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THE IMPACT OF TOTAL QUALITY MANAGEMENT ON HEALTHCARE SERVICE QUALITY IN JORDAN AND UAE: THE MEDIATING ROLE OF STRATEGIC MANAGEMENT

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Abstract
In the healthcare industry, total quality management (TQM) has been widely recognized as a crucial approach to improving service quality. As the gap between expected level of service and delivered medical service is expanding due to lack of TQM. Hence, the mediating role of strategic management in between TQM and healthcare service quality will help hospitals to implement TQM to deliver a high level of medical service for the patients. Yet, there is a lack of empirical evidence to validate the mediating role of strategic management on this relationship. Therefore, the aim of this study is to examine the relationships between total quality management and healthcare service quality in hospitals. Quantitative methodology was applied to test the hypothesized relationships. Questionnaire is data collection instrument. The population consists of doctors, medical workers, administrative staff from different departments working in six hospitals in Jordan and UAE. Simple random sampling technique was applied in the survey procedure. The results showed that TQM has a significant effect on healthcare service quality in hospitals. In addition, strategic management partially mediates this relationship. As a result, both TQM and strategic management create a synergy that drives healthcare organizations towards delivering exceptional patient care and achieving sustainable success by providing high degree of healthcare service quality. The outcome of this paper contributes to the theory of quality management in healthcare sector. Our study recommends that the policymakers in hospitals to consider the findings of this paper in developing strategic future plans based on the principles of TQM.

Keywords: *Total Quality Management, Healthcare Service Quality, Strategic Management*

1. Introduction

Today, Total Quality Management (TQM) plays a crucial role in the healthcare industry. With the ever-increasing demand for high-quality healthcare services, it is essential for healthcare organizations to adopt TQM principles and practices (Daqar & Constantinovits, 2020). By implementing TQM, healthcare providers can ensure that they deliver safe, effective, and patient-centred care, while also improving their operational efficiency and reducing costs (Khdour et al. ,2016). It has been reported that TQM helps in fostering a culture of continuous improvement and innovation within healthcare organizations, leading to better outcomes for patients and overall organizational success (Saragih et al., 2020). Additionally, TQM promotes the use of data and evidence-based practices to make informed decisions, resulting in better clinical outcomes and improved patient experiences (Dcunha et al., 2019). Service quality on the other hand is important in the healthcare industry for several reasons. First and foremost, it directly impacts patient satisfaction and overall experience (Javed & Ilyas, 2018). When patients receive high-quality care and feel well taken care of, they are more likely to trust their healthcare providers and have a positive perception of the healthcare facility (Rezaei et al., 2018). Thereby, service quality plays a crucial role in patient outcomes and the effectiveness of medical treatments. A well-functioning healthcare system that prioritizes service quality can lead to better health outcomes, reduced medical errors, and improved patient safety. Patients who have positive experiences are more likely to continue seeking care from the same healthcare facility, leading to increased revenue and stability for the organization. On the other hand, a lack of service quality can result in patient dissatisfaction, negative word-of-mouth, and even legal implications, which can significantly impact the reputation and financial health of the healthcare facility. Therefore, investing in service quality is not only beneficial for patients but also for the overall success and sustainability of the healthcare industry. One such factor is strategic management, which plays a significant role in aligning TQM practices with the overall organizational goals and objectives (Tam et al., 2022). However, the adoption of TQM in hospitals to improve the quality of health services has various problems, including a lack of employee expertise and leadership support, a lack of training, a focus on customers, continuous improvement, and quality strategic planning (Ali et al., 2022). Like many other

healthcare systems around the world, hospitals in Jordan and UAE face their share of problems. For example, Jordanian private hospitals face countless challenges concerning efficiency, improve quality, increases in health service costs, and a rapidly increasing dependence on technology (Alshourah, 2021). The scenario of healthcare service quality in UAE hospitals is better but further improvement remain a challenge that UAE hospitals are not able to achieve to the present (Aburayya et al., 2020). As the gap between expected level of service and delivered level of service is important to assess service quality. Hence, the mediating role of strategic management in between TQM and healthcare service quality will help hospitals to integrate TQM and IMS to establish a high level of medical service for the patients (Andreeva, 2019). Yet, there is a lack of empirical evidence to validate the mediating role of strategic management in this setting, this theoretical gap has not been reported in the literature to the present. To that end, this study will provide novel evidence to the substantial mediating influence of strategic management in healthcare industry.

1 Literature Review

1.1 Total Quality Management

TQM is a people-focused management system that aims to continually increase its customer satisfaction at continually lower real cost (Baker, 2018). TQM system approach and an integral part of high-level strategy, it works horizontally across functions and departments, involves all employees, top to bottom and extends backward and forward to include the sully chain and the customer chain (Horvat & Filipovic, 2020). It stresses learning and adaption to continual change as keys to organization success (Xu et al., 2020). If TQM is effectively implemented, it will be a big advantage to the organization in the long term. TQM will lead to lower costs, higher revenues, satisfied customers and empowered customers (Aljuhani, 2019). In addition, they will also gain the benefits of continuous improvement in products, processes and services, enhanced productivity and stability. According to a study done by Walsh et al., in 2002, successful implementation of TQM leads to reduced scrap and rework, elimination of defects, reduced level of costs, increased level of productivity and efficiency and better employee morale (Tayyab, 2020). The Academicians and HR practitioners have discussed about TQM as a new concept that had its roots in the Japanese Management Style (Mukhopadhyay, 2020). Taroreh et al. (2022) mentioned that TQM helps improve the quality of services and goods through a collaborative approach and standardized performance. TQM is a holistic approach. It takes information from all the departments, use the information gathered in order to help the organization improve holistically and bring in innovative new forms and strategies on Management (Ladewski & Al-Bayati, 2019).

TQM was first developed in Japan then spread in popularity. Adoption and implementation of TQM is influenced by several factors. A number of theories and models have been developed to explain TQM adoption and implementation. Some of these theories and models include; Deming's Theory, Crosby's theory, Joseph Juran's theory, the EFQM framework, Ishikawa's theory, Six Sigma theory just to name but a few. According to Deming's theory there are 14 points that serve as guidelines for appropriateness organizational behavior and practice regarding quality management. Organizations are recognizing the importance of quality management and are thought. Many organizations have concluded that effective quality management can enhance their competitive abilities (Ramlawati, 2018).

TQM differs a lot from traditional management in many countries. There is no doubt that the culture of the establishment changes when TQM is the working method being followed, and after many reviews of studies that classify the differences between total quality facilities and facilities of the traditional management, it is believed that the description issued by the Federal Quality Institute. In the past, enterprises have sought organizational structures that achieve stability and trust, and modern facilities must be characterized by rapid response to variables and most current reorganization programs reduce the number of levels there is not enough time to use the multi-level management ladder to make a specific decision, customers need immediate answers, so you can the pre-market

facilities put their market players in control of the market, flexibility is also an important description of a modern enterprise, barriers must be overcome to solve some problems (Obeta et al., 2019). The following Table-1 summarizes the main differences between TQM and Traditional Management.

Table-1: Comparison between TQM and traditional management

Elements to compare	**TQM**	**Traditional management**	**Authors**
Organizational structure	Horizontal And flat	A hierarchy	Romle et.al., 2016
Take Decisions	Founder / non-center based on Data/ Scientific procedures and full participation.	Non-establishment / centralized / knowledge-based People at the top of the pyramid are the ones who makes the decisions.	Sumardi & Fernandes, 2021
Solution to the problems	Find and anticipate problems that impede continual improvement. Follow the (proactive) method to detect and prevent problems before it occurs.	Avoid problems, but if it occurs and is completely disrupted the business, they try to fix it by following the method of inspection (Reactive).	Osman & Karatepe, 2016
Source of the problems	Operations, procedures and administrative system are the source of problems, so managers manage administrative processes and administrative system.	Workers are always the source of administrative problems**,** so managers run people.	Overtveit, 2000
Errors, waste and return of work	Doesn't tolerate or accept errors or wastes or return of work. In order to avoid the return of work and waste, the Errors are prevented before they occur and they perform the work correctly from the initial time ((Do it Right theFirst Time Every Time and All Time)	Can be handled and tolerated to a certain degree**,** mistakes are usually discovered and accompanied.	Endeshaw, 2021
Planning the focus efforts optimization	Long-term planning and strategic thinking. Internal and external focus on the customer continuous improvement.	Short-term planning. There is an internal focus on achieving quick results when a problem arises or when there is a need for improvement.	Koskela et al., 2019
Design products and Services	Products and services are determined and designed. Before a product is made or before they provide services data were collected first from the local and international customers. Products and	Products and services are determined and designed by competent departments according to their expert knowledge.	Permana et al., 2021

Elements to compare	TQM	Traditional management	Authors
	services are designed and are pattered base on the needs of the customers.		
Managers and Employees	People who do work know more, so employees are involved in improving administrative procedures and processes.	The managers know more, and the staff listen to the instructions and execute them literally.	Mukhopadhyay, 2020
Productivity and Quality	Improving quality leads to increased productivity.	Two conflicting goals that cannot be achieved at the same time.	Ladewski & Al-Bayati, 2019
Quality responsibility	Quality is the responsibility of the management, and the blame is placed on the (system) management and the system of low quality.	Quality is the responsibility of employees and are directly trained when quality deteriorates	Ramlawati, 2018

1.1.1.1 TQM in Healthcare Sector

In healthcare services there are three definitions distinguished TQM from other approaches: One is that TQM is a "Comprehensive strategy of organizational and attitude change for enabling personnel to learn and use quality methods, in order to reduce costs and meet the requirements of patients and other customers (Permana et al., 2021). A second definition by Donabedian, refers to quality as "the maximization of patient's satisfaction considering all profits and losses to be faced in a healthcare procedure". A third definition given by US theories (William & Johnson, 2013) emphasized that TQM is a management method: "TQM/CQI – Continuous Quality Improvement – is simultaneously two things: a management philosophy and a management method" (Baker, 2018). They propose four distinguishing functions, which are often defined as the essence of good management which includes (Chen et al., 2018):

- Empowering clinicians and managers to analyze and improve process;
- Adopting a norm that customer preferences are the primary determinants of quality and the term "customer" includes both the patients and providers in the process;
- Developing a multidisciplinary approach which goes beyond conventional departmental and professional lines; and
- Providing motivation for a rational data-based cooperative approach to process analysis and change.

Understanding the methods of TQM implementation in healthcare system can provide insights that will help develop approaches to facilitate and enhance the successful TQM implementation within the local culture (Gunasekaran et al., 2019). The review of literature shows that TQM is a new way of doing business and it is the most effective way to achieve not only high-quality management but also profitability, compared to all traditional administrative method (Alfanek, 2017). The focus of TQM is to meet all the requirements and expectations of the beneficiaries whether this beneficiary is inside or outside the organization or establishment (Shan et al., 2016). Moreover, by knowing their needs, it will guide the hospital administrators on how to meet them and perform them properly (Bastas & Liyanage, 2018).

The study of Khdour et al. (2016) showed that the application of TQM in both Jordanian and UAE hospitals was good, of a high level, and with a relative advantage for UAE hospitals. The results also showed that the incentives in Jordanian hospitals were generally better than those of the UAE hospitals, particularly in terms of the monetary incentives, while non-monetary incentives were the advantage

for UAE hospitals. Al-Hyari (2021) explored the main critical success factors necessary to implement TQM in UAE healthcare organizations and the continuous improvement elements. His study also aimed to find the relationships between these critical success factors and the continuous improvement elements. Four critical success factors were found the most important in UAE organizations which are commitment of management, education and training, team work and organizational culture, and relationships. Another study of Sweis et al (2019) have covered both public (King Abdullah University Hospital) and private (Jordan Hospital and Medical Center) health care services. The findings of this revealed that there is a significant positive relationship between TQM and operational flexibility. The authors conclude that TQM practices significantly influence the intensity of operational flexibility in Jordanian hospitals. In brief, the review of literature reveals a common agreement among scholars that a successful TQM implementation is leading to improve organization performance success. In sum, the success implementation of TQM in manufacturing has encouraged healthcare leaders to study whether it can be implemented in the healthcare sector. The TQM activities lead to high quality healthcare services, for example it leads to improve patient satisfaction, and increased productivity and profitability, improved health care organization performance. TQM in healthcare sector is a set of seven principal practices that aim to achieve high quality service as explained below.

1. Customer focus

Customer focus is the most important principle in TQM. An organization that would be customer focused would know that a customer is the one who determines the level of quality and quality in an organization will make a customer loyal (Grossu-Leibovica & Kalkis, 2022).

2. Leadership

The leadership styles provide managers with TQM focus to promote a TQM organization, so, managers can make a correct and effective decision through the adequate prescription of appropriate leadership style (Baig et al., 2021). Effective leaders think the innovative way to lead overall growth in their organization by proper controlling of the organization activities (Kumar & Sharma, 2017).

3. Engagement of people

In TQM, the role of employees is very different from what it was in traditional systems. Workers are empowered to make decisions relative to quality in the production process. They are considered a vital element of the effort to achieve high quality (Brata & Soediantono, 2022). Their contributions are highly valued, and their suggestions are implemented. In order to perform this function, employees are given continual and extensive training in quality measurement tools (Saragih et al., 2020).

4. Process approach

This practice is a fundamental concept underlying the international standard ISO 9004:2009, each process having inputs and outputs and involving people and other resources. More resource-intensive activities that contribute to achieving an output element (a blank, subassembly products, part of a service, important activities of a project, etc.) can be considered a process (Horvat & Filipovic, 2020).

5. Continuous improvement

Improvement is the main tool for achieving the highest level of performance by adapting an enduring effort to improve the quality of process, product, services and people. Niroomand et al. (2020) envisages improvement as the belief that results and organization aspects (capability, people, process, tools, etc.) can be continuously improved by avoiding and eliminating work mistakes. On the other hand, continuous improvement is not just improving results but also improving the capability to develop future results.

6. Evidence-based decision making

Decision-making within the organization must only be based on facts and not on opinions (emotions and personal interests). Data should support this decision-making process (Ayres, 2020). The international standard ISO 9004:2009 qualified this quality management principle as follows: “Effective decisions are based on the analysis of data and information”.

7. Relationship management

Sustained success is more likely to be achieved when the organization manages relationships with all of its interested parties to optimize their impact on its performance. Relationship management with its supplier and partner networks is of particular importance (Koskela et al., 2019). The international standard ISO 9004:2009 qualified this quality management principle as: "An organization and its suppliers are interdependent and a mutually beneficial relationship enhances the ability of both to create value".

1.2 Strategic management

Strategic management refers to the process of formulating and implementing the major goals and initiatives taken by an organization's top management on behalf of owners, based on consideration of resources and an assessment of the internal and external environments in which the organization operates. It involves the analysis of the organization's current situation, setting objectives, formulating strategies to achieve those objectives, and then implementing and evaluating those strategies (Tam et al., 2022). In essence, strategic management is about making informed decisions that align an organization's resources and capabilities with its external opportunities and threats, in order to achieve its desired outcomes and gain a competitive advantage in the market. Strategic management is a dynamic process that requires continuous monitoring and adaptation as the internal and external factors affecting the organization may change over time (Agwu, 2018). By conducting a thorough analysis of the organization's strengths, weaknesses, opportunities, and threats, strategic management helps identify areas of improvement and potential growth. Through effective implementation and evaluation of strategies, organizations can optimize their performance and position themselves ahead of competitors in the market. Ultimately, strategic management is crucial for long-term success and sustainability in today's rapidly changing business landscape (Andreeva, 2019).

Nowadays strategy is one of the most commonly used words in management studies, but its use was not, and it is not limited to that area (Tam et al., 2022). Strategic management in hospitals plays a crucial role in ensuring the efficient and effective delivery of healthcare services. It involves the formulation and implementation of strategies that align with the hospital's mission, vision, and goals (Carayannis et al., 2021). By adopting a strategic approach, hospitals can navigate the complex healthcare landscape, anticipate future challenges, and capitalize on opportunities to enhance patient care and outcomes. Strategic management in hospitals requires careful analysis of the internal and external environment to identify strengths, weaknesses, opportunities, and threats. This information is then used to develop strategies that address these factors and optimize resources (Sedevich-Fons, 2019). Additionally, strategic management involves continuous monitoring and evaluation of the implemented strategies to ensure they are achieving the desired outcomes and making adjustments as needed (Milovanović & Janošević, 2019). Overall, a well-executed strategic management approach in hospitals can lead to improved patient satisfaction, increased operational efficiency, and better financial performance. The review of literature reveals that strategic management is a composite discipline subject to several potential explanatory variables. Strategic management is often can't be observed or measured directly but through certain dimensions that explain the whole process of strategic management, i.e., strategic formulation, strategy implementation, strategy evaluation (Kabeyi, 2019; Agwu et al., 2021; Wang et al., 2021). Thus, to measure strategic management, these dimensions should be identified and explored before constructing the model of strategic management (Agwu, 2018; Alhussaina, 2020).

1.2.1.1 Strategic Management in Healthcare Sector

Strategic management in the healthcare sector plays a critical role in ensuring the efficient and effective delivery of healthcare services. It involves the formulation and implementation of strategies that align with the organization's mission and goals, while also adapting to the ever-changing healthcare landscape (Trinh et al., 2020). With the increasing complexity and challenges faced by healthcare organizations, strategic management becomes even more vital in achieving sustainable success and

competitive advantage for hospital which improve healthcare performance (Alipour et al., 2022). By employing strategic management, healthcare organizations can anticipate and respond to market trends, technological advancements, and regulatory changes. This enables them to make informed decisions regarding resource allocation, service expansion, and partnerships (Huebner & Flessa, 2022). Additionally, strategic management helps healthcare organizations identify and mitigate potential risks, ensuring the continuity of patient care and financial stability. Ultimately, strategic management in the healthcare sector promotes a patient-centered approach, fostering innovation and continuous improvement in healthcare delivery (Agustina & Safaria, 2023).

Healthcare leaders are hired to make decisions. Strategy and strategic management provide a solid framework for better decision making for modern hospitals. Leaders ultimately have the responsibility and authority to act (Cruz-Ruiz et al., 2022). Strategy and strategic management help leaders be mindful of the key, critical facts they need to consider to be better deciders. They must understand the purpose or, as is often the case, the mixed purposes of their organization and internal and external conditions, and they are charged with creating and implementing a strategic framework to accomplish the organization's purpose(s). However, complex systems are typically conservative and rather resistant to change, and the healthcare system is no exception to this rule (Carayannis et al., 2021). The challenge is that doctors have to be central players in the healthcare revolution and any strategy that they do not embrace will fail. Certainly, a piecemeal approach will not work. Engaging doctors in transforming the system requires focusing on shared goals, by using motivational tools: shared purpose, peer pressure, measuring performance, and enhancing a patient-centered approach (Giuseppe, 2015).

In sum, studying strategic management in hospitals can greatly contribute to the improvement of service qualities in hospitals in the UAE and Jordan. This because strategic management focuses on developing and implementing long-term plans and goals, which are crucial for the success and growth of any organization, including hospitals. By applying strategic management principles, hospitals can effectively allocate resources, streamline processes, and enhance patient care, ultimately leading to improved service qualities (Alim & Wening, 2021). To that end, strategic management in hospitals can also lead to cost reduction and increased efficiency in operations. By identifying and addressing inefficiencies in the system, hospitals can optimize their resources and reduce unnecessary expenses. Additionally, strategic management can help hospitals to stay updated with the latest advancements in medical technology and treatment methods, ensuring that patients receive the highest quality of care. Overall, the adoption of strategic management principles in hospitals is essential for continuous improvement and the provision of excellent healthcare services in the UAE and Jordan.

1.3 Healthcare Service Quality

Service quality refers to the level of excellence or satisfaction that customers perceive when interacting with a company or receiving its products or services. It encompasses various dimensions such as responsiveness, reliability, assurance, empathy, and tangibles. These dimensions play a crucial role in shaping customers' overall perception of the quality of service they receive (Al-Gasawneh et al., 2021). Customers' perception of service quality is influenced by factors such as the speed and effectiveness of a company's response to their needs or concerns (responsiveness). Reliability refers to the consistency and dependability of the company in delivering its promised services. Assurance relates to the knowledge and competence of the company's employees in providing the service. Empathy involves the company's ability to understand and address the individual needs and concerns of customers. Tangibles refer to the physical evidence and appearance of the service, such as the cleanliness and professionalism of the company's facilities or the appearance of its employees (Slack et al., 2020). In other words, service quality is a multidimensional concept that encompasses various aspects of a customer's experience.

The literature in healthcare sector has examined the process and the outcome attributes of the service quality (Akdere et al., 2020). Past research has also suggested two sets of attributes of service quality including the technical attributes such as outcome (i.e. the patient can be free of the disease and pain),

physician care and nursing care, and the affective attributes or functional attributes - such as food, room temperature, and parking. However, it has been also noted that many previous studies in healthcare sector adopted process approach since it may not be easy and proper for patients to assess the medical service outcome (Alumran et al., 2021). Healthcare service quality has several interpretations. According to Institute of Medicine (2001), healthcare service quality can be assessed from two viewpoints: patients and technical or professional. The former includes assessment of service provider's ability to meet customer demand, customers' perception and satisfaction. Customer perception with respect to evaluation of healthcare quality has been supported by a number of researchers (Aziz et al., 2021).

Many studies observed that quality perceptions impact satisfaction, meaning that the service quality is the preceding thing of satisfaction (Al-Gasawneh et al., 2021). Kumar and Gupta (2022) emphasize that to improve quality, healthcare staff have to be medically qualified and clinically effective. The Quality Digest (2001) introduces quality as fulfilling customer requirements at a lower cost with built-in preventive actions in the processes, ensuring the best product to the end user with timely delivery. According to Votova et al. (2019), serious deficiencies are likely to occur if there is any attempt to achieve quality without fully understanding customer requirements and expectations. To remain customer-focused, one must review how a business is managed, i.e., begin with customer problems, needs and priorities.

Literature on healthcare service quality stresses the importance of patient's views as an essential tool for assessing and improving service quality. It suggests that majority of healthcare institutions are going for a patient-centered attitude. Consequently, many studies have used patient satisfaction as an outcome in their studies to measure the performance of healthcare institutions (Alemu et al., 2021). Table-2 reveal the findings and status of service quality in hospitals in various countries.

Table-2: The findings of service quality in hospitals

Author	Findings
Moshood et al., 2022	The efficiency of medical technology contribute to service quality in the Nigerian healthcare sector.
Rahim et al., 2021	Machine learning and social media reviews is helpful in assessing patient-perceived hospital service quality in Malaysian public hospitals
Fatima et al., 2019	Dimensions of service quality in healthcare help the leaders of hospitals to assess service quality
Upadhyai et al., 2019	The review of healthcare service quality reveal that SERVQUAL model is a useful way for measuring service quality.
DCunha et al., 2019	Exploring services patients' perceptions reveal that the dimensions of SERVQUAL
Ali et al., 2021	Private hospitals' service quality dimensions: the impact of service quality dimensions on patients' satisfaction.
Akdere et al., 2020	Examining patient perceptions of service quality in Turkish hospitals: The SERVPERF model.
Jahantigh et al., 2019	Evaluation of healthcare service quality management in an Iranian hospital by using fuzzy logic.
Asnawi et al., 2019	The influence of hospital image and service quality on patients' satisfaction and loyalty.
Rezaei et al., 2018	Service quality in Iranian hospitals: A systematic review and meta-analysis.
Javed & Ilyas, 2018	The patients' expectations and satisfaction on service quality in healthcare sector of Pakistan is low.

Author	Findings
Ullah et al., 2021	Service quality measurement mechanism is necessary in teaching hospitals.
Mahmoud et al., 2019	Assessing patients' perception of health care service quality offered by COHSASA-accredited hospitals in Nigeria.
Yarimoglu & Ataman, 2022	Service quality in hospitals varies based on hospital ownership and demographics: a study on Turkish patients living urban areas.
Meesala & Paul, 2018	Service quality, consumer satisfaction and loyalty are essential factors to improve the performance of hospitals.
Anabila et al., 2020	There is a lack of service quality in Ghana's public hospitals
Woo & Choi, 2021	Public hospitals in the south Korea need to more focus on medical service quality, patient satisfaction and intent to revisit
Swain & Kar, 2018	Developed a conceptual framework for hospital service quality as antecedent of patient satisfaction.
Asnawi et al., 2019	The influence of hospital image and service quality on patients' satisfaction and loyalty.
Upadhyai et al., 2020	Participants' perspectives on healthcare service quality in multispecialty hospitals: a qualitative approach.
Radu et al., 2022	A research of service quality perceptions and patient satisfaction: Case study of public hospitals in Romania.
Shah et al., 2021	Listening to the patient voice using a sentic computing model to evaluate physicians' healthcare service quality for strategic planning in hospitals.
Jusoh et al., 2021	The global trends of healthcare is based on service quality in medical service
Zam et al., 2021	The influence of organizational culture and work environment on improving service quality through infection prevention at regional general hospitals.
Fiakpa et al., 2022	Assessing service quality and the perceptual difference between employees and patients of public hospitals in a developing country.
Kalhor et al., 2021	Role of service quality, trust and loyalty in building patient-based brand equity: Modeling for public hospitals.
Alumran et al., 2021	Comparing public and private hospitals' service quality.
Syam & Achmadi, 2022	The Influence of Service Quality towards Revisit Intention to Private Hospitals in Indonesia.
Uddin et al., 2021	Developed a scale measuring patient expectations and service quality of hospitals in India during COVID-19.
Aladwan et al., 2021	The relationship among service quality, patient satisfaction and patient loyalty: case study in Jordan Mafraq hospital.
Singh & Aggarwal, 2021	Service quality components and inpatients satisfaction at district hospitals.
Vimla, & Taneja, 2021	Brand image to loyalty through perceived service quality and patient satisfaction: A conceptual framework.
Siripipatthanakul, 2021	Service quality, patient satisfaction, word-of-mouth, and revisit intention are the success factors of hospitals and clinks in Thailand.
Alshourah, 2021	Total quality management practices and their effects on the quality performance of Jordanian private hospitals.

2 Hypotheses development

The review of literature reveals lots of reports on the significant relationships between TQM, strategic management, and service quality in hospitals, e.g., Zaid et al. (2020) investigated the association between TQM and perceived service quality among Palestinian hospital. Their results clearly indicated that TQM significantly impact perceived service quality. In other words, the substantial role of TQM in enhancing the quality of private and public healthcare services in Jordan and UAE was reported and approved (Alshourah, 2021; Daqar & Constantinovits, 2020). In the same context, the data analysis of a study conducted by Nawafleh & Hummour (2019) showed a significant correlation between TQM and service quality within the Jordanian public sector organizations. Likewise, Alqudah et al. (2023) demonstrated that there was a substantial correlation between the performance of the hospital in Jordan and each of the eight TQM principles. Based on these findings, this study will examine and test the following hypotheses statements in Emirati and Jordanian hospitals.

Hypothesis 1:

"TQM has a significant effect on healthcare service quality"

TQM is a management strategy that emphasizes a continuous, organization-wide effort to maintain quality customer service and satisfaction. Hence TQM is strongly linked to strategic management. Several studies in the past have demonstrated an affirmative connection between TQM and strategic management in many industries (e.g., Sedevich-Fons et al., 2018; Andreeva et al., 2019; Permana et al., 2021; Yusuf et al., 2021). TQM include practices that create of value in the work. Hence, TQM can be viewed as strategic management perspective (Milovanović & Janošević, 2019). Some researchers suggest to integration of the quality management and strategic management systems into unified management system of enterprises, and proposed a framework of modern quality management systems based on the role of strategic management (Andreeva et al., 2019). Likewise, the association between strategic management accounting and quality management systems was found significant (Sedevich-Fons, 2018). In brief, the three stages of strategic management, i.e., strategic formulation, strategy implementation, strategy evaluation could be based on the seven principles of TQM, this integration will give the organization a better strategic management tools. To examine this assumption in hospitals, the following hypothesis will be testes in Emeriti and Jordanian hospitals.

Hypothesis 2:

"TQM has a significant effect on strategic management"

Moreover, several studies have showed the association between strategic management and service quality. A study conducted by Albadry (2016) examined the direct and indirect associations between the components of the strategic management, as well as its impact on service quality in educational context. The result showed a partial mediation between strategic planning and service quality, as well as between strategy formalization and service quality. However, the relation between implementation and service quality, as well as between evaluation and service equality is significant as well. In healthcare domain, Musili and Mutinda (2021) examined the association between strategic management practices and service delivery at public hospitals. They claimed that, the absence of strategic management in healthcare sector led to slow patient diagnosis and care, lengthy medical appointments, insufficient treatment adherence, and incomplete services. In other words, a hospital that do not have a clear strategy to serve the patients will definitely deliver poor medical service quality (Musili & Mutinda, 2021). Likewise, Muya (2019) found that service quality in the public hospitals is link to strategic management, whereas strategic formulation, strategy implementation, strategy evaluation affecting the medical service quality. Based on these findings, the following hypothesis be tested in Emeriti and Jordanian hospitals.

Hypothesis 3:

"Strategic management has a significant effect on healthcare service quality"

Moreover, the review of literature shows an indication on the mediating role of strategic management and this role plays a crucial role in bridging the gap between TQM practices and service quality in hospitals. By implementing effective strategic management practices, hospitals can align their TQM

efforts with the overall organizational goals and objectives, ensuring a consistent and high-quality service delivery. This mediating effect of strategic management helps in optimizing the impact of TQM initiatives on service quality, leading to improved patient satisfaction and better healthcare outcomes (Milovanović & Janošević, 2019). Additionally, strategic management provides a framework for continuous improvement and monitoring of TQM practices in all kinds of industries (Sedevich-Fons, 2019). This scenario applies on healthcare industry whereas strategic management allows for the identification of potential areas of improvement and the implementation of corrective actions to address any gaps in service quality (Andreeva et al., 2019). Moreover, strategic management fosters a culture of accountability and collaboration among healthcare professionals, promoting effective communication and teamwork, which are essential for delivering high-quality healthcare services. Overall, the integration of strategic management with TQM practices enhances the overall service quality of hospitals in the healthcare industry. Based on this proposition, our study examined the following hypothesis. However, the relationship between TQM and service quality is not a direct one, as there are various factors that mediate this connection. One such factor is strategic management. Strategic management plays a vital role in aligning the goals of TQM with the overall objectives of the healthcare organization. By effectively integrating TQM principles into the strategic planning process, organizations can ensure that the implementation of TQM practices is in line with the organization's vision and mission. This alignment helps in enhancing service quality by providing a clear direction and focus to TQM initiatives. Thus, strategic management acts as a mediating influence between TQM and service quality in the healthcare industry. Therefore, this study will examine the relationships between TQM and service quality of hospitals in UAE and Jordan while measuring the mediating influence of strategic management on this relationship.

Hypothesis (H4)
"Strategic management mediates the relationship between TQM and service quality"

3 Research Methodology

This study applied quantitative methods to analyze relationships between TQM, strategic management, and healthcare service quality. The population consists of doctors, medical workers, administrative staff from different departments working in six hospitals in Jordan and UAE. Data instrument is self-administrated questionnaire. The data collection has been conducted on a sample of 450 participants. Simple random sampling technique has been applied in the survey procedure. SPSS software is deployed to conduct data analysis. Whereas SEM is principal approach used to conduct data analysis and test the hypothesis of this study.

4 Result and discussions

To justify the hypothesis of this study, the Critical Ration (C.R) is applied to validate each hypothesis as well as significance level of unstandardized regression coefficients. C.R is formed by dividing an estimate by its standard error (Hair et al., 2019). The following two criteria are used to validate the hypotheses of this study (Gao et al. 2008; Byrne, 2013); (1) if C.R $\geq$ 1.96 for a specific relationship, then a hypothesis is true, otherwise the hypothesis should be rejected, and (2) the estimate path coefficient for a relationship is significant at the 0.05 cut-off point (Sig. $\leq$ 0.05). Accordingly, the degree of association between TQM, strategic management, and service quality have been considered acceptable from the statistical perspective. Therefore, the relationships between the constructs of this study are not based on probability but on statistical evidence.

The hypothesis statements in Table-3 are evaluated with accordance to the magnitude of critical ratio (C.R) and level of significance. Reading the output data shows that all direct relationships between the constructs are significant (Sig. $\leq$ 0.05). Hypothesis (H1) states that "TQM has a significant effect on healthcare service quality" (Sig. = 0.00, C.R = 3.21 $\geq$ 1.96), whereas Hypothesis (H2) states that "TQM has a significant effect on strategic management" (Sig. = 0.00, C.R = 4.10 $\geq$ 1.96), and Hypothesis

(H3) states that "strategic management has a significant effect on healthcare service quality" (Sig. = 0.000, C.R = 3.35 ≥ 1.96). Based on these results, it is concluded that Hypothesis (H1), Hypothesis (H2), Hypothesis (H3), have been accepted and not rejected. In other words, there are significant and positive correlations (direct effects) between the three constructs (TQM, strategic management, and service quality) in healthcare institutions.

Table-3: Hypothesis validation and significance of direct relationships

Hypothesis	Hypothesis Statement	C.R	Sig. ≤ 0.05	Result
Hypothesis H1	TQM has a significant effect on healthcare service quality	3.21	0.00	Supported
Hypothesis H2	TQM has a significant effect on strategic management	4.10	0.00	Supported
Hypothesis H3	Strategic management has a significant effect on healthcare service quality	3.35	0.00	Supported

In mediation model, the relationship between the independent and dependent construct is influenced by a third construct called the mediator which is "strategic management" in the case of this study. As a result, when "strategic management" included in the direct model between TQM and service quality, the strength of direct effect of the independent construct (TQM) towards the dependent construct (service quality) were reduced, but with a condition that this direct effect remains significant (Sobel, 1986; Baron & Kenny, 1986). Bootstrapping is an increasingly popular method of testing the indirect effect. AMOS software is utilized for conducting bootstrapping. Table-4 indicates the output of bootstrapping statistics. Reading the data in this table reveals that all effects (direct and indirect) are significant. Hence, strategic management has a significant mediation role.

Table-4: The summary of bootstrapping total (direct and indirect) and the indirect effects between TQM and service quality.

TQM → strategic management → healthcare service quality	Sig.	Effect	Lower bound	Upper bound	0 out of interval
Standardized indirect effect	0.013	0.313	0.159	0.627	Yes
Unstandardized indirect effect	0.020	0.504	0.210	1.163	Yes
Standardized total effect	0.005	0.813	0.699	0.902	Yes
Unstandardized total effect	0.007	1.309	0.827	2.486	Yes

The outcome of the two-mediation model, first TQM → strategic management → service quality, is shown in Table-4. To verify that a mediation effect is occurred, all direct and indirect effect must be significant and zero (0) out of lower to upper interval (Kline, 1998, p.52). It is found that the indirect (mediated) effect of TQM on service quality are significant (Sig. = 0.013, 0.020). These two conditions are essential to consider the indirect paths TQM → healthcare service quality is partially mediated by strategic management.

In brief, the result from bootstrapping reveal that both effects (indirect/total) are statistically significant (Sig. ≤ 0.05). Furthermore, the evaluation of output data in Table-4 shows that the (0-null) bound falls out of confidence intervals for all paths. Based on this result, hypothesis (H4) which states that "strategic management mediates the relationship between TQM and healthcare service quality" is accepted and validated. Based on this finding, strategic management aids in creating a culture of continuous improvement by providing the necessary support and resources for TQM implementation. This result indicates that by effectively mediating the influence of TQM on service quality, whereas strategic management ensures that quality improvement initiatives are implemented in a manner that is consistent with the organization's strategic direction (Andreeva, 2019). To that end, integrating TQM

with strategic management, organizations can achieve sustainable improvements in service quality and enhance overall customer satisfaction (Milovanović & Janošević, 2019).

5 Conclusions

The outcome of this paper shows that TQM in healthcare industry has been widely recognized as a crucial approach to improving service quality. The results reveals that TQM, strategic management, and healthcare service quality have mutual significant relationships. In addition, strategic management partial mediates the relationship between TQM with healthcare service quality. As TQM is a comprehensive approach that focuses on continuous improvement, customer satisfaction, and employee involvement in order to enhance the overall quality of products or services. Strategic management, on the other hand, provides the framework for setting goals, making decisions, and allocating resources to achieve those goals. By integrating TQM principles into strategic management practices, healthcare organizations can effectively align their quality improvement efforts with their overall strategic objectives. This alignment ultimately leads to improved healthcare service quality, as TQM helps identify areas for improvement, implement evidence-based practices, and continuously monitor and evaluate performance. As a result, both TQM and strategic management create a synergy that drives healthcare organizations towards delivering exceptional patient care and achieving sustainable success by providing high degree of healthcare service quality.

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