

Quality Management System & Organizational Performance: Evidence from Hospitals (Post-Covid Lessons)

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Abstract

The purpose of this research is to propose and assess the effectiveness of a quality-centered management system for healthcare at organizational level in providing safe and trustworthy health care system. This research also serves the aim to look at the impact of quality management system's approaches on non-financial service performances in the Pakistani healthcare business. The outbreak of Covid-19 has compelled human beings to reconsider and rethink quality mechanisms at post-COVID-19 era. Workforce emotional support and well-being remained at the core of all quality operations as all strived to balance the system via learning and improvement in preparation for the next wave, as well as to maintain a culture of trust and transparency. Another critical objective is to maintain the advantages of new procedures while they are operationalized during the surge, which may lead to future resilience. Five QMS practices were identified; market performance, customer focus, goal accomplishment, employee involvement & empowerment, and innovation. Positivism research paradigm was incorporated to investigate the phenomena. The sample size was made up of 4 hospitals of Pakistan following ISO 9001. According to the findings, significant elements that have a positive effect on hospital performance include QMS practices such as customer focus, innovation, market performance, employee engagement and empowerment, and goal accomplishment. The findings of the research are helpful for the development of QMS strategy in the private and public hospitals of Pakistan inferring that QMS practices have a leading role in the improvement of the non-financial performance of hospitals. Hospital managers at a different level can achieve improved results with effective implementation of identified QMS practices. QMS practices significantly contribute towards individual dimensions as well as an overall improvement in non-financial performance.

Key Words: Hospitals, ISO Certification, Non-Financial Performance, QMS Practices

Introduction

The complexities and relevance of cooperation in health care necessitate a significant change in the current quality assurance system (Rehmani, Naseem, & Ahmad, 2020; Zimon & Tarighi, 2021). A quality management system (QMS) is a method or a work technique that ensures consistent high product quality (Díez, Villa, Lopez, & Iraurgi, 2020). There is a need for such a system to be developed for the healthcare industry. A QMS, or Quality Management System, is a collection of policies, processes, written procedures, and records which specifies the set of internal rules that will govern how a firm produces and distributes a firm product or service to consumers (Sharma & Joshi, 2020).

The advantages of ISO 9001 cannot be emphasized; organizations of all sizes have implemented this standard to great effect, resulting in cost reductions and increased income. Here are a few examples of these advantages (Maina, 2020). Customers will realize that a firm has developed a system that is focused on fulfilling customer requirements and improving when they see that a firm has been certified by a reputable certification organization. This increases their faith in a firm to deliver on a firm promises, and it will bring a firm more clients (Campbell, Lighter, & Mueller, 2021).

Many poor and middle-income nations have created their own national certification standards and accreditation systems for regulating and improving healthcare service quality (Maljugić, Đorđević, & Čočalo, 2021). Healthcare quality is defined as the extent to which health services delivered to

people and groups maximize the likelihood of desired health outcomes while remaining consistent with current professional knowledge (Someren, 2021). There were no additional rules for healthcare institutions in Pakistan until recently, except from the Pakistan Medical & Dental Council (PM&DC) and Pakistan Nursing Council (PNC) laws. The primary goal of these statutes is to register all healthcare establishments in Pakistan (Gremyr, Lenning, Elg, & Martin, 2021). Healthcare quality is defined as the extent to which health services provided to individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (Sfreddo, Vieira, Vidor, Gonçalves, & Giacomello, 2021). In the absence of a national healthcare accreditation system in Pakistan, few healthcare organizations in the private and public sectors have voluntarily adopted the ISO 9001:2008 Quality Management System (Shamlooh & Doblaz, 2021).

In light of the foregoing, some of the unique hurdles for Pakistan's healthcare quality initiatives include the absence of a national healthcare certification system as well as integrated national standards, policies, and procedures on healthcare quality and patient safety (Kharub & Sharma, 2020; Shah, 2016). Despite the fact that quality of care objectives is established in the national health policy, there are no national quality care indicators (Mendes, Ferreira, & Lourenço, 2021). There are no regulatory audits for public and private sector health institutions.

Literature Review

The core premise of a Quality Management System is pretty straightforward. It aims to recognize interested party needs such as trading licences, guidelines, customer requirements, and the chosen management system standard(s). Confirm that staff has received the necessary training on the quality system requirements. Determine processes, their interactions, inputs, and outputs (Shahrom & Basir, 2021). Produce documentation or proof that system requirements have been satisfied. The QMS's performance must be measured, monitored, and reported.

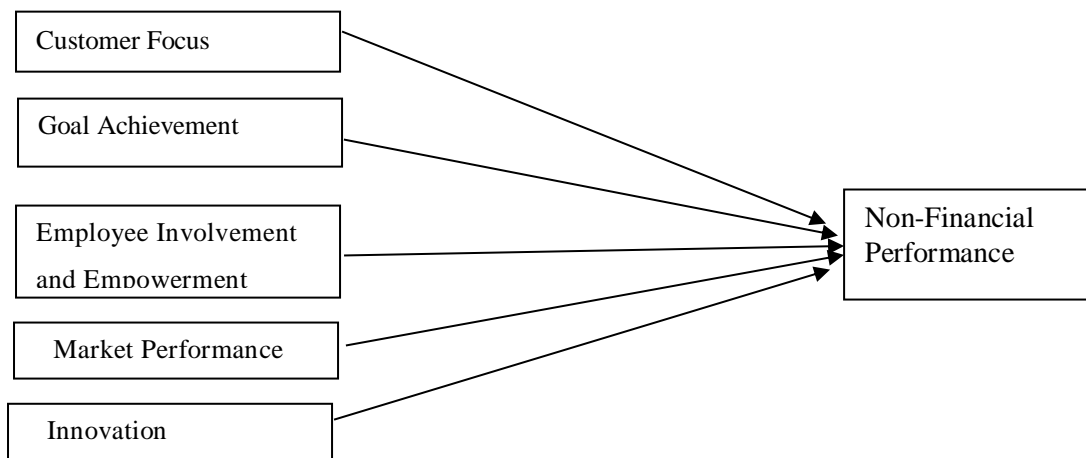
The QMS process ensures that quality is achieved in all directions in health institutions and hospitals, and the most important of these standards include quality awareness assessment criteria: these are to develop the skills of hospital staff and train them on the clinical work guides found in hospital services (Balding & Leggat, 2020). Criteria for assessing medical services is reflected by creating a clinical work guide that describes how to use it and directing hospital workers to the most prevalent diagnoses and the processes to be followed for these diagnoses (Noviantoro et al., 2020). Performance evaluation criteria are represented by determining the extent to which the hospital's quality of services is achieved, as well as measuring patient and family satisfaction with the general performance of the hospital staff, measuring the success of clinical, financial, and administrative procedures, and assessing the extent of control over critical and unexpected events and results (Tseleejav, Tsogbadrakh, Luvsansambuu, & Luvsan, 2020). It can happen when providing services, such as death, chemical reactions, and diagnostic mistakes.

To create and retain a sustainable competitive edge in today's callous global competition, organizations must boost quality while simultaneously encouraging innovation (Campbell et al., 2021). However, common wisdom holds that there is a trade-off between quality and innovation to the extent that growing one leads to degradation of the other, and hence businesses must make an exclusive decision between the two (Thoumy & Jobin, 2020). The present approach, on the other hand, challenges this view and claims that quality and innovation may coexist in a cumulative improvement paradigm, with organizations that achieve excellence in quality expected to also thrive in innovation (Rabbanizadeh & Ghavam, 2021). Division of quality and innovation is, to some extent, essentially theoretical, not practical. In practice, organizations seek quality via innovation or innovate through quality improvement due to the self-reinforcing and dual-direction nature of the influence quality management and innovation has on one another (Johannesen, 2020). Thus, quality and innovation are two essential business orientations that complement each other and cannot be mutually incompatible, as Mc said, "While quality is doing things better, innovation is doing things differently." The link between quality and innovation has gotten a lot of attention in the management literature during the last two decades (Koltsova, Skipin, & Myshyakov, 2020). However, there was less interest in the quality

management system QMs (ISO 9001) in the context of innovation. The few studies that have looked at the influence of QMs (ISO 9001) on product innovation have yielded conflicting findings (Abasi Senjedary, Masoudi Asl, Jahangiri, & Riahi, 2020). On the one hand, some studies claim that ISO 9001 has a beneficial impact on product innovation since it contains a set of characteristics that might stimulate creativity. Others discovered that QMs (ISO 9001) are adversely associated to product innovation since some of its components are meant to eliminate waste and limit variability, both of which are incompatible with innovation (Abukhader & Onbaşıoğlu, 2021). There have been studies that indicated no significant association between QMs (ISO9001) and several aspects of product innovation. A close examination of these studies reveals that a rigorous comparison of their contradictory results is difficult to carry out due to the various samples, analysis methods, and measurement used, though a major potential explanation for these results may be the neglected multidimensional aspects of quality management and innovation (Clay-Williams et al., 2020). Several writers have considered QMs (ISO 9001) and product innovation as one-dimensional variables, ignoring the various QMs (ISO 9001) practices and product innovation types in a single study. As a result, a multidimensional approach to quality and innovation may be a potential strategy to resolving the current dispute regarding quality management and innovation (Abduvokhidov, Ismoiljonov, & Komilov). It is difficult to generalise the inclusive influence of QM on creativity owing to QM's complexity, which includes various components and, as a consequence, might provide contradictory results when related to innovation (Alshourah, 2021). As a result, the link between QMs (ISO 9001) practices and product innovation remains ambiguous, and the literature fails to provide a specific solution to the question of QMs (ISO 9001) influence on product innovation (Organization, 2021).

QMS Framework

QMS -Practices



Customer focus As the importance of customer happiness and service quality has grown, management researchers have produced an outstanding volume of study on its antecedents. However, significant gaps persist in terms of satisfaction among varied groups, better defining methods and procedures, and the forms and impacts of co-production activities (Benzaquen, Carlos, Norero, Armas, & Pacheco, 2021; Rahman, Bhuiyan, & Zailani, 2021).

H-1 = There is positive relationship between customer focus and non-financial performance of a hospitals.

Goal Achievement Goals should be set by all enterprises. The management team develops targets for the short term, the following year, as well as the long term, the next three to five years, as part of the planning process (Abduvokhidov et al.; Barbosa et al., 2021).

H-2 = There is positive relationship between goal achievement and non-financial performance of a hospitals.

Employee Involvement and Empowerment Employee participation is a broad notion that spans a wide range of behaviors. It is defined here as "the exercise of influence by workers on how their job is structured and carried out (Abukhader & Onbaşıoğlu, 2021; Cavallone & Palumbo, 2021). In this part, a quick overview of the various types of engagement is provided in order to discern essential elements.

H-3 = There is positive relationship between employee involvements and empowerment and non-financial performance of a hospitals.

Market Performance

Market performance shows what perspective must excel from the company (Benzaquen et al., 2021; Jasim, 2021). This perspective identifies the core processes that must be mastered by the company in order to continue the added value for the customer, and ultimately for the owners of capital (Campbell et al., 2021; Darr et al., 2021).

H-4 = There is positive relationship between market performance and non-financial performance of a hospitals.

Innovation Due to global rivalry, businesses have begun to reassess their innovation strategy on a regular basis in order to acquire a competitive advantage (Darr et al., 2021; Gertsik & Omelchenko, 2021).

H-5 = There is positive relationship between innovation and non-financial performance of a hospitals.

Material and Methods

The primary goal of this research is to assess the influence of COVID on QMS practices using non-financial measures on the performance of service organizations. The study incorporated a positivism research paradigm in order to address the objective nature of research. As the current study has an empirical and a quantitative method was considered the best method for achieving the research objectives of the study.

Results and Discussion

Reliability analysis

The scale was tested for reliability by using Cronbach's Alpha. Table-I illustrates test results.

Table I
Reliability Analysis

Variable	No. of items	Alpha Reliability Coefficient
Customer focus	3	0.8620
Goal Achievement	3	0.8697
Employee involvement & empowerment	3	0.9097
Market Performance	3	0.8556
Innovation	3	0.8611
Performance (dependant variable)	17	0.8241

Cronbach's alpha values for independent variables are all more than 0.8, indicating that the constructs were reliable in measuring non-financial performance. Whereas the alpha value of the dependent variable 'Performance' is 0.8421, which is outside of the allowed range and indicates that individual constructs were not trustworthy in measuring performance metrics.

Descriptive analysis

In a demographic study of the data, it was discovered that quality inclined hospitals adopted QMS in all departments, whereas non-quality inclined hospitals focused solely on the clinical department. Training per season for an average employee is stated to be 6-10 days by 72 percent of hospitals, while staff engagement in QMS implementation is claimed to be 100 percent by 67 percent of hospitals. The average qualification of 77 percent of employees is a master's degree. All of the hospitals have their own quality assurance system.

Correlation analysis

Correlation answers three fundamental questions regarding two variables or two sets of data in a study. It first indicates whether or not there is a link between two variables, and if so, what the direction of the relationship is, followed by the size of the association.

The correlation coefficient (r) of the dependent variable, customer attention, with the independent variable, innovation, is 0.619, indicating that the two are positively connected. Similarly, a substantial link has been discovered between innovation and market performance, as well as employee participation and empowerment, with correlation coefficient values of 0.813 and 0.840, respectively.

**Table 2
Correlation**

Variable Title	CF	GA	MP	EIE	IN	PRF
CF	1	.529	.000	.545	.619	.619
GA	.529	1	-0.41	.610	.675	.675
MP	.000	-.041	1	.302	.150	.183
EIE	.545	.610	.302	1	.840	.183
IN	.619	.675	.150	.840	1	.720
PRF	.619	.675	.183	.183	.720	1

Multiple regression analysis

All approaches that seek to fit a model to observed data in order to quantify the connection between two sets of variables are referred to as regression. The fitted model may then be used to either describe the connection between the two sets of variables or to forecast new values.

Similarly, if tolerance values are very near to zero and tolerance is less than 0.1, the similar situation may emerge. VIF's inverse is tolerance. Table IV shows that the tolerance values for each variable are more than 0.1 and the VIF values are less than 10, indicating that there is no multicollinearity.

Results of multiple regression equation have been tabulated in tab. III and V.

Table 3
Tolerance And Vif Diagnostic For Multicollinearity

Variable	Tolerance	VIF
Customer focus	.507	1.972
Goal Achievement	.433	2.312
Employee involvement & Empowerment	.830	1.204
Market Performance	.444	2.254
Innovation	.372	2.689

Table 4
Model Summary

Model	R	R Square	Adjusted R Square	Durbin-Watson
1	0.854	0.729	0.698	1.798

The model summary table displays the results of entering five independent variables (predictors) against performance, with R (0.854) representing the correlation of the five independent variables with the dependent variable after accounting for all inter-correlations among the five independent variables. The aforementioned model has an R-square value of 0.729, which implies that these five independent variables explain 72 percent of the variation in performance, confirming our hypothesis and model.

Table 5
Estimated Results of Multiple Regression

Variable	Beta	t	Sig.
(Intercept)	-1.027	-2.418	0.19
Customer Focus	.143	2.165	0.35
Market Performance	.072	1.255	.215
Employee involvement & empowerment	.143	1.951	0.56
Goal Achievement	.139	1.767	.083
Innovation	.342	3.980	.000

Discussion

The main aim of this research was to explore the impact of QMS practices on non-financial presentation from various aspects. It empirically examined the impact of overall and individual QMS practices i.e. employee involvement and empowerment, customer focus, goal achievement, market performance and innovation on non-financial performance. It further explored the impact of overall QMS practices on the individual dimension of non-financial performance. The first hypothesis of the study was that QMS practices have a statistically significant impact on non-financial performance in Pakistani hospitals. It is evident from correlation findings that overall QMS practices are positively correlated with non-financial performance. Regression analysis also shows that overall QMS practices have a statistically significant relationship with non-financial performance. This explains that QMS practices implemented effectively in a hospital can enhance non-financial performance depending upon the degree of implementation. Three QMS practices; employee involvement and empowerment, goal achievement, innovation and customer focus were found to be significant and contributing effectively in non-financial performance. Customer focus and goal achievement was the most dominating practice. It is required to focus on other dimensions; continuous improvement and process management, in order

to further increase the overall performance of Pakistani hospitals. It is consistent with the findings of research studies. They identified that organizations with high QMS practices implementation tend to show a higher level of non-financial performance. Findings of the study revealed that overall QMS practices were also found significantly related to individual dimensions of non-financial performance e.g. customer focus, goal achievement, innovation and employee involvement and empowerment. Hence the results of this study confirm first, second, third and fifth hypothesis which individually state that each dimension of non-financial performance is significantly related with overall QMS practices.

Conclusion

The work in the health care industry is very significant since the outcomes directly influence the lives of individuals and society. As a result, examining the elements that may impact the performance of the health care sector, particularly quality management system, is critical to providing the finest health services for patients and maintaining the optimal work environment. The study found a strong positive connection between the dependent variable (Non-financial performance) and the independent variables of private hospital. The current study used both descriptive and quantitative analysis and found a positive correlation between the independent variables (QMS practices) and the dependent variable (hospital non-financial performance), as well as a causal relationship between these variables using multiple regression analysis. Customer focus, employee involvement and empowerment and innovation were discovered to be the most important predictors of non-financial performance, followed by market performance and goal achievement.

This indicates that there is a highly substantial positive association between these factors. The research also indicates a high linear regression relationship between these factors based on the data. This test demonstrates the interdependence of these variables. The regression analysis, on the other hand, demonstrates that quality management system may influence and predict organizational performance on a high positive level.

Recommendations and Implications

However, there is no doubt about the role of QMS in the organizational performance of health care systems, as it is stated by various researchers that the application of quality management system standards may help the hospital to exploit the human and material capabilities available to the hospital, as well as to use the time, and give workers the opportunity to share decisions in order to motivate them to work better, and teach them self-evaluation of work in order. Secure QMS technologies enable hospital teams improve their day-to-day performance while protecting patient health data. In order to assist patients and satisfy their care requirements throughout time, standards in the healthcare profession must be maintained at the highest level.

QMS (Quality Management System) plays a significant part in day-to-day procedures in healthcare settings and can assist professionals in meeting quality goals. Secure QMS solutions enable work teams to learn more about their prior performance. They may view past data on their patients and their patients' medical requirements, and utilize this knowledge to improve their working methods over time. Secure QMS solutions also assist teams in mitigating errors in their day-to-day procedures, ensuring that they can identify information and have it at their disposal promptly, allowing them to make quick, effective choices in the hospital setting.

Research limitations and Future research directions

The research provides a QMS in healthcare model that is based on the QMS model used in the manufacturing industry and has been updated to fit the needs of the healthcare sector. This study contributes to the knowledge about QMS practices and their impact on the non-financial perspective of organizational performance. However significant relations that are discussed in this study should be examined in future researches by involving increased sample, different organizational characteristics e.g. including public hospitals and evaluating the impact of other variables on this relationship.

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