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Analysis of QR Ordering Impact on Efficiency at SatuKata Coffee

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Abstract

This study examines how the digitization of QR Order at SatuKata Coffee affects service process efficiency and customer experience through a service blueprint approach. This research employs a descriptive qualitative method supported by direct observation during two periods: September 13–October 12 and October 28 until November 26, 2025, informal interviews with the owner, staff, and customers, as well as documentation of the ordering flow, barista workflows, and customer interactions. Findings indicate that QR Order streamlines the ordering process, reduces queue buildup at the register, minimizes manual input errors, and gives customers more control over menu selection and payment. The service blueprint also reveals a clearer division between customer actions, front-of-house activities, back-of-house processing, and support systems. At the same time, its implementation relies on stable internet access and customer digital readiness, which can pose challenges during peak hours or for first-time users. Overall, QR Order contributes positively to operational efficiency and a more modern, convenient customer experience, while the service blueprint helps identify areas that still require improvement.

Keywords: *QR Order; digital service; service blueprint; customer experience; coffee shop*
JEL: *L81; O33*

1. Introduction

The Rapid advances in digital technology have transformed the service industry, including the food and beverage sector, driving it toward service models that are faster, more flexible, and more customer-centric. This transformation is not merely about the use of technology, but also a paradigm shift in how services are designed, where customers are no longer passive recipients but active participants in the service process. In coffee shops, this shift is increasingly evident through the adoption of QR Ordering systems that allow customers to place orders independently via their smartphones.

For customers, the primary expectations are no longer limited to product quality alone. Speed, convenience, control, and a seamless ordering process are now integral parts of the service

experience. Coffee shops that can combine quality products with an efficient ordering workflow are more likely to create a positive and memorable experience. Because the QR ordering process involves customers, front-line staff, back-end operations, and digital support systems simultaneously, the service cannot be evaluated solely from visible points of interaction. A more comprehensive approach is needed to map the service from end to end and identify where delays, confusion, or service failures may occur.

Service Blueprint is one of the most useful tools for this purpose because it visualises the customer journey together with the actions of staff, the hidden operational process, and the physical evidence that supports the service. Through this lens, the implementation of QR Order can be examined not only as a digital feature, but as a connected service system.

This study focuses on SatuKata Coffee as the subject of the study, a local coffee shop that has implemented QR code-based ordering as part of its digital service transformation. Based on initial observations at SatuKata Coffee, both before and during the implementation of the QR system, several operational issues emerged, such as long ordering lines during peak hours, the potential for order recording errors when using manual methods, and limited interaction between customers and staff in ensuring order clarity. Additionally, during the transition to the QR system, some customers who were not yet accustomed to using the technology experienced confusion, which could potentially slow down the service flow. This situation indicates that service digitization does not automatically eliminate problems but rather introduces new dynamics that require comprehensive analysis. This study aims to analyze how QR Ordering affects service efficiency and customer experience, while identifying the strengths, weaknesses, and operational issues that emerge in the service blueprint. The novelty of this study lies in the direct link between the implementation of QR Ordering and the analysis of the Service Blueprint in the context of local coffee shops, a topic that has been relatively under-explored in previous research.

2. Literature Review

2.1 Digital Service Innovation in Coffee Shops

Digitalisation Digitalization in coffee shops is driven by the need to streamline service delivery, reduce wait times, and create a more modern customer experience. Technologies such as QR menus, mobile ordering, and cashless payments have become commonplace because they help businesses serve customers faster while keeping the ordering process practical and transparent (Pantano & Gandini, 2017; Wirtz et al., 2018). From an operational perspective, QR-based ordering can reduce input errors, minimize repetitive explanations at the counter, and distribute the workload more evenly between front- and back-of-house staff. In small businesses, this is particularly valuable because limited human resources often force teams to work under pressure during peak hours (Shankar, 2020; Luo et al., 2021).

Additionally, digital ordering supports the coffee shop's image as a responsive and modern business. Customers are more likely to perceive the brand as efficient and relevant when its service system is easy to use and aligns with their daily digital habits (Hossain et al., 2019; Wong & Kim, 2020).

Based on the preceding literature review, QR-based ordering technology has been consistently linked to measurable improvements in operational efficiency, service speed, and customer experience within the food and beverage sector. Nevertheless, a notable gap persists in the existing body of knowledge. The majority of prior studies have concentrated predominantly on evaluating technology implementation outcomes through the lens of system effectiveness or user perception, while paying insufficient attention to how such technology is systematically embedded within broader service delivery processes. Works by (Fajri and Najmi, 2024) and

(Wirati et al., 2024), for instance, have documented the operational advantages of digital ordering systems, yet these studies stop short of providing a holistic mapping of the interconnected relationships among customer touchpoints, frontstage service activities, backstage operational processes, and supporting infrastructure that collectively constitute the service experience.

This gap underscores the necessity of examining QR Order implementation not merely as a standalone technological solution, but as an integral component of an interconnected service system. Accordingly, the present study seeks to address this limitation by applying the Service Blueprint framework as an analytical lens to comprehensively examine how QR Order technology is implemented within a local coffee shop context. By doing so, this study aims to offer a more nuanced and systematic understanding of how service efficiency is generated through the deliberate integration of technology and service process design.

2.2 Service Blueprint as a Service Analysis Tool

Service Blueprint is a structured method used to map service processes by separating what customers do, what staff members do in the visible service area, what happens behind the scenes, and what support systems enable the service to run. This makes it easier to see how the service works as one connected system rather than as isolated activities (Shostack, 1984; Bitner et al., 2008).

The method is especially useful in services that combine human interaction and technology because it helps identify service bottlenecks, breakpoints, and coordination problems. In a coffee shop setting, blueprint analysis can reveal whether QR Order actually reduces queue time or whether new friction appears in other parts of the process, such as payment confirmation or order display on the barista dashboard (Patrício et al., 2011; Teixeira et al., 2012).

By visualising the entire service flow, businesses can design more targeted improvements. Service Blueprint therefore functions not only as a description tool, but also as a diagnostic tool for improving service quality, consistency, and operational efficiency.

2.3 Customer Experience and Efficiency in QR Order

Customer experience is strongly shaped by the way a service is delivered, especially in coffee shops where the atmosphere, speed, and ease of interaction matter as much as the product itself. When the ordering process is simple and predictable, customers tend to feel more in control and more satisfied with the service journey (Lemon & Verhoef, 2016; Gentile et al., 2007).

Previous studies show that QR Code-based ordering can increase efficiency and reduce waiting time in café environments. Research on online ordering and QR implementation in coffee shops reports that digital systems can help manage transactions more effectively, speed up service, and support both customers and staff in handling orders with less friction (Fajri & Najmi, 2024; Chairunnisa & Razaq, 2023; Wirati et al., 2024).

Other studies also emphasise that customers are more likely to accept technology when it feels useful and easy to use. In this context, QR Order is not just a technical feature, but a service experience element that can strengthen convenience, improve responsiveness, and support repeat purchase behaviour (Davis, 1989; Venkatesh et al., 2012; Veronika & Pratiwi, 2025).

3. Research Methodology

This study employed a descriptive qualitative approach to examine the implementation of QR Order at SatuKata Coffee through Service Blueprint analysis. This approach was considered appropriate because the study aimed to obtain an in-depth understanding of the service process, including customer interactions with the system, staff responses, and the internal operations that support the ordering flow. The research was conducted at SatuKata Coffee, located in Samarinda.

The research subjects were selected purposively to ensure that the data were obtained from informants who were directly involved in the service process. The informants consisted of an Owner, 2 baristas, and 15 customers who had used the QR Order service.

Data were collected through three main techniques: direct observation, informal interviews, and documentation. Observation was carried out to record the service process in the coffee shop, including customer behavior, order placement, staff service responses, and the use of the QR Order system. Informal interviews were conducted with the manager, baristas, and customers to obtain their experiences, perceptions, and explanations regarding the implementation of the service. Documentation was used to collect supporting evidence in the form of ordering interface screenshots, menu displays, service flow records, and other relevant operational documents. These data sources were used to capture both the visible and invisible aspects of the service process.

The data analysis followed the interactive model of Miles and Huberman, which consists of data reduction, data display, and conclusion drawing/verification. In the data reduction stage, the collected information was selected, coded, and grouped according to the components of the Service Blueprint, namely customer actions, frontstage actions, backstage actions, and support processes. In the data display stage, the findings were organized into a Service Blueprint matrix to identify the structure and flow of the service process. Finally, conclusions were drawn through verification by comparing the results of observation, interviews, and documentation to ensure the credibility and consistency of the findings. This procedure allowed the study to produce a systematic and valid description of the QR Order implementation at SatuKata Coffee.

4. Result And Discussion

The findings show that QR Order has changed the service flow at SatuKata Coffee from a staff-centred ordering model into a more customer-led and digitally supported process. The service begins when customers enter the shop, scan the QR code, browse the menu, place an order, complete payment, wait for preparation, and finally receive their drinks or food.

At the frontstage level, staff interaction becomes more focused on assistance, verification, and hospitality rather than repetitive order-taking. Meanwhile, backstage operations become more structured because orders arrive automatically in the dashboard, allowing baristas to arrange tasks more systematically and reducing the possibility of missed or duplicated orders.

Table 1. 1 Service Blueprint Mapping of QR Order at SatuKata Coffee

Service Blueprint Layer	Key Observation	Impact on Efficiency and Experience
Customer actions	Customers scan the QR code, browse the digital menu, place orders, and pay through their phones.	Shorter queues and greater customer control.
Frontstage actions	Staff assist with QR use, verify orders, and focus on hospitality instead of repeated manual ordering.	Reduced counter pressure and clearer service interaction.
Backstage actions	Orders flow directly to the dashboard, baristas sequence	Fewer input errors and more organised workflow.

	preparation, and transactions are logged automatically.

Source: Processed Data (2026)

The blueprint also shows that the support system is essential for keeping the process stable. QR platforms, internet access, dashboard notifications, menu databases, and payment confirmation systems all work together so that the service can move smoothly from ordering to preparation. Physical evidence such as QR stands, menu screens, receipts, and the pickup area reinforces the image of a modern and organised service environment. These findings are consistent with the view of (Mary Jo Bitner, 2008), who emphasizes that service blueprints can enhance the visibility of service processes and help organizations identify critical points throughout the service interaction.

Table 1. 2 Observed Effects of QR Order Implementation

Support System	Physical Evidence	Main Effect
QR ordering platform, internet connection, and payment integration.	QR standee, digital menu, confirmation screen, and receipt.	Faster ordering and a more modern service impression.
Menu database, dashboard notification, and barista workflow.	Counter area, pickup spot, and barista station.	Better preparation accuracy and smoother service flow.
Staff guidance and customer device compatibility.	Instruction signs and review prompts.	Easier onboarding for new users and better service consistency.

Source: Processed Data (2026)

4.1 Efficiency and Customer Experience Effects

The main impact of QR Order is seen in service efficiency. Queue length is reduced, order handling becomes faster, and the cashier workload is lighter because many ordering tasks are transferred to the customer interface. This allows staff to focus more on service quality, speed of preparation, and customer assistance when needed.

From the customer perspective, QR Order improves convenience and perceived control. Customers do not need to rush while ordering, can check the menu more calmly, and experience a service process that feels more modern and practical. These advantages are especially important for young consumers who are already familiar with smartphone-based transactions.

4.2 Challenges and Development Directions

Even though the system provides clear benefits, the blueprint also reveals several challenges. The service depends on a stable internet connection, and first-time users may need guidance before they feel comfortable using the system. During peak hours, digital ordering can also create a backlog if order preparation capacity is not balanced with incoming demand.

These findings are also consistent with several previous studies, including (Hidayat et al., 2025) which show that the adoption of digital technologies in the service sector often faces similar barriers, particularly regarding users' digital literacy and limitations in technological infrastructure.

Because of that, implementation quality matters as much as the technology itself. SatuKata Coffee needs to maintain clear instructions, responsive staff support, and a reliable dashboard flow so that QR Order does not become a source of confusion. A good digital system should make the service smoother, not more complicated. The case of SatuKata Coffee is not an isolated

phenomenon, but rather a reflection of the wave of digital transformation currently sweeping the global food and beverage industry. In an era where consumers are increasingly digitally connected, F&B businesses from small-scale operations to international chains are racing to adopt technologies ranging from online ordering systems and customer loyalty apps to AI-powered data analytics in an effort to remain relevant and competitive.

4.3 Strategic Implications for SatuKata Coffee

The results suggest that QR Order is not only a convenience feature but also a strategic service innovation. When supported by a well-designed blueprint, the system helps SatuKata Coffee serve more customers with less friction, while still keeping the experience personal and welcoming.

In the long run, the coffee shop can strengthen the system by improving menu interface readability, adding clearer service instructions, and connecting ordering data with operational evaluation. These improvements would make the service more adaptive and better aligned with customer expectations. This study is expected to provide a deeper understanding, not only of how the system works, but also of why it succeeds or faces challenges in practice.

5. Conclusion

This study concludes that the implementation of QR Order at SatuKata Coffee contributes positively to service efficiency and customer experience. Through Service Blueprint analysis, the ordering system is shown to shorten the customer journey, reduce manual queue-based ordering, and create a more structured service flow. The system also shifts the role of staff from repetitive order takers to service facilitators who support verification, preparation, and customer assistance. This change helps reduce pressure at the front counter and allows employees to focus more effectively on service delivery quality.

From the customer perspective, QR Order provides greater convenience, control, and a more modern service experience. Customers are able to place orders more easily, avoid unnecessary waiting, and interact with the coffee shop through a process that feels faster and more flexible. However, the study also identifies several constraints, particularly dependence on stable internet access, adaptation difficulties among first-time users, and the need to balance digital order volume with preparation capacity. These findings indicate that the success of service digitalisation depends not only on the technology itself, but also on how well the entire service system is managed and supported operationally.

Based on these findings, several managerial implications can be proposed. SatuKata Coffee should provide a backup Wi-Fi connection in the cashier or service area to reduce disruption during network instability. In addition, the shop should place one tablet at the counter for customers who do not have sufficient internet access or are unfamiliar with QR-based ordering. During peak hours, staff should also be assigned to guide new users and monitor order flow so that service speed and accuracy remain consistent. With these improvements, QR Order can function not only as a digital feature, but also as a reliable service system that supports both operational efficiency and customer satisfaction.

In line with these practical implications, Service Blueprint is proven to be an effective framework for evaluating QR Order implementation in a local coffee shop. The study provides practical insight for SatuKata Coffee and similar businesses that want to improve service quality through digitalisation without losing the human warmth that customers still value.

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