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The Influence of Online Ordering Systems on Cape Town Restaurants

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Abstract:

The collaboration of restaurants with third-party digital platforms has undergone a marked surge since the pandemic. While online ordering systems (OOSs) and food delivery services (FDSs) are becoming more common in restaurants to bolster efficiency, empirical research on why restaurants choose to use third-party services is limited. This study explored how restaurants leveraged online ordering systems integrated with food delivery services, and the key factors that influenced their decision to outsource these systems to a third-party service provider. A total of 150 survey questionnaires were distributed to restaurant proprietors and managers within the Cape Peninsula region of South Africa. A non-probability sampling method was employed to select a sample of restaurants that were conveniently accessible. The study analyzed data obtained from 120 restaurants, which represented an 80% response rate. The analysis specifically focused on the suburban restaurants rather than those located in the township due to security concerns and the limited number of restaurants operating in the latter areas. The results found that over 90% of restaurants have integrated online ordering systems and collaborated with the top three third-party local delivery service providers. The key factors that have contributed to the outsourcing of online ordering systems are the ability to expand customer reach and generating increased revenue.

Keywords:

Digitalization, Information and Communication Technologies, Mobile Technology, Online Ordering Systems, Third-Party Delivery Platforms

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Introduction

The global landscape is undergoing a fast digital transformation because of the advancements in various innovative technologies such as Information and Communication Technology (ICT), Artificial intelligence (AI), Cloud Computing, Intelligent Applications and Internet of things (IoT) (Gill et al., 2019; Alqahtani et al., 2024; Kumar et al., 2024). This paradigm shift is yielding significant impacts on several business sectors across both developed and developing economies. (Howe, 2021, Amankwah-Amoah et al., 2021; Pedrelli, 2001; United Nations, 2020). Information and Communication Technology serve as a driving force for this digital transformation permeating these sectors. The rapid proliferation of digital transformation underscores the significant influence of technology on employment trends and future trajectories of numerous industries within a modern technological landscape (OECD, 2019; Dondi et al., 2021; Susskind & Susskind, 2022; Charles et al., 2022; International Labour Organization, 2022). For example, the growing prevalence of digital technologies, such as, mobile food apps (OOSs) in the fast-food industry have reshaped employment practices and workforce dynamics as gig economy models become increasingly prevalent across the industry (Popan, 2024). Gig workers, referred to as independent delivery workers, are contracted through third-party food delivery platforms rather than being employed as full-time staff, a transformation that has altered the traditional staffing approach used in the industry (Chan, 2021; El Hajal & Rowson, 2021; Lin et al., 2023; Popan, 2024). Furthermore, the increasing adoption of digital food ordering systems have transformed consumer's perceptions regarding food consumption (Dheenadhayalan & Thiagarajan, 2022). Today, the food industry is becoming increasingly digitalized using ICT, with consumers adapting to ordering food via a delivery app in a new digital restaurant model where food can be ordered online (Alalwan, 2020; Jacobsen et al., 2021). Because of advancement in technology, restaurants have started to shift from the traditional way of walk-ins and bookings, as they can now sell food directly to their customers through an online ordering system (Sonwane et al., 2023). These online ordering systems have given restaurants access to a wider market, are convenient for customers as they can easily place orders anytime using credit card payment with food delivered either at their homes or at their workplaces (Patel, 2015; Tambe et al., 2022; Vinaik et al., 2019). Furthermore, according to See-Kwong et al. (2017) these digital systems are often outsourced to a third-party service provider, which can provide restaurants and eaters with a more efficient and convenient ordering and delivery process. According to Ahuja et al. (2021), the food-delivery ecosystem expanded during the COVID-19 pandemic as top four US food delivery platforms continued to handle the ordering and delivery logistics for numerous restaurants. However, some restaurants in the US protest these intermediary platforms because of high commission charges and delivering food without having signed a contract with a restaurant (Luna, 2020). Similarly, these high commission charges can affect the survival of some restaurants negatively (Erickson & Losekoot, 2021). The central research question of this study was to examine the influence of online ordering systems on restaurants

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in the Cape Peninsula region of South Africa. The study also explored two research sub-questions i) the extent to which Cape Town restaurants leveraged third-party service providers for online ordering and food delivery, and ii) the factors that motivate the decision to outsource these systems to a third-party delivery service provider. The objective was to gain understanding of the prevalence of third-party online ordering and delivery system usage among Cape Town restaurants, as well as identify the driving factors behind outsourcing these systems.

Significance of the Study

This research study will contribute to the body of knowledge regarding ICT development in the restaurant industry, by presenting an updated overview of existing and emerging ICT advancements in the industry. Furthermore, the study will discuss the influence of ICT and mobile technology development in the restaurant sector, especially with respect to the emergence of digital food ordering and delivery systems. In recent years, the restaurant industry has witnessed a surge in the adoption of online ordering systems. A plethora of restaurants now depend on the third-party service providers as they lack financial resources required to implement their own in-house online ordering and delivery infrastructure. The research will provide further discussions on the significance and implications of these digital transformations within the restaurant sector. Hence, this study will bring awareness to South African restaurant operators about the current trends and opportunities arising from the fast-growing use of online food ordering and delivery systems and how to leverage these opportunities. In addition, this study will also contribute to the body of knowledge by means of recommendations and conclusions relating to the research questions and objectives.

Literature Review

The Impact of COVID-19 on Digital Transformation in the Restaurant Sector

Given that the COVID-19 pandemic precipitated widespread technological developments and paradigm shifts in various industries across the globe (Amankwah-Amoah et al., 2021; Schilirò, 2021; Howe, 2021), within the restaurant sector, two prominent technological developments emerged and expanded significantly. These include: 1) the rapid expansion in the application of (ICTs) and 2) the proliferation of online ordering systems through the third-party delivery platforms (Gunawan, 2022; Li & Bremer, 2020).

ICT and Mobile Technology: The Backbone for Digital Transformation

The restaurant industry has extensively leveraged information and communication technologies to incorporate digital tools that augment operational capabilities and customer management, particularly in the context of the COVID-19 pandemic (Gonzalez et al., 2022; Gunawan, 2022). In a digital landscape where consumers increasingly expect seamless, digital interactions, ICT solutions have become the

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foundation of digitalization, reshaping traditional business operations and interactions (Mittal & Grimm, 2020; Khudoyorov et al., 2024; de Velazco et al., 2024). In the context of restaurants, Information and Communication Technology (ICT) refers to the use of digital tools and systems that provide access to information and enable communication. This includes hardware (such as computers and mobile devices) (Yorkulov et al., 2022; Abdulsalam et al., 2023), software applications (online food ordering systems or electric menu apps etc.) (Yurkulov et al., 2022; Narimawati & Pangestu, 2020; Abdulsalam et al., 2023), and networking infrastructure (such as wireless network, internet connectivity and internet-based services etc.) (Gonzalez et al., 2022). Information and Communication Technology (ICT) and mobile technology are intricately connected, creating a coherent ecosystem that supports communication and accessibility. For example, Mobile technology embodied by devices such as smartphones, serves as the primary medium through which customers can access digital services, including online food ordering platforms (Ali et al., 2020; Frederick & Parappagoudar, 2021; Rachmad, 2022). The growing prevalence of mobile devices and the subsequent integration of digital technologies have fundamentally transformed the operational dynamics and customer engagement strategies within the restaurant industry (Alt, 2021). During the covid-19 pandemic, this trend has further intensified, with restaurants rapidly adopting ICT-based solutions and mobile technology to ensure business continuity and maintain customer relations by enabling contactless service and virtual interactions (Alt, 2021; Abdul et al., 2024). Eaters and restaurants have both shown a heightened reliance on mobile technology and ICT-powered solutions because of the disruptions and restrictions introduced by COVID-19 pandemic (Alt, 2021). To that end, the adoption of digital food ordering systems (food apps) has become a critical imperative for restaurants to navigate the challenges posed by the pandemic and position themselves for a long-term success in the new landscape of the industry (Abdul et al., 2024).

Online Ordering Systems: A Critical Component of Restaurant Digital Infrastructure

In recent years the concepts of online ordering and delivery have evolved significantly and has become the critical part of restaurant digital infrastructure. These digital systems not only address the improvements in operational efficiency but also enhance convenience for both customers and restaurants. They facilitate the collection of valuable customer data and provide a user-friendly and easy to navigate experience that drives increased order frequency. The following discussion outlines five elements of online food ordering systems that are integrated into restaurants:

Operational Efficiency

Implementing digital food ordering systems can significantly improve operational efficiency across various areas of restaurant management. These digital systems can automate various tasks, such as order processing, payment process, menu updates, and customer data analysis, leading to faster order

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fulfillment and reduced human errors (Egereonu, 2024). By allowing customers to input their orders directly, restaurants can streamline order management process and mitigate communication risks often encountered with traditional telephone orders. The accurate transmission of customer order details from a mobile handset to the kitchen ensures the prompt preparation of food, thereby enhancing overall operational efficiency of a restaurant (Egereonu, 2024). Additionally, according to Wong et al. (2024) integrating mobile point-of-sale technology with digital food ordering systems in restaurants enhances operational efficiency by automating key processes, such as order taking, payment process, and inventory tracking, while also enabling the monitoring of customer purchasing patterns. The implementation of these technologies empower restaurant operators to optimize their operations, mitigate potential human errors, and enhance overall productivity and financial performance.

Convenience for Customers and Restaurants

Research conducted by (Ramli et al., 2021; Egereonu, 2024) has indicated that when factoring in the time element, online food ordering systems can help improve convenience and operational efficiency for both customers and restaurant operators. For instance, according to (Xu et al., 2024; Hooi et al., 2021) proving customers with a digital food ordering system that enables them to place orders efficiently and effortlessly can expedite the ordering process and reduce the overall customer service time. Simultaneously, Egereonu (2024) also alluded that these digital food ordering systems provide restaurant chefs with a more streamlined order review process, which can optimize their operational workflows, boost order accuracy, and mitigate the occurrence of human errors. Similarly, according to Daradkeh et al. (2023) these online food ordering systems offer restaurant operators a multiple of additional benefits, including the ability to collect and analyze customer data.

Collection and Analysis of Customer Data

Rane (2023) explored the use of technologies such as, Artificial Intelligence (AI) and Internet of Things (IoT). A study found that leveraging these technologies can provide valuable information into customer needs, identify patterns in their behavior, forecast future trends, and assist in maintaining relationships with the customer base. By utilizing the insights derived from these data-driven technologies, restaurants can enhance their customer experience via customized marketing strategies. For instance, restaurants can leverage customer order information to provide personalized discounts, recommend complementary products, and anticipate future purchasing behavior, all of which enhance customer satisfaction and loyalty (Roy et al., 2022). Similarly, according to Okorie (2024) advanced data analytics can be used to facilitate the implementation of customized marketing strategies, analyze consumer behavior, and manage customer relationships. The real-time data generated by these advanced technologies provides valuable insights into customer analytics, including their preferences, behaviors, and consumption trends (Wong et al., 2023). There is a wealth of literature exploring how big data analytics and artificial

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intelligence can offer critical insights to guide strategic decisions for coffee shops and restaurants. This includes analyzing online food delivery logistics trends to optimize processes and improve operational efficiency (Tao et al., 2020; Limna et al., 2021; Wong et al., 2023). Moreover, extensive data can be collected from various sources, like customer online transactions, web browsing activity and social media interactions, which can provide valuable insights into customer behavior (Tahir & Khan, 2023; Bharadiya, 2023; Adewusi et al., 2024; Olaniyi et al., 2023; Abkenar et al., 2021; Sivarajah et al., 2020).

User-Friendly and Easy to Navigate

According to Ramli et al. (2021) and Mahmud (2024) a user-friendly and easy navigable digital ordering system is crucial for ensuring a favorable user experience and enabling the overall effectiveness of the system. The easier it is for customers to navigate and complete their orders through a food app, the more likely they are to return and continue utilizing the system (Ramli et al., 2021; Hooi et al., 2021). These systems are designed to accommodate a diverse spectrum of users, ranging from those who are highly tech-savvy to those with minimal digital experience, to ensure inclusive accessibility and maximize engagement across all user profiles (Mahmud, 2024). A web-based ordering system enables customers to place orders conveniently from their smartphones, eliminating the need for in-person interactions and streamlining the overall ordering process. Moreover, these digital systems integrate convenient payment options that enable a seamless checkout process, along with real-time order tracking features that keep customers informed of their order status (Alalwan, 2020). These features collectively enhance the user interface and foster overall satisfaction.

Increasing the Frequency of Orders

An important function of online food ordering systems is to increase customer order frequency. These systems often encourage more frequent ordering by offering loyalty programs. For example, according to Meenakshi (2022) digital food ordering systems commonly leverage personalized recommendation algorithms, customer loyalty initiatives, and push notifications to potentially stimulate increased consumer ordering activity. Likewise, studies conducted by (Martha et al., 2023; Aparicio et al., 2021; Atulkar & Singh, 2021) confirm that customer loyalty programs that provide regular customer benefits such as discounts and accrued rewards can encourage customers to order more and promote log-term customer relationships. According (Wohllebe, 2020; Kenton, 2024; Daoud et al., 2023) mobile marketing tactics such as in-app messaging, SMS messages, and push notifications can encourage more consistent purchasing behavior. Moreover, according to Saini & Singh (2024) the integration of data-driven recommendation algorithms within online food ordering systems enables the provision of product recommendation personalized to individual consumer preferences, which may potentially encourage customer to repeatedly order through the food app. According to Raibagi et al. (2021) the implementation of artificial intelligence-driven food ordering systems encompasses features that streamline the

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reordering process, often featuring the capability to save previous orders or preferred menu selections for easy accessibility. These systems help restaurants to enhance order frequency and revenue by fostering more sustained customer interaction.

However, the integration of online ordering system with food delivery has facilitated the establishment of an innovative business model, where a third-party entity assumes full accountability and manages the entire process, starting from the customer's initial order placement online to the final delivery. This represents a marked departure from the conventional approach, where the restaurant was solely accountable for the order fulfilment.

Analyzing the Business Model of Third-party Online Food Ordering and Delivery Platforms

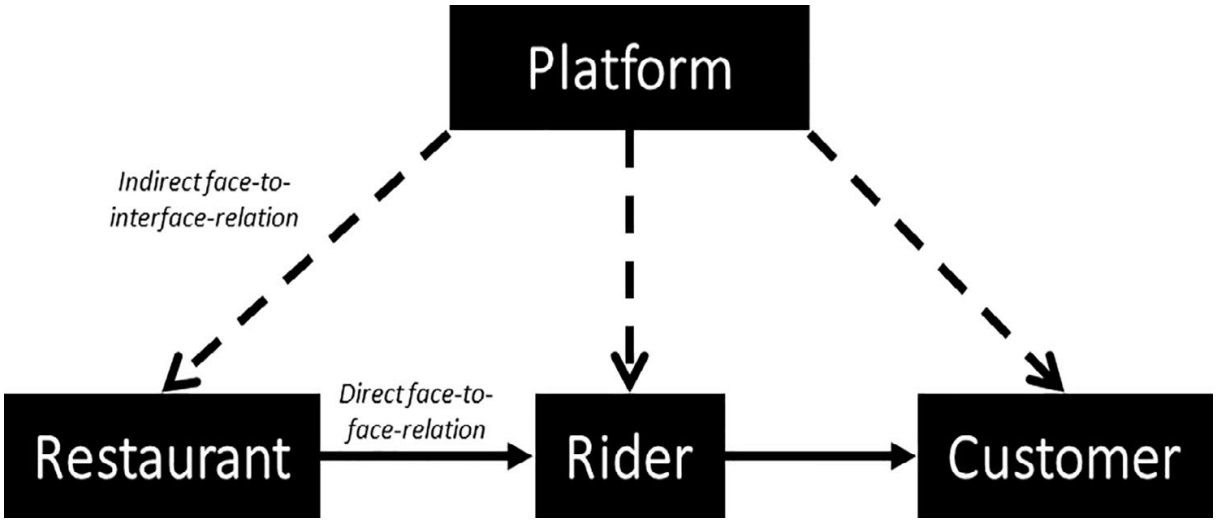

Figure 1: Indirect and direct interactions of online food delivery platform (Source: Heiland, 2021)

According to Chan (2021), a food delivery platform functions as an intermediary between customers and restaurants, with the aim of providing meal delivery logistics services. This viewpoint is corroborated by Wang et al. (2022), who noted that an online platform directly connects restaurants, customers, and couriers through various smart mobile devices. Moreover, Alvarez-Palau et al (2022) have described a platform as a marketplace where customers can search for and locate local restaurants online, and where restaurants can outsource their meal distribution operations. The advent of third-party online food ordering and delivery platforms, such as Mr D, Uber Eats, Bolt food and many more has significantly disrupted the catering industry, generating novel prospects and obstacles for both restaurants and consumers. These platforms have not only facilitated restaurant's capacity to expand their customer reach, but also providing consumers with a seamless and convenient access to a diverse selection of food options at their fingertips. Within the online food ordering and delivery business model, a range of

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modern-day technologies, such artificial intelligence (AI) and machine learning (ML), are utilized to process comprehensive data related to restaurants, food and customers (Kumar et al. 2021). Technological advancements, such as machine leaning models, are leveraged to facilitate product recommendation, conduct sales forecasting and optimize logistics planning for delivery operations. Additionally, cloud computing technology is crucial for online ordering platform, enabling real-time connectivity between customers and restaurants while ensuring the timely delivery of the correct products to the designated locations. (Kumar et al. 2021; Ray et al., 2019). Despite the convenience offered by third-party food delivery platforms to both restaurants and customers, this model also poses potential drawbacks and limitations. While these digital platforms amplify the reach and accessibility of restaurants, they concurrently introduce new operational and fiscal impediments that establishments must navigate. The commissions charged by delivery platforms, which typically ranges between 15%-30% (Ahuja et al., 2021; Sudra, 2024), can potentially undermine profit margins, particularly for small independent restaurants, thereby threatening the long-term viability of participating restaurants (Collison, 2020). Furthermore, the reliance on third-party delivery services, coupled with platform's dominance over customer data and brand position, can make it more challenging for restaurants to cultivate direct customer relationships and ensure consistent quality oversight of the online ordering experience. For customers, while the convenience of online ordering is undeniable, potential drawbacks exist, such as inflated delivery fees and late deliveries (Appolinário, 2019; Consumer reports, 2021). Additionally, delivery workers, commonly referred to as gig employees and classified as independent contractors, encounter precarious work conditions, characterized by lack of benefits, inconsistent remuneration and reliance on tips (Chan, 2021; Moroane, 2023).

The Revenue Model of a Third-Party Online Food Ordering and Delivery Platform

The primary revenue model of an online food ordering and delivery platform include subscription fees, commissions charged from partner restaurants, delivery fees paid by customers, in-app advertising fees, per-click service fees and other supplementary revenue sources, as illustrated in Table 1 below.

<table>
<tr><th colspan="4">Restaurants</th><th colspan="4">Customers</th></tr>
<tr><td colspan="2">Commission Fee</td><td colspan="2">In-App Advertising Fee</td><td colspan="2">Delivery Fee</td><td rowspan="2">Subscription Fee</td><td rowspan="2">Service Fee</td></tr>
<tr><td>Percentage on meal price</td><td>Fixed amount per order</td><td>Cost per Click</td><td>Fixed amount</td><td>Based on distance</td><td>Based on purchase value</td></tr>
</table>

Table 1: The revenue model of a third-party online food ordering and delivery platform (Source: Wenger, 2021)

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Wenger (2021) provides a detailed analysis of the various other revenue streams that a third-party food delivery platform leverages to generate profits. Similarly, Ahuja et al. (2021) noted that a third-party service provider derives revenue from diverse sources, such as commissions from partnering restaurants (usually 15% to 30%), delivery charges levied on customers (typically R2 to R5) and revenue from in-app advertising. As per the research by Ji et al. (2019), delivery platforms amplify their in-app advertising strategies with the aim to draw more users to the application and diversifying their revenue generating approaches. From the perspective of restaurants, third-party food delivery platforms represent a digital marketplace that enables restaurants to display their menus. According to Alvarez-Palau et al. (2022) such platforms function as the advertising mediums and technological infrastructure for restaurants, while also levying fees for advertising services and commissions on transactions conducted through the platform. Furthermore, according to Kim & Lee (2024) restaurants can utilize these platforms to boost their prominence and establish connections with a broader customer base, which may enhance their profitability. According to research by (Van Veldhoven et al., 2021; Kim & Lee, 2024) it can be confirmed that restaurants collaborating with third-party food delivery service providers tend to demonstrate stronger financial performance. However, according to (Collison, 2020; Niu et al., 2021; Erickson & Losekoot, 2021), third-party food delivery platforms typically charge restaurants a substantial percentage of commission for each order processed through their platform, which can compromise the restaurant's profitability and long-term financial stability. Furthermore, a research study by Erickson & Losekoot (2021) found that third-party food delivery platforms often do not clearly disclose the fees charged to restaurants and customers. Likewise, according to Consumer Report (2021) consumers ordering through third-party food delivery apps incur various fees, such as delivery, subscription and service charges. A key challenge for customers is the platform's confusing practice of combining fees, which makes the total cost breakdown unclear (Consumer Report, 2021). Specifically, it is usually unclear what portion of the total amount paid goes to the delivery driver, the specific purpose of individual fees, and how much of the customer's payment is retained by the platform versus being passed to the restaurant. Similarly, (Appolinário, 2019; Luna, 2020) also discuss the lack of transparency and illicit techniques utilized by food delivery firms, including the delivery of food without a restaurant's authorization and the modification of menu prices to sway customer behavior. Consequently, a study conducted in the United States by Fantozzi (2020) found that a national restaurant association and third-party food delivery platforms have collaboratively established policies and legislation to promote transparent and equitable delivery practices.

Methods and Data

This study adopted quantitative research methods for two primary reasons: i) The ability to generate generalizable, reproducible and objective findings that can be statistically analyzed to test the study's

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hypothesis. The proposed hypothesis posits that restaurants in the Cape Peninsula region would be significantly influenced by the integrated digital food ordering and delivery systems offered by third-party service providers. ii) Quantitative data collection methods are more time and cost-effective, as surveys can be easily distributed electronically to rapidly collect data from a wide range of participants at a relatively low cost. The study utilized a combination purposeful and convenience sampling methods. These techniques enabled the researcher to obtain meaningful data by identifying participants that could provide sufficient information relevant to the phenomenon being studied. The convenience sampling technique also facilitated access to conveniently reachable restaurants in the study. Primary empirical data was obtained through the deployment of a survey questionnaire administered to a sample of 150 restaurants operating in Cape Town. However, the analysis was limited to the data gleaned from 120 returned questionnaires, which were first coded using Notepad software and then transferred to Excel and SPSS 29 for further analysis. The analytical process incorporated both descriptive and inferential statistical techniques. The descriptive analysis encompassed standard frequency distributions and cross-tabulation tables to provide a comprehensive overview of the data. The infernal statistics involved the application of non-parametric Chi-square test of independence to assess the influence of third-party online delivery mobile applications on the operations of restaurants in Cape Town

A survey questionnaire was designed to comprehensively investigate the adoption and use of online food ordering systems among restaurants in the Cape Town region, as well as to identify factors influencing the decision to outsource these systems. This included a careful review of literature on the use of third-party online ordering systems and their influence on restaurants, as well as how restaurant operators are managing the risks of outsourcing these services to a third-party service provider. Given the expectation that online ordering systems would dominate the restaurant industry post-pandemic, it was essential for the researcher to review current research articles and publications with up-to-date information regarding the status quo of the restaurant business. The questionnaire tool was categorized in five sections which predominantly consisted of pre-populated and closed-ended questions. These questions included ranking questions where participants answered by comparing various items and then placing them in order of their importance, from most crucial and least important, multi-choice questions, Yes/No questions, and ticking boxes which represented the participants viewpoint. The sample size was 150 restaurants. Considering the scope of the sample, respondent's eagerness to take part in the study, and the empirical observation that respondents tend to more readily respond to succinct, closed-ended questions compared to open-ended questions, the survey questions were purposefully designed to be concise, direct and accompanied with clear instructions to facilitate expeditious feedback from respondents.

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Results

This chapter focuses on the presentation of the results gathered from the fieldwork. The aim of the proposed study is to examine the impact of online food ordering systems on restaurants operating in Cape Town, South Africa. The study specifically sought to ascertain the extent to which restaurants in Cape Town are using third-party online food ordering systems. More so, to establish the motivating factors to outsourcing online delivery service to a third-party service provider.

The section contains the research question answers, which start with non-parametric Chi-square analysis. The Chi-square table was designed to test the independent hypothesis to answer the research question of association/relationship among variables under consideration, followed by Chi-square and symmetric measure tables.

This chapter provides insights obtained through our field investigation, focusing on comprehending the adoption and motivations associated with the integration of third-party online food ordering systems in restaurants across Cape Town.

The research has two primary objectives, which are:

1. To ascertain the extent to which restaurants in Cape Town are using third-party online food ordering systems.
2. To establish the motivating factors to outsourcing online delivery service to a third-party service provider.

Research Questions Analysis

This section empirically provides answers to the research questions raised in the course of this study to justify the attainment of research objectives quantitatively.

Objective 1

To ascertain the extent to which restaurants in Cape Town are using third-party online food ordering systems.

Research Question 1

To what extent do restaurants operating in Cape Town utilise third-party online ordering systems by asking the question “Are you making use of third-party online ordering systems?” The results to this question is shown in table 2 below:

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Category	Frequency	Percent	Valid Percent	Cumulative Percent
No	4	.3	3.6	3.6
Yes	108	9.0	96.4	100.0
Total	112	9.3	100.0	

Table 2: Extent to which restaurants in Cape Town are using third-party online food ordering systems (Source: own source)

The results reflect that a substantial majority of respondents, 96.4%, affirmatively reported using a third-party mobile app for online food ordering and delivery systems in their restaurants. A minimal fraction, 3.6%, indicated not utilising such services. This distribution suggests a prevalent adoption of online food ordering systems among restaurants in Cape Town, emphasising the impact on the local dining landscape. Table 2 above reveals that over 90% of the restaurants in Cape Town use third-party mobile app online ordering systems. It is important to identify the different types of these systems available and their most preferred choices to understand the extent of their usage. Moreover, table 3 below shows that most restaurants use multiple online ordering systems rather than relying on a single app, allowing them to reach more customers and giving customers the flexibility to choose their preferred app for online ordering. The results indicate that 93% of the restaurants use Uber Eats as one of their primary mobile apps for online ordering. Similarly, 93% use Mr D, while 72.5% of restaurants use Bolt. Finally, less than 2% use Orderin. This is primarily because the Orderin food delivery platform has restructured its operations and discontinued its food delivery services.

	If Yes, which mobile apps do you use?		
	No	Yes	Total
Uber Eats	8	112	120
	6.67%	93.33%	100.0%
Mr D	8	112	120
	6.7%	93.3%	100.0%
Bolt	33	87	120
	27.5%	72.5%	100.0%

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Orderin	118	2	120
	98.3%	1.7%	100.0%
All of the above	120	0	120
	100.0%	0.0%	100.0%
Total	287	313	600
	47.8%	52.2%	100.0%

Table 3: Cross-tabulation analysis of mobile apps restaurants use (Source: own source)

The study's results indicate a strong reliance on third-party mobile applications for online food ordering and delivery among the surveyed respondents in the Cape Town region. The findings reveal a comprehensive integration of these services, with majority of participants indicating they used all the above platforms. The results underscore the critical function of third-party online ordering and delivery systems in reshaping the local restaurant and food delivery ecosystem. Table 4 below reveals a Chi-square test of independence, showing a statistically significant difference in the types of third-party online ordering systems used by Cape Town restaurants. The Chi-square test for independence indicated a statistically significant influence of the types of third-party online mobile ordering apps on their usage by Cape Town restaurants, X^2 (4, n = 116) = 436.393, p = 0.000. This implies that, despite the widespread adoption of third-party online ordering mobile apps by Cape Town restaurants, the extent of adoption varies significantly across different apps. The influence of third-party mobile ordering apps on restaurant operations is evident, but the level of adoption varies statistically across the different apps.

Chi-square test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-square	436.393[a]	4	.000
Likelihood ratio	551.579	4	.000
Linear-by-linear association	371.932	1	.000
N of valid cases	600		

Table 4: Chi-square test analysis of extent to which restaurants in Cape Town are using third-party online food ordering systems (Source: own source)

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 57.40.

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In response to the questionnaire question, “How long have you been using mobile apps?” the data indicate that one respondent (1%) reported using mobile apps for 6 months, 7 respondents (6.8%) for 2 years, 13 respondents (12.6%) for 3 years, and a significant portion of 82 respondents (79.6%) reported using mobile apps for more than 3 years. In addition, 17 respondents had missing responses to the question. This distribution underscores the prevalent integration of online food ordering systems among restaurants in Cape Town, emphasising the continued and widespread use of mobile apps in the local dining landscape – see table 5 below.

Category	Frequency	Percent	Valid percent	Cumulative percent
6 months	1	.1	1.0	1.0
2 years	7	.6	6.8	7.8
3 years	13	1.1	12.6	20.4
More than 3 years	82	6.8	79.6	100.0
Total	103	8.6	100.0	

Table 5: Duration of using the mobile apps (Source: own source)

Objective 2

To establish the motivating factors to outsourcing online delivery service to a third-party service provider.

Research question 2

What are the factors influencing outsourcing an online ordering and delivery system to third-party service providers?

	Motivating factors responsible for outsourcing food delivery service to a third-party online service provider					Total
	Most Important	More Important	Important	Not Important	Least Important	
Increased revenue	20	61	28	4	0	113
	17.7%	54.0%	24.8%	3.5%	0.0%	100.0%
Increased exposure	34	58	17	4	0	113
	30.1%	51.3%	15.0%	3.5%	0.0%	100.0%

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Wider customer reach	89	18	6	0	0	113
	78.8%	15.9%	5.3%	0.0%	0.0%	100.0%
Convenience	25	29	37	19	3	113
	22.1%	25.7%	32.7%	16.8%	2.7%	100.0%
Cost related to digital infrastructure and in-house delivery service	44	12	24	13	6	99
	44.4%	12.1%	24.2%	13.1%	6.1%	100.0%
Total	212	178	112	40	9	551
	38.5%	32.3%	20.3%	7.3%	1.6%	100.0%

Table 6: Cross-tabulation of motivating factors responsible for outsourcing food delivery service to a third-party online service provider (Source: own source)

The cross-tabulation results indicate that restaurants in Cape Town extensively utilize third-party online food delivery platforms, motivated by various factors. The most compelling reason cited by 78.8% of respondents was “Wider customer reach”, which they regarded the “Most important" factor. Additionally, 15.9% of respondents found it “More Important”, while 5.3% of respondents considered it as “Important”. Notably, none of the respondents deemed it “Not Important” or “Least Important” Additionally, seven respondents had missing questions to the question. Results further revealed that “Increased exposure" emerged as a key factor influencing the decision to outsource, with 30.1% of respondents considering it as "Most Important", 51.3% of respondents viewing it as "More Important", and 15.0% of respondents considering it as “Important”. A minimal fraction of four respondents deemed it not important, and none reported it as “Least Important”. In addition, seven respondents had missing responses to the question. A majority of 54.0% respondents considered “increase in revenue” to be “More important”, whereas only 17.7% of respondents regarded it as the “Most Important” factor in outsourcing, and 24.8% respondents regarding it as “Important”. Only a minimal fraction of four respondents deemed it “Not Important” and none reported it as “Least Important”. Moreover, seven respondents had missing questions to the question. The results further indicated a mixed participant response regarding the attribute of "Convenience", with 32.7% of respondents citing it as “Important”, 25.7% regarding it as “More Important” and 22.1% considering it as “Most Important”. In addition, 16.8% respondents regarded is as “Not Important”, while 2.7% respondents considered it “Least Important”. Moreover, seven respondents had missing responses to the question. Finally, results indicate that 44.4% participants deemed the

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costs associated with digital infrastructure and in-house delivery services as the “Most Important” factor, despite variations in responses across other important levels. Table 7 below reveals a Chi-square test of independence, showing a statistically significant influence of various factors on the decision to outsource food delivery to third-party online ordering services by Cape Town restaurants. The Chi-square test for independence indicated a statistically significant impact of the factors influencing the decision to outsource food delivery to third-party online ordering services by Cape Town restaurants, X^2 (16, n = 116) = 197.748, p = 0.000. This implies that factors such as increased revenue, greater exposure, wider customer reach, convenience, and costs related to digital infrastructure are influencing the decision of Cape Town restaurants to outsource food delivery to third-party online ordering services. The influence of third-party mobile ordering app services is determined by these factors, as identified in this study.

	Value	Df	Asymptotic (2-sided)	Significance
Pearson Chi-square	197.748[a]	16	.000	
Likelihood ratio	201.751	16	.000	
Linear-by-linear association	6.459	1	.011	
N of Valid Cases	551			

Table 7: Chi-square tests for factors influencing the decision to outsourcing food delivery service (Source: own source)

a. 5 cells (20.0%) have expected count less than 5. The minimum expected count is 1.62.

Overall, the results emphasize the priority given to expanding market reach and visibility as key motivations underlying outsourcing decisions.

Discussion

The results found that majority of the surveyed restaurants are utilising online ordering systems, with more than 80% of these restaurants outsourcing these systems to the top three local food delivery platforms. To underscore the relevance of the findings presented in this study, it was imperative to consider comparisons between similar research endeavours carried out in 2020 and in 2024. Research in South Africa revealed that food delivery platforms experienced significant expansion in major urban cities as online shopping reached a tipping point during the COVID-19 pandemic. The sector experienced a 66% growth from 2018 as more South African consumers transitioned to digital channels for their shopping (Malinga, 2021). Similarly, research study conducted in South Africa indicated a 7% year-on-year increase in the usage of mobile food apps in 2020 (Munday, 2021; Munday & Humbani,

2024). The research findings indicate a rising trend of restaurants collaborating with food delivery app companies, suggesting a widespread use of online ordering systems in the restaurant operating within the Cape Peninsula. Adoption of these digital systems among Capetonian restaurant operators represents a strategic response to evolving customer expectations and competitive market forces, beyond just a technological shift in the industry. These findings call for further investigation into the key factors that lead restaurant operators to outsource their online food ordering systems to third-party service providers. Furthermore, the study found that the determinants of outsourcing these systems encompass increased revenue, greater exposure, wider customer reach, convenience, and the costs associated with digital infrastructure. The present findings align with the existing literature on the outsourcing of online food ordering and delivery operations by numerous restaurants. For instance, according to Sin & Mohamad (2021) and Okoye-Chine (2021) there is an increasing trend among restaurant operators to adopt outsourcing strategies to reduce costs and improve operational flexibility. By outsourcing certain operational functions, restaurants can effectively broaden their customer base and increase awareness of their brand and service offerings (Sin & Mohamad, 2021). One of the key reasons for outsourcing, as identified in this study, is a potential to expand customer reach and penetrate new markets. The prospect of gaining access to wider customer base through affiliation with prominent food delivery platforms represents an attractive opportunity for restaurants seeking growth opportunities, particularly small independent restaurants lacking digital capabilities. This finding mirrors the results of similar studies. For example, according to (Henama, 2021) food delivery app companies like Uber Eats and Mr D have emerged as prominent competitors that offer local restaurants the opportunity to tap into a wider customer base and access new markets, they may have been unable to reach independently. In addition to broader customer accessibility, the decision to outsource these systems was also equally influenced by greater exposure and increased revenue, as identified in this study. Similarly, according to Huang & Siao (2023) restaurants are strategically focused on expanding their online presence to reach a broader range of eaters, which enhances their visibility and potentially increases their revenue. Survey data shows that about half of restaurants cited the expense of implementing an in-house digital food ordering and delivery system as a key factor in outsourcing these systems to a third-party service provider. Similarly, Prior research studies by (See-Kwong et al., 2017; Sin & Mohamad, 2021) found that outsourcing an online food ordering and delivery system allows restaurants to bypass the substantial upfront costs needed to establish and sustain the digital infrastructure for online food ordering and delivery. Convenience was a key factor in the decision to outsource these systems and this finding is consistent with the research finding in a study by Huang & Siao (2023) which stated that the perceived increase in convenience is one of the crucial factors driving the adoption of third-party online food delivery system. Moreover, the study found that a plethora of local restaurants have adopted outsourced online food delivery services for over three years. This suggests that these restaurants likely relied on

third-party delivery platforms for online food ordering and delivery services, especially during the COVID-19 pandemic. During the COVID-19 outsourcing was associated with the survival of the restaurants as demonstrated by a plethora of restaurants who relied on the third-party food delivery companies due to lack of digital capacity (Sin & Mohamad, 2021; Traynor et al., 2022; Chan et al., 2023). Although third-party online food ordering and delivery platforms offer scalable digital solutions, they impose a set of fees and commissions that could undermine profit margins for some small restaurants. It is evidently clear that restaurants view third-party online food delivery companies as their integral partners in their efforts to digitize and attract more customers online, rather than simply as service providers. This collaboration allows restaurants to have a competitive advantage over those restaurants lacking the necessary digital capabilities required to provide insights into customer needs and preferences. However, reliance on external online food delivery platforms raises important questions about the level of control these platforms maintain over customer data, a matter that merits further academic investigation.

Conclusion

The expanding prevalence of information and communication technology (ICT), as represented by online food ordering systems within the restaurant industry, combined with the growing consumer adoption of mobile food applications, has significantly influenced food delivery practices across Cape Town's restaurant landscape. These food apps are often integrated into a delivery system managed by third-party food delivery companies like Uber Eats, Mr D, and Bolt food, which take full responsibility for delivering on behalf of the restaurants. This study found that a substantial proportion of restaurants have chosen to collaborate with these third-party food delivery platforms. These platforms provide enhanced convenience for restaurants staff, including the opportunity for wider customer reach and visibility, while reducing the burden of implementing a digital in-house food delivery system. From a practical standpoint, restaurants partnering with the third-party food delivery platforms have the opportunity to interact with a broader customer base beyond their physical location, accessing a more diverse demographic that may have been previously out of reach. These third-party food delivery companies develop food delivery apps with convenient features, such as easy-to-navigate interfaces, integrated payment system, and reliable delivery logistics, which give customers a smooth experience. This leads to enhanced customer loyalty and encourage customers to order more frequently using the app. Moreover, this study theoretically enhances the existing academic understanding of digital ecosystems in the restaurant industry, particularly by examining how digital platforms reshape restaurant business practices. The findings of this study corroborate existing academic literature on the advantages of digitalization within service-oriented sectors, emphasizing the strategic value of leveraging external platforms to optimize customer reach and operational efficiency. The study builds on theories of network

effects and digital ecosystem dynamics, as third-party food delivery companies serve as intermediaries that create a network where both eaters and food service outlets benefit from increased interactions and more streamlined delivery logistics. Furthermore, restaurants seeking cost effective solutions without sacrificing quality or customer satisfaction further validate the concept of outsourcing. However, while the advantages are compelling, it is fundamental to acknowledge the challenges associated with outsourcing these systems, including the commission fees levied by third-party companies and the potential of diminished direct customer engagement. Subsequent research should investigate how restaurants navigate the trade-offs involved, particularly with regard to retaining authority over customer data and brand image. In conclusion, this study highlights the integral function that third-party digital food ordering and delivery platforms play in the modern restaurant operations. Restaurants can leverage these third-party digital platforms to enhance their visibility, convenience, and cost-effectiveness, which can contribute to their success in an increasingly digital marketplace. As the restaurant sector progresses, both practically and theoretically, continued research into the long-term implications of such partnerships will be essential for understanding how restaurants can optimize their digital strategies to maintain sustainable competitive advantage.

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