The Mediating Role of Customer Relationship Quality between the Customer Value Co-creation Behavior and Customer Loyalty

Adel R. M. Rayan1,*, Ahmed Sayed Mohamed Sebaie4, Yasser S. A. Hussien3, and Hadeer Murad Mabrouk2

ABSTRACT

The purpose of this study was to determine the role of customer relationship quality in mediating the relationship between customer value co-creation behavior and customer loyalty in Egyptian private hospitals and medical centers in Assiut Governorate. The descriptive analytical method was used in the study. 445 of the 500 patients in the sample were collected by a questionnaire, which was valid for statistical analysis. The study’s findings supported the mediating role of customer relationship quality in the relationship between customer value co-creation behavior and customer loyalty. Implications, recommendations, and potential future studies in the subject of study were discussed.

Keywords: Customer loyalty, customer relationship quality, customer value co-creation behavior, private hospitals and medical centers.

1. Introduction

With the increasing role of the service industry in the economy and the entry of new organizations in the services market that provide convergent services, contemporary service organizations face a significant challenge reflected in the difficulty of survival in light of environmental variables characterized by dynamic and continuous change. Service organizations realized the requirement to develop strong relations with their customers and strengthen their loyalty to the organization to sustain their future competitive position (Zeithaml et al., 2011).

Customer loyalty is essential for successful marketing plans and strategies, as it ensures the survival and continuity of organizations by attracting new customers through customer endorsement and positive comments (Reichheld, 1993). Value co-creation is an anticipated area of development that entails cooperation between firms and customers to accomplish both parties’ mutual objectives. Participation results in a better understanding of consumer requirements and needs, a greater ability to provide them, and the possibility to create relationships that inspire loyalty and lower the likelihood of customers terminating their engagement with the business. This engagement will help to create value and gain a competitive advantage (Revilla-Camacho et al., 2015).

Customer relationship quality is essential for organizational performance and one of the most effective consequences of marketing practices (Kuo & Ye, 2009). It involves building long-term relationships with customers by responding to their needs, enhancing service efficiency, and paying attention to the customer’s interests to represent the social aspect of organizations (Singh & Sirdeshmukh, 2000). This raises customers’ satisfaction and trust with the business, which leads to increased loyalty (Chu & Yao-bin, 2009).

The health services sector occupies a distinguished position among the service sectors due to the importance of the services it provides and its direct connection to the health and life of community members. The sector conflicts with the stakeholders’ objectives, as the reduced costs and time associated with treatment no longer fully explain the value of the health service provided and ignore the vital role of the client. As a result, healthcare professionals should design services based on patients’ perspectives to improve service quality by understanding how patients participate in shared value creation (Zhang et al., 2015). As a result, healthcare providers should design services based on patients’ perspectives to improve service quality by understanding how patients participate in shared value creation (Zhang et al., 2015).
Based on the preceding, the current study seeks to identify the role of customer relations in the organization in its two dimensions in the relationship between their value co-creation and loyalty to it, applying to hospitals and private medical centers.

1. Study Overview (Study Problem)

Customer loyalty is one of the best intangible assets an organization can possess, as loyal customers are more likely to buy the organization's products and services and bear the price increase. This leads to achieving profit for the organization and a marketing and promotional force by making positive recommendations to others that strongly influence the opinions and behavior of other customers (Ali et al., 2017). So, many researchers have been interested in studying the variables that lead to the development of customer loyalty to the organization, particularly those that emerged from modern marketing theories such as the variable value co-creation (Yi & Gong, 2013).

The evolution of organizational workplaces and interorganizational competition has given rise to modern marketing theories. According to Vargo and Lusch (2004), the idea of participation in value creation refers to the collaboration and integration of efforts between the client and the service provider during the provision of the service in order to produce value for both parties. As a result, customer involvement in adding value to the service could directly impact customer loyalty to the company (Cossío-Silva et al., 2016; Vargo & Lusch, 2004).

Modern marketing theories have resulted from the changes that have occurred in the work environment of organizations and the competition between them. The concept of participation in value creation, as referred to by Vargo and Lusch (2004), is the cooperation and integration of efforts between the customer and the service provider in the process of providing the service to create value for both parties. On the final product of the service, therefore, the participation of customers in creating value may directly affect customers' loyalty to the organization (Cossío-Silva et al., 2016; Vargo & Lusch, 2004).

It is observed that the related studies have focused on developing customer loyalty with value co-creation for contributing to customer loyalty. Studies by Grissemann and Stokburger-Sauer (2012), Nysveen and Pedersen (2014), Revilla-Camacho et al. (2015), Cossío-Silva et al. (2016), Nguyen (2017), Revilla-Camacho et al. (2017), Khan and Hussainy (2017), van de Scheur (2017), and Delpechitre et al. (2018) found that customer participation in service delivery positively affects their loyalty to the organization. The studies of Lin et al. (2003), van Dijk et al. (2014), Chiu et al. (2017), and Mariyudi and Matriadi (2018) indicated that there is no relationship between the two variables. Stokburger-Sauer et al. (2016) also found a negative relationship between customers' participation in the service's production as one of the dimensions of customer value co-creation and loyalty to the organization.

Many studies were conducted on the relationship between customer value co-creation behavior and customer relationship quality (Ammari & Jaziri, 2016; Banyte & Dovaliene, 2014; Choi, 2015; Clauss et al., 2019; Kim & Lee, 2018; Omar et al., 2018; Pantoja Diaz et al., 2016; Revilla-Camacho et al., 2014, 2017; Vega-Vazquez et al., 2013; Yang et al., 2019; Zhang, 2010). These studies indicated that there is a positive relationship between these two variables, as those studies indicated that customers value co-creation activities, which contributes to increasing service providers’ awareness of their needs, Which contributes to reducing the gap between the desires and expectations of customers about the service and the actual performance of the service and thus achieving customer satisfaction, and increasing their trust in the capabilities and credibility of the organization.

On the other hand, other studies, such as Worley (2001), Yin and Yang (2009), and Fledderus (2015a), have clarified that there is no relationship between the variables, which means the customer’s participation in service production as one of the dimensions of customer value co-creation does not necessarily lead to his satisfaction or trust, and therefore does not lead to high-quality relationships with the organization. In contrast, a negative effect of customers’ participation in the service’s production and their satisfaction has been noted by Bendarupi and Leone (2003) and Fledderus (2015b), aside from Guo et al. (2013), who concluded a negative effect of customer citizenship behavior represented in feedback on customer satisfaction as one of the dimensions of customer relationship quality.

By reviewing previous studies that dealt with the relationship between customer relationship quality in its two dimensions (customer satisfaction and customer trust) and customer loyalty to the organization, we concluded that several studies have proven a positive relationship between customer relationship quality and loyalty to the organization (e.g., Dai et al., 2023; Kuhn & Mostert, 2018; Rahmani-Nejad et al., 2014; Saleem et al., 2018; Ying et al., 2018; Yu & Tseng, 2016). However, no effect was reported between the customer relationship quality and their loyalty to the organization in other studies such as Eakuru and Mat (2008), Alejandro et al. (2011), Chen and Chen (2017), van de Scheur (2017), and Sayil et al. (2019).

Besides the diversity in the findings of previous studies, we noticed a scarcity of studies that collectively dealt with the concept of customer value co-creation through its two dimensions. Creating value in its two dimensions on the customer relationship quality, but we dealt with its impact on only satisfaction or trust.

Considering the literature review related to the study variables, the research problem can be illustrated in the following questions:

1. What is the nature of the relationship between the customers’ value co-creation behavior and their loyalty to hospitals and private medical centers? Moreover, what is the relative impact of the dimensions of customer value co-creation behavior on their loyalty to those organizations?

2. What is the nature of the relationship between customer value co-creation behavior and the quality of their relationships with hospitals and private medical centers? Moreover, what is the relative impact of the customer value co-creation behavior and the customer relationship quality?

3. What is the nature of the relationship between the customer relationship quality and their loyalty to
The Mediating Role of Customer Relationship Quality

2. Theoretical Framework

2.1. Value Co-Creation

Ostrom et al. (2010) referred to value co-creation as a close relationship between the service provider and the customers. This means the creation of value by both customers and service providers. Prahalad and Ramaswamy (2004) stated that the customer plays a vital role in value co-creation by integrating the customer’s role with the organization’s to achieve value. Ind et al. (2013, p. 9) also addressed value co-creation as “an active, creative and social process based on collaboration between organizations and participants that generates benefits for all parties and creates value for stakeholders.” Heidenreich et al. (2015) pointed out that the value is created jointly by both the organization and its customers during the production and consumption of the service. We can define value co-creation as the collaborative process between the customer and the organization so that each has a specific and compelling role in achieving the desired goals.

2.2. Customer Value Co-Creation Behavior

Sweeney et al. (2015) and Payne et al. (2008) referred to customer value co-creation behavior as the cognitive and behavioral activities customers perform to achieve certain goals through the value creation. According to the co-creation of value, customers become partners, and organizations must collaborate with them to create value. Stakeholders are more likely to participate in joint value-creation activities if they perceive it will bring them high value.

Therefore, organizations must provide a sound basis to build interactions with customers and thus exchange experiences (Ramaswamy & Gouillart, 2010).  

2.3. Dimensions of Customer Participation Behavior in Value Creation

2.3.1. Customer Participation Behavior in Service Production and Delivery

Rodie and Kleine (2000) refer to customer participation from a behavioral perspective as the actions and resources customers supply for service production or delivery. This definition emphasizes the importance of customers as human resources for the organization and partial employees without whom the service cannot be completed. We can define customer participation behavior as the degree to which the customer produces and delivers the service. The following four dimensions collectively constitute consumer participation in service production and delivery.

2.3.1.1. Information Seeking

Yi and Gong (2013) referred to information seeking as a set of activities customers perform to access information about the essential characteristics of the service they will receive. Kelly et al. (1990) illustrated that customers’ initiative can be taken into account by asking others (such as other customers or employees) for information or observing clients’ behavior during the service encounter.

2.3.1.2. Information Sharing

Yi and Gong (2013) described it as the customers sharing information about services with service providers. It also includes sharing information about the needs they wish to satisfy and the service specifications they expect to receive. This will help the service provider provide services more effectively and sufficiently and facilitate the co-creation process of value to meet customer needs.

2.3.1.3. Responsible Behavior

Bettencourt et al. (2002) addressed the concept of responsible behavior. It indicates the extent to which the customer performs his responsibilities promptly, elaborately, and responsively, reflecting a sense of personal commitment toward the service’s success. Yi and Gong (2013) referred to responsible behavior as customer behavior, which is represented in cooperation with employees by observing the rules and policies of the organization during the service meeting and following the employees’ directives to create value successfully.

2.3.1.4. Personal Interaction

This dimension means customer interaction behaviors with front-line employees, which involve cordiality, courtesy, and respect, and these personal interactions are a necessary factor for the success of the process of participating in value creation, as the value creation process, like other marketing operations, is surrounded by a social environment that affects and is affected by it. Moreover, the more positive this environment is, the greater the desire of customers to participate in value creation, and this climate is achieved through good relations between customers and workers that are respectful and cooperative (Claycomb et al., 1970; Yi & Gong, 2013).

2.3.2. Customer Citizenship Behavior

Groth (2005) stated that customer citizenship behavior is the voluntary behavior of customers, which is indirect, unpredictable, and unrewarded, but in the aggregate, leads to service quality and enhances work effectiveness in service organizations. Also, Yi and Gong (2008) referred to it as voluntary behaviors that are not required for successful service production and delivery but, on the whole, help service organizations in general. Yi et al. (2011) see customer citizenship behavior as the voluntary action of some clients. Customers do not need to strictly comply with these behaviors to create a successful service and are free to do so at their discretion. We can define customer citizenship behavior as the degree to which the customer is psychologically ready to provide a set of positive and voluntary behaviors that benefit the organization. The concept of customer citizenship behavior consists of the following dimensions:
Feedback means that customer behavior includes providing suggestions and instructions to employees after the customer has experienced the service and gained experience. This information may be positive or negative which ultimately helps the organization in improving its service operations in the long run (Yi & Gong, 2013).

Advocacy

Fullerton (2005, p. 100) defined it as “recommend business (of the organization or its employees) to other people such as friends or family.” On the other hand, Walz and Celuch (2010) stated that advocacy includes promoting the organization and defending the organization against criticism, mainly when non-customers (non-members) attack the organization. Yi and Gong (2013) referred to advocacy as the customer activities that include recommending the organization or its employees to other people such as friends, family, or relatives. Advocacy refers to the value that customers create when they voluntarily share detailed information about an organization’s services, features, or promotions that go beyond a simple recommendation.

Helping

Assisting in co-creating a service refers to “customer behavior aimed at helping other customers who may have difficulties behaving in the way expected of them” (Yi & Gong, 2013, p. 1281) and, therefore, giving them a sense of accomplishment.

Tolerance

Tolerance is referred to as customer behavior that includes being patient when the service delivery process does not meet their expectations and accepting the service delay due to any shortage or unforeseen problem by the organization,” such as accepting customers to wait longer to receive the service or overlooking the error that may occur while receiving the patient for medical service (Johnson & Rapp, 2010; Yi & Gong, 2013). Moreover, Bettencourt et al. (2002) indicated that forgiveness effectively treats problems and frustrations. From a functional point of view, less anger energy is wasted when facing those problems.

Customer Relationship Quality

Fynes et al. (2005) defined relationship quality as the degree to which the two parties engage in an effective and long-term relationship, which forms the basis for assessing the service flow chain. That is, the quality of the relationship is a measure of the validity of the relationship between the exchange parties. Also, Han et al. (2008) referred to relationship quality as the situation in which clients rely on the organization’s integrity for its future performance due to its satisfactory and consistently recurring past performance levels.

According to Oly Ndubisi (2007), relationship quality is a bundle of intangible and immeasurable values that maximizes the value of goods and services and leads to the expected exchange between sellers and buyers. Kim et al. (2011) see customer relationship quality as the degree of cooperation between the parties (customers and service providers) and the tendency towards building long-term relationships. This reflects the extent of the interest of the service provider or the commodity in maintaining the continuity of the relationship with the consumer. We can define customer citizenship behavior as the degree of the overall perception of the quality of an exchange relationship with the customer. The dimensions of the customer relationship quality are discussed as follows.

Customer Satisfaction

Customer satisfaction is an essential factor for the success of any business system, and this importance increases when these businesses depend more on relationships with customer service organizations; they need to understand how to satisfy customers because customer satisfaction is crucial to establishing a long-term relationship with them (Kotler, 2005). Westbrook (1987) pointed out that satisfaction is traditionally defined as a perceptual phenomenon. An affective response results from a cognitive evaluation process in which actual perceptions are compared to client expectations. Roberts-Lombard (2009) described satisfaction as the degree to which a business organization’s product or service performance conforms to customer expectations.

According to Krystallis and Chrysochou (2014), customer satisfaction results from the customer’s evaluation of both tangible and intangible brand characteristics after purchase. We can define customer satisfaction as the degree to which a company’s products, services, and overall customer experience meet customer expectations.

Behavioral Loyalty

Høst and Knie-Andersen (2004) stated that the customer’s actual repurchase behavior and repeat purchase behavior are expressed by the number of times a specific brand is purchased compared to the total number of brands purchased or the total actual expenses spent on the product or service. Behavioral loyalty is based on loyalty outcomes such as repurchase (Komunda & Osarenkhoe, 2012; Marshall, 2010). In this context, it should be noted that the models that study loyalty through buy-back behavior depend on the application of the market orientation perspective (the brand’s share of the market, its penetration, the frequency of its purchase) rather than the customer itself, and according to these models, the brand loyalty is achieved/provider service measured by repeated purchase as a result of satisfaction. However, the consumer may repeat the purchase process while he does not have any substantial positive attitudes towards it because looking for an alternative may not be worth the trouble (Uncles et al., 2003). Thus, we can define behavioral loyalty as the degree to which a customer keeps returning to repurchase or use the same product.

3. Previous Studies on the Relationship between Customer Value Co-creation and Their Loyalty to the Organization

Several studies have investigated the relationship between customer value co-creation in its two dimensions and customer loyalty (e.g., Ali et al., 2017; Cossío-Silva
et al., 2016; Delpechitre et al., 2018; Grissemann & Stokburger-Sauer, 2012; Khan & Hussainy, 2017; Mariyudi & Matriadi, 2018; Nysveen & Pedersen, 2014; Polo Peña et al., 2014; Revilla-Camacho et al., 2015; Sweeney et al., 2015; van de Scheur, 2017; van Dijk et al., 2014; Zhang, 2010), most of them found there is a positive relationship between the two variables.

Grissemann and Stokburger-Sauer (2012) agreed with Polo Peña et al. (2014) by reporting in the tourism sector that value co-creation has a direct moral effect on customer loyalty, which includes both increased desire for repeat purchase and increased intent to recommend the organization, he added, shows higher levels of loyalty towards self-designed services compared to standard services. Therefore, when customer engagement activities go beyond self-design, it positively impacts their behavior.

However, van Dijk et al. (2014) find that customer value co-creation does not directly influence repurchase behavioral intentions and that it does not necessarily increase customers’ behavioral intentions toward brands in which customers practice behaviors of co-creation of value greater than those brands of less co-creation of customers.

The study of Revilla-Camacho et al. (2015) indicated that value co-creation negatively affects the intention of customers to leave the organization and thus increases the intention of customers to continue the relationship with the organization. This study concluded that the customer value co-creation strengthens their relationship with the organization. If the organization’s relationship with its customers continues for extended periods, it can achieve more profitability.

van de Scheur’s (2017) study aimed to test the relationship between customer value co-creation and customer loyalty to the organization and concluded a significant positive relationship between them. To customers who are willing to participate in the production and share their opinions and suggestions with the organization, while Mariyudi and Matriadi’s (2018) study found that there is no direct relationship between customer value co-creation and customer loyalty to the organization, and also confirmed that there is an indirect relationship between them from through perceived quality.

Halbesleben and Stoutner’s (2013) study found a positive and statistically significant relationship between customer participation in service production and delivery as one of the dimensions of customer value co-creation and customer loyalty. It explained the reason for the positive relationship that the customer and service provider relationship develops as the customer co-creation in service exchange as a result of increasing its awareness of the quality of service. Bryce et al. (2015) examined the Japanese tourism sector. They found that the visitor who participates in the service experience has a greater tendency to commit and become emotionally attached to that organization, which leads to loyalty.

In another direction, the study of Stokburger-Sauer et al. (2016) examined the non-linear relationship between the level of joint production and customer loyalty, and they found that the effect of joint production on customer loyalty, after the point of the optimal level of joint production, is negative. As loyalty increases by increasing customer participation to a certain point, loyalty begins to decline as participation increases.

The results of the study of Ali et al. (2017) contrasted with the previous study, which found that the dimension of customer participation in the production and delivery of service does not affect customer loyalty, while customer citizenship behaviors have a positive, significant effect on customer loyalty. The study of Lin et al. (2003), which was applied to banking services, indicated no effect on customer participation in production service, customer loyalty, and customer retention.

The studies of Choi (2015), Madani et al. (2015), and Revilla-Camacho et al. (2017) found that customer citizenship behavior as one of the dimensions of customer value co-creation has a positive impact on customer loyalty, except the study of Chiu et al. (2017), which indicated that there is no relationship between customer citizenship behavior and their loyalty to the organization.

The study of Delpechitre et al. (2018) also indicated that value co-creation is the process that organizations often use to enhance and support competitive advantage. That study found that the behavior of customers valuing co-creation has a positive impact on the commitment of customers to continuing the relationship with the service provider as one of the dimensions of customer loyalty.

In the field of the relationship between customer value co-creation in its two dimensions and customer relationship quality with its two dimensions, some studies concluded that customer value co-creation positively affects customer relationship quality (Amjadi & Jaziri, 2016; Banyte & Dovaliene, 2014; Omar et al., 2018).

The study of Revilla-Camacho et al. (2014) added that value co-creation is one of the most important ways organizations can gain customers’ trust and then achieve a competitive advantage in light of the intense competition faced by small-sized organizations. This study attributed the positive impact of value co-creation on customer trust to enhance personal interaction between customers and employees for mutual understanding. This interaction leads organizations to meet better their customer’s desires and awareness of the organization’s fairness in distributing service production responsibilities to the customer. These factors reduce customers’ fears of opportunist behavior, leading to increased trust in the service organizations.

Several studies dealt with the relationship between customer value co-creation and customer satisfaction as one of the dimensions of relationship quality in various educational institutions and services such as public and private universities, vocational schools, and English language education centers (e.g., Giner & Peralt Rillo, 2016; Nguyen, 2017; Pantoja Díaz et al., 2016), and its results concluded that there is a positive, statistically significant relationship between the two variables, and the same result was reached by some studies in different service contexts, such as health care, (Sweeney et al., 2015) and the banking sector (Cambra-Fierro et al., 2017).

In another direction, Worley’s (2001) study tested the effect of customer co-creation behavior in service production and provision as one of the dimensions of customer value co-creation on the customer relationship quality through two stages. The results conflicted between the first
and second stages, where the results of the first stage found that customer co-creation behavior has a direct positive impact on the quality of the customer relationship with the organization. In contrast, the second-stage results showed no effect of customer co-creation on the relationship quality, and the study recommended conducting more research to explain this discrepancy in the results.

Zhang's (2010) study also found a positive, statistically significant relationship between customer co-creation in service production and delivery and customer relationship quality in the two dimensions of trust and satisfaction in hairdressing services. The study of Chu and Wang (2012) found that customer information sharing as one of the dimensions of customer participation behavior in providing service has a positive impact on customer relationship quality.

The studies of Yim et al. (2012), Halbesleben and Stoutner (2013), Hsu and Chen (2014), and Yang et al. (2019) agreed that the more customers participate in service production and delivery. The higher the customer satisfaction and therefore this recommended the need to provide employees with interest in customer co-creation, and also design service patterns that allow customers to participate in the customization, allowing faster and less costly completion of the service so that the customer is satisfied with the service and the organization provided.

Despite the multiplicity of studies that found a positive relationship between customer participation in the production and delivery of service and the two dimensions of relationship quality (satisfaction and trust), studies by Lin et al. (2003) and Fledderus (2015a) found that customer co-creation is not significantly related to customer satisfaction. The study of Lin et al. (2003) attributed the absence of a relationship between the co-creation of tourists in providing the service and their satisfaction with the tourist parks in Taiwan to external factors such as bias for certain characteristics that occurred in the relationship between customer co-creation and satisfaction. Also, individual customer differences, such as personal motives, may weaken the relationship between the two variables. The study of Claycomb et al. (1970), which was applied to YMCA services, attributed the absence of significant differences in customer satisfaction across different levels of customer participation to the small sample size used in the study.

Fledderus's (2015a, 2015b) studies aimed to determine whether co-production for public service provision enhances customer trust. Over half a year, the results of his studies concluded a significant decrease in the level of trust among participants in co-production. Fledderus (2015b) and Bendapudi and Leone (2003) reported a negative relationship between customer participation and customer satisfaction in case the service results are better or less than expected.

Kim and Lee's (2018) study aimed to determine the impact of customer co-creation on customer trust in an organization in the field of smartphone services. Their study concluded a positive relationship between them, as exchanging information through communication between organizations and their customers strengthens the relationship and builds customer trust.

Some studies examined the relationship between customer citizenship behaviors and customer satisfaction and trust in the organization as dimensions of the quality of customer relations. Madani et al. (2015) and Song and Huh (2012) indicated that customer citizenship behavior in financial services such as banks positively affects customer satisfaction with the organization and increases the trust and reliability of customers in this organization.

In the same context, Choi's (2015) study examined the relationship between customer citizenship behavior and their outcomes in three different service contexts ranging in specialization and communication from the high level through the medium level to the low level. That study found that customers who participate in citizenship behavior are satisfied with service results and front-line employees. Also, it explained that the customers' value of co-creation develops their feelings of achievement and increases their trust in their skills and abilities. Developing the relationship between the customers and employees and forming personal relationships through interaction increases feelings of belonging and customer satisfaction with the organization. This result has been supported by the study of Chiu et al. (2017).

On the contrary, the study of Guo et al. (2013) did not support the positive relationship between the citizenship behavior represented in the feedback component and customer satisfaction with the organization. The customers are interested in developing the organization's services by participating in providing suggestions and feedback on the organization's performance. And its employees are more likely to perceive discrepancies between the expected service performance after submitting proposals for improvement and the actual performance. This causes them more significant disappointment, reflected in their low satisfaction rate with the organization, which negatively impacts them.

Several studies have examined the relationship between customer relationship quality with its two dimensions (customer satisfaction and trust in the organization) and customer loyalty. The studies of Kim et al. (2001, 2006), Roberts et al. (2003), and Mosavi and Ghaedi (2012) indicated that there is a positive moral relationship between customer relationship quality and loyalty to the organization.

In a different direction, the study of Eakuru and Mat (2008), applied to banking services, found no effect between the dimensions of relationship quality (satisfaction, trust) and the loyalty of customers to the organization. In the same context, Alejandro et al. (2011) did not indicate that there is a relationship between the quality of the relationship with the organization and the loyalty of customers. They indicated the importance of providing strong support and incentives to customers to increase the likelihood of accepting the standard procedures, processes, and management systems proposed by the organization.

On the contrary, the study of Ben Naoui and Zaïem (2010) found partial support for the effect of relationship quality on customer loyalty. Where the regression coefficient analysis showed that loyalty is positively affected.
by customer satisfaction only, while trust does not affect customer loyalty.

The studies of Abdul Rahman and Ramli (2016), Yu and Tseng (2016), Kuhn and Mostert (2018), Saleem et al. (2018), and Dai et al. (2023) indicated that the customer relationship quality has a positive and significant impact on customer loyalty. These studies confirmed the importance of creating a good customer experience and positive feelings about the organization in a way that supports customer satisfaction, trust, and commitment toward the organization. Also, it will lead to the development of strong customer loyalty. So, it must implement strategies to improve the relationship’s quality to retain customers.

In another direction, the study of Sayil et al. (2019) demonstrated a significant positive relationship between customer satisfaction with banks as one of the dimensions of relationship quality and customer loyalty to banks. However, the study concluded that no relationship exists between the second dimension of relationship quality, trust, and customer loyalty. On the contrary, van de Scheur’s (2017) study, applied to social housing services, concluded that a positive, statistically significant relationship exists between clients’ trust and loyalty to the organization. The client’s total satisfaction with the organization has little effect on his loyalty, and he attributed this to the availability of alternatives and the possibility of transformation to other housing associations.

4. STUDY MODEL AND MEASUREMENT

4.1. Study Model and Hypotheses

According to the review of the previous literature, the proposed hypothesis aims to test the nature of the relationship between customer value co-creation as a whole (one-dimensional variable) as an independent variable and their loyalty to the organization as a dependent variable. This central hypothesis was built on the results of most previous studies, where studies of Song and Huh (2012), Halbesleben and Stouffer (2013), Nysveen and Pedersen (2014), Sweeney et al. (2015), Choi (2015), Chen and Wang (2016), van de Scheur (2017), and Delpechitre et al. (2018) indicated that there is a significant positive relationship between customers’ value co-creation and their loyalty to the organization. Based on these studies, the following hypothesis was formulated as follows:

$$H_1: \text{There is a positive, statistically significant correlation between customer value co-creation and their loyalty to hospitals and private medical centers.}$$

To test the nature of the relationship between the customers’ relationship quality and their loyalty to the organization, Rahnani-Nejad et al. (2014), Yu and Tseng (2016), and Kuhn and Mostert (2018) indicated that there is a positive correlation between the customer relationship quality and their loyalty to the organization. Based on that, this hypothesis was formulated as follows:

$$H_2: \text{There is a positive, statistically significant correlation between the quality of customer relationships and their loyalty to hospitals and private medical centers.}$$

The last hypothesis aims to test the role of customer relationship quality as a mediating variable in the relationship between customer value co-creation and their loyalty to the organization, and this hypothesis was formulated as follows:

$$H_3: \text{The relationship quality significantly mediates the relationship between customer value co-creation as an independent variable and customer loyalty as a dependent variable in hospitals and private medical centers.}$$

These relationships are illustrated in Fig. 1.

4.2. VARIABLE MEASUREMENT

According to the proposed study model and its hypotheses, this study includes two main variables.

4.2.1. Customer Value Co-creation Behavior

The independent variable is the behavior of customer value co-creation, and the current study adopts the definition of Yi and Gong (2013), which refers to customer behaviors in the value creation process as the activities and behaviors that customers perform to achieve special goals during the co-creation process. These behaviors consist of two types of consumer behavior: customer participation in service production and delivery, and customer citizenship behavior.” Accordingly, this variable consists of two dimensions, and the operational definition of each is provided in the following subsections.

4.2.2. Customer Participation in Service Production and Delivery

Customer participation behavior reflects “the set of basic behaviors that are mandatory and explicitly required of the customer during the service encounter (confrontation and interaction between the customer and the employee during the service production) to provide the service successfully. These behaviors include information...
seeking, information sharing, responsible behavior, and personal interaction" (Yi & Gong, 2013, p. 1280).

4.2.3. Customer Citizenship Behavior

Customer citizenship behavior refers to the additional, voluntary, or positive customer behavior that can create higher value for the organization and improve the co-creation of value, behaviors that are complementary to co-delivery behaviors and consist of feedback, endorsement, helping other customers, and tolerance (Yi et al., 2011).

The variable of customer value co-creation behaviors measured in its two dimensions (customer participation in service production and delivery, customer citizenship behavior) based on Yi and Gong’s (2013) scale, which includes 28 statements, so that statements from 1–15 measure the dimension of customer behavior participation of customers in providing the service, while statements from 16-28 measure the dimension of customer citizenship behavior using a five-point (Likert scale,) ranging from agree entirely “5” to not agree at all “1”.

4.2.4. The Customer Relationship Quality with the Organization

The mediating variable is the customer relationship quality with the organization, which is defined as the overall evaluation of the strength of the customer relationship with the organization so that the customer is confident that he can rely on the integrity of this service-providing organization and its future performance because the previous performance level of this organization was continuously satisfactory. It is evaluated through satisfaction customers about the organization and customers’ trust in the organization.

In this study, customer satisfaction with the organization will be measured through the overall satisfaction with the organization and its services, which is the emotional state of the customer resulting from a comprehensive cognitive and emotional evaluation of all aspects of the relationship with the organization and its services over time-based on their personal experiences in all service encounters.

Trust is measured through two aspects: the integrity and credibility of the organization on the one hand and the organization’s benevolence on the other hand. Therefore, the client’s trust in the organization is represented in the client’s overall perceptions of each of:

- Integrity and credibility (the client’s realization that the organization has honesty and integrity and delivers on its promises).
- The organization’s tendency to benevolence and altruism (the client’s realization that the organization considers his interest when making decisions; Ganesan & Hess, 1997).

To measure the customer relationship quality with the organization, the scale of Moliner et al. (2007) was relied upon, which includes 13 phrases so that phrases 1–6 indicate customer satisfaction with the organization, and phrases 7–13 refer to clients’ trust in the organization.

4.2.5. Customer Loyalty

The dependent variable is the loyalty of customers to the organization. The current study adopts the composite view of loyalty (attitudinal loyalty, behavioral loyalty, composite loyalty), so compound loyalty is defined as the positive attitude and behavior of the customer towards a particular organization, which prevents them from switching to another service provider despite the efforts marketing to competitors who provide alternative services in the market.

Behavioral loyalty is related to transactions and is measured through the intention or willingness of the customer to repurchase the service from the same and to stay with the organization and continue the relationship with it. Attitudinal loyalty is related to the hidden internal beliefs related to the tendency and psychological connection towards the organization. It is measured in this study with each of the long-term commitment of the customer towards the organization, insensitivity to price, and customer resistance to attempts to persuade competitors to switch.

The scale proposed by Pritchard and Howard (1997), and later revised by Tanford and Malek (2015), is used to measure complex loyalty, which includes 6 statements so that statements from 1–3 indicate behavioral loyalty and statements from 4–6 indicate attitudinal loyalty.

4.3. Study Population and Sample

The study population consists of all clients (patients) who visit hospitals and private medical centers frequently in Assiut Governorate, where the research community consists of all private hospitals and medical centers distributed over all regions in Assiut Governorate. The health sector is considered one of the most essential applied sectors characterized by a high level of customer co-creation in creating the service because it requires direct interaction between patients and service providers. These services cannot be created in isolation from the active co-creation of patients. Therefore, the behavior of patients has a significant role in the success of providing these services. This interaction increases in health organizations. The patient’s choice from among the available alternatives is voluntary.

According to the statistical tables, the maximum sample size is 384 (Krejcie & Morgan, 1970). This number has been increased to 500 individuals due to the low response rates of the respondents concerning social sciences and humanities research, which amount to 52.7% in most cases. Baruch and Holton’s (2008) questionnaire was distributed to 100 hospitals and private medical centers in Assiut Governorate. The returned questionnaires were 445, with a response rate of 89%.

4.4. Statistical Methods

The data were tabulated and analyzed using the Statistical Package for Social Sciences (SPSS) software. Data analysis and testing of the study hypotheses required the application of the following statistical methods:

Cronbach’s Alpha Scale to test the reliability of the questionnaire used in data collection. Descriptive statistic measures were used to learn about the sample statistics—the linear correlation coefficient between the study variables. Simple and multiple regression analysis was used.
to determine the strength and direction of the relationship between the study variables.

5. Results

This part deals with an analysis of the study results.

5.1. Description of the Study Sample

Table I shows the distribution of participants into different characteristics. The male percentage reached 55.7% of the total sample size, which is slightly higher than the percentage of females, which amounted to 44.3% of the total sample size.

The most significant proportion of the sample was concentrated in the age group (from 30 years to less than 45 years), with 48.1% of the sample size, followed by the age group (from 45 years to less than 60 years), with 26.1% of the sample size, which is close to the percentage obtained by the age group (less than 30 years old), which amounted to 25.4% of the total sample size, while the age group (from 60 years and over) does not exceed 0.4%.

The category of BSc holders represents the vast majority of the sample, representing about 76.4% of the total sample size. In comparison, about 17.3% of the sample size had technical diplomas, and the percentage of postgraduates was 6.3%.

Table II shows a description of the study variables represented in the arithmetic averages of the variables on a quintile scale and their standard deviations, as follows:

The average values of the study variables range from 3.85 to 4.45, reflecting the perception of customers to participate in value creation, customer relationship quality with the organization, and loyalty to it. Pearson’s correlation illustrates a significant positive correlation between all variables, where value co-creation and customer loyalty correlation $r = 0.699$, and $r = 0.788$ for the correlation between customers value co-creation and the relationship quality. That means the higher the quality of customers’ relationship with the organization (represented in their satisfaction with and trust in it), the higher their loyalty.

According to Table II, the correlation coefficients ($r$) indicate a positive correlation between value co-creation and customer loyalty, value co-creation and customer relationship quality, customer relationship quality, and their loyalty to the organization.

Based on the results shown in Table III, the coefficients of determination ($R^2$) indicate that the customer value co-creation contributes by (48.8%) in explaining the variance in loyalty customers of the organization. Meanwhile, customer participation in service production and delivery is the most important variable in explaining customer loyalty, accounting for 36.8% of the variation. Customer citizenship comes in second, with an estimated 12.3% of the variation. The two independent variables explain 49.1% of the variation in customer loyalty. Moreover, customer value co-creation explains about 62% of the variance in customer relationship quality. Customer participation in service production and delivery is vital in explaining the variance in relationship quality. It explains 51.1% of

### Table I: The Characterization of the Study Sample

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>248</td>
<td>55.7%</td>
</tr>
<tr>
<td>Female</td>
<td>197</td>
<td>44.3%</td>
</tr>
<tr>
<td>Total</td>
<td>445</td>
<td>100%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 30 years</td>
<td>113</td>
<td>25.4%</td>
</tr>
<tr>
<td>30 &lt; 45</td>
<td>214</td>
<td>48.1%</td>
</tr>
<tr>
<td>45 &lt; 60</td>
<td>116</td>
<td>26.1%</td>
</tr>
<tr>
<td>60 and above</td>
<td>2</td>
<td>0.4%</td>
</tr>
<tr>
<td>Total</td>
<td>445</td>
<td>100%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical diploma</td>
<td>77</td>
<td>17.3%</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>340</td>
<td>76.4%</td>
</tr>
<tr>
<td>Postgraduates</td>
<td>28</td>
<td>6.3%</td>
</tr>
<tr>
<td>Total</td>
<td>450</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Table II: Correlation Analysis Results of the Study Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Customer participation in service production and delivery</td>
<td>4.31</td>
<td>0.216</td>
<td>0.793</td>
<td>0.832</td>
<td>0.851</td>
<td>0.885</td>
<td>0.911</td>
<td>0.926</td>
<td>0.936</td>
</tr>
<tr>
<td>2. Customer citizenship behavior</td>
<td>3.96</td>
<td>0.200</td>
<td>0.130</td>
<td>0.168</td>
<td>0.204</td>
<td>0.233</td>
<td>0.251</td>
<td>0.268</td>
<td>0.278</td>
</tr>
<tr>
<td>3. Customer value co-creation behavior</td>
<td>4.15</td>
<td>0.179</td>
<td>0.888</td>
<td>0.822</td>
<td>0.701</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Satisfaction</td>
<td>4.15</td>
<td>0.372</td>
<td>0.607</td>
<td>0.507</td>
<td>0.652</td>
<td>0.723</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Trust</td>
<td>4.45</td>
<td>0.299</td>
<td>0.650</td>
<td>0.592</td>
<td>0.726</td>
<td>0.549</td>
<td>0.787</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Customer relationship quality</td>
<td>4.34</td>
<td>0.288</td>
<td>0.715</td>
<td>0.631</td>
<td>0.788</td>
<td>0.832</td>
<td>0.920</td>
<td>0.857</td>
<td></td>
</tr>
<tr>
<td>7. Customer loyalty</td>
<td>3.85</td>
<td>0.281</td>
<td>0.606</td>
<td>0.595</td>
<td>0.699</td>
<td>0.651</td>
<td>0.794</td>
<td>0.831</td>
<td>0.835</td>
</tr>
</tbody>
</table>

Note: M: mean; SD: standard deviation; *p < 0.05, **p < 0.01, ***p < 0.001. Numbers in parentheses refer to the reliability coefficients.
the variance, followed by customer citizenship behavior (11.1%), making the two independent variables together explain 62.2% of the variance. Moreover, the relationship quality variable explains the variance in customer loyalty by 69%.

According to the dimensions of customer relationship quality (customer satisfaction, customer trust), the values of customer trust represent the most substantial variable in explaining 63.1% of the variation in customer loyalty, followed by the customer satisfaction variable, which explains 6.6% of the variance in customer loyalty, with a total explanation power equal (69.7%).

According to the customer relationship quality mediation between the customer value co-creation and customers’ loyalty, the multiple regression analysis method was used to determine the mediation role in this relationship. We can refer to:

- The relationship quality variable has additional content to explain part of the variation in customer loyalty due to the significant correlation between value co-creation and customer relationship quality ($r = 0.834$).
- The mediation role can be illustrated by shifting the contribution percentage in explaining the customer loyalty variation from (48.8%) to (69.5%) after mediating the quality of customer relationship between value co-creation and customer loyalty.
- After involving the mediating variable, the regression coefficients for value co-creation reduced from (1.098) to (0.184). Moreover, $R^2$ was reduced from (0.488) to (0.005), indicating that the quality of the relationship contributes to partial mediation in the relationship between customer value co-creation and customer loyalty. So, the fourth main hypothesis can be accepted as valid.

6. Discussion

Based on the previous data analysis, customer value co-creation has a significant relationship with customer loyalty to the organization, explaining 48.8% of the variance. This result agreed with Grissemann and Stokburger-Sauer (2012), Halbesleben and Stoutner (2013), Polo Peña et al. (2014), Nysveen and Pedersen (2014), Bryce et al. (2015), Revilla-Camacho et al. (2015), van de Scheur (2017), Ling-Yee Lin et al. (2017), and Delpech et al. (2018). This indicates that good customer value co-creation activities help significantly in deepening understanding of their needs, which improves service quality and promotes customer loyalty to this firm. Furthermore, the greater the customers’ co-creation in value-creating activities, the greater their influence on the service outputs in the way they desire. This is reflected in the customers’ sense of commitment to the organization and, thus, their loyalty to the organization.

In another context, the results of the validity of this relationship differed from the findings of the study of van Dijk et al. (2014) and Ali et al. (2017) in terms of the absence of a relationship between customer value co-creation and customer loyalty to the organization, as well as the study Mariyudi and Matriadi (2018) applied to mobile applications. The dissimilarity of the results may be due to the difference in the field of application.

The study by Lin et al. (2009) did not prove that customer participation in service production directly affects customer loyalty. This dissimilarity in the result can be justified by the fact that banking services are characterized by a medium co-creation rate of customers, meaning customers may feel their role is not sufficient and pay to remain loyal to the bank.

Also, the study of Stokburger-Sauer et al. (2016) differed from the current study, as its results indicated that co-creation negatively affects customer loyalty to the organization after the optimal level of joint production, and this is due to the phenomenon of diminishing returns, which indicates that the customer’s continued use of his resources in service provision activities reduces his loyalty to the organization.

There is also a study by Chiu et al. (2017), which found that customer citizenship behavior as one of the dimensions of customer value co-creation did not directly affect behavioral loyalty, and this difference may be due to the variance, the sampling unit, the statistical method used in data analysis, or a field application.
In addition to all of the above, it was found through multiple regression analysis of the relationship between the dimensions of customer value co-creation (customer participation behavior in service delivery, customer citizenship behavior) and customer loyalty to the organization to determine the relative importance of those dimensions and to know which are more influential and related to customer loyalty, the existence of a relationship. A positive, statistically significant correlation exists between the two dimensions and customer loyalty to the organization.

Customer participation in service production ranked first in terms of affecting customer loyalty. In contrast, customer citizenship behavior came after in the second place, and this sequence of dimensions may be logical because, undoubtedly, the customer’s essential roles will contribute more to achieving his loyalty. The organization is compared to the customer’s citizenship behavior. After all, they are indispensable behaviors for successful service delivery. Any shortcoming or defect in it will, in turn, lead to a defect and failure of the service provided. Therefore, it will have the most significant impact on customer loyalty.

The results of the second hypothesis test showed that there is a positive, statistically significant correlation between customer value co-creation and customer relationship quality, where the value of the coefficient of determination R² indicates that the customer co-creation variable in value creation explained about (62%) of the variance in customer relationship quality, and indicates this result is that the more customers participate in value-creating activities, the higher the customer relationship quality with the organization represented by their satisfaction with the organization and their trust in the organization.

This result agrees with the findings of some studies (e.g., Ammari & Jaziri, 2016; Banyte & Dovaliene, 2014; Omar et al., 2018), which indicated that there is a direct positive significant relationship between customer value co-creation and the customer relationship quality.

This positive relationship can be explained by the fact that value co-creation depends on the philosophy of information flow between the customer and the organization, commitment to the desires and needs of customers, interaction, and communication between customers and the organization, all of which create opportunities for the organization to benefit from the process of co-creation in enhancing the quality of its customer relationship in terms of building trust customer satisfaction with the organization.

The current study results also agreed with the results of several studies (e.g., Cambra-Fierro et al., 2017; Clauss et al., 2019; Giner & Peralt Rillo, 2016; Grissemann & Stokburger-Sauer, 2012; Nguyen, 2017; Nysveen & Pedersen, 2014; Pantajo Diaz et al., 2016; Vega-Vazquez et al., 2013), which found a positive significant relationship between customer value co-creation and customer satisfaction with the organization as one of the dimensions of customer relationship quality, and the results of the current study were in agreement with the results.

A study by Revilla-Camacho et al. (2014) demonstrated that customer value co-creation significantly positively impacts customer trust in the organization as one of the dimensions of customer relationship quality.

The results of the current study are also in line with the results of the studies of Zhang (2010) and Chu and Wang (2012) regarding the existence of a positive, significant relationship between customer participation in service production and delivery as one of the dimensions of customer value co-creation and the customer relationship quality. The results of the study also agreed with the results of several previous studies (e.g., Chen & Wang, 2016; Halbesleben & Stoutner, 2013; Hsu & Chen, 2014; Yang et al., 2019; Yim et al., 2012) in terms of a positive relationship between customer participation in service production and delivery and customer satisfaction as dimensions of customer relationship quality.

The results of the current study also contradicted the findings of Gao and Liu (2008) and Lin et al. (2003), which found that the behavior of customer participation in the production of the service is not significantly related to customer satisfaction. This difference in results can be attributed to the difference in the field of application where this study was applied to the banking sector field, which is characterized by the average co-creation of customers. In contrast, the current study was applied to the health services sector, which is characterized by a high level of customer co-creation.

This difference extended to include studies of Bendapudi and Leone (2003) and Fledderus (2015b), which found that if the results of the service exceed or less than the expectations of customers, the impact of customer co-creation will be negative on their satisfaction. Moreover, this may be due to subjective bias, where the customers attribute service success to themselves while attributing service failure to service providers.

The results of the current study also agreed with the study of Kim and Lee (2018) in terms of the significant effect of customer participation in service production and delivery on customer trust, while the results of the current study differed from the studies of Yin and Yang (2009) and Fledderus (2015a, 2015b), where it was found that customer participation in service production activities does not necessarily lead to building customer trust in the organization and that there is no relationship between the two variables. This difference may be due to the difference in the sampling unit, the field of application, or the variable measurement method.

The current study also agreed with the results of Song and Huh (2012), Madani et al. (2015), Choi (2015), and Chiu et al. (2017) regarding the existence of a positive relationship between customer citizenship behavior. Moreover, the dimensions of customer relationship quality (satisfaction, trust) differed from the study of Guo et al. (2013), which proved the existence of a negative relationship between feedback as one of the dimensions of citizenship behavior and customer satisfaction.

In addition, it was found through the use of multiple regression analysis of the relationship of the dimensions of customer value co-creation: customer participation in service production and delivery, customer citizenship behavior with the customer relationship quality to determine the relative importance of those dimensions and to
know which are more influential and related to the customer relationship quality, the existence of a correlation Positive and statistically significant between (customer participation in service production and delivery and customer citizenship behavior) on the one hand, and the customer relationship quality on the other.

The dimension of customer participation in service production and delivery ranked first in affecting customer relationship quality. In contrast, customer citizenship behavior came second regarding customer relationship quality. This arrangement is logical due to the nature of these dimensions in customer participation in service provision and delivery, which are mandatory behaviors all customers perform to complete the service correctly. In contrast, the behaviors of customer citizenship are voluntary. These voluntary behaviors help the organization in several aspects, but they do not depend on the completion of the service, so it is not required that all customers do it. As a result, it is logical that the percentage of the contribution of the basic behaviors that are indispensable to successful service delivery is greater than the percentage of additional optional behaviors that customers voluntarily perform.

The results of the current study agreed with the results of Zhang (2010) and Chu and Wang (2012) on the existence of a positive, statistically significant relationship between customer participation behavior and customer relationship quality. While the current study differs from Worley’s (2001) study in terms of no effect of customer participation behavior on relationship quality, the study urged further research on this inconsistency.

The results of testing this hypothesis showed that there is a positive, statistically significant correlation between the customer relationship quality as a total variable and the loyalty of customers to the organization, where the value of the coefficient of determination $R^2$ indicates that the relationship quality variable has contributed to the explanation of the variation in the responses of the respondents concerning customer loyalty by (69%), which means that 69% of customer loyalty is due to the quality of the relationship.

The results of testing the validity of this hypothesis are in line with the findings of several studies (e.g., Dai et al., 2023; Kim et al., 2006; Kuhn & Mostert, 2018; Roberts et al., 2003; Saleem et al., 2018; Ying et al., 2018) in terms of the existence of a positive statistically significant relationship between relationship quality and customer loyalty to the organization, where the results of the current study can be explained that the strong relationships between customers and the organization that create in customers a feeling of satisfaction with the organization and its services and trust in its integrity and capabilities that contribute to the customer’s assessment of the value of the service positively, which positively reflects their loyalty to the organization.

The results of the current study support the findings of Yu and Tseng (2016), which were applied to life insurance services, that there is a significant positive relationship between customer relationship quality and behavioral loyalty as one of the dimensions of compound loyalty, and this can be explained that good relationships between customers and the organization will create a desire among customers to repeat purchase from these organizations and a commitment to deal with them when they need these services in the future.

In the same direction, the results of the current study agreed with the study of Mosavi and Ghaedi (2012), which was applied in the luxury restaurants sector, where it indicated that the customer relationship quality with the organization has a significant positive impact on customer loyalty as measured by the customer’s cognitive, emotional and volitional commitment to the organization, and this indicates the result is that customers who have a good relationship with the organization are more likely to remain loyal to it, as well as the study of Abdul Rahman and Ramli (2016), which was applied to Islamic banks. Its results found a positive, significant relationship between customer relationship quality and directional loyalty as one of the dimensions of customer loyalty. This makes sense since most banks offer almost identical products, so a bank that wants to benefit from customer loyalty should focus on relational standards that generate customer satisfaction and trust and develop their relationship with the organization.

Contrary to the above, the results of the current study did not agree with the findings of Ben Naoui and Zaiem (2010), which found that there is partial support for the impact of customer relationship quality on customer loyalty. This study proved that loyalty is positively affected by customer satisfaction, while there is no effect of customer trust on their loyalty to the organization.

In the same context, the results of the current study did not agree with the findings of the study of Alejandro et al. (2011), which was applied in the field of the auto parts industry, where it found that there is no relationship between the customer relationship quality and their loyalty to the organization, while it concluded that there is an indirect relationship between them by investing in the relationship, and this can be explained that when organizations spend effort, time and other resources in satisfying the desires and needs of their customers, this proves to customers the good intentions of the organization and the extent of its appreciation for them, which makes customers feel distinguished and that they are valuable to the organization and this is reflected in the continuation of their relationship organization and their loyalty to it.

7. Conclusion

According to the current study, a positive, significant relationship exists between customer value co-creation and customer loyalty to the organization. When investigating the value co-creation, it is vital to consider both dimensions.

The results of this study indicated that the co-creation of customers in creating value through mandatory behaviors and voluntary activities that go beyond the obligatory behaviors would build high-quality relationships with customers, characterized by their satisfaction with the organization and their trust in it. The dimension of customer participation in service production is greater than
the effect of customer citizenship behavior on customer relationship quality, which indicates the importance of addressing this concept through both dimensions. The relationship is sufficiently in the literature of marketing thought.

The apparent impact of customer relationship quality on customer loyalty highlights the importance of developing strong relationships and bonds with customers that support customer relationship quality by achieving their satisfaction and increasing their trust in the organization. Previous studies focused on customer loyalty through one of its directional or behavioral dimensions only, while other studies dealt with customer loyalty through indicators such as frequency of dealing with the organization and others and neglected the study of loyalty through the hybrid approach that combines it between its two-directional sides. The most comprehensive and accurate indicator of loyalty to customers is behavior.

What was confirmed by the current study in terms of the existence of an impact on the customer relationship quality in its dimensions as an intervening mediator in the relationship of customer value co-creation and customer loyalty indicates that the impact of customer relationship quality may be more important than the impact of customer value co-creation on customer loyalty. Perhaps this result is an addition to the relatively few available literature in this regard, as no studies have been collected (within the researcher’s knowledge) that dealt with the role of relationship quality in an overall way, as well as its dimensions as a mediating variable in the relationship of customer value co-creation in an overall way, as well as its dimensions on the composite customer loyalty that combines between Attitudinal and behavioral loyalty, especially in Arabic studies in general and Egyptian studies in particular.

8. Implications and Suggestions

8.1. Managerial Implications

The positive relationship between customer value co-creation in its dimensions and their loyalty to private health organizations illustrates the need for health care organizations to be interested in involving customers in all activities of basic and additional value creation as a strategy to positively influence their loyalty to them, especially the behaviors related to the primary role of customers, as it was found that what makes customers loyal to the organization is its co-creation in creating value through the behaviors of the primary role, and to ensure the effectiveness of the process customer co-creation. These organizations must find appropriate incentives for customer engagement and provide them with the knowledge and skills to carry out the required service tasks, such as providing the necessary decision inputs so that service outcomes can better meet their expectations.

The customers value co-creation contributes directly to enhancing the customer relationship quality with health organizations, as well as emphasizing that customers evaluate the customer relationship quality with the organization to a greater degree when they are more involved in the behavior of the primary role, while the importance of behavioral co-creation from During the additional role, it is relatively more minor, reflecting an essential indication of the need to pay attention to these variables according to their relative importance from the point of view of their customers and also the need for health organizations to interest in facilitating the creation of relational values with patients and meeting their needs to enhance the benefits of customer co-creation behavior in creating value as well as developing tools that allow patients by participating in developing their trust and satisfaction and achieving competitive advantage through this.

The customer relationship quality is positively related to their loyalty to the organization. The customer trust variable came to the fore in terms of affecting loyalty, followed by the satisfaction variable, which practically proves that the trust component of its customers is the main driver that drives patients of health organizations to return to it whenever they require this type of service. This indicates the importance of organizations’ awareness that they will not be able to survive and continue without solid relationships with customers that achieve their satisfaction and trust in the organization, which is sure to increase their loyalty, which ensures a long-term relationship between customers and the organization.

The mediation role of customer relationship quality between customer value co-creation and customer loyalty indicates that the impact of customer value co-creation in its dimensions on customer loyalty is not effectively achieved except by achieving a high indicator of customer relationship quality with the organization. This indicates that this depends on the importance of the relationship quality variable. Therefore, health organizations’ interest in facilitating and supporting the behavior of customer value co-creation may not achieve the desired results concerning the level of customer loyalty to them. Therefore, they must develop strategies that support building positive relationships with customers that ensure the promotion of their trust in the organization and their satisfaction with it and create the appropriate environment to achieve this.

8.2. Avenues for Future Research

The researchers confirm that the field of value co-creation needs more research and study through its connection with other variables that were not covered before, whether they were re-applied to the same study sample or to other sectors. Future research could extend the scope of this study to include service providers’ behaviors in the value-creation process, thus clarifying the comprehensive concept of value-creation processes resulting from interactions between customers and service providers.

The current study recommends applying the study model in different environments and other service contexts to overcome the limitation of the generalizability of the results:

- Different results can be expected to test the model in the context of tangible goods (industrial sectors) and should be an area of future research.
- The current study recommends using other statistical methods to enrich and deepen the study results.
and provide more ideas, such as structural equation modeling (SEM).

- A comparison can be made between the behavior of co-creation in hospitals and private and public medical centers to find their similarities and differences.

**Conflict of Interest**

The authors declare that they do not have any conflict of interest.

**References**


The Mediating Role of Customer Relationship Quality

Rayan et al.


