ENHANCING HOLISTIC VALUE IN HUMAN TRANSFORMATIVE SERVICE THROUGH RELIGIOUS INTERACTION CAPABILITY

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Abstract

This research investigates the impact of Interaction Capability on Customer Participation, influencing the development of Perceived Holistic Value in transformative human services aimed at enhancing customer well-being. An innovative aspect introduced in this study is Religious Interaction Capability, which supplements the existing dimensions of Interaction Capability: Individualized Interaction, Relational Interaction, Empowered Interaction, and Ethical Interaction Capability. The study involved 192 outpatient participants from Islamic hospitals in Central Java, Indonesia, selected through purposive sampling. Data analysis utilized Structural Equation Modeling (SEM) with AMOS 22.0. The results suggest that Religious Interaction Capability and other interaction capabilities significantly motivate religiously oriented patients to seek and responsibly share information. Furthermore, all factors facilitating Customer Participation contribute to the formation of Perceived Holistic Value, extending beyond transactional aspects such as process and outcome value to include a broader dimension of religious value. These findings have implications for strengthening the Resource-based View theory.

Keywords: Human Transformative Services; Customer Participation Interaction Capability, Perceived Value

JEL Codes: O15, M54, M21

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INTRODUCTION

Studies related to healthcare service and customer participation have attracted the attention of several researchers (Davey, J., & Krisjanous, J., 2023; Fready et al., 2022; Cham et al., 202; Tran et al., 2021). However, few studies link the two, even though they cannot be separated. This is related to the inseparability nature of services that require meetings between providers and customers. Healthcare represents a form of human transformative service focused on facilitating positive transformations and enhancing the welfare of clients (Anderson et al., 2013; Bitner et al., 2014). In healthcare services, clients influence results (McColl-Kennedy et al., 2012).

In recent healthcare research, the significance of patient participation in co-creating value has been widely acknowledged. The patient's active involvement in clinical interactions is extensively documented to enhance expected service outcomes (Osei-Frimpong et al., 2018). This is under the inseparable nature of services, so in many cases, the consumption and production processes must be carried out simultaneously, and there is interaction between them. In the interaction process, resource collaboration occurs between the parties involved. Today's customers are highly value-driven, aiming for products or services that offer quality and results beyond what they have paid. A growing number of companies and studies propose that pricing should be determined by the perceived value to customers instead of relying solely on traditional cost-based pricing methods (Chandler and Lusch, 2015; Harrington et al., 2017; Zheng and Forgacs, 2017).

McColl-Kennedy et al. (2012) emphasized that effective service outcomes depend significantly on the collaboration and interaction between frontline service providers and customers. As healthcare consumers become increasingly demanding with elevated expectations, certain doctors may find this consumerist attitude unacceptable. However, they often tolerate this practice and strive to enhance their delivery approach (Osei-Frimpong et al., 2015). These keywords, interaction, and collaboration, play pivotal roles in value co-creation activities (Vargo & Lurch, 2004). This suggests that service cannot be isolated from the actors' resource integration activities, considering their operant resources. Integrated health care and value co-creation improve patient outcomes and service efficacy (Davey & Krisjanous, 2023). Healthcare services demonstrate the implementation of value co-creation between service providers and their clients (Dia'z-Me'ndez & Gummesson, 2012). Therefore, customer perceptions of frontline abilities during the interaction process become essential. As a result, customers are inclined to engage in the service process willingly.

Engagement in interaction is essential for both parties throughout the service process. However, there is a shifting perspective on the customer's role, evolving from a passive service recipient to an active participant in the service process (Vargo & Lurch et al., 2004). In this partnership, the frontliners, namely doctors, are positioned as experts on the disease, while customers are the parties who know about their own lives and conditions.

Customers are crucial in services production, necessitating organizations offering services to manage customer behavior effectively. Different facets of "participation" have been investigated in existing literature (Yim, Chan, & Lam, 2012). Studies related to customer participation in health care services conclude that there are variations in participation levels (Zainuddin et al., 2013). This means that there are customers who do not participate optimally (Gallan et al., 2013), there are those who become obstacles to the co-creation process (Chan et al., 2010), there are those who behave destructively, and even misbehave (Seiders et al., 2015). The lack of effective participation in healthcare
services is associated with several characteristics inherent to such services. Healthcare consumers often experience physical and emotional stress, pain, anxiety, fear, and uncertainty regarding outcomes. These conditions can impede customers' willingness to engage actively during the service (Gallan et al., 2013).

Considering the significance of customer involvement and the unique nature of healthcare, service providers must assist customers in overcoming these barriers to enable them to become active participants, leading to more satisfactory outcomes. Therefore, companies must incentivize customers and support the development of their capabilities, fostering their willingness to engage actively throughout the service process (Payne et al., 2008). This initiative must be implemented, especially when customers and frontliners meet face to face, because value co-creation occurs through resource integration and interaction between frontliners and customers (Gro¨nroos & Voima, 2013). Therefore, frontliner interaction skills are essential in helping customers become effective co-creators. It is attractive to research health services because frontliners often experience stress when customers are sick, afraid, and anxious in interactions between the two parties.

Numerous studies have explored the concept of customer participation in the co-creation of shared value (Ahn & Rho, 2016);(Zhang et al., 2014);(Mustak, 2017) and concluded that customer participation plays a crucial role in the process of co-creating value collaboratively. However, many studies on this topic are still scarce to take as an object to religious-based health services that focus on serving religio-centric markets. Religio-centric refers to a perspective rooted in religious beliefs, emphasizing the exclusive adherence to one's faith teachings as the basis for pursuing personal interests and goals (Ray, 1972). Dedicated followers of religion are inclined to abide by the rules and ethical principles prescribed by the doctrines of their faith (Hendar et al., 2017). The religio-centric market contains consumers who always base their religious values as the basis for decision-making and evaluation during the service process (Hendar et al., 2020). Religion is related to the belief in certain values and ideals held and practiced by an individual, so attitudes and behavior are primarily determined by cultural aspects that are rooted in religion (Kamalul et al., 2016).

The unique characteristics of religio-centric consumers for health services will impact the factors that cause them to be willing to participate during services. The interaction abilities of frontliners consist of individualized interaction, relational interaction, ethical interaction, and empowered interaction, as stated by (Nguyen et al., 2016), needs to be equipped with religious interaction capability, which is defined as the customer's perception that during interactions with them, frontliners can reinforce religious values related to the products and services they consume. Religious interaction capability is thought to provide a stronger incentive for consumers to be willing to participate. Interactions of a religious nature are supposed to make patients aware that all pain comes from God, and they can ask for healing from Him.

This religious dimension is expected to provide unique differentiation and create a personal positional advantage for human transformative services that provide religious-based services. Transactional values strengthened by religious values will bring holistic value to religio-centric consumers because they can recover from their illnesses and receive inner strength that may not be available in non-religious health service offerings. This differentiation will become one of the pillars of sustainable competitive advantage. This study is helpful for the development of Resource Based View Theory, which postulates that organizations will gain a competitive advantage when they have rare, unique resources and are not easily
imitated (Barney et al., 2001). In addition, this study will strengthen the opinion of Morgan et al. (2012) regarding the need to build positional advantage to improve marketing performance.

LITERATURE REVIEW
Interaction Capabilities
The term 'interaction' was defined and emphasized as centred around interaction. It was described as an environment utilising communication technology, where individuals and groups can communicate with each other either synchronously or asynchronously (Sun et al., 2017). In the context of service provision, interaction between frontline service providers and customers underscores direct engagement within shared services. Through this interaction, they have the potential to influence each other's processes. Ivanova-Gongne (2015) interaction entails the interplay between frontline service providers and customers, facilitated by expressing attitudes, sounds, and gestures. Frontliner examines interactions and interfaces occurring at the point of contact between an organization and its customers. This study focuses on activities that promote, facilitate, or enable value creation and exchange (Singh et al., 2017). In this research, service frontline interaction is seen as doctors' expressions in patient interactions. Gro¨nroos (2011) explains that through interaction, frontliners create opportunities to involve themselves with what customers do and influence them for better results. Dialogue as part of interaction capability and value co-creation can influence perceptions of quality (Solakis et al., 2021).

Karpen et al. (2015) have introduced a comprehensive framework outlining how service firms engage with customers to establish shared value. They argue that companies must have various interactive capabilities to be effective co-creators. This ability is then realized in six interaction behaviors that frontliners must have. The six interactive capabilities are:

1. Individualized Interaction Capability: refers to the organization's capacity to comprehend the process of integrating resources and the desired outcomes of each participant within the service system;
2. Relational Interaction Capability pertains to the organization's ability to strengthen social and emotional bonds with individual participants within the service system;
3. Ethical Interaction Capability denotes an organization's capacity to operate in a just and non-exploitative manner towards individual participants within the service system;
4. Empowered Interaction Capability: The organization's capacity to empower individual actors within the service system;
5. Developmental Interaction Capability: The organization's ability to support the enhancement of knowledge and skills among individual participants within the service system;
6. Concerted Interaction Capability denotes the organization's capacity to facilitate synchronized and cohesive service processes with individual participants within the service system.

In studies involving patients with chronic severe illnesses, two of these six components, namely developmental and concerted interaction capabilities, are not applicable. In chronic diseases, a knowledge imbalance between doctors and patients frequently exists, which affects both sides (Gallan et al., 2013). The knowledge disparity and the distress experienced by customers will impede the organization's capacity to foster the learning and development of customer knowledge and competence. Likewise, concerted interaction refers to the interaction between frontliners and customers to coordinate their resources. Resource coordination will be complex when there is a knowledge gap.

Furthermore, because the object of this research is religio-centric consumers, to encourage customer participation, it is necessary to strengthen religious interaction capability, namely the ability of
frontliners to support religious beliefs regarding illnesses suffered by customers. Religious interaction capability in this study uses an Islamic religious perspective. Islam views illness as a trial that will bring humans back to truth (HQ. Al-A’Raf: 168), so humans must be patient and put their trust in seeking healing (HQ. Asy-Shura: 217) because Muslims must believe that there is a cure for all diseases (Narrated by Bukhari). The addition of this dimension is very urgent due to the need for mental peace for a patient. Patients with chronic pain need to have their souls strengthened and made aware that all illnesses come from God, so sincerity in accepting fate and healing efforts must continue to be maximized through the patient’s willingness to cooperate with frontliners in providing information and complying with all healing procedures.

**Customer Participation**

Earlier studies have defined customer participation as a psychological condition during interactive experiences (Lin et al., 2024). It is a multi-faceted concept comprising cognitive, emotional, and behavioral elements that emerge in specific interactions with companies or brands (Hollebeek et al., 2021). Cognitive engagement refers to how customers process their thoughts during a specific interaction; affective engagement captures the emotions triggered by the interaction; and the behavioral aspect reflects the energy and effort a customer puts into that interaction (Fang et al., 2020). Earlier research suggested that customer participation arises from the interaction between customers and companies or brands framed by the service-dominant logic. However, this study adopts a customer-dominant logic, proposing that customer participation is shaped by and embedded within the customer’s social context (Fan et al., 2020).

In the age of open innovation, companies increasingly look beyond their internal structures for insights and expertise, with customer participation being a key focus (Chen, 2019). Customer participation entails customers' active involvement in developing new products within a company (Chang & Taylor, 2016). Customer participation in a service is characterized by customer actions associated with creating and delivering a service offering (Mustak et al., 2017). Customer participation is often seen as a multi-dimensional concept encompassing cognitive, emotional, and behavioral aspects (Luo et al., 2024). The S-D logic is an ideal framework for elucidating this concept for various reasons. It advocates for a service-oriented approach to understanding the economic value derived from consumer interactions, based on the principles that customers are inherently co-creators and the ultimate judges of value (Vargo & Lusch, 2016). Hence, customer participation is crucial in service production to foster shared value. This involvement holds particular significance in healthcare services, as frontline providers cannot effectively deliver service outcomes without the active engagement of customers throughout the service process (Seiders et al., 2015). Many research studies indicate customer involvement primarily occurs through collaboration and interaction between the company and its customers (Gro‘nroos & Voima, 2013; Gallan et al., 2013; Jaakkola & Alexander, 2014). Companies and customers exchange resources in this collaboration to obtain mutual benefits (Cova et al., 2011). There is no agreement regarding the dimensions that form the concept of customer participation. Some scholars view customer participation as a single-dimensional concept (Yi et al., 2011), whereas others suggest it to be multi-dimensional (Li & Hsu, 2017). This research adopts a multi-dimensional approach to cover various aspects of the concept, including seeking and sharing information, exhibiting responsible behavior, and engaging in personal interaction (Yi & Gong, 2013).

Information seeking refers to the proactive behavior of customers in actively
searching for information regarding service features, procedures, and roles, including understanding their expected tasks and how to execute them (Yi & Gong, 2013). In healthcare environments, customers often acquire information about services through different channels, including consultations with medical professionals such as doctors or nurses, interactions with fellow patients, reading instructional materials available on-site, or observing the behaviors of experienced customers.

Information sharing entails providing information to frontline service providers (Yi & Gong, 2013). In the service process, sharing information is vital, empowering frontline service providers to deliver outstanding service and meet customers' specific needs. From a resource integration perspective, information sharing enriches customer knowledge resources, enhancing service production (Gronroos & Voima, 2013). In healthcare services, customers share information with frontline service providers by discussing their conditions, symptoms, medical history, treatment experiences, and preferences for specific therapies and procedures (Gallan et al., 2013). However, in many instances, not all customers engage in this behavior due to physical stress, pain, and anxiety.

Responsible behavior refers to the collaborative activities of customers during the service interaction process to complete the service process (Yi & Gong, 2013). Customers who have responsible behavior will complete their duties and responsibilities according to their roles. In healthcare environments, exhibiting responsible patient behavior is evident in actions like offering clear responses during the doctor's diagnostic procedure (Gallan et al., 2013), following the radiographer's directions accurately for a chest examination, or adhering to medication instructions (Zainuddin et al., 2013).

**Perceived Holistic Value**

Customer perceived value is characterized as a detailed evaluation that considers the benefits received concerning the sacrifices made (Kotler & Armstrong, 2010). Value is the basis for all marketing activities (Torres et al., 2019). Gronroos (2008) further clarifies that while value is ultimately assessed after the service process, it also manifests and evolves throughout the service delivery. Therefore, evaluating customer perceived value should encompass both process-related and outcome-related aspects (Lin et al., 2005). Outcome value pertains to the ultimate benefit perceived by the customer after the service compared to the input expended. On the other hand, process value pertains to the favorable experiences perceived by the customer throughout the co-creation process. A review of prior research on customer-perceived value indicates that process value and outcome value are frequently examined concurrently as two dimensions of customer-perceived value (Hau & Thuy, 2016).

Perceived value in this study has a slightly different view, where the value of a religious-based service process should also strengthen religious aspects for customers. This is especially prominent when service organizations target religiocentric markets that do not only consider worldly output but already have expectations of fulfilling spiritual needs. Therefore, religious value is added to the measurement of perceived value so that the value obtained by customers becomes more holistic, involving fulfilling physical and spiritual needs (Sudarti et al., 2021).

**Interaction Capabilities and Customer Participation**

**Individualized Interaction Capability**

Individual Interaction Capability can be understood as the proficiency of employees in comprehending customers' needs and aspirations, enabling them to deliver services that align with customer preferences and desires (Karpen et al., 2015).
Healthcare services are services that provide personalized solutions. When frontliners conduct initial interviews to understand customer problems, a signal is sent to customers that the information they provide is necessary for the best results. Expectations of better results will form positive attitudes that motivate participation behavior through sharing information (Fang & Zhang, 2019). Previous empirical research indicates that physicians posing practical questions encourage patient involvement (Zolnierek & DiMatteo, 2009). In particular (Bernhardsson et al., 2017) found that patients were willing to engage actively when they perceived being asked questions, listened attentively, and treated as individuals rather than merely as diseases or objects.

Conversely, they lose motivation to participate when doctors do not take their explanations seriously. A similar sentiment arises when patients perceive that their verbal expressions are not valued as much as the results of medical tests. Thus, the hypothesis put forward is:

H1: There is a positive influence between individualized interaction capability and customer participation.

Relational Interaction Capability
Employees must be able to enhance social and emotional connections with consumers within the service system they offer. This proficiency enhances the company’s ability to foster relationships with external stakeholders and consumers. It enables employees to grasp customer expectations regarding the company's services, improving communication effectiveness (Karpen et al., 2015). Trust is a strong predictor of customer participation by facilitating information sharing (Lee et al., 2021). Ahn & Rho (2014) state that a strong relationship with customers will create trust, which leads to customers’ willingness to participate actively during the service process.

During relational interactions, instances also present chances for frontline workers to demonstrate empathy and individualized attention to customers (Zolnierek & DiMatteo, 2009). These interactions play a role in strengthening social and emotional bonds with healthcare customers, who often experience stress and benefit from social and emotional assistance. As a result, the socio-psychological conduct of these frontline workers instills confidence and psychological comfort in customers, thereby fostering continued engagement in participation (Eldh et al., 2006). Thus, the hypothesis proposed is:

H2: There is a positive influence between relational interaction capability and customer participation.

Ethical Interaction Capability
Ethical interaction capabilities represent a marketing strategy that executive marketers should adopt, rooted in moral principles and aimed at upholding rights, goodness, and sustainability across three main pillars: social, economic, and ecological (Lee & Jin, 2019). Fairness and respect are markers of integrity, forming the basis for cultivating the trustworthiness of frontline service providers (Dimitriou, 2022). In healthcare, Eldh et al. (2006) elaborate that customer trust and confidence can be established through the provision of relevant and accurate information during discussions, along with a willingness to address potential treatment risks transparently without seeking to exploit patients. Given the inherent trustworthiness of healthcare services, patients’ reliance on doctors is crucial in inspiring cooperation. When patients trust their doctor, they feel motivated to actively participate and collaborate for the successful treatment progression (Eldh et al., 2006).

H3: There is a positive influence between ethical interaction capability and customer participation.

Empowered Interaction Capabilities
Empowered interaction capability refers to the capacity of individuals within an organization to foster constructive relation-
ships by sharing experiences and influencing one another, thereby generating additional value for the organization (Fitriani & Ferdinand, 2015). Service co-creation necessitates customer participation and the utilization of their resources. Nonetheless, this contribution is facilitated when frontline workers exhibit interaction behaviors that empower customers. This empowerment is achieved by offering opportunities and encouraging customer interaction, leveraging the professional expertise and control over interactions typically held by frontline workers (Solnet et al., 2019; Auh et al., 2019). Alternatively, without such empowerment, customers may lack confidence and struggle to articulate their thoughts or ideas (Seiders et al., 2015). In healthcare settings, Eldh et al. (2006) observed that patients engaged actively when invited to share their opinions, were allowed to engage in discussions with the doctor to seek solutions, could schedule appointments based on their schedules, or were empowered to choose their preferred treatment options. Indeed, within the new paradigm of managing chronic diseases, the role of doctors has transitioned from being decision-makers to consultants who offer recommendations for choices (Funnell & Anderson 2004).

H₄: There is a positive influence between empowered interaction capability and customer participation.

**Religious Interaction Capability**

Religiosity, in general, can be related to religion. Very religious people will internalise the teachings of their faith in their daily life. They believe that religion can guide a person to achieve life goals and determine life aspirations so that it will influence personal and social life (Bakar et al., 2013). Values are phenomenologically determined by customers (Vargo & Lusch, 2016), so personality, including religious personality, plays an essential role in the assessment process. A religious personality refers to the religious values believed by an individual that give rise to the desire to convey da’wah (preaching) in accordance with the religious products they offer. The desire to preach encourages these individuals to improve their preaching capabilities through religious interaction capability to convince customers of the benefits of the afterlife contained in religious-based products.

Religious interaction capability refers to the frontliner's ability to strengthen the patient's mind through awareness of religious values related to the illness they are suffering from. Pain for religious people is not torture but a test as a means of eliminating sins (Narrated by Mutafaq Alaih). Spiritual strengthening during illness can make customers aware that the blessings of health are significant and are the second blessing that must be requested after the blessings of faith. The Prophet Muhammad said: "Ask Allah for health. "Indeed, the best gift after faith is health" (Narrated by Ibnu Majah). Allah said: "O people, indeed there has come to you a lesson from your Lord and a healing for the diseases (which are) in the chest and guidance and mercy for those who believe." (Holy Qur'an. Yunus: 57)

Therefore, efforts to recover must be made as much as possible. Because the disease is in the body, good cooperation is needed so that the disease can be clearly described and maximum healing can be achieved. By strengthening religion through frontliners, customers know they must provide accurate information. Strengthening religion, carried out by frontliners, will create a comfortable environment. Molinillo et al. (2019) noted that the more enjoyable and positive the social atmosphere, the greater the likelihood that customers will collaborate during the service process.

H₅: There is a positive influence between religious interaction capability and customer participation.
Customer Participation and Perceived Holistic Value

Customers are contributors and integrators of resources in co-creating services (Vargo & Lusch, 2016; McColl-Kennedy et al., 2012). Effective participation can increase perceived value because needs are met through the benefits obtained (Sharma & Klein, 2020). In healthcare, customers actively seek information to grasp service requirements and understand their role in the care process, consequently facilitating their integration into the process (Yi & Gong, 2013).

Customers feel more assured with sufficient information, comprehend procedures better, and prepare themselves adequately, thus experiencing less anxiety throughout the process. This description emphasizes that customer participation is a behavioral concept primarily concerned with utility, incorporating customers' investments of time, effort, and decision-making to improve service delivery processes and outcomes. It separates customer participation from similar constructs like co-production, co-creation, and customer participation (Chathoth et al., 2023). Therefore, when customers furnish accurate information and respond candidly to all inquiries related to maintenance, frontline workers can operate more efficiently, gain better insights into customers' specific requirements, and deliver services effectively. This will increase the opportunity for better service outcomes and benefits.

Additionally, transferring knowledge and information will enable frontliners to adjust service options better to suit customers' circumstances, helping them optimize the resources they contributed during the service process. A service's perceived value and quality tend to be quite subjective, allowing companies to manage different intangible parts of the service experience. However, to effectively control these aspects, companies must understand the key factors influencing perceived value and how consumers behave (Thielemann et al., 2018). Consumer behavior after consuming services, like the willingness to make word-of-mouth recommendations, will improve the company's image (Cham et al., 2021).

Customers are said to carry out responsible participation activities when willing to accept suggestions and comply with their obligations (Yi & Gong, 2013). This customer will be more cooperative, making the service more likely to succeed and increase perceived value. Customers who receive religious-based services will perceive holistic value because their physical and spiritual needs are met (Sudarti et al., 2021). Customer participation has a positive effect on the effectiveness of service delivery (Hollebeek et al., 2021), perceived value (González-Mansilla et al., 2019; Carlson et al., 2018); customer loyalty (Auh, Bell, McLeod, & Shih, 2007), satisfaction (Yim et al., 2012) and customer brand engagement (Algharabat et al., 2019). (Auh et al., 2007) also found empirical evidence supporting the beneficial effect of customer participation on customer satisfaction, perceived value, or loyalty, suggesting that co-production (participation) notably boosts attitudinal loyalty. Gallan et al. (2013) found that patient participation significantly affects service quality perceptions, leading to patient satisfaction. Hau & Thuy (2016) concluded that patient participation positively affects process and outcome values. Su et al. (2015) found evidence of the critical role of customer participation in co-creating experiential value. Thus, the hypothesis proposed is:

H₆: There is a positive influence between customer participation and perceived comprehensive value.

Based on the previous explanation, the empirical model showing the relationship between variables can be seen in Figure 1.
Figure 1. Empirical Model

RESEARCH METHODOLOGY
Sample and Data Collection
This study used purposive sampling as the sampling technique. Purposive sampling is a sampling technique using certain criteria. The criteria chosen were consumers of hospital services who identify as Muslims and actively engage in health consultations with doctors. Patients who are Muslim were chosen because this study involves religious values, especially Islam, and actively engaging in health consultations with doctors is also a requirement because this study discusses interaction capability.

Data collection was carried out by distributing questionnaires directly to 200 respondents, namely patients of Islamic hospitals throughout Central Java represented by several hospitals, namely: Sultan Agung Islamic Hospital, Sunan Kudus Islamic Hospital, Pemalang Islamic Hospital, and Surakarta Islamic Hospital. Of the 200 questionnaires distributed, only 192 (96%) could be processed because eight respondents (4%) did not fill them out completely. The age range is between 18 to 67 years, income level is between IDR. 2,000,000, - up to IDR. 15,000,000, -. Their education level was from junior high and high school (98 respondents/51%), bachelor's degree (66 respondents/34%), and postgraduate (28 respondents/15%).

Measurements
This research utilized primary data obtained through a questionnaire structured on a 1 to 5 Likert scale, where 1 represents "strongly disagree," 2 signifies "disagree," 3 stands for "entirely agree," 4 indicates "agree," and 5 denotes "strongly agree." The research framework was derived from prior literature, with certain adjustments to align with the research context.

Interaction Capability concept consists of 5 (five) dimensions, of which 4 (four) refer to studies conducted by Karpen et al. (2015). Individualized Interaction Capability (IIC) is defined as the doctor's ability to understand the patient's disease condition and the patient's expectations regarding the disease; Relational Interaction Capability (RIC) is defined as the doctor's ability to establish good relationships and communication with patients; Ethical Interaction Capability (EIC), defined as a doctor's ability to treat patients in a fair and non-opportunistic manner; Empowered Interaction Capability (EmIC), is defined as the doctor's ability to explore patients' ideas regarding the service process. The fifth dimension, namely the Religious Interaction Capability (RgIC) dimension, is adapted from the opinion of (Karpen et al., 2015: Sudartati et al., 2021) and is defined as the doctor's
ability to strengthen the patient’s religious values regarding the illness they are suffering from.

The Customer Participation (CP) construct, which has 3 (three) dimensions, namely Information Seeking, Information Sharing, and Responsible Behavior, refers to the opinion of Nguyen et al. (2016). Customer participation is defined as the patient’s behavior of actively seeking and sharing information with doctors regarding the illness they are suffering from and complying with all rules during the treatment process. The Perceived Holistic Value (PHV) construct refers to the opinion (Nguyen et al., 2016; Sudarti et al., 2021) which is defined as the perception of holistic value felt by patients as a result of services consisting of religious value, process value, and output value.

**Data Analysis and Measurement Model**

Various criteria for model testing exist in Structural Equation Modeling (SEM). The testing of the model indicates that the Goodness-of-Fit index aligns with the recommended standards for SEM. The test results reveal a Chi-Square value of 893.802, which is not significant at 0.00; GFI index: 0.785; AGFI: 0.744; TLI: 0.904; CFI: 0.914; GFI: 0.785; RMSEA: 0.068, which is less than 0.08. This indicates that all values meet the criteria recommended by SEM and are deemed suitable for utilization. Moreover, the model testing outcomes are illustrated in Figure 2.

**RESULT AND DISCUSSION**

**Result**

In Table 3 and Figure 2, it is clarified that Individualized Interaction Capability (IIC) demonstrates a notable impact on Customer Participation (CP) (Std. = 0.205, CR = 2.151, and p-value < 0.00); Relational Interaction Capability (RIC) significantly influences CP (Std. = 0.313, CR = 2.386, and p-value < 0.00); Empowered Interaction Capability (EIC) exhibits a substantial effect on CP (Std. = 0.182, CR = 2.165, and p-value < 0.00); Ethical Interaction Capability (EmIC) indicates a significant impact on CP (Std. = 0.182, CR = 2.185, and p-value < 0.00); Religious Interaction Capability (RgIC) displays a significant influence on CP (Std. = 0.140, CR = 2.150, and p-value < 0.00); CP exerts a significant influence on Perceived Holistic Value (PHV) (Std. = 0.303, CR = 3.762, and p-value < 0.00). Consequently, it can be concluded that H1, H2, H3, H4, H5, and H6 are upheld.

Table 1 demonstrates that all indicators exhibit loading factor values above 0.05 and p-values below 0.05, signifying the validity of all tested indicators. Table 2 depicts that the average variance extracted (AVE) value exceeds 0.50, the construct reliability (CR) value surpasses 0.70, and the correlation between constructs is lower than CR indicating internal consistency in the measurement results of all research variable indicators (Hair et al., 2016).

**Discussion**

This study aims to test the effect of interaction capability that has been internalized with religious interaction capability as a new dimension for developing the concept of interaction capability proposed by Karpen et al (2015). It is important to consider religious interaction capability when organizations offer religious-based services, such as Islamic hospitals.

This research proves that the various interaction abilities of doctors and nurses at Islamic hospitals in Central Java have been well perceived by patients and can encourage patients to participate during the hospital service process. Individualized interaction capability, relational interaction capability, ethical interaction capability, empowered interaction capability, and religious interaction capability can encourage patients to seek information, share information, and be responsible. Patients who perceive that doctors and nurses understand their conditions during the interaction process, establish comfortable communication during the interaction.
process, do not experience pressure during the interaction process, and feel involved during the interaction process. Doctors and nurses can provide awareness that during illness they must be patient and sincere. This increases the patient's desire to seek information about their illness, share their treatment experiences with relatives, and be willing to follow all the doctor's instructions during treatment. This perception of interaction capability is very important because patients often exhibit reluctance or lack motivation to participate, especially in human transformative services such as healthcare, education, consulting, or other professional services.

Further analysis can explain that it turns out that religious interaction abilities have the weakest influence in encouraging customer participation among other interaction abilities. This indicates that doctors and nurses are seen as not providing enough religious reinforcement to patients. Focus on service completion is thought to be the cause. However, on the contrary, relational interaction capability has been proven to be able to encourage the strongest customer participation. Patients feel comfortable two-way communication so they are more willing to participate during the service process.

This customer participation has also been proven to increase perceived holistic value. The patient's willingness to seek information, share it, and behave responsibly during treatment can increase the outcome, process, and religious value. Active patient participation improves outcomes and process value and links religious values. This means that patients not only experience services that meet expectations and feel confident during the treatment process but also feel strengthened from a religious perspective. Doctors and nurses managed to make patients realize that illness is a test, doctors and nurses succeeded in enhancing patients' minds to be patient and sincere.

In healthcare, for instance, many customers possess limited knowledge and face stressful circumstances characterized by anxiety, pain, fear, and uncertainty regarding service outcomes. These factors collectively serve as barriers, hindering their ability to engage actively in the service process. Consequently, service frontliners should acknowledge this situation and aid customers in overcoming these challenges by encouraging and motivating them to participate effectively. This study has proved the role of frontliners' interaction skills in creating perceived holistic value through their participation during service. This study does not aim to test the relationship between interaction capability and perceived holistic value directly, so it cannot conclude the relationship between them.

Practically, the findings of this study offer several implications for healthcare frontline workers (doctors and nurses). Firstly, doctors and nurses should communicate to patients the benefits of their active participation in the service process. Thus, doctors and nurses must understand each patient's needs, desires, and unique characteristics. Moreover, they can have better relational interactions and explore patient illnesses optimally.

The hospital must also ensure that doctors understand religion well so they can provide religious advice to patients and make them aware that the illness they are suffering from is the will of the creator. They must be patient and sincere. Religious interaction capability can be increased by knowledge of religion and religious-based products. This means that when frontliners have a good understanding of religious laws and master knowledge of religious-based products and services, they will be increasingly able to interact with and convince patients about the wisdom of their illness. This awareness will increase the patient's enthusiasm for recovery, so they are willing to participate during the service process. Thus, doctors and nurses must provide opportunities and mechanisms for patients to provide complete information about their disease.
and contribute ideas to make their own decisions whenever possible.

Second, creating a comfortable environment makes patients feel comfortable because an environment that looks professional and stiff can make patients feel embarrassed or uncomfortable. Hence, they are reluctant to interact actively with doctors. Service providers should prioritize the creation of a more compassionate environment. Within this context, healthcare professionals must empathize with patients' fears and anxieties about illness, encouraging them to share information (relational interactions). Patients should also feel reassured that their health concerns and preferences are acknowledged and addressed seriously (individual interaction), and they should perceive the doctor as a supportive mentor. These interpersonal efforts will help alleviate patients' worries and increase their participation confidence.

Figure 2. Research Model

Table 1. Results of Confirmatory Factor Analysis (CFA) for the Measurement Models

<table>
<thead>
<tr>
<th>Variables and Indicators</th>
<th>Loading Factors</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interaction Capabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individualized Interaction Capability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The doctor has tried to understand the progress of my disease.</td>
<td>0.816</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor has studied my personal situation.</td>
<td>0.800</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor has made efforts to recognize my individual expectations</td>
<td>0.842</td>
<td>0.000</td>
</tr>
<tr>
<td>Relational Interaction Capability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The doctor has tried to establish a good relationship with me.</td>
<td>0.844</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor made me feel comfortable during the interaction.</td>
<td>0.846</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor has tried to encourage communication with me.</td>
<td>0.889</td>
<td>0.000</td>
</tr>
<tr>
<td>Variables and Indicators</td>
<td>Loading Factors</td>
<td>P-value</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>-----------------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Ethical Interaction Capability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The doctor did not attempt to exploit me.</td>
<td>0.788</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor did not try to mislead me in any way.</td>
<td>0.773</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor does not put his benefit above mine</td>
<td>0.851</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Empowered Interaction Capabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The doctor opened the opportunity for me to contribute ideas for treatment that suited my situation.</td>
<td>0.881</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor permitted me to select one of the treatment options presented.</td>
<td>0.878</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor allowed me to participate in the treatment process in the way I wanted.</td>
<td>0.897</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Religious Interaction Capability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The doctor gave me religious advice regarding the illness I was suffering from</td>
<td>0.837</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor made me realize to be patient</td>
<td>0.765</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor made me realize that I was sincere</td>
<td>0.905</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Customer Participation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Information Seeking</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• I asked friends or relatives about the doctor who treated me</td>
<td>0.669</td>
<td>0.000</td>
</tr>
<tr>
<td>• I asked other patients about their treatment experiences with my treating doctor</td>
<td>0.812</td>
<td>0.000</td>
</tr>
<tr>
<td>• I often gather information about illnesses to equip myself for treatment.</td>
<td>0.841</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Information Sharing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• I clearly explained my health symptoms.</td>
<td>0.763</td>
<td>0.000</td>
</tr>
<tr>
<td>• I supplied comprehensive details regarding my personal circumstances.</td>
<td>0.790</td>
<td>0.000</td>
</tr>
<tr>
<td>• I answered all the doctor's questions truthfully.</td>
<td>0.861</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Responsible Behavior</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• I performed all the tasks requested by the doctor.</td>
<td>0.755</td>
<td>0.000</td>
</tr>
<tr>
<td>• I fulfilled all the tasks instructed by the doctor.</td>
<td>0.692</td>
<td>0.000</td>
</tr>
<tr>
<td>• I adhered strictly to the doctor's instructions regarding home care procedures.</td>
<td>0.695</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Perceived Holistic Value</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outcome Value</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The benefits I received from this service were as good as expected.</td>
<td>0.728</td>
<td>0.000</td>
</tr>
<tr>
<td>• The service I received was of great value</td>
<td>0.700</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor gave me the benefits I wanted</td>
<td>0.716</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Process Value</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The doctor made me confident during the treatment</td>
<td>0.664</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor provided me with a positive experience during the treatment.</td>
<td>0.818</td>
<td>0.000</td>
</tr>
<tr>
<td>• I had a positive experience during the treatment with the doctor.</td>
<td>0.782</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Religious Values</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The doctor managed to make me realize that illness is a test.</td>
<td>0.841</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor succeeded in strengthening my mind to be patient</td>
<td>0.735</td>
<td>0.000</td>
</tr>
<tr>
<td>• The doctor succeeded in strengthening my mind to be sincere</td>
<td>0.777</td>
<td>0.000</td>
</tr>
</tbody>
</table>
### Table 2. Construct Reliability and AVE

<table>
<thead>
<tr>
<th>N = 192</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. Individualized Interaction Capability (IIC)</td>
<td>0.860&lt;sup&gt;a)&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Relational Interaction Capability (RIC)</td>
<td>0.808&lt;sup&gt;b)&lt;/sup&gt;</td>
<td>0.895</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Ethical Interaction Capability (EIC)</td>
<td>0.603</td>
<td>0.739</td>
<td>0.846</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Empowered Interaction Capability (EmIC)</td>
<td>0.580</td>
<td>0.759</td>
<td>0.686</td>
<td>0.916</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Religious Interaction Capability (RgIC)</td>
<td>0.511</td>
<td>0.582</td>
<td>0.616</td>
<td>0.610</td>
<td>0.875</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Customer Participation (CP)</td>
<td>0.741</td>
<td>0.830</td>
<td>0.744</td>
<td>0.744</td>
<td>0.646</td>
<td>0.927</td>
<td></td>
</tr>
<tr>
<td>7. Perceived Holistic Value (PHV)</td>
<td>0.325</td>
<td>0.318</td>
<td>0.341</td>
<td>0.364</td>
<td>0.340</td>
<td>0.273</td>
<td>0.921</td>
</tr>
</tbody>
</table>

Variance Extracted (AVE) 0.672 0.739 0.648 0.784 0.702 0.588 0.567

Note:  
<sup>a)</sup> CR = diagonal italic bold  
<sup>b)</sup> the correlation between constructs

### Table 3. Hypothesis testing

<table>
<thead>
<tr>
<th>Relationship between constructs</th>
<th>Unstandardized</th>
<th>Standardized</th>
<th>S.E</th>
<th>CR</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&lt;sub&gt;1&lt;/sub&gt;: IIC → CP</td>
<td>0.196</td>
<td>0.205</td>
<td>0.091</td>
<td>2.151</td>
<td>Supported</td>
</tr>
<tr>
<td>H&lt;sub&gt;2&lt;/sub&gt;: RIC → CP</td>
<td>0.266</td>
<td>0.313</td>
<td>0.112</td>
<td>2.386</td>
<td>Supported</td>
</tr>
<tr>
<td>H&lt;sub&gt;3&lt;/sub&gt;: EIC → CP</td>
<td>0.176</td>
<td>0.182</td>
<td>0.081</td>
<td>2.165</td>
<td>Supported</td>
</tr>
<tr>
<td>H&lt;sub&gt;4&lt;/sub&gt;: EmIC → CP</td>
<td>0.128</td>
<td>0.182</td>
<td>0.058</td>
<td>2.185</td>
<td>Supported</td>
</tr>
<tr>
<td>H&lt;sub&gt;5&lt;/sub&gt;: RgIC → CP</td>
<td>0.097</td>
<td>0.140</td>
<td>0.045</td>
<td>2.150</td>
<td>Supported</td>
</tr>
<tr>
<td>H&lt;sub&gt;6&lt;/sub&gt;: CP → PHV</td>
<td>0.322</td>
<td>0.303</td>
<td>0.086</td>
<td>3.762</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Note:  
IIC = Individualized Interaction Capability  
CP = Customer Participation  
RIC = Relational Interaction Capability  
EIC = Empowered Interaction Capability  
EmIC = Ethical Interaction Capability  
RgIC = Religious Interaction Capability  
PHV = Perceived Holistic Value

### CONCLUSION AND RECOMMENDATION

This study contributes to a deeper comprehension of the dual role of service frontliners' interaction behavior during the value-creation process. Customer-centric behavior is primarily embodied in interaction behavior, which is pivotal for success in any high-contact service setting. Within the collaborative realm of the service process, frontliner interaction behavior catalyzes customer participation, encouraging them to contribute their resources to improve services, thereby elevating perceptions of value. Specifically, service frontliners' interaction behaviour can be categorized into two components: interactions that prompt participation and enhance value. The role of doctors will be maximized when they have a good understanding of religion so that they can strengthen patients from their spiritual side so that the benefits that patients obtain after treatment at the hospital are physically and spiritually healthy. This holistic interaction capability will strongly differentiate organizations that offer religious-based services, such as Islamic hospitals.

This study recognizes several constraints. Firstly, it focuses solely on the healthcare sector within the service industry. Considering the heterogeneous nature of services, future investigations should
explore the role of interaction and its constituents across various service sectors characterized by diverse relationship bases (e.g., free or contract membership), levels of knowledge disparity (high vs. low), and social status divergence (high vs. low).

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