# COMMUNICATION, INNOVATION, AND TECHNOLOGY FOR CUSTOMER SERVICE DEVELOPMENT IN THE DIGITAL ERA

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**ABSTRACT**

This study aims to analyze how mobile telecommunications companies in Bandung implement communication strategies, innovation, and technology to enhance customer service in the digital era. The research adopts Computer-Mediated Communication (CMC) theory and Service-Dominant Logic (Vargo & Lusch, 2004) as its analytical framework. A qualitative approach was employed through participant observation, in-depth interviews, and literature review. The informants consisted of 17 customer service agents from three GraPARI Telkomsel branches in Bandung, selected using purposive sampling techniques. The findings reveal that the company applies personalized communication strategies through digital channels and integrates technologies such as chatbots and CRM systems to increase service efficiency. Despite the significant role of technology, the empathetic presence of human agents remains essential in maintaining the quality of customer interactions. In conclusion, the collaboration between technology and humans is key to delivering valuable and adaptive service experiences in the digital era.

**Keywords:** Digital Communication Strategy, Customer Service, Human Technology Collaboration

## INTRODUCTION

The advancement of digital technology has fundamentally transformed the way companies interact with their customers. In today's digital era, the success of customer service is no longer defined solely by response speed or information availability but also by the company's ability to deliver relevant, adaptive, and value-driven experiences. Mobile telecommunications companies including Telkomsel, Indosat, and XL are at the forefront of this transformation, where they must integrate communication strategies, service innovation, and technology simultaneously in managing customer relationships.

In a major city like Bandung, which serves as a hub of digital growth in West Java, telecommunications companies face both challenges and opportunities in developing technology-based service approaches. The use of social media, self-service applications, chatbots, and big data analytics has become an integral part of digital transformation strategies. However, the adoption of technology without empathetic communication and co-creation-oriented strategies may lead to emotional distance between the company and its customers.

In this context, it becomes important to understand how the interplay between communication, innovation, and technology is implemented operationally by mobile telecommunications companies, particularly by customer service agents who serve as the frontliners. This study focuses on Telkomsel GraPARI service canters in Bandung as a case study to explore these practices.

Based on the background above, the research question posed in this study is: How are communication strategies, innovation, and technology implemented by mobile telecommunications companies in Bandung in developing customer service in the digital era?

This study aims to analyse the communication strategies used by mobile telecommunications companies to improve customer service quality. The second, to identify the forms of innovation and the use of digital technology in customer service. The third, to explore the collaboration between technology and human agents in creating valuable customer experiences.

This study contributes to the field of business communication and digital customer service, particularly through the lens of Computer-Mediated Communication (CMC) and Service-Dominant Logic (SDL). The findings also provide strategic recommendations for telecommunications companies to develop value- and experience-oriented customer service that is aligned with the demands of the digital society.

Several previous studies have examined the digital transformation of customer service. For instance, Raharjo (2022) found that the use of chatbots improves service efficiency but reduces emotional closeness with customers. Similarly, Wicaksono & Lestari (2021) highlighted the importance of a hybrid approach between technology and human interaction in fostering customer loyalty within the telecommunications sector.

This study draws upon two key theoretical foundations: Computer-Mediated Communication (CMC): This theory explains how human interaction is mediated by digital technologies. CMC is relevant in examining the shift from face-to-face communication to digital formats such as live chat, chatbots, and social media. Service-Dominant Logic (Vargo & Lusch, 2004): SDL emphasizes that value is not solely produced by providers but is co-created through interaction between service providers and customers. This concept is especially relevant in the context of digital customer service that retains human-centred principles. By applying these theoretical perspectives, this study seeks to provide an in-depth depiction of how communication strategies and technology-based service innovations are implemented in the operational context of mobile telecommunications companies in the digital age.

## METHODOLOGY

This study employs a qualitative approach under an interpretive paradigm, aiming to gain an in-depth understanding of communication strategies, innovation, and the application of technology in customer service within the digital era. This approach was chosen because it is well-suited for exploring complex and contextual social phenomena, particularly in customer service interactions that simultaneously involve emotional, cognitive, and technological aspects.

The object of the study is a mobile telecommunications company, with a focus on the GraPARI Telkomsel service units located in Bandung City. The selection of this location was based on its representativeness of an integrated digital service ecosystem and the high intensity of direct interactions between customers and service agents. The research was conducted from January to March 2025.

The informants in this study consisted of 17 customer service agents, selected through purposive sampling based on criteria such as a minimum of two years' work experience, involvement in digital service systems, and representation from three GraPARI branches: Dago, BEC, and Buah Batu. These informants were considered to have a deep understanding of the implementation of service strategies on the ground.

Data were collected using three techniques: (1) participant observation of service processes and digital system usage at GraPARI locations, (2) in-depth interviews guided by semi-structured protocols to explore agents' experiences, perceptions, and communication strategies, and (3) literature review to reinforce theoretical context and support data triangulation.

The data were analysed using thematic analysis, which involved transcription, data reduction, coding, identification of main themes, and interpretation. Data validity was enhanced through triangulation of sources and methods, along with member checking by selected informants to ensure the accuracy of interpreted meanings.

The research question underlying this study is: "How are communication strategies, innovation, and technology implemented by mobile telecommunications companies in Bandung in developing customer service in the digital era?" This question was further broken down into three analytical focuses: (1) digital communication strategies, (2) types of service innovation, and (3) the role of technology in shaping customer service experiences. The main theoretical foundations guiding this research are Computer-Mediated Communication (CMC) and Service-Dominant Logic (Vargo & Lusch, 2004

## RESULTS AND DISCUSSION

This study aims to explore communication strategies, innovation, and the application of technology in the development of customer service by mobile telecommunications companies in Bandung. Based on participant observation and in-depth interviews with 17 customer service agents across three Telkomsel GraPARI branches, three main findings were identified that systematically address the research question.

1. Responsive and Personalized Digital Communication Strategies

The findings show that the communication strategies applied emphasize message personalization, active use of digital channels (such as WhatsApp Business API, MyTelkomsel App, and social media), and rapid response time. Agents are trained to recognize the emotional context of customers, even when communication is mediated through digital platforms. This supports the theory of Computer-Mediated Communication (CMC), which posits that the quality of communication is not solely determined by the medium, but also by the sender's ability to manage meaning and context effectively.

Digital communication is not conducted in a one-way fashion but rather emphasizes dialogue and active customer engagement. Agents act as facilitators of communication, not merely as information transmitters. Consequently, responsive and contextual communication strategies serve as a critical foundation in creating satisfying service experiences.

2. Technology-Based Service Innovation Aligned with Customer Needs

The study identified several service innovations, including the use of AI-based chatbots, auto-reply features on digital platforms, and integrated CRM dashboards to track customer interaction history. These innovations aim not only to improve efficiency but also to provide convenience and comfort in accessing services independently.

However, the findings also reveal that technology has not entirely replaced the human touch. Certain complaints—especially those involving emotional issues or special circumstances—still require direct human involvement. This indicates that effective innovation is hybrid in nature: a combination of digital efficiency and emotional closeness, aligning with the principle of value co-creation in Service-Dominant Logic.

3. Collaboration Between Technology and Agents in Creating Service Experiences

One of the key contributions of this study is the discovery of collaborative practices between technology and agents in shaping customer experiences. Technology is not used to replace agents but rather to support productivity, accuracy, and service scalability. Agents find value in features such as automated ticketing systems, customer history tools, and AI-driven problem filtering.

This collaboration creates an adaptive service interaction model where customers still feel personally attended to, even within a digital ecosystem. It reinforces the notion that successful digital transformation is not merely about deploying advanced technology but about enabling synergy between human capabilities and digital systems.

Implications and Contributions of the Study

This study contributes to new understandings in digital customer service management, particularly in the telecommunications industry. The findings underscore the importance of a human-centered technology approach in designing communication strategies and service innovation. Practically, companies can leverage these insights to develop hybrid training programs for service agents, strengthen CRM functions as collaborative tools, and formulate digital policies that preserve empathetic values.

Theoretically, this research extends the application of CMC and SDL theories in the context of digital customer service in Indonesia, especially by highlighting the roles of digital empathy and co-creation as foundational pillars for building customer loyalty in the technology-mediated communication era.

## CONCLUSION

This study reveals that the development of customer service in the digital era by mobile telecommunications companies in Bandung relies on the integration of adaptive communication strategies, technology-driven service innovations, and active collaboration between service agents and digital systems. The communication strategies applied are personal, responsive, and utilize integrated digital channels. Service innovation is not only aimed at improving efficiency but also focuses on customer comfort and relevance.

The implementation of technologies such as chatbots, CRM, and auto-reply systems serves as a primary solution to promptly address customer needs. Nevertheless, the presence of human agents remains essential to maintain empathetic interaction quality, especially in cases that are complex or emotionally charged. This indicates that a service approach combining the strengths of technology and human touch represents an ideal model for creating valuable customer experiences (co-created value), as emphasized in the theories of Service-Dominant Logic and Computer-Mediated Communication.

Recommendations for Telecommunication Industry Practitioners: Companies should continue to develop training programs for service agents to effectively utilize technology without compromising empathy in communication. Additionally, it is important to design technological systems that are supportive rather than substitutive of human functions.

For Corporate Policy Makers: Customer service communication policies should be based on customer data while maintaining a human-centric approach. Digital communication strategies must be designed with the principle of digital empathy to ensure that customers feel personally served, even through digital platforms.

For Future Researchers: Further research is encouraged to broaden the scope of the study to include different regions and types of companies to achieve stronger generalizability. Future studies may also adopt quantitative or mixed-method approaches to measure the actual impact of communication-technology integration on customer loyalty and satisfaction

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