Influence of Innovation Capabilities and Customer Experience on Loyalty: Empirical Study in the Egyptian Private Hospitals

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Abstract

The purpose of this study is to empirically examine the relation among innovation capabilities and loyalty with mediating role of customer experience (CEX) in the Egyptian private hospitals. The study followed the quantitative approach and data gathered from a survey of 403 patients. The results were analysed by using structural equation model analyses (AMOS) 26. The findings of this study showed a significant direct effect between innovation capabilities including technical and non-technical innovation on loyalty. In addition, it showed that CEX partially mediates the relation among technical and non-technical innovation capabilities and Loyalty. This adds value by focusing on the crucial role of innovation capabilities that lead to patients' positive experience toward the Egyptian private hospital, which will enhance their loyalty.

***Keywords**: Innovation Capabilities, CEX, Loyalty, Private Hospitals, Egypt.*

Introduction

The aim of health care is to deliver superior-quality medical resources to everyone ensuring a high quality of life, curing diseases where feasible, and extending life expectancy. The health-care business typically provides services that need face-to-face connection with patients. This means that managers of health care companies should adopt a strategy to guarantee that their employees are properly motivated to give excellent service to their clients (the patients). Innovation and marketing are two critical components in the wealth generation of organisations (Srinivasan et al., 2009). The innovation literature highlights the virtues of innovation and typically cites it as a fundamental component of superior firm performance (Weerawardena et al., 2006). The development of new services, service operations, and technology are all examples of technical innovation that receive a lot of attention in the innovation literature. However, in order to improve the company's quality and its capability to achieve superior performance (market share, sales, and profitability), non-technical innovation (managerial, market, and marketing) is just as important as technical innovation (Ngo & O'cass, 2013).

The majority of scholarly literature examining the impact of innovation on performance and the economy in recent decades has exhibited a notable inclination towards the industrial sector (Ostrom et al., 2010). In a significant portion of the literature, the services sector is often characterised as being technologically inferior or lagging behind, with limited emphasis on innovation in explaining the sector's performance and the competitive strategies employed by service organisations.

Significantly, despite the presence of an expanding body of scholarly work highlighting the significance of non-technical innovation in the realm of services, the current literature possesses limited knowledge regarding

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the potential synergies among non-technical and technical innovations in enhancing the performance outcomes of service organisations. Moreover, it is crucial to consider the relative significance of technical and non-technical innovations, as well as other factors influencing organisational change, in relation to the performance of enterprises. This can be examined within the framework of the organisational capability theory of the firm, as proposed by (Ngo & O'cass, 2013).

Variations in interfirm performance are attributable to capabilities comprising identifiable sets of Processes or commonly acknowledged effective methods (Branzei & Vertinsky, 2006) involve capabilities as routines utilized by managers to alter their resource pool—gaining and relinquishing resources, amalgamating them, and reconfiguring them. " (Khlystova et al., 2022). Innovation capability encompasses an organization's ability to develop and deploy innovative strategies and practices. This capacity is essential for organizations to adapt to changing environments and remain competitive. Within the healthcare field, innovation is crucial for improving patient care and overall hospital performance (Chesbrough, 2006).

Wang et al., (2018) examined the influence that innovation capability on hospital performance and found that hospitals with higher innovation capabilities tend to have better service quality, patient satisfaction, and financial performance.

According to the According to socio-technical system theory (STS), companies' innovation capabilities can be divided into two clear categories: technical innovation capability, which focuses on creating new services, enhancing service operations, and advancing technology, and non-technical innovation capability., which encompasses factors pertaining to management, the market, and marketing (Ngo & O'Cass, 2013). Ngo and O'Cass (2013) assert that the existing body of literature predominantly focuses on technical innovation, while comparatively neglecting the exploration of nontechnical innovation fields, such as manage the level of service effectiveness met, sales, and marketing. There is a limited body of research that specifically examines the experiences that have a positive influence on consumers' emotional and cognitive responses (Dennis et al., 2014). This paper aims at exploring the relation among innovation capability, customer experience, and loyalty in the vein of Egyptian private hospitals.

Literature Review and Theoretical Framework

Technical Innovation Capability

Technical innovation capability refers to the capability of an organization to efficiently create and implement innovations in technology (Guan et al., 2006). The criteria encompassed in this context comprise the rate at which innovation is adopted, the level of expenditure allocated towards research and development, and the capacity to effectively assimilate and incorporate novel technology. Hospitals have the potential to enhance service quality, patient outcomes, and overall customer happiness through the implementation of technological advancements.

Technical Innovation capability relates to an organization's capacity to formulate and execute new technologies, processes, and systems to improve its services, operations, and patient outcomes. In the healthcare sector, technical innovation has important role in enhancing the quality of care, operational efficiency, and overall patient experience (Cresswell et al., 2013).

A study conducted in the Portuguese healthcare context by Cleven et al., (2016) looked at the connection among hospital performance and technical innovation capability. The results showed that improved financial performance, operational effectiveness, and patient happiness are typically seen in hospitals with stronger technical innovation capabilities. Based on the above arguments, the following hypothesis is developed:

H1.1: Technical innovation capability has an impact on Loyalty in the Egyptian private hospitals.

Non-Technical Innovation Capability

Non-technical innovation capability refers to an organization's capacity to engage in innovation beyond the realm of technology, encompassing domains such as organizational processes, managerial practices, and service delivery models. Non-technical innovations have a substantial influence on the healthcare industry by raising the level of service effectiveness, improving patient experiences, and fostering competitive advantage (Foroudi et al., 2016).

The significance of non-technical innovation in enabling organisations to maintain competitiveness within the contemporary and ever-changing business landscape has been emphasised by (Janjić& Rađenović, 2019). Non-technical innovation capability pertains to the capacity of an organisation to produce and execute innovative ideas that extend beyond technical advancements, encompassing managerial and organisational dimensions (Abdurrahman et al., 2024).

The influence of non-technical innovation capability on hospital performance in the healthcare system was investigated in a research undertaken by (Prineas et al., 2021). The results revealed a favourable relation among non-technical innovation capability and a number of performance metrics, such as financial performance and patient satisfaction. Based on the above arguments, the following hypothesis is developed:

H1.2: Non-technical innovation capability has an impact on Loyalty in the Egyptian private hospitals.

2.3 Customer Experience

CEX is defined in a variety of ways in academic literature. Previously, CEX was thought to be a factor in assessing service quality and satisfaction. The idea's importance has been recognised, and it is now regarded as a distinct construct in its own right (Lemon and Verhoef, 2016). Holbrook & Hirschman (1982) contrasted the experiential viewpoint, which emphasises the symbolic, artistic, and hedonic aspects of consumption, and the conventional information processing method. Kanagasapapathy (2017) expressed the service experience using phrases such as "flow state," "being in flow," and "optimal experience". Owing to the author, the experience is truly rewarding because of a state of awareness known as flow. The flow experience was expressed by the author as "an action in which persons are in a state of complete attention, they experience inner interest, and the concept of time alters and they can be appreciated.

"Patient experience" refers to " the cumulative effect of all interactions influenced by an institution's culture and affecting patient perceptions throughout the continuity of care" (Wolf & Jason, 2014). The patient experience can be influenced by interactions with various individuals, such as physicians, administrators, counsellors, families, and other relevant parties (Lee, 2017). Particularly, technical innovation capabilities in healthcare, such as the adoption of advanced medical technologies, digital health solutions, artificial intelligence, and data analytics, have a profound impact on enhancing the patient experience (Topol, 2019).

These innovations enable healthcare providers to deliver more accurate diagnoses, personalized treatment plans, and improved care coordination, leading to better health outcomes and increased patient satisfaction. Therefore, the following hypothesis is developed:

H2.1: Technical innovation capability has an impact on Customer Experience in the Egyptian private hospitals.

On the other side, Non-technical innovation capabilities, such as organizational culture, leadership, process improvements, and patient engagement strategies, also significantly impact the patient experience in healthcare settings. A culture of continuous improvement and innovation within healthcare organizations fosters creativity, collaboration, and a patient-centered approach to care delivery. Effective leadership plays a crucial role in driving innovation, setting strategic direction, and cultivating a supportive environment that values staff input and empowers employees to implement innovative solutions to enhance patient care (Battilana & Casciaro, 2012).

Based on the above arguments, the following hypothesis is developed:

H2.2: Non-technical innovation capability has an impact on Customer Experience in the Egyptian private hospitals.

Loyalty

Customer loyalty is widely studied in various industries, including healthcare. It is defined as the likelihood of a customer to repurchase a product or service from a specific provider (Chaysiri et al., 2023). Within the healthcare field, loyal customers are essential for the sustainability and growth of private hospitals (Afifi & Amini, 2019).

Patient loyalty in healthcare settings is a multi-dimensional concept. It is influenced by factors, comprising the quality of care, patient experience, and the extent to which the healthcare provider meets patient needs (Zeithaml et al., 2006).

The significance of loyalty has grown in prominence within the highly competitive healthcare industry due to its association with favourable patient retention and positive word-of-mouth (Boonnark, 2021). Patient loyalty is contingent upon a multitude of aspects, encompassing service quality, trustworthiness, perceived value, and the overall customer experience.

Theoretical Framework

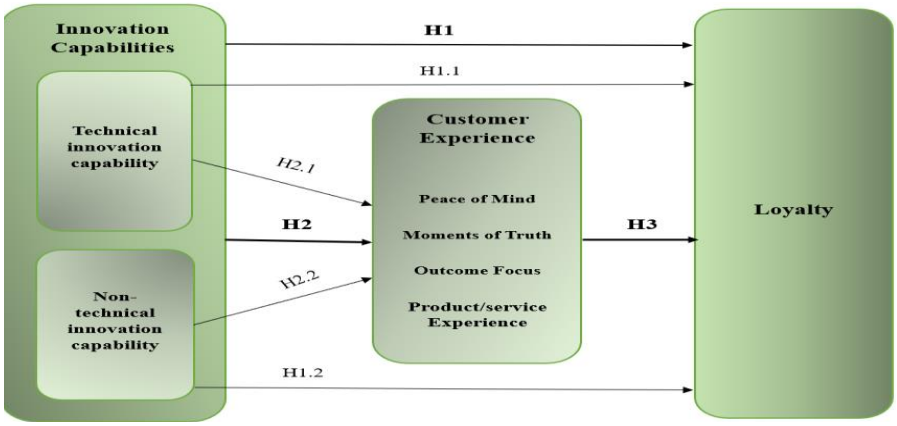

Figure 1- Conceptual Framework

Research Problem and Questions

While there is a growing body of research on the impact of innovation capability on customer loyalty in general, there is a need for more research on this topic specifically in the Egyptian healthcare industry, where the cultural and economic context may be different from other countries. (El-Geneidy & Amin, 2018). El-Said & Azab (2014) highlighted the need for Egyptian hospitals to improve their innovation capabilities to gain competitive advantage, but did not examine the impact on loyalty.

Lack of research on the impact of innovation capability on loyalty in the Egyptian healthcare industry: Further research is needed to understand how innovation capability drives loyalty among patients of private hospitals in Egypt. Meanwhile, Hospitals skilled in non-technical innovation are better positioned to understand and meet evolving patient needs, potentially increasing loyalty (Kim & Coenen, 2021). Investigation in developing countries can provide useful insights (Ramirez et al., 2018) (**Gap1**).

A study by Ahmed (2021) provided an insight into Egypt's healthcare sector and the opportunities for investment and innovation. He estimated that by 2030, Egypt would require approximately 38,000 new

beds with an estimated investment of US$8 to 13 billion and up to 120,000 new beds with an estimated investment of US$25 to 40 billion. He also highlighted the potential for digital transformation, such as the implementation of a Universal Health Insurance plan, the adoption of new technologies and innovations, and the development of medical clinics space. He recommended that investors and operators should focus on enhancing customer experience, and non-technical innovation in enhancing healthcare services (**Gap2**).

Limited research on the Egyptian private hospital context: There is a dearth of research specifically focusing on the Egyptian private hospital sector. Existing studies predominantly focus on public hospitals (El-Tohamy et al., 2018), leaving a gap in understanding the relationship between innovation capability, customer experience, and loyalty in the private healthcare sector of Egypt. Further research can provide valuable insights into the unique dynamics and challenges faced by private hospitals in Egypt and their impact on loyalty outcomes (**Gap3**).

Research Questions

Based on the above, the following problem can be raised to answer the following questions:

- Q1- What is the impact of Innovation Capabilities on Loyalty?
- Q2- What is the impact of Innovation Capabilities on Customer Experience?
- Q3- What is the impact of Customer Experience on Loyalty?
- Q4-What is the impact of Innovation Capabilities on Loyalty with Customer Experience as a mediating variable?

Research Objectives

The study is guided by the following objectives:

1- To investigate how innovation capabilities in healthcare affects loyalty in the Egyptian Private hospitals.

2- To examine how innovation capabilities in healthcare affect customer experience in the Egyptian private hospitals.

3- To identify how customer experience affects loyalty in the Egyptian private hospitals.

4- To investigate the mediation role of customer experience between innovation capabilities in healthcare and loyalty in the Egyptian private hospitals.

Research Hypotheses

- **H1:** It is expected that innovation capabilities influence Loyalty in the Egyptian private hospitals.
- **H2:** It is expected that innovation capabilities influence customer experience in the Egyptian private hospitals.
- **H3:** It is expected that customer experience influences loyalty in the Egyptian private hospitals.
- **H4:** It is expected that customer experience mediates the relationship between innovation capabilities and loyalty in the Egyptian private hospitals.

Research Justifications

A questionnaire is utilized to collect data for this research. The researchers used a convenience-sample, which consists of patients of the Egyptian private hospitals, due to the ease of data collection and sample selection (Saunders et al., 2016), and also the limited time and cost. The questionnaire is distributed via (Google forms online surveys). The questionnaire consists of 4 parts: The first part is about the demographic questions, the second part about the innovation capabilities including technical and non-technical, which

was measured by (9 items) adopted from (Ngo & O'Cass, 2013; Foroudi et al., 2016), the third part regards CEX is measured by (18 items) adopted from (Klaus & Maklan,2012) and the fourth part regards the loyalty was measured by (5 items) adopted from (Aydin & Özer,2005; Foroudi et al., 2016) .

The data is analysed using (SEM) (AMOS) 26.

Data Analysis

Out of 700 respondents, 465 (66.4%) completed the research questionnaire, 62 (8.8%) were incomplete, ineligible, or refused, and 235 (33.6%) were not reached. There were 403 valid responses, resulting in a response rate of 57.6%, which is deemed sufficient for this study.

The measurement items exhibit standardized loading estimates of 0.5 or above (range from 0.510 to 0.924 at the alpha level of 0.05), demonstrating the convergent validity of the measurement model. The Average Variances Extracted (AVE) should always be more than 0.50 (Hair et al., 2019). The (AVE) for specific constructs: Technical innovation capability = 0.561, Non-technical innovation capability = 0.667, Peace of mind = 0.690, Moments of Truth = 0.571, Outcome focus = 0.564, Product experience = 0.748, and Loyalty = 0.750. All AVE values are above 0.500. The measurement findings are satisfactory.

Composite reliability (CR) assesses the reliability of a construct in the measurement model. CR values for different capabilities are as follows: Technical innovation capability = 0.827, Non-technical innovation capability = 0.888, Peace of mind = 0.930, Moments of Truth = 0.841, Outcome focus = 0.837, Product experience = 0.922, and Loyalty = 0.938. It is evident that all constructs in the measurement model exhibit acceptable reliability.

Structural model: The structural model analysis conducted using AMOS software indicates that DF is 428 (should be greater than 0) and the $\chi 2$ /DF ratio is 2.764, which is less than 3.0 (should be less than or equal to 3.0). The RMSEA value was 0.061, which is below the recommended threshold of 0.08. The TLI index was .927, indicating a high level of fit close to perfection (1.0). The CFI was 0.933. All indices in the confirmatory factor analysis (CFA) are approximately 1.0, suggesting that the measurement models strongly support the factor structure identified in the CFA as shown in table 1.

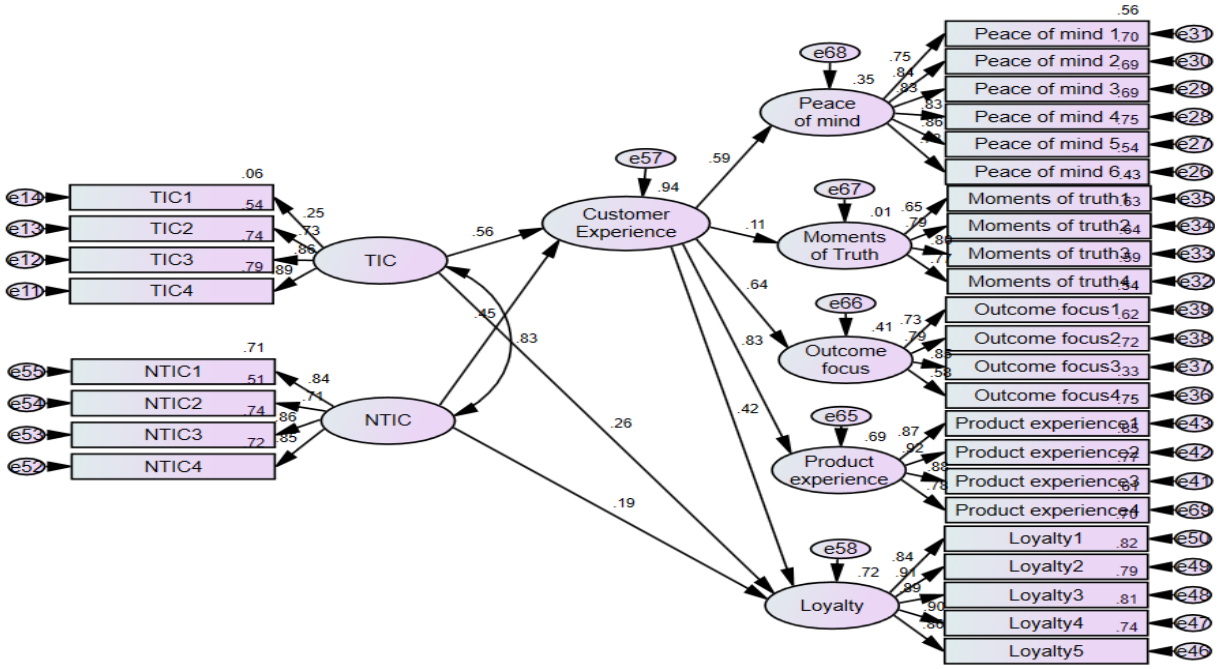

Figure (2) Structural Model (Final Result)

Table 1: Hypothesized Path of the Final Structural Equation Model

Hypothesized path			Estimate	Critical Ratio (C.R)	P-Value
H2.1Customer Experience	<---	Technical innovation capability	.558	4.536	***
H2.2Customer Experience	<---	Non-technical innovation capability	.452	7.396	***
H1.1Loyalty	<---	Technical innovation capability	.257	28.621	.***
H1.2.Loyalty	<---	Non-technical innovation capability	.193	7.396	***
H3.Loyalty	<---	Customer Experience	.424	12.895	.***

Table 2: Standardized Direct Effects

Variables	Technical innovation capability	Non-technical innovation capability	Customer Experience
Customer Experience	.452	.558	.000
Loyalty	.193	.257	.424

Table 3: Standardized Indirect Effects

Variables	Technical innovation capability	Non-technical innovation capability	Customer Experience
Customer Experience	.000	.000	.000
Loyalty	.192	.237	.000

Table 4.: Mediating Significant

Mediating Pass	Significance (P value)
Effect Technical innovation capability on Loyalty Through Customer Experience	.003
Effect non-technical innovation capability on Loyalty Through Customer Experience	.006

Results

Based on the above results, it has been found that there is a positive relation among technical innovation capability and Loyalty (β = 0.257, CR (Critical Ratio) = 28.621, CR > 1.96, p = 0.000, p<0.05). Therefore, (**$H1_{.1}$:** It is expected that technical innovation capability influence Loyalty in the Egyptian private hospitals.) is supported. This result is consistent with Alhassani & Al-Somali (2022) who showed that, Saudi public hospitals' technical innovation capability had a significant positive effect on patient loyalty. The use of the latest medical technologies and techniques helped improve clinical outcomes and service quality, driving patient loyalty. Similarly, electronic health records, telemedicine technologies, mobile health apps, and AI-enabled diagnostics have been shown to increase clinical outcomes, service quality, and patient satisfaction - all of which are significant drivers of loyalty in healthcare (Al-Rahmi et al., 2019).

Moreover, **$H1_{.2}$:** It is expected that non-technical innovation capability influences Loyalty in the Egyptian private hospitals. (β = 0.193, CR (Critical Ratio) = 7.396, CR > 1.96, p = 0.000, p<0.05), is supported as it predicts that " There is a relation among non-technical innovation capability and CEX". This result matches with Wang et al., (2020) who emphasized that, organizations that actively participate in non-technical innovation practices have a higher probability of providing customers with distinctive and superior value. The use of these novel strategies has the potential to result in enhanced the degrees of service excellence, heightened levels of customer satisfaction, and ultimately, increased levels of customer loyalty (Janjić & Rađenović, 2019).

Based on the above results , **H1:** It is expected that Innovation Capabilities influence Loyalty in the Egyptian private hospitals.) is fully supported. This result matches with Hidayati & Zainurrafiqi (2021) who determined that there is a positive relation among innovation capability and customer satisfaction and loyalty. The study involved an examination of more than 200 manufacturing enterprises. The authors emphasised the significance of new product development procedures in fostering customer loyalty. The study conducted by Lee et al. (2011) demonstrated the favourable influence of technological innovation capability on customer loyalty within the IT services sector. In a study conducted by Budiman et al., (2019), it was found that healthcare organizations that exhibit innovative practices had a higher propensity to acquire and maintain a loyal customer base. Further, Huang et al. (2019) explored the relation among innovation capability and patient loyalty in the vein of Chinese hospitals. Their findings suggested that hospitals with stronger innovation capabilities are more likely to attract and retain loyal patients.

To examine how innovation capabilities in healthcare affect CE Xin the Egyptian private hospitals. The result shows that **$H2_{.1}$:** It is expected that Technical innovation capability influences CEX in the Egyptian private hospitals. (β = 0.588, CR (Critical Ratio) = 4.536, CR > 1.96, p = 0.000, p<0.05). is supported. That

result matches with Yoo et al. (2016) conducted a study which revealed that the implementation of an electronic medical records system has a positive impact on the overall patient experience and satisfaction. In the same vein, A study by Jin et al. (2016) investigated the influence of CEX and innovation capability on loyalty and reputation in China. They discovered that CEX was positively influenced by innovation capability, which in turn influenced loyalty and reputation. In the healthcare industry, technical innovation capability has been shown to improve patient satisfaction and clinical outcomes. A study by Shi et al. (2018) found that the use of electronic health records (EHRs) was associated with higher patient satisfaction and better health outcomes. In their study, Liu et al. (2021) conducted a survey of 500 outpatients from a sample of 10 hospitals in China. Patients had significantly more positive experiences in hospitals that demonstrated stronger technical innovation skills in areas such as telehealth and mobile applications.

In addition, **H2 .2:** It is expected that Non-technical innovation capability influence CEX in the Egyptian private hospitals. (β = 0.452 CR (Critical Ratio) = 7.396, CR > 1.96, p = 0.000, p<0.05). is supported. That result matches with Mahmoud et al., (2018) who emphasized that, service design innovations such as tailoring service offerings to specific customer segments, streamlining service processes, and enhancing staff training can all have a positive influence on the quality of customer interactions and the overall experience. Previous research has indicated that non-technical capabilities have a positive influence on various realms of CEX-(Mahmoud et al., 2018; Kindström & Kowalkowski,2014). Nevertheless, the significance of non-technical innovation capabilities in healthcare service organizations has not been thoroughly examined. Moreover, non-technical innovation capabilities like new services, processes and business models can improve hospital agility and patient loyalty (Samson et al.,2022). In another study, Dixon-Woods et al., (2013) demonstrated that, hospitals that possess expertise in non-technical innovation are more favorably situated to comprehend and address the changing demands of patients, which may result in heightened levels of loyalty.

Based on the results , **H2:** "It is expected that Innovation Capabilities influence CEX in the Egyptian private hospitals" is supported. That result matches with Wang et al. (2016) who investigated the effects of innovation capability and CEX on reputation and loyalty in the China. They found that innovation capability and CEX had positive and direct effects on reputation and loyalty, and that reputation partially mediated the effects of innovation capability and CEX on loyalty. Moreover, Innovation capability enhances CEX by improving the quality, efficiency and personalization of services (Yeh, 2019).

To identify how CEX affects loyalty in the Egyptian private hospitals. The result indicatesthat **H3:** It is expected that CEX influences Loyalty in Egyptian private hospitals. (β = 0.424, CR (Critical Ratio) = 12.895, CR > 1.96, p = 0.000, p<0.05). is supported, as it predicts that " There is a positive relation among CEX and Loyalty ". Previous research has widely established the link among positive CEX and customer loyalty. A good CEX leads to increased customer satisfaction, trust and commitment to the organization (Jain & Bagdare, 2009). Satisfied customers are more likely to remain loyal to the brand, make repeat purchases and provide positive word-of-mouth referrals (Rai & Srivastava, 2012). Further, Kim et al., (2017) conducted a study within the healthcare sector to investigate the influence of patient experience on loyalty in hospitals located in South Korea. The findings of their research demonstrated a significant correlation among positive patient experiences and both patient loyalty and the likelihood of revisiting the hospital. The influence of CEX on customer loyalty in the healthcare industry was examined by Frow et al. (2016). Their study revealed that positive patient experiences significantly affect patient loyalty, willingness to promote the hospital, and intention to revisit for further healthcare needs. In the same context of healthcare, positive patient experiences have been shown to enhance patient satisfaction and loyalty to the hospital, as well as improve clinical results and increase adherence to treatment programs (Doyle et al., 2013). According to Doyle et al. (2013) and Wolf &Jason (2014), people who are satisfied with their care are more likely to refer others to the hospital and keep using the same healthcare provider. Furthermore, Positive customer experiences, characterised by the provision of high-quality treatment, efficient service delivery, and effective communication, have been identified as key drivers of customer loyalty (Verhoef et al., 2009).

To investigate the mediation role of CEX among innovation capabilities in healthcare and loyalty in the Egyptian private hospitals. The result shows that there is a statistically significant indirect influence between technical innovation capability and Loyalty through CEX ($P = 0.003$, $P<0.05$). The results of the mediation effect indicate that there is partial mediation effect of the CEXamong the relation of technical innovation capability and Loyalty. This result matches with the existing literature that demonstrated that CEX plays a mediating role in the relation among antecedent factors such as service quality, relation marketing, innovation, and customer loyalty outcomes (Ranaweera & Prabhu, 2003; Srinivasan et al., 2002). Moreover, A study by Alshurideh et al. (2020) explored the role of CEX in mediating the relation among technical innovation capability and customer loyalty in the vein of Jordanian private hospitals. They used a mixed-method approach to collect data from 400 patients and 20 managers and applied partial least squares to test their hypotheses. They found that CEX fully mediated the effect of technical innovation capability on customer loyalty, and that CEX was influenced by both product and process innovation. They recommended that private hospitals should focus on enhancing their technical innovation capability and CEX to improve their customer loyalty and competitive advantage.

Likewise, a statistically significant indirect influence between non-technical innovation capability and Loyalty through CEX ($P = 0.006$, $P<0.05$). The results of the mediation effect indicate that there is partial mediation effect of the CEXamong the relation of non-technical innovation capability and Loyalty. This result matches with a study conducted by Doyle et al., (2013), who fund that there is evidence suggesting a connection among non-technical innovations and improvements in quality, which in turn leads to increased patient loyalty intentions. The significance of CEX as a mediator in the relation among innovation capability and customer loyalty has been properly acknowledged. The study conducted by Liu et al., (2021) who provides evidence supporting the idea that CEX plays a mediating role in the association among innovation capability and customer loyalty within the healthcare industry.

Conclusion

To conclude, the relationship between innovation capabilities and patient experience in healthcare is significant. Both technical and non-technical innovation capabilities play an important role in shaping the quality of care delivery, patient outcomes, and overall experience within healthcare settings. By investing in innovative technologies, processes, and patient engagement strategies, healthcare organizations can enhance the efficiency, effectiveness, and patient-centeredness of their services, leading to improved patient satisfaction and loyalty. Further research and investment in innovation capabilities are essential to continue transforming healthcare delivery and maximizing patient experience and loyalty in the evolving healthcare landscape.

Authors' Contribution

This paper is an attempt to fulfill the research gaps regarding the Influence of innovation capabilities and CEX on loyalty. A positive patient experience, driven by innovation, not only fosters trust and engagement but also contributes to better health outcomes and long-term relationships between patients and healthcare providers. Simply prioritizing innovation without incorporating customer input may hinder loyalty objectives. At the end, this study stresses on the significance of balancing technical and non-technical innovation activities, as both impact customer experience and subsequently influence loyalty.

Limitations and Suggestions for Future Research

This study used quantitative approach. Future study should consider adopting a mixed approach to provide richer data and findings on this topic. The sample was limited to one country (Egypt) and one sector (healthcare industry) especially in private hospitals, future research could focus on other sectors and in other countries. This study focuses only on the innovation capabilities, future research can focus on other factors that may influence customer experience.

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