Empowering Customer Experience through Digital Self-Service Transformation: A Study of Telkomsel's First Contact Resolution (FCR) Strategy

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Abstract. Digital self-service is quickly changing from a cost-cutting tool to a crucial part of customer experience strategy in today's hyperconnected digital environment. One of the biggest telecom companies in Indonesia, Telkomsel, is a prime example of this shift with its dedication to enhancing First Contact Resolution (FCR) and Customer Contact Interaction Management (CCIM) approach. The company's 2024–2025 roadmap is examined in this study, with special focus on its three main digital service channels: GraPARI Online, Veronika, and MyGraPARI. It demonstrates how Telkomsel has put six strategic pillars into practice in order to improve end-to-end service flows, empower frontline agents, decrease complaints, and enhance customer journeys. This paper examines the opportunities and difficulties in coordinating automation, agent empowerment, and customer centric service recovery, drawing on service marketing theory and the international literature on self-service technologies (SSTs). In the end, this study shows that digital self-service improves customer happiness, trust, and net promoter scores (NPS) in addition to operational efficiency when supported by a strong FCR strategy.

Keywords: Digital self-service, First Contact Resolution (FCR), Customer Contact Interaction Management (CCIM), Customer experience, Telecommunications.

1 Introduction

In the digital age, the customer service industry has experienced a dramatic change. Companies in a variety of sectors are reconsidering how they engage with customers, moving away from reactive service approaches and toward proactive, customer-empowering tactics. The emergence of self-service technologies (SSTs), which let users access services, solve issues, and finish transactions without direct human assistance, is one of the most noteworthy trends. SSTs mark a paradigm shift in the way that services are conceived, provided, and experienced [1]. The usage of digital channels for customer interaction has increased dramatically in Indonesia due to the country's rapidly increasing internet and smartphone penetration rates. Being the biggest telecom provider in the nation, Telkomsel has led the way in incorporating digital self-service

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into all of its service interfaces. A comprehensive transformation strategy, its 2024 effort within the CCIM (Customer Contact Interaction Management) framework seeks to improve digital experience, maximize customer happiness through intelligent self-service platforms, and improve First Contact Resolution (FCR). Three digital pillars, MyGraPARI, Veronika (its AI powered chatbot), and GraPARI Onlin, are the foundation of Telkomsel's development. These platforms have evolved into strategic tools for managing service journeys across mobile and fixed internet offerings, in addition to becoming digital extensions of its physical storefronts. These channels are changing the landscape of the customer experience by automating IMEI registration and facilitating postpaid and prepaid reactivation. This study explores Telkomsel's implementation of these self-service technologies in order to achieve its aggressive tNPS (transactional net promoter score) and FCR targets. In order to address the main query, it examines the relationship between Telkomsel's operations and service marketing theory. Specifically, it looks at how digital self-service might be strategically applied to improve customer service in the telecom industry.

2 Methods

2.1 Research Approach

This study uses a qualitative case study methodology to investigate how Telkomsel, the biggest telecom company in Indonesia, executes and evaluates its digital customer care strategy, with a particular emphasis on Customer Contact Interaction Management (CCIM) and First Contact Resolution (FCR). When gaining a thorough grasp of complicated events in real-life circumstances is the aim, a case study is suitable [2]. Telkomsel's extensive investment in customer experience frameworks, process automation, and digital self-service platforms makes it a crucial case. Using this perspective, the study intends to investigate how customer service performance outcomes including FCR, Net Promoter Score (NPS), complaint reduction, and service level agreement (SLA) adherence relate to digital transformation initiatives.

2.2 Data Sources

The company's self-service efforts, key performance measures, strategic pillars, and implementation issues are all detailed in the internal Telkomsel strategic document "CCIM Overview 2024 – FCR Goals," which serves as the main source of data. The architecture of service touchpoints (assisted, walk in, and non-assisted channels), performance outcomes (such as FCR, SLA, and complaint reduction), strategic goals and roadmap (2024 2025), and the deployment of digital tools (Veronika chatbot, MyGraPARI, GraPARI Online) are all thoroughly covered in this document. The study incorporates secondary data from peer reviewed journal articles, books, and whitepapers that address topics such as digital self-service technology adoption, customer experience (CX) management, artificial intelligence in service delivery, and service quality frameworks (e.g., SERVQUAL, CES) in order to augment this internal source. Using keywords like "self-service technology," "FCR," "customer experience,"

"AI in service," and "service marketing," these scholarly sources were chosen via Google Scholar and Scopus.

2.3 Analytical Framework

The SERVQUAL Model [3], Customer Effort Score (CES) [4], Service Blueprinting [5], and AI-Enhanced Service Models [6] are all combined in this theoretical triangulation approach to analyze Telkomsel's transformation. We can investigate how Telkomsel's service innovation fits with customer centric marketing theories and technical performance measures thanks to this triangulation. The internal document's themes are extracted using content analysis, which then compares them to pertinent academic models. For instance, SERVQUAL's empowerment and assurance aspects are linked to Telkomsel's decrease in escalation from Tier 2 to Tier 1 agents, while CES criteria are used to evaluate automation flows.

2.4 Limitations

This study's dependence on one corporate case and confidential company data is one of its limitations. Although Telkomsel offers a solid standard for innovation in telecom services in Southeast Asia, findings might not apply to other areas or sectors. Additionally, the internal document does not directly address consumer impression data; rather, it concentrates on goals and implementation. To triangulate results, user-side data (such as surveys or interviews) should be incorporated into future studies.

3 Results and Discussion

3.1 Self-Service Innovation: MyGraPARI, Veronika, and GraPARI Online

A deliberate endeavor to increase customer autonomy, speed, and First Contact Resolution (FCR) rates, Telkomsel is moving toward digital first service. Three primary self-service platforms, MyGraPARI, Veronika, and GraPARI Online, are the foundation of this change. More than 80% of transactions in 2024 will be made through self service channels, demonstrating how these technologies not only lower operational overhead but also empower customers to handle problems on their own. Telkomsel's self-service kiosk network, MyGraPARI, has more than 710 locations spread across the country. With a success rate of 95.7% and an average of 370,000 transactions each month, it is the most popular self-service product in the business. Consumers regularly utilize it for bill payment, IMEI registration, SIM replacement, and top-ups. Faster, more secure resolutions are facilitated by sophisticated features like real-time ticketing integration and biometric validation. To increase accessibility and ease traffic at physical GraPARI outlets, Telkomsel has also extended MyGraPARI to public areas like MRT stations. With a low connect-to-agent rate of only 3.72%, the company's AI-powered virtual assistant, Veronika, oversees over 3 million sessions monthly. This demonstrates how well it can solve problems. In addition to providing self-diagnosis

tools, preemptive outage notifications, and real-time ticket production, the chatbot helps with data package inquiries, troubleshooting, and frequently asked questions. Veronika, which is integrated with both fixed and mobile platforms, echoes [6] viewpoint on AI-enhanced service quality by balancing functional efficiency with a human touch. GraPARI Online, Telkomsel's online store for ordering physical SIM cards, activating services, and handling account adjustments, rounds out these channels. Its 2024 order completion percentage of 94.4% was fueled by enhanced logistical coordination and client vetting procedures. Customer confidence and fulfillment accuracy are further reinforced by real-time tracking through the DSC dashboard. The backend integration of Telkomsel's self-service ecosystem is its strongest point. Systems like DSC Flow for ticketing, Indira CDR for diagnostics, and CRM tools for service history and personalization integrate these platforms. Regardless of how the consumer interacts, this alignment allows for smooth cross channel support, quicker response times, and a uniform experience. The significance of these improvements is further supported by performance measures. SLA fulfillment rates exceeding 94.5% and a 22% decrease in self-service-related complaints were reported by Telkomsel. While GraPARI Online facilitates seamless onboarding and SIM management, MyGraPARI and Veronika continuously exhibit great reliability. In the end, Telkomsel's self-service approach shows a solid alignment with the speed, ease of use, and control that customers need. Telkomsel delivers on the promise of a contemporary, digital-first service experience by reducing user journey friction and enabling clients to resolve issues on their own. This strategy is in line with the Customer Effort Score (CES) model, which highlights that lowering customer effort is a major factor in fostering loyalty and happiness [4].

3.2 Key Performance Metrics and Service Experience Outcomes

A heavy emphasis on performance monitoring, particularly through First Contact Resolution (FCR), has served as the cornerstone of Telkomsel's transformation plan. The company's 2024 FCR rates of 99.8% for mobile services and 96.6% for fixed line services demonstrate its proficiency in addressing customer concerns during the initial engagement. The integration of self-service platforms like MyGraPARI, Veronika, and GraPARI Online—all of which are backed by backend systems like ACS and DSC for real-time ticketing and diagnostics—is primarily responsible for these results. Telkomsel is obviously aware that high FCR rates are strongly related to increased customer loyalty and lower follow-up expenses, as suggested by [7]. Simultaneously, Telkomsel has seen favorable trends in both its Net Promoter Score (NPS) and Transactional NPS (tNPS). Proactive service tools like intelligent selfdiagnosis, automated outage warnings, and effective backend resolutions are the cause of these enhancements. This supports [8] claim that NPS, which reflects the customer's emotional attachment to the brand, is a crucial indicator of long-term growth. Additionally [4] created the Customer Effort Score (CES) model, which highlights simplicity of service as a loyalty driver, and Telkomsel's ability to reduce customer effort by simplifying common processes like SIM replacement and service verification, corresponds with this model. The decrease in consumer complaints has been another

noteworthy accomplishment. A move toward more proactive and dependable service was shown by a 22% decrease in fixed-line complaints and a 7.5% decrease in mobile complaints year over year. This pattern backs up the findings of [9], who contend that long term customer relationships are enhanced by efficient service recovery. This proactive strategy is reinforced by Telkomsel's usage of AI-driven alerts, predictive monitoring, and automated ticket generation. It also exemplifies the "service recovery paradox" [10], which states that after a successful issue resolution, customers become more devoted. Telkomsel's operational strength is further demonstrated by the fulfillment of Service Level Agreements (SLAs), with over 98% of mobile services and over 94.5% of fixed-line tickets adhering to SLAs. Real-time dashboards, standardized protocols, and tools that facilitate Tier 1 empowerment enable these results. According to [11], SLA performance encompasses not only speed but also an organization's ability to withstand stress, which Telkomsel accomplishes through methodical infrastructure and employee training investments. The effectiveness of this technique is further supported by the performance of self-service channels. GraPARI Online has a 94.4% order fulfillment rate, while MyGraPARI manages approximately 370,000 transactions monthly with a 95.7% success rate. Every month, Veronika conducts over 3 million sessions, with an escalation rate of less than 4%. These numbers attest to Telkomsel's self-service choices' effectiveness and usability. Customer satisfaction with self-service technologies is dependent on perceived control, convenience of use, and dependability, all of which are continuously provided in Telkomsel's ecosystem, according to [1]. Collectively, these performance indicators show how well Telkomsel adheres to contemporary customer experience (CX) tactics. Customers of today demand seamless cross channel service, quickness, and convenience. Telkomsel builds loyalty and trust by fulfilling these expectations with data-driven systems and automated support. Every consumer interaction influences how well a service is perceived overall, as stress [12]. The strategy used by Telkomsel guarantees that these touchpoints are designed to foster long-term brand advocacy in addition to customer happiness.

3.3 Challenges and Strategic Enablers

Even with Telkomsel's remarkable advancements in digital transformation, a number of internal and external obstacles still exist. Integration complexity is among the most important. Telkomsel must guarantee smooth connectivity across a variety of systems, from old infrastructure to contemporary digital platforms like MyGraPARI, Veronika, and GraPARI Online, as a telecommunications provider providing both mobile and landline services. It is anticipated that these systems would successfully integrate with backend functions including CRM, billing, and diagnostics. Digital transformation initiatives are often hindered by fragmented integration and segregated processes rather than by the technology itself [13]. Although Telkomsel reduces these risks with DSC Flow Engine and ACS Booster, data flow and dependability require constant alignment. Customer opposition to self-service technologies (SSTs) is another significant obstacle. Many users still prefer face-to-face connection over kiosks or AI helpers, especially those in rural areas or older demographics. Perceived ease of use, usefulness, control, personalization, and dependability are the five characteristics that [1] identify as

influencing the adoption of SST. Telkomsel is recommended to make investments in digital literacy initiatives and streamlined navigation assistance in response. Incorporating empathy into digital change management can help bridge gaps in customer confidence and trust [13]. Internal obstacles include standard operating procedures (SOPs) that are not aligned and organizational resistance. Even sophisticated systems can function poorly in the absence of defined procedures and sufficient training. The application of service blueprinting facilitates the integration of front-stage and backstage processes, enabling agents to understand and effectively implement new digital service flows [5]. By putting resolution authority closer to the customer, Telkomsel's programs like the Service Academy MOMO and Tier 1–3 agent empowerment are enabling problems to be resolved more rapidly and efficiently. Dependency on vendors and technology carries additional dangers. For its MyGraPARI kiosks, Telkomsel collaborates with a number of vendors, each of whom may follow distinct security guidelines and standards. Uneven performance, unreliable user experiences, and troubleshooting challenges might result from this fragmentation. While outsourcing in service delivery supports organizational scalability, it may introduce greater variability in service quality and operational consistency [11]. To ensure service consistency, Telkomsel must standardize operational standards and conduct regular vendor compliance audits. Despite these obstacles, Telkomsel's performance is supported by a number of strategic enablers. Smart diagnostics and DSC Flow Engine are examples of advanced digital solutions that enable problems to be proactively identified and fixed, frequently before the client contacts you. This approach is consistent with the argument that effective service automation should not only improve operational performance but also strengthen customers' emotional experiences [6]. Previous research highlights that equipping service agents with the necessary resources and empowerment mechanisms contributes to faster resolution processes and higher customer satisfaction [14]. Furthermore, apps like MyTelkomsel and Veronika have defined automation procedures that guarantee consistency across use cases and eliminate uncertainty. Telkomsel's ongoing emphasis on a customer centric culture, supported by omnichannel integration and tNPS tracking, guarantees that its transition will continue to be both emotionally and technologically sound.

3.4 Aligning Digital Transformation with Service Marketing Theories

The core beliefs of service marketing are highly aligned with Telkomsel's digital transformation strategy, especially its emphasis on First Contact Resolution (FCR) through the Customer Contact Interaction Management (CCIM) initiative. A practical implementation of models like SERVQUAL, Customer Effort Score (CES), Service Blueprinting, and the Moments of Truth (MoT) framework, as well as contemporary viewpoints on AI-enhanced service delivery, are reflected in the integration of platforms like as MyGraPARI, Veronika, and GraPARI Online. Telkomsel's strategy is a clear reflection of the SERVQUAL model, which evaluates service quality based on tangibles, assurance, responsiveness, empathy, and dependability. Through automation technologies like real-time diagnostics, ticket resolution, and biometric authentication, the organization has increased responsiveness and reliability, guaranteeing safe and

reliable experiences. Accessibility and trust are further reinforced by tangible components like contemporary kiosks and user-friendly interfaces. These programs aid in bridging the gap between what consumers see and what they expect from service delivery, which is a crucial SERVQUAL framework objective [3],[14]. The Customer Effort Score (CES), which contends that lowering a customer's effort is essential to increasing their level of satisfaction and loyalty, is another crucial theoretical framework. Telkomsel exemplifies this by using digital self-service to streamline common service operations like SIM replacement, billing adjustments, and quota management. According to [4], Telkomsel directly addresses frequent friction points by reducing the need for customers to repeat themselves, wait in lines, or escalate difficulties. In order to plan the entire customer journey across its walk-in, aided, and non-assisted channels, Telkomsel also uses the concepts of service blueprinting. This entails linking backend systems like DSC, ACS Booster, and CRM databases as well as synchronizing SOPs. The coordination between front-stage and backstage operations is essential to ensure the delivery of a seamless and high-quality customer experience across multiple service touchpoints [5]. Another framework that is ingrained in Telkomsel's strategy is the idea of Moments of Truth (MoT), where consumers create opinions based on their encounters with a company. Crucial moments, like MyGraPARI's automated SIM replacement or Veronika's proactive assistance, showcase how powerful digital touchpoints may influence emotional reactions and foster loyalty. Telkomsel's steady performance during these times guarantees a deep emotional bond with clients, transforming transactions into memorable experiences. Telkomsel's application of AI affects emotional involvement in addition to efficiency. AI in service should enhance both functional and emotional value to create a more comprehensive customer experience [6]. This is demonstrated by Veronika's proactive recommendations, tailored assistance, and perceptive problem-solving, all of which foster a feeling of consideration and care. Internally, Telkomsel makes sure that staff members are on board with these digital objectives through its Service Academy and empowerment programs. With the help of intelligent tools, empowered agents are better able to provide high-quality service, which strengthens the customer-centric culture that is necessary to maintain change [14].

4 Conclusion

The successful integration of digital technology and service marketing principles is demonstrated by Telkomsel's transformation through its Customer Contact Interaction Management (CCIM) and First Contact Resolution (FCR) strategy. The company's focus on self-service innovation, especially through MyGraPARI, Veronika, and GraPARI Online, has improved customer satisfaction and operational efficiency. Telkomsel has shown that digital transformation involves more than just automation; it also entails developing customer service journeys that are smooth, proactive, and empowering. The effectiveness of this strategy is demonstrated by performance improvements like a 99.8% FCR rate in mobile services, a 22% decrease in complaints, and notable increases in transactional Net Promoter Score (tNPS). Internal initiatives

that empower frontline agents, harmonize SOPs, and facilitate real time diagnostics and resolution serve to further solidify these accomplishments. The company's approach demonstrates how theory-informed practices may generate long-term competitive advantage by implementing numerous fundamental theories in service marketing, including SERVQUAL, CES, Service Blueprinting, and AI based emotional engagement. There are still obstacles to overcome, though, like the lack of digital literacy among some clientele groups, platform integration problems, and upholding uniform service standards across suppliers and geographical areas. How successfully Telkomsel overcomes these obstacles while keeping its customer-centric emphasis will determine its capacity to scale its approach going forward.

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