (Augusto et al., 2014). Despite the increasing interest in TQM as a comprehensive approach to quality enhancement, a significant research gap remains regarding the application and effectiveness of TQM practices in manufacturing sector of Oman. While some studies have investigated the adoption of TQM in other countries, research focused on Oman is limited. Consequently, there is a pressing need for further research into the implementation and impact of TQM practices in Oman's manufacturing industry. Such research would provide valuable insights for Omani organizations and other developing nations seeking to improve manufacturing processes and productivity through effective quality management practices. Additionally, understanding the challenges and opportunities associated with TQM implementation in Oman could offer crucial information to inform policy decisions, thus promoting sustainable economic growth and industrial development.

The proposed study aims to investigate Oman's manufacturing sector, with a specific emphasis on the country's quality management practices in relation to local work culture. The study will focus on TQM, an all-encompassing and systematic approach to quality that emphasizes employee engagement, customer satisfaction, and continuous improvement (Al-Busaidi et al., 2020). A key aspect of this research will be the consideration of Oman's unique work culture, which blends traditional values with modern management practices. This local work culture significantly

influences how quality management principles are adopted and applied within the country. By addressing both the technical and cultural dimensions, the study aims to deepen the understanding of how TQM can be effectively implemented in the context of Oman's manufacturing sector.

PROBLEM STATEMENT

Small and medium-sized enterprises (SMEs) in Oman's manufacturing sector are facing increasing pressure to enhance productivity, improve product quality, and remain competitive in both local and global markets. TQM, recognized worldwide as a comprehensive approach to improving organizational performance, has proven to be an effective tool for achieving these goals. However, the successful implementation of TQM in Oman's SME manufacturing sector has been limited, primarily due to challenges arising from the unique local work culture that blends traditional practices with modern management techniques (Umar, 2022).

Oman's work culture, which is deeply rooted in social values and traditional practices, plays a significant role in how management principles, such as those found in TQM, are adopted, and practiced within organizations. While TQM focuses on continuous improvement, employee involvement, customer satisfaction, and leadership commitment, the local culture in Oman emphasizes hierarchical structures, authority, and strong community ties, which may either facilitate or hinder the implementation of these modern quality management principles (Al Shabibi, 2020).

The relationship between TQM and local work culture in Oman's SME manufacturing sector presents a complex issue. On one hand, the cultural context may promote values such as teamwork, loyalty, and a strong sense of community, which align with some aspects of TQM, such as employee engagement and collaborative efforts for continuous improvement. On the other hand, the hierarchical nature of the local work culture may pose challenges to practices that require decentralization of decision-making and empowerment of lower-level employees (Al Shehhi & Azam, 2019).

This study aims to examine the impact of TQM practices on the local work culture within Oman's SME manufacturing industry. Specifically, it seeks to explore how local cultural factors, including leadership styles, employee relationships, communication patterns, and organizational hierarchy, affect the adoption and effectiveness of TQM. The research will identify the barriers and enablers that influence the successful implementation of TQM and assess how cultural norms either support or constrain the principles of TQM such as customer focus, process management, and continuous improvement.

Furthermore, the study will investigate the extent to which TQM principles can be adapted to fit the local cultural context, and whether modifications in management practices are necessary for TQM to be successfully implemented. The findings of this research will provide valuable insights for both managers in Oman and other developing countries, offering practical recommendations for overcoming cultural barriers and achieving sustainable improvements in quality and performance in the SME manufacturing sector.

Research questions

RQ1. What is the level of local work culture among Omani SME manufacturing sector?

RQ2. How does the adoption and implementation of TQM practices influence Oman's local work culture within the manufacturing sector of small and medium-sized enterprises (SMEs)?

Research objectives

RO1. To assess the level of local work culture within Oman's SME manufacturing sector.

RO2. To investigate how the adoption and implementation of TQM practices influence Oman's local work culture within the manufacturing sector of small and medium-sized enterprises (SMEs).

REVIEW OF RELATED WORK

Total Quality Management (TQM) is a comprehensive management philosophy that emphasizes long-term success through customer satisfaction. It involves every member of an organization in continuously improving processes, products, services, and the overall work culture. The core principle of TQM is that quality is the responsibility of everyone in the organization, aiming to meet or exceed customer expectations while fostering continuous improvement (Abbas, 2020). One of its key principles is being customer-focused, where quality is ultimately

determined by customer satisfaction. Organizations must align their quality efforts with customer needs and expectations to ensure success (Gitlow et al., 2014).

Another fundamental aspect of TQM is total employee involvement. It requires active participation from all employees, regardless of their roles, to work towards common organizational goals. This approach fosters a culture of empowerment, removes fear, and encourages employees to contribute to decision-making. High-performance work systems integrate continuous improvement into daily business activities. Additionally, TQM follows a process-centred approach by monitoring the transformation of inputs into outputs. Organizations must assess these processes regularly to identify variations and implement improvements, ensuring consistent adherence to quality standards (Boyne & Walker, 2002).

TQM also promotes an integrated system within an organization, where different departments collaborate to achieve common quality objectives. Rather than functioning in isolation, these departments work harmoniously, often aligning with frameworks such as the Baldrige Award criteria or ISO 9000 standards to ensure continuous improvement (Mrugalska & Ahmed, 2021). A strategic and systematic approach is also essential in TQM, as organizations must integrate quality management principles into their vision, mission, and operational planning. Strategic planning helps embed quality at the core of organizational processes, driving long-term success (Maswadeh & Al Zumot, 2021).

Continuous improvement is another cornerstone of TQM. Organizations strive to enhance their processes, products, and services through analytical and creative thinking. This allows them to remain competitive and meet customer and stakeholder expectations effectively. Employees are encouraged to evaluate their work continuously, fostering an environment of innovation and adaptation (Machadoe et al., 2020). Decision-making in TQM is data-driven, relying on collected and analysed information to measure performance accurately. Data insights enable better decision-making, consensus-building, and predictive capabilities, leading to informed and effective organizational choices (Hamdan et al., 2019).

Effective communication is crucial in TQM, as it maintains employee morale and motivation. Timely information exchange and clear communication strategies ensure that employees stay engaged and aligned with organizational goals. This becomes particularly important during organizational changes, where strong communication supports smooth transitions and continuous quality improvement efforts. In summary, TQM is a holistic approach that integrates quality into all aspects of an organization, focusing on customer satisfaction, employee involvement, and continuous improvement to create a culture of excellence (Elkhairi et al., 2019).

Local work culture refers to the shared values, beliefs, behaviours, and practices unique to a specific geographical or organizational setting. It significantly influences how employees collaborate, communicate, and perform, ultimately affecting organizational effectiveness. Various factors shape local work culture, including national traditions, societal norms, historical experiences, and organizational values (Ababneh, 2020).

In many regions, work culture blends traditional and modern practices influenced by cultural, social, and economic environments. For instance, Oman's work culture is deeply rooted in its Islamic heritage, tribal structures, and modernization efforts. Employees prioritize group harmony over individualism, and decision-making tends to follow a hierarchical, top-down approach, reflecting respect for authority and seniority (Fok, 2023).

A key characteristic of local work culture is the level of formality in communication. In Oman, formal communication is essential, particularly when interacting with superiors or external stakeholders. While this formality signifies respect, it can also affect information-sharing and decision-making speeds. Additionally, trust and relationship-building are fundamental in Omani business culture, influencing negotiation processes and workplace interactions. Unlike in more individualistic and fast-paced work environments, Omani workplaces emphasize interpersonal connections before engaging in business discussions (Ofori et al., 2024).

Another significant aspect of Oman's work culture is the influence of family and community values. The concept of *Wasta*, which refers to using personal connections for professional or social benefits, plays a crucial role in workplace dynamics. While *Wasta* can facilitate networking and opportunities, it may also pose challenges regarding fairness in promotions and hiring decisions (Al-Busaidi, 2019).

Economic development in Oman, particularly in sectors like manufacturing and tourism, has introduced shifts in work culture. Globalization and the increasing presence of foreign workers have led to the integration of international

business practices. This has resulted in a hybrid work environment that blends traditional Omani values with globalized work approaches, creating a dynamic and evolving professional landscape (Fok, 2023).

Understanding local work culture is essential for organizations aiming to implement management practices like TQM. Cultural alignment can significantly impact the success of such initiatives. In Oman's case, businesses must balance traditional cultural values with the demands of modern business practices to ensure effective organizational performance and sustainable growth (Zu et al., 2010).

Several studies have explored the impact of TQM and organizational culture on performance across different industries. Hamdan et al. (2019) examined academic staff attitudes towards TQM implementation at Samarra University. The study focused on key TQM standards such as student-centred approaches, process design, and continuous improvement. Using a questionnaire distributed among 47 academic leaders, the study found that attitudes toward TQM were generally positive, with a strong correlation between TQM practices and organizational change. The study recommended promoting a TQM-driven culture to facilitate smoother organizational transformation.

Ofori et al. (2024) investigated the relationship between TQM, organizational culture, and operational performance in Ghana's banking sector. The study used an explanatory research design with a sample of 153 participants. Findings indicated that TQM positively influenced service product innovation and firm performance. Organizational culture also had a positive, though statistically insignificant, impact on firm performance. The study further revealed that service product innovation significantly mediated the relationship between TQM and firm performance. The research concluded that a strong organizational culture and TQM practices enhance operational efficiency in the banking sector.

Ababneh (2020) explored the impact of organizational culture archetypes on TQM and quality performance in the hotel industry. The study collected data from 153 senior employees and applied Partial Least Squares Path Modelling (PLS-SEM) to analyse relationships. Findings indicated that organizational culture archetypes significantly influenced employee engagement in quality initiatives, which in turn impacted TQM implementation. The study emphasized the need for hotel management to foster supportive organizational cultures while reducing the dominance of power-based cultures to enhance quality performance.

Fok et al. (2023) examined the influence of TQM and organizational culture on green practices and sustainability performance in U.S. businesses. Using structural equation modelling (SEM) and survey data from 441 managers, the study formulated six hypotheses. Findings demonstrated that TQM and organizational culture positively influenced sustainability performance, both directly and indirectly. The study provided insights into the role of green practices in achieving sustainable business operations and highlighted the necessity of integrating TQM into corporate sustainability strategies. These studies underscore the significance of TQM and organizational culture in shaping business performance and sustainability. While various industries and regions present unique challenges, the overarching conclusion remains that effective quality management and strong cultural alignment drive organizational success.

RESEARCH METHODOLOGY

This study employs a quantitative research approach to collect primary data from participants. The research focuses on small and medium-sized enterprises (SMEs) in Oman, targeting managers and employees involved in decision-making processes related to quality management and continuous improvement. Data analysis was conducted using SPSS software to derive meaningful insights.

Research population and sample

The study population comprises managers and employees engaged in quality management and continuous improvement within Oman's manufacturing SMEs. A survey questionnaire was distributed to 235 participants, ensuring representation across various organizational levels.

Research instrument

A structured questionnaire served as the primary data collection tool. Its development was based on previous studies on TQM and local work culture. The TQM variable was constructed using insights from Ahmed (2024), Alghamdi et al. (2022), Othman et al. (2018), Khawlad (2019), and Al-Sha'ar et al. (2022). It includes four key dimensions: top

management support, customer focus, employee motivation, and continuous improvement. Similarly, the local work culture variable was informed by the works of Al-Taie (2017), Younsi (2015), Jumaa (2015), Al-Jabali (2023), and Mahd & Abdul Kareem (2011). It consists of four dimensions: information systems, organizational structure, incentive systems, and operations. To ensure the questionnaire’s validity and reliability, a comprehensive evaluation of its psychometric properties was conducted.

INSTRUMENT VALIDITY AND RELIABILITY

The verification of the psychometric properties of study tools is a crucial step to ensure their quality and effectiveness in measuring what they are intended to measure. In this study, the psychometric properties focus on verifying the validity and reliability of the questionnaire. Through validity and reliability, it is ensured that the data collected from the questionnaire will be valid for use in research or in decision-making based on it. Below are some points that clarify the psychometric properties of the questionnaire:

Content validity

The questionnaire was reviewed by eight expert evaluators with specialized knowledge to assess the relevance of the items to the constructs being measured, as well as the clarity of their wording. The results indicated that most of the evaluators agreed on the relevance of the items to the respective constructs and the clarity of their language and phrasing. A suggestion was made to combine certain items to improve clarity and avoid redundancy.

Construct validity

The results in Table (1) demonstrate that the correlations between all variables are exceptionally high, indicating a strong interdependence among the various elements of TQM. Specifically, the relationships between top management support, customer focus, employee motivation, and continuous improvement are statistically significant, with correlation coefficients ranging from 0.910 to 0.944 and all significant at the 0.01 level (2-tailed). These findings underscore the importance of these factors in the effective implementation of TQM. The high correlation values suggest that improvements in one aspect, such as top management support or employee motivation, are likely to positively affect the other areas, thereby enhancing the overall success of TQM practices. These results emphasize the necessity of adopting a comprehensive approach to TQM, where these interconnected elements collaboratively contribute to continuous organizational improvement.

Table (1): Correlation matrix for TQM sub-dimensions

	Customer focus	Motivating employees	Continuous improvement
Top management support	0.941**	0.910**	0.942**
Customer focus		0.938**	0.940**
Motivating employees			0.944**

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

Similarly, the results presented in Table (7) show high correlations among the sub-dimensions of local work culture, suggesting strong interrelationships between these elements. The relationships between organizational structure, incentive systems, and operations information systems are statistically significant, with correlation coefficients ranging from 0.779 to 0.976 and all significant at the 0.01 level (2-tailed). This reinforces the importance of these components in shaping an organization’s local work culture. The high correlation values imply that improvements in one area, such as refining the organizational structure or enhancing incentive systems, are likely to have a positive impact on the other aspects, thereby fostering greater overall organizational effectiveness. These results further stress the need for a holistic approach to work culture, where these elements work synergistically to create a supportive environment, particularly in terms of optimizing operations and aligning the organizational structure with incentive systems.

Table (2): Correlation matrix for local work culture sub-dimensions

	Organizational structure	Incentive systems	Operations
Information systems	0.870**	0.779**	0.850**
Organizational structure		0.915**	0.976**
Incentive systems			0.922**

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

Reliability

Table (3) presents the reliability coefficients and discriminative ability values for the sub-dimensions of Total Quality Management (TQM). The results indicate strong reliability and high discrimination power for each sub-dimension, affirming the suitability of these dimensions for the study. The Cronbach's alpha values for the individual sub-dimensions range from 0.969 to 0.972, signifying excellent internal consistency. Furthermore, the overall reliability coefficient for the 32 items of TQM is 0.991, which reflects an exceptional level of reliability, confirming the robustness of the scale in measuring the TQM constructs. The discriminative ability values for each sub-dimension are also well within acceptable limits, further verifying the validity of the measures used in this research.

Table (3): Reliability coefficients for the sub-dimensions of total quality management

Dimension	Reliability coefficient	Discriminative ability
Top management support	0.97	0.814 - 0.948
Customer focus	0.972	0.831 - 0.959
Motivating employees	0.969	0.778 - 0.949
Continuous improvement	0.971	0.818 - 0.936
TQM (all items)	0.991	0.801 - 0.932

Similarly, Table (4) presents the reliability coefficients and discriminative ability values for the sub-dimensions of Local Work Culture. The results show high internal consistency and strong discriminative power across all sub-dimensions, further supporting the appropriateness of these measures for the current study. The Cronbach's alpha values for the sub-dimensions range from 0.962 to 0.977, indicating excellent reliability. The overall reliability coefficient for all 23 items of Local Work Culture is 0.989, reflecting a very high level of consistency. In addition, the discriminative ability values for all sub-dimensions are within acceptable ranges, reinforcing the validity of the scale. These findings demonstrate that the items effectively capture the key components of Local Work Culture.

Table (4): Reliability coefficients for the sub-dimensions of local work culture

Dimension	Reliability coefficient	Discriminative ability
Information systems	0.962	0.852 - 0.912
Organizational structure	0.975	0.795 - 0.972
Incentive systems	0.977	0.861 - 0.965
Operations	0.973	0.837 - 0.971
Local work culture (All Items)	0.989	0.703 - 0.968

RESULTS AND DISCUSSION

Demographic characteristics of the participants

The study sample consisted of 243 participants from the Omani SME manufacturing sector, categorized based on gender, nationality, educational qualifications, and years of experience. Among the participants, 193 were male (79.4%) and 50 were female (20.6%). Most of the participants were Omani nationals (185, 76.1%), with 58 (23.9%) being non-Omani. Regarding education, most participants held a bachelor's degree (83, 34.2%), followed by those with a higher diploma (77, 31.7%), and a general education diploma (63, 25.9%). A smaller group of 20 participants (8.2%) had a master's degree or PhD. In terms of experience, 137 participants (56.4%) had over 16 years of professional experience, 55 participants (22.6%) had between 11 and 15 years, and 51 participants (21%) had 6 to 10 years of experience.

Table (5): Distribution of the Study Sample (Omani SME Manufacturing Sector)

Demographic Variable	Category	Sample Size = 243	
		Frequency	Percent
Gender	Male	193	79.4%
	Female	50	20.6%
Nationality	Omani	185	76.1%
	Non-Omani	58	23.9%
Qualification	General Education Diploma	63	25.9%
	Higher Diploma	77	31.7%
	Bachelor's	83	34.2%
	Master's/PhD	20	8.2%
Years of Experience	6-10 years	51	21%
	11-15 years	55	22.6%
	16+ years	137	56.4%

Research questions

Q1. What is the level of local work culture among Omani SME manufacturing sector?

To determine the descriptive statistics for the study variables, the researcher applied the weighted average interpretations based on the five-point Likert scale results (Table 6).

Table 6: Weighted Averages for the 5-Point Likert Scale

Weighted Average	Result
1-1.79	Very low
1.80-2.59	Low
2.60-3.39	Moderate
3.40-4.19	High
4.20-5	Very high

Table (7) presents the means and standard deviations for the various dimensions of local work culture in Omani SME manufacturing firms. The results indicate that all dimensions of local work culture are categorized at a high level,

reflecting a generally positive perception among employees. The analysis provides insights into how different aspects of workplace culture are perceived and the extent to which responses vary across participants.

The information systems dimension recorded a mean score of 4.04 and a standard deviation of 0.91, indicating that respondents view information systems positively, with moderate variability in their opinions. Similarly, the organizational structure dimension had a mean of 4.05 and a standard deviation of 0.92, suggesting that employees perceive the organizational framework as well-structured and efficient, with minimal variations in viewpoints. These findings imply that firms in the sector have effective information systems and well-established organizational structures that support their operational processes.

The incentive systems dimension, with a mean score of 3.90 and a standard deviation of 1.07, also falls within the high-level category. However, this score is slightly lower than the other dimensions, and the higher standard deviation indicates greater variability in perceptions. This suggests that while many employees view incentive systems favorably, individual experiences may vary depending on company-specific policies and implementation practices. Differences in compensation structures, performance rewards, and career advancement opportunities could contribute to the variation in responses. Among all dimensions, operations received the highest mean score of 4.08 with a standard deviation of 0.96, indicating that operational processes in the sector are perceived as highly efficient and well-managed. The consistency in responses suggests that SMEs in the manufacturing sector place strong emphasis on streamlining operations to ensure effectiveness and productivity.

Overall, the mean score for all dimensions is 4.01, with a standard deviation of 0.91, reinforcing the conclusion that the local work culture in Omani manufacturing SMEs is robust and well-developed. The high ratings across all dimensions highlight the presence of structured systems, clear organizational frameworks, and strong operational practices within these firms. However, the higher variability in incentive systems suggests that there is room for improvement in ensuring equitable and consistent rewards across different organizations in the sector. These findings align with the study by Eshaq Yousif Hamdan et al. (2019), which found that academic staff's attitudes toward the application of TQM were positive in six key areas and neutral in two. The study also revealed favorable attitudes toward organizational change, supporting the idea that structured quality management practices contribute to positive workplace environments.

Table (7) Means and standard deviation of the dimensions of Local work culture among Omani SME manufacturing sector

Dimension	Mean	Std. Deviation	level
Information Systems	4.04	0.91	high
Organizational Structure	4.05	0.92	high
Incentive Systems	3.90	1.07	high
Operations	4.08	0.96	high
Overall mean	4.01	0.91	high

Q2. How does the adoption and implementation of TQM practices influence Oman's local work culture within the manufacturing sector of small and medium-sized enterprises (SMEs)?

Table (8) presents the correlation coefficients that illustrate the relationship between TQM practices and local work culture within Oman's manufacturing sector for small and medium-sized enterprises (SMEs). The correlations are analyzed across four dimensions of local work culture: information systems, organizational structure, incentive systems, and operations.

The results show that all TQM practices, including top management support, customer focus, motivating employees, and continuous improvement, have significant positive correlations with each of the dimensions of local work culture. For top management support, the correlation coefficients range from 0.673 to 0.732, with the strongest correlation observed with information systems (0.732). This indicates that top management support is strongly associated with positive outcomes in information systems, organizational structure, incentive systems, and operations within SMEs.

For customer focus, the correlation coefficients range from 0.711 to 0.772, with the highest correlation found in operations (0.772). This suggests that a focus on customer needs and satisfaction is strongly linked to improvements in operational performance as well as other aspects of the local work culture.

Regarding motivating employees, the correlations are consistently high, ranging from 0.733 to 0.792. The strongest correlation is found between motivating employees and Information Systems (0.792), highlighting the significant role of employee motivation in enhancing the effectiveness of information systems, organizational structure, incentive systems, and operations.

Lastly, continuous improvement shows the highest correlations across all dimensions, ranging from 0.751 to 0.817, with the strongest relationship observed in operations (0.817). This suggests that continuous improvement practices have the most profound influence on the local work culture, particularly in terms of operational efficiency and overall organizational effectiveness.

All the correlation coefficients are statistically significant at the 0.01 level (2-tailed), confirming that TQM practices, particularly top management support, customer focus, employee motivation, and continuous improvement, are strongly related to the enhancement of local work culture in Oman's manufacturing SMEs.

Table (8): Correlation Coefficients of the Relationship Between TQM practices and local work culture

	Information Systems	Organizational Structure	Incentive Systems	Operations
Top management support	0.732**	0.712**	0.673**	0.726**
Customer focus	0.765**	0.711**	0.715**	0.772**
Motivating employees	0.792**	0.733**	0.771**	0.779**
Continuous improvement	0.803**	0.751**	0.778**	0.817**

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

Table (9) presents the regression model summary for evaluating the impact of implementing top management support on Oman's local work culture within the manufacturing sector of small and medium-sized enterprises (SMEs). The results indicate a very strong relationship between the independent variable, top management support, and the dependent variable, local work culture. The R-value is 0.865, suggesting a very strong positive correlation between the implementation of top management support and the enhancement of local work culture. This indicates that as top management support increases, there is a significant positive impact on local work culture within the sector. The R² value of 0.749 indicates that approximately 74.9% of the variance in local work culture can be explained by the implementation of top management support. This suggests that the model is highly explanatory, with most of the changes in local work culture being accounted for by the predictor variable.

Table (9): Regression model summary of the impact of implementation of top management support on Oman's local work culture within the manufacturing sector of small and medium-sized enterprises (SMEs)

R	R ²	Adjusted R ²	Std. error of the estimate
0.865	0.749	0.744	0.417

Table (10) presents the ANOVA results for evaluating the impact of the implementation of top management support on Oman's local work culture within the manufacturing sector of small and medium-sized enterprises (SMEs). The ANOVA analysis helps to determine whether the regression model significantly explains the variance in local work culture. The sum of squares for the regression is 123.381, which represents the variability in local work culture that can be attributed to the implementation of top management support. This is contrasted with the residual sum of squares of 41.441, which reflects the unexplained variance or error in the model. The total sum of squares is 164.822, which is the total variability in the dependent variable, local work culture, combining both explained and unexplained variances. The degree of freedom (df) associated with the regression is 4, corresponding to the number of predictors in the model, while the residual degree of freedom is 238, which corresponds to the number of observations minus

the number of predictors minus one. The mean square for the regression is 30.845, calculated by dividing the sum of squares by the respective degrees of freedom. The F-value is 177.15, which is a ratio of the explained variance to the unexplained variance. The large F-value indicates that the regression model is highly significant in explaining the variance in local work culture. The Sig. (p-value) is less than 0.001, which is well below the significance level of 0.05, confirming that the model is statistically significant. This means that the implementation of top management support has a significant impact on Oman's local work culture in the manufacturing sector of SMEs. In conclusion, the ANOVA results strongly support the regression model, demonstrating that top management support significantly influences local work culture within this sector. The findings indicate that the model effectively captures the relationship between the variables, with a high degree of statistical significance.

Table (10): ANOVA results of the impact of implementation of top management support on Oman's local work culture within the manufacturing sector of small and medium-sized enterprises (SMEs)

	Sum of squares	df	Mean square	F	Sig.
Regression	123.381	4	30.845	177.15	<0.001*
Residual	41.441	238	0.174		
Total	164.822	242			

*Significant at the 0.05 level

Table (11) presents the regression results for the impact of the implementation of top management support on Oman's local work culture within the manufacturing sector of small and medium-sized enterprises (SMEs). These results provide insight into the significance and strength of the relationships between each predictor variable and local work culture. The constant term has a value of 0.899, which represents the baseline level of local work culture when all other predictor variables are held at zero. The t-value for the constant is 6.908, and the corresponding p-value is less than 0.001, indicating that the constant is statistically significant and provides a meaningful baseline for the model. For the variable Information Systems, the unstandardized coefficient is 0.384, with a standardized beta of 0.426. This is statistically significant ($t = 6.445, p < 0.001$), suggesting that Information Systems have a strong and positive impact on local work culture. The positive beta value indicates that as the implementation of Information Systems increases, local work culture improves.

The organizational structure variable has an unstandardized coefficient of 0.019, with a standardized beta of 0.022. However, this result is not statistically significant ($t = 0.284, p = 0.777$), suggesting that organizational structure does not have a meaningful impact on local work culture within the context of this model.

The incentive systems variable shows an unstandardized coefficient of 0.078, with a standardized beta of 0.101. The t-value is 1.215, and the p-value is 0.226, indicating that incentive systems do not significantly affect local work culture in this model.

Lastly, the variable operations have an unstandardized coefficient of 0.311 and a standardized beta of 0.363. This relationship is statistically significant ($t = 4.28, p < 0.001$), demonstrating that operations have a substantial and positive influence on local work culture. The positive coefficient implies that improvements in operational practices are associated with better local work culture. In summary, the regression results show that Information Systems and Operations have significant positive effects on local work culture within Oman's manufacturing sector of SMEs. However, organizational structure and Incentive Systems do not significantly contribute to the variation in local work culture in this context. The findings highlight the critical role of information systems and operational practices in shaping the work culture within SMEs.

In conclusion, the results indicate that top management support significantly influences local work culture within the manufacturing sector of SMEs in Oman, particularly in the areas of information systems and operations, while organizational structure and incentive systems do not show significant effects in this model.

Table (11): Regression results of the impact of implementation of (top management support) on Oman's local work culture within the manufacturing sector of small and medium-sized enterprises (SMEs)

Predictor	Unstandardized coefficient (B)	Std. error	Standardized coefficients (beta)	T	Sig.
Constant	0.899	0.13	-	6.908	< 0.001*
Information systems	0.384	0.06	0.426	6.445	< 0.001*
Organizational structure	0.019	0.068	0.022	0.284	0.777
Incentive systems	0.078	0.064	0.101	1.215	0.226
Operations	0.311	0.073	0.363	4.28	< 0.001*

*Significant at the 0.05 level

This result is consistent with the findings of Ofori et al. (2024), who discovered that TQM has a positive and significant impact on firm performance. Additionally, the study emphasized the mediating role of service product innovation in the relationship between TQM and firm performance, showing that service product innovation significantly enhances the connection between these two factors. Moreover, the study highlighted the importance of service product innovation in mediating the relationship between organizational culture and firm performance, underscoring its positive and significant influence. Similarly, the results are aligned with the study by Ababneh (2020), which found that organizational culture significantly impacts both quality performance and TQM. The study recommended that hotel management should focus on enhancing employee engagement, fostering supportive cultures, and mitigating the effects of power-based cultures. Emphasizing both individual and organizational quality initiatives is key to improving overall performance in the hospitality sector. Furthermore, the results echo the findings of Fok et al. (2023), who demonstrated that a strong organizational culture, combined with the adoption of TQM practices, can significantly improve sustainability performance (SP) and green practices (GPs). This highlights the broader applicability of TQM in enhancing not only organizational efficiency but also environmental sustainability. Finally, the study's results are consistent with the research conducted by Maswadeh & Al Zumot (2021), which revealed a statistically significant effect ($\alpha < 0.05$) of top management support, customer focus, employee participation, and employee empowerment on financial performance, particularly when measured by return on assets. This effect was found to be moderated by organizational culture, emphasizing the crucial role that culture plays in shaping the outcomes of TQM practices and overall organizational success.

CONCLUSION AND RECOMMENDATIONS

Conclusion

In conclusion, this study highlights the significant impact of TQM practices, particularly top management support, on the local work culture within the manufacturing sector of small and medium-sized enterprises (SMEs) in Oman. The findings indicate that strong support from top management plays a pivotal role in shaping and enhancing key aspects of local work culture, such as information systems, organizational structure, incentive systems, and operations. The regression analysis shows that top management support explains a substantial proportion of the variation in local work culture, with nearly 75% of the variability accounted for by this factor. Among the various dimensions of local work culture, information systems and operations were found to have the most significant impact. This suggests that SMEs in Oman should prioritize the strengthening of management support and focus on improving these critical areas to foster a supportive and productive work environment. Furthermore, the study underscores the importance of fostering an organizational culture that engages employees and supports continuous improvement initiatives. By enhancing management practices and aligning them with TQM principles, SMEs in Oman can not only improve their internal work culture but also contribute to long-term organizational success and sustainability. Ultimately, the study provides valuable insights for SME managers and policymakers, offering recommendations to focus on management support, operational efficiency, and the strategic use of information systems to drive cultural transformation and business performance in the manufacturing sector.

Recommendations

Based on the study's findings, several key recommendations are proposed to strengthen local work culture and enhance performance within Oman's SME manufacturing sector. First, SME managers should prioritize top management support, as strong leadership is crucial for fostering a positive organizational environment. Emphasis should also be placed on improving information systems and operational practices, both of which significantly influence work culture and contribute to greater efficiency and decision-making. Additionally, employee engagement and empowerment must be promoted through inclusive practices, professional development, and a culture of ownership. Cultivating a collaborative and trust-based organizational culture is essential for the success of TQM initiatives. Finally, SMEs should implement regular monitoring and evaluation mechanisms to assess the effectiveness of TQM practices and make informed improvements. Collectively, these strategies can drive sustainable growth and long-term success in the sector.

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