
Journal of Sustainable Economic and Business (JOSEB)

Vol. 3 No. 1 January 2026: 93-103

ISSN (Online): 3063-0207

<https://journal.arepublisher.com/index.php/joseb>

Enhancing Non-Medical Patient Experience Through Omnichannel Service Design in a Digitalizing Hospital Contact Center

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ABSTRACT

Objectives: This research explores the non-clinical customer experience (CX) within the contact center of a premium private hospital. It aims to design a model for enhancement by leveraging service design and digital integration to minimize inconsistencies across different communication channels.

Methodology: Utilizing a qualitative, interpretivist methodology, the study involved observing contact center processes and conducting semi-structured interviews with internal stakeholders and patients. Thematic analysis was employed to uncover patterns in experiences, pinpoint key obstacles, and identify areas for enhancement.

Finding: The study found that patient experiences were negatively impacted by long wait times, unanswered calls, and disjointed digital communication platforms. Trust and perceptions of professionalism were strongly influenced by the responsiveness and empathy demonstrated by contact center agents. The research introduces an integrated “one-door” omnichannel approach, utilizing tools such as customer journey mapping and service blueprinting, and recommends solutions like call-back services and instant messaging chatbots.

Conclusion: The findings indicate that non-clinical patient experience in hospital contact centers is strongly influenced by responsiveness, agent empathy, and the level of integration across communication channels. Fragmented digital systems increase patient effort and undermine perceptions of professionalism and trust. By applying human-centered service design within an integrated omnichannel “one-door” framework, healthcare organizations can enhance service consistency, reduce fragmentation, and strengthen the strategic role of contact centers in supporting sustainable patient engagement.

Keywords: Customer Experience; Service Design; Omnichannel Communication; Healthcare Contact Center; Digital Service Integration.

Article Doi: <https://doi.org/10.70550/joseb.v3i1.318>

How to Cite: Zuriawan, E., & Widayati, C. (2026). Enhancing Non-Medical Patient Experience Through Omnichannel Service Design in a Digitalizing Hospital Contact Center. *Journal of Sustainable Economic and Business*, 3(1), 93-103. <https://doi.org/10.70550/joseb.v3i1.318>

Submitted: 23-12-2025

Revised: 13-01-2026

Accepted: 15-01-2026

INTRODUCTION

Customer experience (CX) has increasingly been recognized as a strategic resource that supports organizational competitiveness and long-term growth, extending beyond its traditional role as a measure of customer satisfaction (Lemon & Verhoef, 2016; Kotler & Keller, 2016). In service-intensive industries, a positive customer experience contributes to trust, loyalty, and advocacy, which collectively strengthen organizational reputation and value creation. Within the healthcare sector, these dynamics become more complex due to patients’

emotional vulnerability, uncertainty, and heightened risk perception throughout their care journey. Consequently, managing customer experience in healthcare encompasses not only clinical outcomes but also the quality of non-clinical services that facilitate patient engagement and access to care.

In contemporary healthcare settings, non-medical interactions such as information provision, appointment scheduling, and inquiry handling play a significant role in shaping patient perceptions of service quality. Contact centers function as critical non-clinical touchpoints and are often the first interface between patients and healthcare providers. Previous studies indicate that early service encounters strongly influence perceptions of professionalism and trust, even before clinical services are delivered (Lemon & Verhoef, 2016). Operational inefficiencies, including delayed responses, unclear communication, and fragmented digital channels, may negatively affect patient perceptions despite satisfactory clinical outcomes.

As healthcare organizations undergo digital transformation, multiple communication platforms such as telephone calls, instant messaging, and online systems are increasingly adopted to enhance accessibility and convenience. However, research suggests that without cohesive service design and integration, the use of multiple channels may result in fragmented user experiences and increased customer effort (Bitner et al., 2008). When digital channels operate in silos, patients are often required to repeat information, navigate inconsistent procedures, and tolerate extended waiting times. In healthcare contexts, such fragmentation may intensify patient stress and reduce overall trust in service delivery.

Integrated Marketing Communication (IMC) emphasizes the importance of consistency across all organizational touchpoints to build a coherent and credible brand image (Kotler & Keller, 2016). Within this framework, healthcare contact centers extend beyond operational functions and serve as representations of institutional values conveyed through daily interactions. Each engagement reflects the organization's commitment to empathy, efficiency, and reliability, positioning non-clinical services as an integral component of healthcare branding and service excellence.

While literature on customer experience and omnichannel communication continues to expand, empirical research on non-clinical contact centers in hospital environments remains scarce, especially in private hospitals within developing nations. Most existing studies focus on clinical care quality, inpatient satisfaction, or general service performance, with limited exploration of how contact centers influence patient experiences through thoughtful service design and digital integration. Moreover, there is a lack of research that combines qualitative insights from patients with service design and digital strategy frameworks in omnichannel healthcare environments.

To address this research gap, the current study investigates non-medical customer experience in a premium private hospital contact center in Indonesia, using a qualitative, interpretivist methodology. Through the lens of service design and digital channel integration, the study aims to develop a sustainable contact center model that improves consistency, responsiveness, and organizational preparedness. The findings intend to enrich academic discussions on healthcare customer experience and provide practical guidance for designing patient-centered, digitally integrated contact centers aligned with sustainable development goals.

LITERATURE REVIEW

Service-Dominant Logic (SDL) conceptualizes value as something that is co-created through interactions between service providers and customers, rather than embedded in tangible outputs or products (Vargo & Lusch, 2008). From this perspective, customers are active participants who contribute resources such as knowledge, experience, and expectations during service encounters. This logic is particularly relevant in healthcare settings, where patients are emotionally involved and highly dependent on service interactions beyond clinical treatment.

In healthcare services, value creation does not stem solely from medical outcomes but also from the quality of communication, accessibility, and responsiveness throughout the patient journey. Previous studies emphasize that non-clinical interactions, including administrative communication and service coordination, play a significant role in shaping patient trust and perceived value (Lemon & Verhoef, 2016). Within this context, hospital contact centers function as continuous platforms for value co-creation, where patients evaluate the organization's competence, empathy, and reliability through repeated interactions.

Customer experience (CX) refers to the holistic perception formed through cumulative interactions between customers and organizations across multiple touchpoints (Lemon & Verhoef, 2016). In healthcare, CX extends beyond the delivery of medical treatment and encompasses non-clinical processes such as accessing information, scheduling appointments, and receiving timely responses to inquiries. Research has demonstrated that these non-medical interactions significantly influence patient satisfaction, loyalty, and trust, even when clinical quality is perceived as adequate (Kotler & Keller, 2016).

Healthcare customer experience is inherently multidimensional, involving cognitive, emotional, and relational components. Early service encounters handled by contact centers often shape patients' initial expectations and emotional responses toward healthcare providers. When these interactions are characterized by delayed responses, unclear communication, or perceived indifference, they may disproportionately undermine the overall experience. Consequently, effective management of non-clinical CX through structured service processes has become a strategic priority for healthcare organizations seeking to improve patient-centered care.

The Technology Acceptance Model (TAM) explains user adoption of technology based on perceived usefulness and perceived ease of use (Davis, 1989). In healthcare environments, the adoption of digital service tools such as chatbots, instant messaging platforms, and call-back systems is influenced not only by functional benefits but also by emotional considerations, including trust, anxiety reduction, and perceived risk.

Prior research indicates that patients are more willing to adopt digital healthcare services when such technologies reduce waiting times, simplify access, and provide reliable information (Lemon & Verhoef, 2016). Conversely, poorly integrated systems may increase frustration and cognitive effort, leading to resistance and dissatisfaction. Within contact centers, both patients and service agents interact with digital systems, making effective system design essential to ensure smooth, low-effort communication. TAM therefore provides a relevant framework for understanding how digital tools can support or hinder non-clinical customer experience in healthcare contexts.

Service design adopts a human-centered approach to improving services by examining user needs, experiences, and interactions across service touchpoints. Tools such as customer journey mapping and service blueprinting enable organizations to visualize service processes, identify pain points, and align frontstage interactions with backstage operations (Bitner et al., 2008; Stickdorn & Schneider, 2010). While service design provides the structural foundation for improving non-clinical healthcare interactions, its effectiveness is significantly enhanced when supported by integrated communication channels that ensure continuity across patient touchpoints.

In healthcare, service design has gained increasing attention as a method for simplifying complex systems and enhancing patient-centered service delivery. Previous studies suggest that journey-based analysis is effective in uncovering misalignments between patient expectations and actual service performance. In non-clinical healthcare contexts, service blueprinting clarifies the roles of contact center agents, supporting technologies, and internal workflows in delivering consistent experiences. When combined with digital transformation initiatives, service design helps minimize service inconsistency, improve responsiveness, and create more cohesive experiences across communication channels.

Omnichannel communication refers to the integration of multiple service channels to provide a seamless and consistent customer experience, enabling users to transition between platforms without disruption (Kotler & Keller, 2016). Unlike multichannel approaches that merely offer various access points, omnichannel strategies emphasize data integration, process continuity, and unified customer interaction histories. In healthcare, this approach allows patients to engage through phone calls, messaging platforms, or digital applications without repeating information or encountering fragmented service flows.

Integrated Marketing Communication (IMC) complements omnichannel service delivery by emphasizing message consistency across all organizational touchpoints. Within healthcare contact centers, IMC principles position agents as representatives of institutional values, ensuring that communication reflects empathy, reliability, and professionalism. Fragmented responses or inconsistent service standards may undermine patient trust and damage brand credibility. Therefore, integrating omnichannel service design with IMC principles strengthens both operational performance and institutional reputation. Although interest in CX, service design, and omnichannel strategies has grown, few studies have focused specifically on non-clinical contact centers within hospitals especially in developing countries. Most research still concentrates on clinical services or general patient satisfaction, leaving a gap in understanding how contact center design and digital integration affect patient experience.

This study is grounded in Service-Dominant Logic (SDL), which views value as co-created through interactions between service providers and customers rather than delivered unilaterally (Vargo & Lusch, 2008). In the healthcare context, value creation extends beyond clinical outcomes and includes non-clinical interactions that shape patient perceptions, trust, and emotional comfort. Contact centers, as key non-clinical touchpoints, play a central role in facilitating these interactions throughout the patient journey.

Drawing from customer experience (CX) theory, patient experience is understood as a holistic and cumulative perception formed across multiple service encounters, including administrative communication, responsiveness, and empathy (Lemon & Verhoef, 2016).

These experiences are influenced by both human factors, such as agent behavior, and structural factors, such as service processes and system integration.

Service design principles provide a human-centered approach to analyzing and improving non-clinical healthcare services. Tools such as customer journey mapping and service blueprinting enable organizations to identify pain points, align frontstage interactions with backstage operations, and ensure consistency across service delivery (Bitner et al., 2008; Stickdorn & Schneider, 2010). In parallel, the Technology Acceptance Model (TAM) explains how the perceived usefulness and ease of use of digital tools influence user adoption and engagement within healthcare service environments (Davis, 1989).

Integrating these perspectives, the research framework proposes that non-clinical patient experience in hospital contact centers is shaped by the interaction between service design practices and omnichannel communication integration. An effective omnichannel approach enables seamless transitions across communication platforms, reduces patient effort, and enhances service continuity, while service design ensures that both human and technological elements are aligned to support patient-centered care. This framework guides the qualitative exploration of patient experiences and organizational readiness in designing a sustainable, integrated “one-door” contact center model.

Figure 1. Research Framework of Non-Clinical Patient Experience Enhancement through Omnichannel Service Design



METHOD

This research utilized a qualitative approach grounded in a non-positivist perspective to examine non-clinical customer experiences within a hospital contact center. This philosophical stance was chosen because customer experience in healthcare is viewed as a socially constructed reality shaped by individual feelings, perceptions, and interactions rather than a fixed, measurable entity. As such, the goal of the study was to interpret meaning and patterns of experience, not to establish causal relationships through statistical methods.

Research Design and Context

The study was designed as an exploratory qualitative investigation conducted at a premium private hospital in Indonesia. It focused specifically on the hospital’s contact center, which functions as a key non-clinical touchpoint. This setting was chosen due to the contact center’s central role in patient engagement, including responding to inquiries, scheduling appointments, and managing non-medical communication across various digital and phone-based platforms. The context reflects an institution undergoing digital transformation while contending with service delivery challenges like delayed responses and fragmented communication channels.

Data Sources and Participants

Two primary groups were engaged as sources of data: internal stakeholders and patients who had interacted with the contact center. Internal participants included staff members working in the contact center and individuals in managerial roles responsible for service delivery and operational decisions. Patient participants were those who had recently used the hospital's contact center through either telephone or digital messaging services. Participants were selected purposively to ensure relevance to the study objectives and to capture a broad range of perspectives regarding service experience.

Data Collection Techniques

Data collection methods included process observation and semi-structured interviews conducted with patients and internal stakeholders, allowing participants to reflect on their actual service experiences during contact center interactions. Observations concentrated on how services were delivered, the flow of interactions, and the operational realities within the contact center environment. Semi-structured interviews offered participants the opportunity to openly discuss their thoughts, feelings, and expectations, while still aligning with a consistent set of thematic topics. This method allowed for flexibility in exploring emerging issues such as responsiveness, empathy, clarity in communication, and digital engagement.

Data Analysis

The analysis was conducted using a thematic analysis framework. Transcriptions from interviews and notes from observations were systematically coded to uncover recurring themes, patterns, and meanings. The process involved becoming familiar with the data, generating initial codes, developing broader themes, and interpreting the findings in light of the study's conceptual foundations namely, service design and customer experience theory.

This approach enabled the researchers to extract detailed insights into how patients experience non-clinical services and how internal systems influence that experience.

Trustworthiness and Research Ethics

To ensure the study's credibility and reliability, data triangulation was employed by cross-referencing insights from different participant groups and data sources. Ethical standards were strictly observed throughout the research process. Participants gave informed consent, took part voluntarily, and had their confidentiality protected. All data were used solely for academic purposes and handled in accordance with established ethical guidelines for qualitative healthcare research.

RESULTS AND DISCUSSION

Results

This part of the study outlines the core insights derived from a thematic analysis of observations and interviews conducted with patients and internal staff involved with the hospital's contact center. The findings are categorized into key themes that reflect the real-world experiences of patients and the organizational dynamics behind non-clinical service delivery.

1. Responsiveness and Waiting Time as Key Experience Drivers

Responsiveness stood out as a major factor shaping patients' perceptions of service quality. Across the board, participants associated quick responses with professionalism, reliability, and the overall competence of the organization. Delays whether in answering calls or replying

to messages were often viewed as a sign of inefficiency, regardless of how well the issue was eventually resolved. Patients were especially sensitive to response times during their first contact, which heavily influenced their overall impression of the hospital's service quality.

From the operational side, internal stakeholders acknowledged that high call volumes and a lack of system integration were contributing to delays. These challenges made it difficult for the contact center to maintain consistent response times across different platforms, underscoring the central role that responsiveness plays in shaping non-medical customer experience.

2. Agent Empathy and Communication Clarity

Empathy and clear communication were also highlighted as critical to building trust with patients. Participants appreciated agents who listened carefully, demonstrated patience, and showed understanding especially when discussing health-related matters or navigating administrative procedures. When agents communicated clearly and used reassuring language, patients felt more at ease and confident in the service being provided.

On the other hand, interactions that felt rushed or overly scripted often lacked the emotional depth needed for a positive experience. Internal staff admitted that maintaining an empathetic tone under operational pressure was difficult, which pointed to the importance of organizational support and well-designed service processes to ensure quality communication.

3. Fragmented Digital Communication Channels

Another major issue identified was the fragmentation across different digital communication channels. Patients expressed frustration when they had to switch between multiple platforms or repeat the same information. This lack of integration disrupted the flow of service and made the overall experience feel disjointed and effortful.

Staff confirmed that managing multiple, disconnected digital systems hindered their ability to access complete patient histories and coordinate responses efficiently. As a result, agents often had to ask for the same details again, leading to longer handling times and further eroding the patient experience.

4. Desire for Seamless Omnichannel Service

Participants expressed a clear desire for a more integrated service setup one that allows them to move across channels without losing continuity. They expected a unified system where their past interactions and information would be accessible no matter which communication platform they used. This reflects broader consumer trends and expectations shaped by experiences in other sectors that offer seamless omnichannel service.

From the organization's perspective, stakeholders saw omnichannel integration as a key strategy to enhance service consistency and efficiency. The idea of a "one-door" contact center was seen as a practical solution that aligns patient expectations with the hospital's goals for long-term, sustainable service improvements.

5. Organizational Readiness and Internal Barriers

Finally, organizational readiness emerged as a recurring concern impacting the feasibility of these improvements. Staff members cited challenges such as misaligned workflows,

incompatible systems, and the need for further staff training. While digital tools were acknowledged as essential, participants emphasized that technology alone wouldn't be enough to solve these problems unless there were parallel changes in internal processes and team capabilities.

Taken together, these findings highlight that improving non-medical customer experience requires more than just tech upgrades it demands a comprehensive approach that connects people, processes, and systems.

Discussion

The results of this study emphasize the strategic significance of non-clinical services in shaping the overall patient experience within healthcare institutions. Consistent with the principles of Service-Dominant Logic, contact centers are portrayed as environments where value is co-created through ongoing interactions, rather than being delivered in the form of isolated service outcomes. The emergence of responsiveness and empathy as key experiential factors shows that value in healthcare stems not just from medical care, but also from the quality of communication and emotional connection between patients and providers.

The strong influence of responsiveness on patient perception reinforces existing customer experience research that highlights the critical role of time-related factors in shaping service evaluations, particularly in high-stakes environments such as healthcare (Lemon & Verhoef, 2016). Slow replies and unreturned messages were found to increase patient effort, amplify anxiety, and reduce trust, demonstrating how delays in non-clinical interactions can disproportionately undermine perceived service quality even when medical services meet expectations. These findings underscore the importance of managing responsiveness as a strategic performance indicator within hospital contact centers, supported by cohesive systems that ensure consistent performance across service points. Rather than functioning as isolated service attributes, responsiveness and empathy emerge as interrelated dimensions that jointly shape patients' perceptions of trust and service professionalism.

Empathy and clear communication were also pivotal in fostering trust and emotional comfort for patients. This supports literature that points to the importance of relational factors in healthcare especially in non-medical settings where patients often seek emotional support and reassurance. Within the Service-Dominant Logic framework, empathy can be seen as an essential resource that enables collaborative value creation. However, the study revealed that maintaining empathetic communication under daily operational pressures can be difficult for contact center staff, suggesting that emotional labor needs to be acknowledged and supported at the organizational level rather than left solely to individual effort.

From a Service-Dominant Logic perspective, agent empathy can be interpreted as an operant resource that enables value co-creation during patient interactions (Vargo & Lusch, 2008). Empathetic communication supports emotional reassurance and trust formation, which are particularly important in non-clinical healthcare encounters. However, when agents operate under high workload pressure or rigid procedural constraints, their ability to deliver empathetic service may be compromised. This highlights the importance of organizational support systems and service design that facilitate emotional labor within contact center operations.

The study also highlighted how fragmented digital communication channels create barriers to effective patient service. Although the goal of adopting multiple digital tools was to increase

access, the lack of integration led to inconsistent experiences and redundant information requests. This supports prior findings that distinguish between simply having multiple channels and achieving true omnichannel integration. When systems are not unified, the digital experience can become more complicated not less placing added stress on patients who rely on timely and coherent communication.

Patient expectations for a seamless omnichannel experience appear to be influenced by service standards in other industries. Increasingly, patients expect healthcare services to allow smooth transitions between platforms without having to repeat themselves or face disruptions. The proposed “one-door” contact center model responds to this demand by offering continuity, reducing repetition, and enabling more personalized interactions. From an Integrated Marketing Communication standpoint, such integration also strengthens message consistency and reinforces the organization’s credibility positioning the contact center as not just an operational unit, but also a strategic asset for patient engagement and brand trust.

Organizational readiness emerged as a key factor affecting the success of service transformation. While digital tools are vital, the study found they cannot improve customer experience in isolation. Upgrades must be accompanied by changes in workflows, interoperability between systems, and staff skill development. This aligns with change management literature that emphasizes the need for alignment between people, processes, and technology. Service design tools like journey mapping and service blueprinting offer practical ways to connect front-end service interactions with back-end processes, creating a more coherent system.

In sum, this discussion underlines that enhancing non-clinical customer experience in healthcare requires a holistic strategy that brings together user-centered service design, digital integration, and organizational capability. When contact centers are viewed as strategic touchpoints rather than just support functions healthcare providers can use them to create meaningful experiences, build trust, and contribute to long-term sustainability.

Implications

From a managerial perspective, the findings underscore the importance of positioning hospital contact centers as strategic assets for patient engagement rather than purely operational support units. Healthcare managers should prioritize omnichannel integration, workflow alignment, and agent capability development to ensure consistent and responsive service delivery across communication platforms. Investments in service design tools, such as journey mapping and service blueprinting, can further support the alignment between frontstage interactions and backstage processes, thereby reducing service fragmentation and patient effort.

Theoretically, this study contributes to the healthcare customer experience literature by extending Service-Dominant Logic and service design frameworks to non-clinical contact center environments. By integrating service design practices with omnichannel communication strategies, the proposed framework offers a structured perspective on how non-clinical patient experience is shaped through the interaction of human, technological, and organizational elements. This contribution helps address the limited empirical focus on non-clinical healthcare services, particularly within digitally transforming hospital settings.

CONCLUSION

This research fills an important gap in the field of healthcare service studies by focusing on non-clinical customer experiences within a hospital contact center, using a qualitative lens grounded in service design. While much of the existing literature centers on clinical outcomes and general patient satisfaction, this study draws attention to the vital role that contact centers play as frontline touchpoints that shape patient trust, perception, and the overall consistency of their experience.

The results show that two key elements responsiveness and agent empathy are pivotal in determining how patients perceive non-clinical service quality. Delays, missed communications, and uncoordinated digital interactions were found to erode a sense of professionalism and increase the level of effort required from patients, even if their issues were eventually resolved. In contrast, when communication was empathetic and information was conveyed clearly, patients were more likely to trust the institution and feel emotionally reassured. These outcomes highlight the relational foundation of value in healthcare experiences.

The study also underscores a key risk: that digital transformation efforts, if not paired with thoughtful service design, can lead to fragmented and frustrating patient experiences. To counter this, the research proposes a “one-door” omnichannel contact center model, which is supported by tools such as journey mapping and service blueprinting. This integrated framework helps ensure smooth transitions across channels, operational coherence, and consistency in how services are delivered.

From a managerial standpoint, the findings stress the importance of organizational readiness in driving meaningful service transformation. The introduction of new technology alone is not enough workflow alignment, system interoperability, and staff training are equally critical. Reframing the contact center as both a functional and experiential asset allows healthcare institutions to deliver more human-centered services while also supporting broader goals around sustainability and long-term improvement.

For future exploration, researchers could build upon this study by assessing how omnichannel contact center models are implemented over time in various healthcare environments. Employing mixed-method approaches may also help to measure performance outcomes more comprehensively. By integrating service design principles with omnichannel communication strategies, hospital contact centers can play a more strategic role in shaping non-clinical patient experience. This approach supports more consistent, empathetic, and sustainable patient engagement.

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