

The Effect of Quality Management Systems on Business Performance and Growth

Sabika Jasim Saqer Jasim Alhamlan*¹

¹College of Administrative and Financial Sciences, AMA International University-Bahrain

Abstract - Quality management is an organization-wide concept that ensures that quality is achieved within and outside the organization. Information quality products and service quality are among the most important aspects of quality management that are enhanced by the Quality Management System (QMS). This research aimed to evaluate the effect of the application of the Quality Management System (QMS) on business performance and growth through the mediating effect which is the Information Quality (IQ) and evaluating the effect of Customers Relationships (CR) on business performance and growth. The research adopted causation research where quantitative research was employed. Data were collected by using a stratified sampling technique from a total of 251 respondents by using a structured questionnaire. Regression analysis was applied for hypotheses testing. The results and findings demonstrated that the first hypothesis was that Quality Management System is proved to be a strong predictor of business performance and growth in the Kingdom of Bahrain. The result for the second hypothesis was also found to be significant which reveals that customer relationships are a significant predictor of business performance and growth in the Kingdom of Bahrain. And the result of the third hypothesis showed the significant mediating effect of information quality on the relationship between Quality Management System and business performance and growth. This research paper recommends for the aviation industry to focus and implement the Quality Management System and get ISO certification to enhance the business performance and growth.

Keywords: Quality management system, information quality, business performance and growth, customers' relationship, aviation industry

INTRODUCTION

Since the industrial revolution, the concept of quality has become an increasingly important concept that firms use to gain a competitive edge and sustain in the market. Before this period, goods were made by the same people through simple mechanisms such as handcrafting until the products met the required specific criteria. With this revolution and the resultant mass production, large masses of people were brought on board to work in different areas within production lines and no one person would complete the process from start to finish (O'Mahony, et al.2015). Quality issues began to emerge calling for the establishment of quality departments to contract and deal with the challenges of mass production. These departments were charged with standardizing processes and product designs and this eventually became the focal point for business competitiveness. Since then, quality management became more widespread covering other aspects of the business including operations and customer service. Organizations then shifted their focus to the development of quality management systems which implementation guarantees them a place in the competitive markets that have also become more complex due to globalization, changes in the environment and increasing technology advancements (Ismyrlis & Moschidis 2015). Many global organizations are striving to maintain continuous improvement in the quality of products, services and customer service amid rising competition. In doing so, many have resulted in the

*Corresponding author:

Email: eng_sabika@hotmail.com (S.J.S.J Alhamlan)

[iKSP Journal of Business and Economics \(2021\) 2\(1\): 28-41](#)



implementation of various Quality Management systems (QMS) as the tools that assist and help them continuously meet the ever-changing customer needs.

Bhatia & Awasthi (2017) defines a quality management system as a collection of business processes that are conducted in a business to consistently meet customer requirements and improve customer experience. It is a management technique that organizations use to communicate with their employees to meet expectations in term of the quality of products and service, as well as the required course of action for the achievement of all quality specifications (Raza et al., 2018).

Quality management is an organization-wide concept that ensures that quality is achieved within and outside the organization. Information quality products and service quality are among the most important aspects of quality management that are enhanced by QMS. There are several quality management systems in use including those by the International Organization for Standardization (ISO) and Total Quality Management (TQM). The impact of QMS on the quality of operations cannot be underestimated (Kuceja, 2017). It ensures that all business processes from the sourcing of raw materials to the distribution of final products and services, as well as the customer relationship management, are top-notch which in return helps in the improvement of business performance.

Organizations adopt Quality Management System as it eliminates waster in the production process, which has a direct implication on costs as elimination of unnecessary cost centres and the lowering of costs throughout business processes is instrumental to enhancing profitability and the sustainability of a venture. Quality Management System also helps in the overall improvement of business processes including supply chain management and logistics, human resource management, production, distribution and customer service among others. It is no longer easy to remain afloat if organizations fail to optimize their performances in these and other areas (Bhatia & Awasthi, 2017). Additionally, Quality Management System is instrumental in the creation of an organization-wide direction as it sets the pace for the adoption of best practices in quality management through a continuous quality improvement plan.

Although Quality Management System may seem like a cost burden, it should be seen as a key component of organizational performance as it promotes sales increments, customer satisfaction, and helps an organization to broaden its customer base while also achieving customer loyalty. Quality Management System entails the use of some type of system repeatedly in a manner that the results continuously improve. The processes must be measurable to determine where the organization is against where it ought to be on matters of quality. Quality management also became process-oriented as quality audits became increasingly important (Kowalik & Klimecka-Tatar, 2018).

As businesses struggle with competition and other business challenges, they must continuously seek quality improvements. Quality management is critical to an organization's bottom line as it promotes efficiency and operational performance at all levels of management. This thesis addresses the essence of quality management system impact on Bahrain Aviation industry to improve the business performance and growth.

Quality remains to be a highly important attribute for most of the (Business to Business (B2B) and Business to Customers (B2C) business-related activities. In Bahrain, Quality assurance has been given a highly important value, particularly for government-related tenders where companies must provide quality certifications like ISO, HSE and others as per the sector (Sijilat BH, 2021). Many small and medium-sized enterprises fail to understand the importance of these certifications and may not be able to get high-quality contracts. This affects their growth and profitability (Bhatia & Awasthi, 2017). However, it is also noted that one of the major problems with companies is not merely related to quality management but also information related to qualities. This means that managers who understand its importance are like to have a better impact on such activities.

Further, the problem identified in the study is that the Quality Management System (QMS) is adopted by organizations within the Kingdom of Bahrain, although there are no studies aimed at identifying Quality Management System (QMS) factors that have an impact on organizational performance and growth, there are few studies on the implementation of Quality Management System in different countries. The Civil Aviation Regulations mandate quality system implementation (Bahrain Civil Aviation Regulations - ATNR Ops 1.035), however, the compliance is limited to the specific regulated activities rather than total process among various constituents of the airline industry as result the full potential never been exploited. In today's globalized world where the business is decentralized and outsourced, a quality system is a minimum to participate in the project bidding process, a key stage of Business Growth. Hence in the present research, the researcher aims to understand the application of the Quality Management System on the business performance and growth in the Bahrain Aviation Industry.

LITERATURE REVIEW

A large number of researchers attempted to focus their research on defining quality management practices particularly the implementation of Quality Management System (QMS) and the benefits gained by organizations or firms that adopt such systems. Luburić (2015) conducted a study on the benefits and profits of implementing quality management

principles on the performance and growth of central banks. The study sought to investigate and evaluate the effect and impact of quality management practices on elements of customers' focus, leadership, people engagement in an organization setting, and process improvement. Any organizations that are seeking to improve, enhance and continuous performance and growth must embrace quality management systems by taking all the necessary steps to improve operational efficiency and effectiveness. The study revealed that the implementation and execution of quality management systems (QMS) helps many central banks to achieve their greater efficiency by eliminating wastes and lowering and reducing operational costs, improve risk management by enhancing the ability to conduct risk forecasts and risk planning, and also establish a better internal and external business communication. The study can be used as a basis for the evaluation of the benefits of QMS and other quality management practices on organizations in all industries.

The effect of the Quality Management System on organizational performance at Buraimi University College was studied by Martin & Thawabieh (2018). A questionnaire was developed and distributed among the employees of the university. Organizational performance and growth improved through the adoption of Quality Management System, the results of the study showed top management, leadership and employee development were critical success factors in the successful implementation and execution of Quality Management System in terms of improving the organizational performance and growth (Muhammad et al., 2015).

Logistics management in an organization is one area where operational performance is critical as logistics management facilitates the movement of materials and products from their point of production to where they are consumed, a process that has to always be efficient and continuous. Panigrahi, et al. (2018). explain that logistics management has become increasingly complex especially due to shifts in customer demands, tastes and preferences, technology changes, and competition resulting from globalization. As organizations cope with these challenges, they have discovered that quality management systems play an essential role in finding long-lasting solutions to logistics performance. The study focused on evaluating the benefits of a Quality Management System on supply chain management while blending both approaches. The study found that blending Quality Management System and supply chain management provided many organizational benefits as compared to their applications. More specifically, the researchers noted that such actions help an organization to enhance their customer service by providing a superior experience, improves cooperation between different supply chain stakeholders, improves long-term relationships and collaborations between numerous supply chain players, and promotes a culture of continuous quality improvement (Akram et al., 2020).

Another study by Sundar & Prabhu (2019) aimed at assessing the need for auditing in quality management systems. According to him, there is an increasing need to audit quality management for organizations to ensure a continuous improvement in all aspects of quality management. In doing so, he recommended that customer requirements should be the basis upon which quality management audits should be conducted. He also emphasized the need for organizations to manage quality rather than just focus on identifying areas where quality is should be enhanced. The result of his research indicated that quality audits are needed in seeking opportunities for improvement, establishing quality management best practices that can enhance organizational competitiveness, the establishment of preventive actions for quality compromise, and also emphasize customer satisfaction which has become a prerequisite for competitive advantage.

Purwihartuti et al. (2016) proposed the required criteria for the implementation of quality management systems for national and meteorological and Hydrological services and stressed the benefits of such implementation. The report paid special attention to the implementation of the ISO 9000 family of standards. Listed in the report as some of the benefits of his family of standards include the ability to identify customer needs, meet and monitor them within a management framework, enhanced management control and reporting, a culture of continuous improvement, the establishment of clear business processes where the quality of products can be addressed promptly, and the establishment of well-defined business processes that can foster accuracy, accountability, openness and documentation procedures. Organizations making use of this QMS benefits through employee satisfaction, clearer job specifications, better occupational health and safety, data and knowledge management, as well as enhanced teamwork and communication (Manaa & Haq, 2020). More specific research has been conducted in the past to establish a link and relationship between good performance in organizations and quality management systems. Bhatia & Awasthi (2017), Malik, (2021) studied the impact of quality management systems on business performance and growth. They focused on the overall impact of the implementation of Quality Management System on several performance indicators for the organization including information quality, operational performance, design performance, environmental performance and customer service quality. They also sought to understand how good Quality Management System implementation impacts the overall competitive advantage of organizations. He used questionnaires related to Quality Management System use in businesses to collect data from quality management professionals. Before analyzing the collected data using statistical analysis tools such as regression analysis and descriptive statistics, the study revealed that most of the organizations that implemented Quality Management System did so to enhance change management while using Quality Management System for daily

operations. The study also found a positive relationship between Quality Management System implementation and most of his proposed hypothesis including product and process design, level of customer service, competitive advantage, and environmental performance.

Bhatia & Awasthi (2018). also researched on the correlation between the performance of Quality Management and organizational productivity. They also investigated the role played by op management in Quality Management System implementation and change management as used the 14 management principles suggested by Deming as independent variables and organizational productivity as the dependent variable. They noted that Total Quality Management (TQM) and Quality Management System (QMS) have become some of the most important tools for management tendencies due to their significant impact on organizational productivity through enhanced the performance of operations. Their study was based in an Iranian firm called Aria where they collected data from 56 of the 60 employees through random sampling techniques. About 87 of the respondents asserted that TQM and QMS have a significant and positive impact on organizational productivity (Radhi & Doblas, 2020).

According to the results of a study conducted by Purwihartuti et al. (2016), the level of impact for the implementation of Quality Management System (QMS) differs from one organization to another, though mostly being positive. The research aimed at linking positive knowledge management and general organizational perforce to effective Quality Management System implementation. In providing a better understanding of what a Quality Management System (QMS) entails, they began by describing quality management as a holistic management philosophy that organizations adopt to seek competitive advantage and sustain in the market. The study revealed that unlike other organizations, the existence of ISO 9001 standards in a creativity-oriented organization is difficult because such a standard of quality has a negative effect on creativity, thereby constraining performance outcomes. The study investigated the impact of the Quality Management System (QMS) on Malcolm Baldrige's dimensions including leadership, strategic planning, workforce management, and customer focus and knowledge management. Results of the study found that many of the measured dimensions had a positive relationship with Quality Management System.

Quality audit management is critical to the realization of the quality performance goals and objectives of an organization. Quality auditing is the process through which a systematic examination of a quality system is conducted and carried out by a quality auditor, internal, or external, as part of the overall quality management practice for an organization.

The previous related literature and studies were taken as a reference to show the role of Quality Management System in improving the business performance and growth. Like this study, they were focused on improving business performance and growth through the application and implementation of Quality Management System in the aviation industry in the Kingdom of Bahrain and on increasing and improving productivity and profitability. Also, increasing the need for Quality Management System to be properly implemented and executed. Previous literature was different from this study, they have different frames of studies, variables used and analyzed.

CONCEPTUAL FRAMEWORK

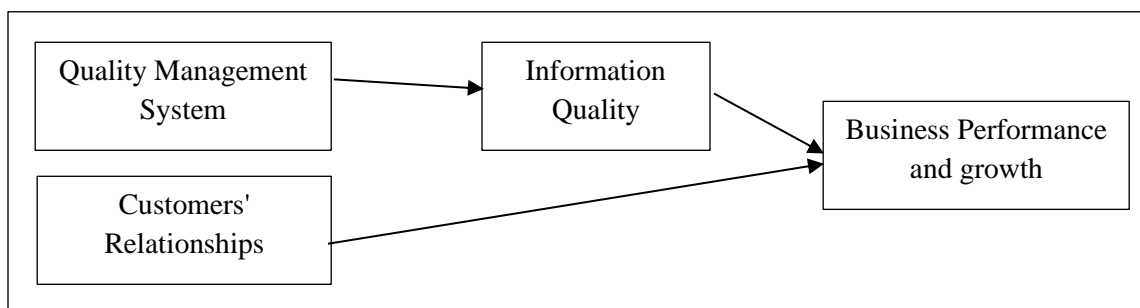


Figure 1: Proposed Conceptual Framework

Research Hypothesis

Based on the research question and the objectives of the study, the hypotheses can be portrayed as follows:

- H1: There is a significant effect of the application of a Quality Management System on business performance and growth.
- H2: There is a significant effect of customer relations on business performance and growth.
- H3: There is a significant mediating effect of information quality between the application of Quality Management System and business performance and growth.

METHODOLOGY

The study aimed to analyze the effect of the Quality Management System (QMS) on the business growth among some companies in aviation within the kingdom of Bahrain. Therefore, the targeted population of this study included some quality managers and employees who belong to the quality department of the following companies which were involved in the aviation industry within the Kingdom of Bahrain: 1) Bahrain Airport Services (BAS) – Catering, Ground Handling and Engineering, 2) BAS Aircraft Engineering Training Center (BAETC)- Training center, 3) AFAQ – Training center, 4) Gulf Aviation Academy – Training center, 5) Gulf Air- Air Transport Service and 6) DHL Bahrain – Logistics. The exact population was six organizations in the aviation industry within the Kingdom of Bahrain. In this study, the researcher used the stratified sampling method to find the respondents. The respondents fell into one group which is the quality managers and employees related to quality. The sample size was 159 respondents overall while the actual respondents of the study were 251 which meets a similar minimum level of responses.

The validity and reliability of the questionnaire were measured using a reliability analysis, where the minimum benchmark value of the Cronbach Alpha value is 0.6 (Ul Haq, Victor & Akram, 2020). Using Pearson's Correlation between the scores, the reliability coefficient will be tested. The value will fall from 0 to 1 as 0.00 (no correlation) to 1.00 for the coefficient of an individual (perfect correlation). The questions were about implementing Quality Management System in companies in the aviation industry within Bahrain and how it can be useful for organizations (evaluated by using variables which are: Application of Quality Management System, Information Quality, Customers' Relationship and Business Growth. In this research, SPSS was used as a statistical technique to analyze the regression and correlation.

Presentation of Data

The table below Table 1 presents the descriptive assessment such as mean value, std. Deviation and sample size for business performance and growth, application of Quality Management System, customer's relationships and information quality.

Table 1: Descriptive Statistics

	Mean	Std. Deviation	N
Business Performance and Growth	4.6454	0.61787	251
Application of QMS	4.8179	0.27400	251
Customer's Relationships	4.4940	0.64106	251
Information Quality	4.6892	0.30984	251

Above table 1 showed that the mean value of business performance and growth is 4.6454 and the standard deviation is 0.61787. Moreover, the mean value of the application of QMS is 4.8179 and its standard deviation is 0.27400. Similarly, the mean value of customer's relationships is 4.4940 and its standard deviation is 0.64106. Lastly, the mean value of information quality is 4.6892 and its standard deviation is 0.30984. The total sample used for this analysis is 251.

RESULTS AND DISCUSSION

Table 2 reveals the results of the Cronbach's Alpha for the study variables. All variables are showing values of Alpha more than 0.60 recommended by Hair et al., (2010). Therefore, current study variables ensure the reliability statistics.

Table 2: Reliability Statistics

Variable	Cronbach's Alpha	N of Items
Application of QMS	0.679	4
Information Quality	0.675	5
Customer's Relationships	0.673	4
Business Performance and Growth	0.795	8

Table 3 showed the findings of Pearson correlations. These findings showed that there is a positive relationship among all the variables used in the current analysis. The application of QMS has 35.9 percent positive relation with business performance and growth, 27.2 percent positive correlation with customer's relationships and 41.2 percent correlation with information quality. Moreover, the application of QMS also has 22.5 percent positive correlation with customer's relationships and 41.5 percent correlation with information quality. Meanwhile, Customer's Relationships has 16.8

percent positive correlation with information quality.

Table 3: Correlations

	Business Performance and Growth	Application of QMS	Customer's Relationships	Information Quality
Business Performance and Growth	1.000			
Application of QMS	0.359	1.000		
Customer's Relationships	0.272	0.225	1.000	
Information Quality	0.412	0.415	0.168	1.000

Model 1: Direct Path

As the current study analyzed the mediating effect of Information Quality between the application of Quality Management System and business performance and growth. Thus, the analysis has conducted into two stages, at the first stage, in Model 1, the simple regression has tested to analyse the direct effect of Information Quality on the Application of Quality Management. Later Model 2 was used to analyze the mediating effect through multiple linear regression.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.415 ^a	0.173	0.169	0.28240

a. Predictors: (Constant), Application of QMS

Table 5: ANOVA

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.143	1	4.143	51.952	0.000 ^b
	Residual	19.858	249	0.080		
	Total	24.001	250			

Table 6: Coefficients

		Unstandardized Coefficients		t	Sig.
Model		B	Std. Error		
1	(Constant)	2.426	0.315	7.711	0.000
	Application of QMS	0.470	0.065	7.208	0.000

a. Dependent Variable: Information Quality

b. Predictors: (Constant), Application of QMS

The above table shows the results of the application of QMS has a positive effect on information quality as the beta value is 0.470 which shows that 1-unit change in the application of QMS will bring a 47-unit change in information quality and this result is significant statistically at 1 percent level of significance. Above table 5 also indicate that the overall model is also significant at 1 percent level of significance.

Model 2: Mediation Path

Model 2 indicates the mediating effect of Information Quality between the application of QMS and business performance and growth through multiple linear regression.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.493 ^a	0.343	0.233	.54098

a. Predictors: (Constant), Information Quality, Customer's Relationships, Application of QMS

Table 7 showed the value of R equals 0.493, this value indicates a good level of prediction of the business performance and growth by using the current predictors. Where the value of R Square (the coefficient of determination) is equal to

0.343, which showed that 34.3 percent of the variation in the business performance and growth of in Bahrain Aviation Industry is explained by the information quality, customer's relationships, application of Quality Management System, which consider a good contribution for any study based on primary data.

Table 8: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	23.156	3	7.719	26.374	.000 ^b
	Residual	72.286	247	.293		
	Total	95.442	250			

a. Dependent Variable: Business Performance and Growth

b. Predictors: (Constant), Information Quality, Customer's Relationships, Application of QMS

The regression analysis results were presented using regression model summary tables, analysis of variance (ANOVA) table and beta coefficient tables. In Table 8, the estimated sum of squares of business performance and growth factors are equal to 23.156, where the residual sum of squares of other factors is 72.286. The high difference between the two values (F-ratio) in the one-way ANOVA table is equal to 26.374 and the F-statistics is 0.000 which is less than 0.05 indicates that the current model is highly significant at 1 percent level of significance. This implied that the independent variables explained the variation in the dependent variable significantly. Therefore, the model was significant statistically.

Table 4: Coefficients

Model	Unstandardized Coefficients		t-value	Sig.
	B	Std. Error		
(Constant)	-1.053	0.676	-1.559	0.120
Application of QMS	0.436	0.139	3.129	0.002
Customer's Relationships	0.172	0.055	3.123	0.002
Information Quality	0.603	0.122	4.947	0.000

a. Dependent Variable: Business Performance and Growth

b. Predictors: (Constant), Information Quality, Customer's Relationships, Application of QMS

Table 9 showed the values of β coefficient of independent variables and their significance level. The findings of this table indicate that the application of Quality Management System, customer's relationships and information quality as independent variables have a positive impact on business performance and growth and significant at 1 percent level of significance. Meanwhile, the beta value of the application of the Quality Management System is decline as compared to the previous model after adding the information quality in the current model which indicates that the information quality has a partial mediation between the application of the Quality Management System and business performance and growth.

Application of QMS and Business performance and growth

The findings of OLS regression in table 4.6 and 4.9 showed that the application of Quality Management System has a positive and significant effect on business performance and growth as the beta value of the application of Quality Management System in model-1 is 0.470 which is significant at 1 percent of significance level and in Model-2 the beta value is 0.437 which also significance. Thus, the study rejected the first null hypothesis and proved empirically that if 1 percent change in percent of application of QMS will bring 47 percent change the business performance and growth and this result is significant at 1 percent level of significance.

The result is in line with the various previous result. For instance, Kuei and Lu (2013) found that quality-driven management systems by integrating quality management principles into sustainability management are beneficial for organizations as the relationship between both antecedents is significant. King and Lenox (2017) provided empirical evidence for the complementing role of various quality management systems such as lean production, evaluated by ISO 9000 implementation and low investment level, to business performance and found a significant association among them. Furthermore, Yang et al., (2011), based on data from 309 manufacturing enterprises, found a significant contribution of quality management practices to business performance and unfold that both have positively and significantly correlated.

So, based on prior literature and current findings it is believed that Quality Management System and business performance and growth are important and significantly correlated factors in organizations.

Customer's Relationships and Business performance and growth

The customer's relationships have a positive and significant effect on business performance and growth in the aviation industry of Bahrain as the beta value of Customer's Relationships is 0.172 which is significant at 1 percent of significance level as the P-value is 0.000. Hence, the study rejected the second null hypothesis and proved empirically that if 1 percent change in Customer's Relationships will bring 17.2 percent change in the business performance and growth in the aviation industry of Bahrain.

Thus, our study is in line with the association between CRM and business performance and growth literature, supporting the long-held belief that CRM plays a vital role to improve business performance by getting higher growth (Kasim and Minai, 2019; Ramani and Kumar, 2018). According to the results of our research, CRM has a significant and positive influence on business performance and growth, as found by (Akroush et al., 2011). This perhaps can best be explained through the argument made by Wu and Li (2011), in that when customers have a more positive reaction to the CRM actions offered, then the quality of the relationship will be better that would consequently contribute to business performance and growth. In addition, Ryals (2015) contended that CRM activities generate better company performance when managers focus on maximizing the value of customers. Regarding the influence of CRM dimensions on the internal processes' perspective of organizations.

Information Quality as a mediator

Information Quality is used as a mediator between the application of Quality Management System and business performance and growth and the beta value of information quality is 0.603 which shows 60 percent change in business performance and growth due to 1 percent change in information quality. Meanwhile, the beta value of the application of the Quality Management System in Model-2 (table 4.9) is decline as compare to the beta value of the first model (Table 4.6). This change in the beta value of the application of Quality Management System indicate that the information quality is partially mediation the effect of application of Quality Management System and business performance and growth and this result is statically significant, thus we also reject the third null hypothesis.

This result of the current study was a crucial contribution towards the latest debate going in the literature of business performance and growth. Especially this result of information quality as a mediator on the relationship between Quality Management System and business performance and growth grabs special attention in the context of the Kingdom of Bahrain as it opens new paths or debate pertinent to the study variables. The empirical result is validating the prior literature and debate on the mediating role of information quality on the relationship between Quality Management System and business performance and growth.

CONCLUSION

Quality Management systems as well as business assessment models have been evolved by many quality experts at different countries/institutions at a different point in time over the last few decades with the fundamental purpose of achieving quality and business performance excellence. However, organizations worldwide have adopted/implemented either a particular Quality Management system or a combination of these Quality Management systems to meet their company objectives and goals including improvement in their business/organizational performance and growth. Further, some organizations have adopted multiple systems, either together or in different sequences, and have reported different levels of performance and growth achievements. A large number of such research have been conducted in the last two decades at various organizations showing the impact and effect of adoption of several Quality Management systems on the organization's quality, operating and business performances.

Therefore, this study also aimed to examine the association between Quality Management System, customer relationships, information quality and business performance and growth in the aviation industry of the Kingdom of Bahrain. Thus, the firsts hypothesis of the current study was crafted as:

H1: There is a significant effect of the application of QMS on business performance and growth.

The result of this hypothesis also revealed the significant effect hence it also accepts the alternative hypothesis by rejecting the null hypothesis. The results of the current study also validated the results of the prior literature. For instance, Kuei and Lu (2013) found that quality management systems are a crucial predictor of a firm's success and growth. They further argued that to sustain and expand the business in today's fiercely competitive business world, organizations must adopt and implement the quality management system to ensure productivity and quality. Similar, Kumar et al., (2017)

also found that a Quality management system was an integral part of the overall organizational movement for the past few decades to achieve world-class product/service quality and market success and growth. Hence, QMS is proved to be a strong predictor of business performance and growth in the Kingdom of Bahrain.

Furthermore, in line with the research questions and objectives, the second hypothesis was drawn as:

H2: There is a significant effect of customer relations on business performance and growth.

The result for the second hypothesis was also found to be significant which reveals that customer relationships were a significant predictor of business performance and growth in the Kingdom of Bahrain. It is also established based on the empirical results that customer relations play a pivotal role in attaining greater business performance and growth in the Kingdom of Bahrain. As discussed earlier, this result fully supported the findings of the prior studies as Kasim and Minai (2019) reveals that CRM plays a crucial role in overall business improvements that contribute to gain higher business performance and consequently higher growth in the current competitive business world. Akroush et al., (2011) also unfold similar findings of association of business growth by discussing that customer relation is significantly associating with overall business performance, growth and success.

H3: There is a significant mediating effect of information quality on business performance and growth.

The result of the third hypothesis revealed the significant mediating effect of information quality on the relationship between Quality Management System and business performance and growth. Therefore, the current study accepts the alternative hypothesis by rejecting the null hypothesis. This result also corroborates the prior literature. For instance, (Wong et al., 2017) argued that in firms and organizations where the concept of information quality plays a strategic role, a massive transformation of operational and marketing aspects of the value chain is enabled which leads to higher business performance and growth. Furthermore, through information quality, companies can identify, combine, and coordinate appropriate internal resources to improve capabilities across several domains, such as product quality (Jacobs et al., 2017). Case-based evidence also suggests that internal information quality leads to greater cost reduction (Wong et al., 2011). For example, in a case study of data integration in Texaco and Star Enterprise, Richardson et al., (2019) report the importance of managing data needs as a corporate asset, with data planning an integral part of business process improvements that can be categorized into defect prevention, improvement actions, and cost of quality deficiencies.

RECOMMENDATIONS

Following are the recommendations based on the current findings.

- In Bahrain, the Aviation industry makes sure that information quality management is implemented through knowledge sharing, lectures, training and awareness programs about the quality that would enhance the performance of the company.
- In the Aviation industry, it is noted that customer relations are important and affect the business performance and growth of the company. Therefore, the following recommendations were suggested to enhance the customer relations particularly.
 - Offer special promotional messages.
 - Detail the quality care processes adopted in the aviation industry.
 - Maintain a database of the customer to send discounted offers to loyal customers.

LIMITATIONS OF THE STUDY

Though the literature is focused on Quality Management System (QMS) implementation and its impact on business performance and growth, the findings of the study will be valuable for other researchers to conduct identical research in different organizations and industries in other countries and regions. The study was conducted within 6 months from Nov-20 to Mar-21 and thus the results were limited to this.

The study sought to evaluate the effect of two independent variables, which are the application of quality management system and customer relationships and one mediating variable which is the information quality on the dependent variable that is business performance and growth. Therefore, the study was set to specific variables and is therefore limited, considering all else stable and unchanged. The response of the study was based on some of the Bahrain aviation organizations, therefore also limiting the results to an aviation industry within the Kingdom of Bahrain. The scope was also limited to being adopted within a specific country, without having the ability to research other countries to obtain further results and conduct comparisons.

REFERENCE

- Al, M. A. (2019). Examining the effects of perceived organizational support, a fair rewards system, training and development and information sharing on employees engagement in Saudi Arabia Telecom sector. *Humanities*, 7(3), 181-190.
- Al-Otaibi, F. M. S. (2015). Role of exploratory factor analysis applicability of TQM practices on the items of quality culture in the kingdom of Saudi Arabia. *International Journal of Business and Management*, 10(1), 136.
- Akram, F., Abrar ul Haq, M., Natarajan, V. K., & Chellakan, R. S. (2020). Board heterogeneity and corporate performance: An insight beyond agency issues. *Cogent Business & Management*, 7(1), 1809299.
- Alshikhi, O. A., & Abdullah, B. M. (2018). Information quality: definitions, measurement, dimensions, and relationship with decision making. *European Journal of Business and Innovation Research*, 6(5), 36-42.
- Anca, V. (2019), 'Logistics and Supply Chain Management: An Overview', *Studies in Business and Economics*, 142(2), pp. 209-215.
- Bacoup, P., Michel, C., Habchi, G., & Pralus, M. (2018). From a quality management system (QMS) to a lean quality management system (LQMS). *The TQM Journal*. 12(4), pp. 322-328.
- Bahrain Civil Aviation Regulations - ATNR Ops 1.035
- Bhatia, M. S., & Awasthi, A. (2017). Investigating the impact of quality management systems on business performance. *International Journal of Productivity and Quality Management*, 21(2), p.143-173.
- Bhatia, M. S., & Awasthi, A. (2018). Assessing relationship between quality management systems and business performance and its mediators. *International Journal of Quality & Reliability Management*.
- Chiarini, A. (2020). Industry 4.0, quality management and TQM world. A systematic literature review and a proposed agenda for further research. *The TQM Journal*. 18(3), pp. 212-221.
- Dalla Pozza, I., Goetz, O., & Sahut, J. M. (2018). Implementation effects in the relationship between CRM and its performance. *Journal of Business Research*, 89, 391-403.
- DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: a ten-year update. *Journal of management information systems*, 19(4), 9-30.
- Dulaimi, M., & Ellahham, S. (2016). Using Lean management to leverage innovation in healthcare projects: case study of a public hospital in the UAE. *BMJ Innovations*, 2(1), 22-32.
- European Union Aviation Safety Agency (EASA) Regulation (EU) No 1321/2014 which was published in June, 2020
- Gargasas, A., Samuolaitis, M. and Mugiene, I. (2019), 'Quality Management Systems in Logistics', *Management Theory and Studies for Rural Business and Infrastructure Development*, 41(2), pp. 290-304.
- Haislip, J. Z., & Richardson, V. J. (2017). The effect of Customer Relationship Management systems on firm performance. *Int. J. Account. Inf. Syst.*, 27, 16-29.
- Ismyrilis, V., & Moschidis, O. (2015). The use of quality management systems, tools, and techniques in ISO 9001: 2008 certified companies with multidimensional statistics: the Greek case. *Total Quality Management & Business Excellence*, 26(5-6), 497-514.
- Karimi Muiruri, Z. (2016). Quality Management Systems and Organizational Performance: A Theoretical Review in Kenya's Public Sector Organizations. *Science Journal of Business and Management*, 4(5), 150. <https://doi.org/10.11648/j.sjbm.20160405.12>
- Kebede, A. M., & Tegegne, Z. L. (2018). The effect of customer relationship management on bank performance: In context of commercial banks in Amhara Region, Ethiopia. *Cogent Business & Management*, 5(1), 1499183.
- Kharub, M., & Sharma, R. (2020). An integrated structural model of QMPs, QMS and firm's performance for competitive positioning in MSMEs. *Total Quality Management & Business Excellence*, 31(3-4), 312-341.
- Kowalik, K. & Klimecka-Tatar, D. (2018), 'The process approach to service quality management', *Production Engineering Archives*, 18, pp. 31-34.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610.
- Kuceja, A. (2017), 'Quality management system auditing: a critical exploration of practice', Doctoral dissertation, University of Gloucestershire 26(5-6), 497-514..
- Kumar, P., Maiti, J., & Gunasekaran, A. (2018). Impact of quality management systems on firm performance. *International Journal of Quality & Reliability Management*. 31(3-4), 312-341.
- Leyer, M., Stumpf-Wollersheim, J. and Pisani, F. (2017), 'The influence of process-oriented organizational design on operational performance and innovation: A quantitative analysis in the financial services industry', *International Journal of Production Research*, 55(18), pp. 5259-5270.

- Li, H., Strauss, J., & Lu, L. (2019). The impact of high-speed rail on civil aviation in China. *Transport Policy*, 74, 187-200.
- Liu, Y.-Y. (2019), 'Exploring the Importance of Behavior during Personal Interactions and Customer Relationship Management: Case Interviews', *International Journal of Organizational Innovation*, 11(4), pp. 135-144.
- Luburić, R. (2015), 'Quality Management Principles and Benefits of their Implementation in Central Banks', *Journal of Central Banking Theory and Practice*, 3, pp. 91-121.
- Manaa, A., & ul Haq, M. A. (2020). The Effects of SMEs, Population and Education level on Unemployment in Kingdom of Bahrain. *iKSP Journal of Business and Economics*, 1(2), 23-33.
- Malik, H. A. M., Abid, F., Wahiddin, M. R., & Waqas, A. (2021). Modeling of internal and external factors affecting a complex dengue network. *Chaos, Solitons & Fractals*, 144, 110694.
- Martin, A., & Thawabieh, F. A. (2018). The Effect of ISO 9001 to Oman Higher Education Operational Performance: Buraimi University College as a Case Study. *International Journal of Applied Engineering Research*, 13(6), 3939-3947.
- Martin, J., Taljaard, M., Girling, A., & Hemming, K. (2016). Systematic review finds major deficiencies in sample size methodology and reporting for stepped-wedge cluster randomised trials. *BMJ open*, 6(2), e010166.
- Muhammad, A. U. H., Mohd, R., & Gazi, M. (2015). Factors affecting Small and Medium Enterprises (SMEs) development in Pakistan. *American-Eurasian Journal of Agricultural & Environmental Sciences*, 15(4), 546-552.
- Neto, F. R. A., & Santos, C. A. (2018). Understanding crowdsourcing projects: A systematic review of tendencies, workflow, and quality management. *Information Processing & Management*, 54(4), 490-506.
- Nguyen, T. and Nagase, K. (2019), 'The influence of total quality management on customer satisfaction', *International Journal of Healthcare Management*, 12(4), pp. 277-285.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of marketing research*, 17(4), 460-469.
- O'Mahony, D., O'Sullivan, D., Byrne, S., O'Connor, M. N., Ryan, C., & Gallagher, P. (2015). STOPP/START criteria for potentially inappropriate prescribing in older people: version 2. *Age and ageing*, 44(2), 213-218.
- Panigrahi, S. K., Kar, F. W., Fen, T. A., Hoe, L. K., & Wong, M. (2018). A strategic initiative for successful reverse logistics management in retail industry. *Global Business Review*, 19(3_suppl), 151-175.
- Purwihartuti, K., Sule, E., Hilmiana & Zusnita, W. O. (2016), 'QUALITY MANAGEMENT SYSTEMS AND PERFORMANCE OF ORGANIZATION', *International Journal of Economics, Commerce and Management*, IV(11), pp. 598-611.
- Radhi, M. M., & Doblas, M. P. (2020). Demographic Characteristics as Antecedents for Propensity to Stay among Employees of Rosemarry Contracting Company in the Kingdom of Bahrain. *iKSP Journal of Business and Economics*, 1(2).
- Raza, S., Minai, M. S., Abrar ul Haq, M., & Zain, A. Y. M. (2018). Entrepreneurial network towards small firm performance through dynamic capabilities: the conceptual perspective. *Academy of Entrepreneurship Journal*, 24(4), 1-9.
- Saleh, R. A., Sweis, R. J., & Saleh, F. I. M. (2018). Investigating the impact of hard total quality management practices on operational performance in manufacturing organizations. *Benchmarking: An International Journal*.
- Sezgen, E., Mason, K. J., & Mayer, R. (2019). Voice of airline passenger: A text mining approach to understand customer satisfaction. *Journal of Air Transport Management*, 77, 65-74.
- Sfreddo, L. S., Vieira, G. B. B., Vidor, G., & Santos, C. H. S. (2018). ISO 9001 based quality management systems and organisational performance: a systematic literature review. *Total Quality Management & Business Excellence*, 1-21.
- Sigala, M. (2018). Implementing social customer relationship management. *International Journal of Contemporary Hospitality Management* 44(2), 213-218.
- Sundar, S., & Prabhu, H. M. (2019). The impact of quality management practices, training and employee suggestion schemes on quality performance. *International Journal of Productivity and Quality Management*, 28(2), 210-226.
- Ul Haq, M. A., Victor, S., & Akram, F. (2020). Exploring the motives and success factors behind female entrepreneurs in India. *Quality & Quantity*, 1-28.
- Ullah, A., Iqbal, S., & Shams, S. R. (2020). Impact of CRM adoption on organizational performance. *Competitiveness Review: An International Business Journal* 25(4), 268-278.

- Zand, J. D., Keramati, A., Shakouri, F., & Noori, H. (2018). Assessing the impact of customer knowledge management on organizational performance. *Knowledge and Process Management*, 25(4), 268-278
- Zipporah Karimi Muiruri. Quality Management Systems and Organizational Performance: A Theoretical Review in Kenya's Public Sector Organizations. *Science Journal of Business and Management*. Vol. 4, No. 5, (2016), pp. 150-155.

APPENDIX: QUESTIONNAIRE

Part 1	
Name (Optional)	
Gender	<input type="checkbox"/> 1. Male <input type="checkbox"/> 2. Female
Age	<input type="checkbox"/> 1. Less than 20 years <input type="checkbox"/> 2. 20 – 30 years <input type="checkbox"/> 3. 31 – 40 years <input type="checkbox"/> 4. 41 – 50 years <input type="checkbox"/> 5. Above 50 years
Position	<input type="checkbox"/> 1. Quality Manager <input type="checkbox"/> 2. Employee
Have you ever heard about QMS? If no skip to the next question	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No
What is your background level about QMS?	<input type="checkbox"/> 1. Beginner <input type="checkbox"/> 2. Average <input type="checkbox"/> 3. Above Average <input type="checkbox"/> 4. Expert
Do you think that implementing QMS is beneficial to the organization?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No
Have you ever heard about ISO standard?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No
Do you think that companies should implement QMS to improve the level of quality?	<input type="checkbox"/> 1. YES <input type="checkbox"/> 2. NO
If you were general manager to an organization would you prefer using QMS for your organization?	<input type="checkbox"/> 1. YES <input type="checkbox"/> 2. NO

Questions Part 2		strongly disagreed	Disagreed	Moderately Agree	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
No	Application of QMS					
1	Using QMS is beneficial for the organization					
2	QMS facilitates goals achievement					

3	QMS is an important factor for continuous improvement					
4	QMS helps in using the available resources more effectively					
No	Information Quality					
1	QMS helps in updating the information quality regularly and as required					
2	QMS helps in tracking the amendments and maintaining the history of changes done					
3	Information quality reduces costs of the organization					
4	Information quality gives a guidelines to implement Quality procedures					
5	Information quality helps in auditing process of the organization					
No	Customer's Relationships (CR)					
1	CR helps in organization's continuous improvement					
2	CR enables the organization to know the customers' requirements					
3	CR gives the organization a chance to improve their products in order to meet customers' needs and expectations					
4	CR helps in minimizing complains					
No	Business Growth					
1	Using QMS provides more control to managers on monitoring the organization's performance					

2	Are the companies that use QMS more efficient and effective than the once that do not use it					
3	QMS helps the organization to evaluate and monitor the organization's performance and growth					
4	QMS helps reduce time to accomplish tasks					
5	QMS reduces the additional cost of inadequate organization					
6	QMS helps reduce the maintenance cost to organization					
7	QMS reduces long term cost of the organization					
8	Implementing QMS result to reduce operational cost expenses					