Research Article

Adoption of Online Food Delivery by Micro Food Service Businesses: A Conceptual Paper

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Abstract

With the increasing prevalence of the internet and technological improvements, more people are turning to online shopping as a convenient and efficient means of purchasing products and services, including food. In light of this recent development, adopting and utilizing third-party online food delivery (TPOFD) services are regarded as a viable alternative for food service businesses to cater to the demands of their customers. This action might also be regarded as a manifestation of service innovation on their behalf. However, although the benefits are well documented, only a modest percentage of micro-scale food service businesses have jumped on the bandwagon. It is apparent that to enhance the adoption rate, the inherent barriers must be directly addressed. One suggested approach is to embark on an exploratory journey into the complex adoption landscape of TPOFD services within the micro food service sector. Such an endeavor aims to elucidate the intricate adoption process, including the tangible impacts of adoption, the formidable obstacles encountered, and the strategies employed to surmount them. The significance of this research lies in its potential to provide a nuanced and comprehensive understanding of TPOFD adoption within micro food service businesses, to be a reference for those who do not yet adopt, and ultimately assist in organically improving the adoption rate. Beyond that, this study offers practical insights for industry practitioners, policymakers, and stakeholders, fostering a more informed and strategic approach to navigating the evolving landscape of food service delivery in the digital age.

Keywords:

Adoption, Business, Foodservice, Micro, Online food delivery

1 Introduction

The advent of third-party online food delivery (TPOFD) platforms has significantly ushered in a remarkable transformation in the way consumers access and savor their meals, offering unparalleled convenience and a wide array of culinary options. In essence, they represent a pioneering innovation in information and communication technology (ICT) within the foodservice industry (Safira & Chikaraishi, 2022; Zhao & Bacao, 2020). Their role is that of intermediaries, ingeniously bridging the gap between discerning customers and a diverse spectrum of restaurants and food service establishments. Through user-friendly mobile applications, these platforms orchestrate seamless online ordering, secure payment transactions, and timely delivery services (Keeble et al., 2020; C. Li et al., 2020; Poon & Tung, 2022). The elegance of these platforms lies in their simplicity of operation. Customers can peruse the platform's catalog of restaurants, make their selections, and then use the platform's integrated payment gateway to complete their purchases. Once the order is placed, it is sent to the kitchen, where the meal preparation commences and subsequently relayed to the delivery service (Keeble et al., 2021). On top of that, the platforms also provide real-time order tracking and client service support, ensuring a hassle-free dining experience (Ramos, 2022). The simplicity of operation, real-time order tracking, and excellent customer support have made TPOFD platforms a cornerstone of convenience in the modern food service industry.

The benefits provided by TPOFD platforms are not solely a matter of convenience to the customer; rather, they also present a valuable opportunity for the food service industry to capitalize on. As elucidated by Ali et al. (2021), these platforms serve as a strategic avenue for businesses to expand their reach and augment revenue streams by seamlessly facilitating online orders and assisting marketing and promotional efforts. Furthermore, the delivery partner assumes responsibility for managing the delivery logistics, allowing the restaurant's personnel to dedicate themselves to food preparation and customer service (Keeble et al., 2022). Additionally, the benefits of the platforms transcend beyond their remarkable convenience. Following the recent emergence of the COVID-19 pandemic, marked by the imposition of the Movement Control Order (MCO) by governments worldwide, there has been a surge in demand for TPOFD services (Jia et al., 2022; Jun et al., 2022; Poon & Tung, 2022). The pandemic-induced fear has precipitated a sudden disruption to consumers' customary lifestyle, expediting the shift towards online food purchasing. Throughout the period, TPOFD platforms emerged as the food service industry's beacon of hope and survival (Li et al., 2022).

Despite the undeniable advantages of embracing TPOFD services, a conspicuous trend of low adoption persists, particularly among micro food service businesses. Remarkably, even in the wake of the pandemic, during which business adoption rates doubled, only a modest 20% of small traders have embraced online-to-offline (O2O) platforms, including online food delivery (Bain & Company, 2021). There exist inherent obstacles that impede the adoption, primarily stemming from the formidable barriers of cost and financial limitations (World Bank Group, 2023). This predicament bears a striking resemblance to the pre-pandemic landscape, during which it was widely acknowledged that Malaysian

Micro, Small, and Medium Enterprises (MSMEs) exhibited a sluggish pace in embracing digitalization, leaving them trailing behind their regional peers (World Bank Group, 2018).

1.1 Barriers to Adoption

1.1.1 Declining profits

The landscape of online food delivery presents a complex web of challenges that businesses must navigate. One of the most formidable obstacles these establishments face is the cost of this service. The imposition of commission fees by delivery platforms presents a substantial concern, as it jeopardizes profit margins and renders profitability a challenging objective, particularly for micro foodservice businesses. These include self-employed firms, small store owners, home businesses, and street vendors (Azman & Majid, 2023). Although these services offer the potential for higher sales and greater visibility, these fees can be significant, occasionally consuming up to 25 to 35 percent of the overall order value, thereby exacerbating the financial burden on these micro-enterprises. The inclusion of this additional expense further erodes their modest profit margins. To illustrate the extent of this matter, Collison (2020) conducted a preliminary estimation and determined that while implementing online food delivery may result in a slight rise of 1.2 percent in revenues, it could also lead to a significant decline of 1.8 percent in profits. This discovery is consistent with the study conducted by Chen et al. (2019) and Feldman et al. (2023), which revealed that numerous food enterprises that adopted TPOFD services encountered a decrease in their profitability despite the increase in online orders. Moreover, in contrast to larger corporations that possess the ability to leverage their bargaining power and secure reduced service fees through negotiations with these platforms (Neville, 2019), smaller entities are subject to the standard commission rates enforced and their request for government intervention to facilitate mediation with TPOFD service platforms, to obtain rebates or reduced commission rates, have been met with disappointment and resentment (Ayamany, 2021).

1.1.2 Intense Competition

Another paramount challenge confronting micro food service businesses is the formidable specter of heightened competition. This challenge is inextricably linked to intense competitive pressures within the densely populated online marketplace (McKinsey & Company, 2020). Notably, this competitive landscape extends beyond the traditional brick-and-mortar establishments and industry behemoths; it also accommodates a novel entrant known as the cloud kitchen (Li et al., 2020). Cloud kitchens are culinary entities that operate with a singular focus on delivery, eschewing the conventional paradigm of a physical storefront (John, 2021; Yadav et al., 2022). This transformative model furnishes cloud kitchens with an operational advantage with heightened cost-efficiency (Dyachenko, 2022). Other than that, the relatively low barriers to entry in the online food delivery market have led to a proliferation of small businesses and startups entering the industry. This saturation often leads to a price war, where

businesses may be compelled to reduce their profit margins to remain competitive. Moreover, although the TPOFD platforms afford access to a broader marketplace, it does not invariably commensurate with improved demand (Chen et al., 2019).

1.1.3 Reputation

Maintaining food quality from the kitchen to the customer's doorstep is crucial for any food delivery operation. Achieving this goal demands a well-thought-out logistics process. Besides properly packaging the food item to preserve its freshness, other aspects of service delivery are typically beyond the purview of the business. Businesses frequently express their frustration with the difficulty of effectively maintaining control over the level and quality of their food items (Yuchen, 2020). The inconsistency in quality may lead to unfavorable customer comments and reviews (Lan et al., 2016). While some customers may understand the challenges of food delivery, businesses are unable to evade the spillover effects, as substantiated by Macias et al. (2023), who found subpar food and e-service quality affect satisfaction with the business image and reputation.

2 Literature Review

2.1 Micro Food Service Business

Micro food service businesses operate on a small scale with few employees and a limited customer base. As defined by SME Corporation Malaysia (2020), these businesses typically have annual sales of less than RM300,000 or employ fewer than five employees. In retrospect, they belong to the commercial food service category, which refers to businesses whose primary revenue source is selling food and drinks. In the food service industry, micro-businesses may take the form of tiny cafés, food trucks, street vendors, or even home-based food enterprises.

As part of the broader MSMEs community, managing and running these businesses differs greatly from their larger counterparts. Owners or founders are often directly involved in various aspects of daily operations (Millers & Gaile-Sarkane, 2021). These businesses face limited resources, occasional cash flow issues, and difficulties securing financing (Dunn & Cheatham, 1993; Harel et al., 2020; Zastempowski, 2022). As such, owners need to be adept at managing finances, finding alternative funding sources when necessary (Harel et al., 2020; N. Berger & F. Udell, 1998), and making quick decisions (Ashraf et al., 2015; Feng et al., 2022; Sassetti et al., 2022), and demonstrate ingenuity in using their regional networks, contacts, and social media platforms to cultivate consumer relationships (Alharthi & Alhothali, 2021; Camilleri, 2019; Handayani & Mahendrawathi, 2019; Mahliza, 2019) as well as efficiently oversee logistical operations (Thoo et al., 2017).

Despite their petite stature and inherent constraints, these micro-establishments often exhibit more agility and responsiveness in adapting to changing client behavior patterns, enabling them to effectively and promptly respond to such shifts with decisive actions more so than others (Fasth et al., 2022). Besides, it is uncontested that they wield

substantial influence, making a big contribution to the expansion of the local economy by creating job opportunities, albeit accomplished by recruiting individuals ready to accept lesser wages than larger corporations generally pay (Anwar et al., 2020).

2.2 The Concept of Innovation

In today's dynamic business landscape, innovation is a key factor for success, especially for small-scale enterprises. Micro-businesses strive to compete with larger corporations in a highly competitive market by introducing or responding to innovations (Gherghina et al., 2020). Innovation is viewed as a crucial tool for firms to enhance their competitiveness and plays a vital role in their growth, survival, and ongoing success (Aziz & Samad, 2016; Claudino et al., 2017; Tohidi & Jabbari, 2012).

While there is no universally accepted definition of innovation, it is often described as the practical application of scientific discoveries or inventions in the field of economics (Schumpeter, 1983). Alternatively, it can be understood as a process of developing and utilizing new ideas to improve products, services, or delivery systems significantly (Albury, 2005). In essence, innovation involves turning new concepts into reality to create better services, goods, or systems (Anderson et al., 2014). It is important to note that innovation is not limited to groundbreaking technological advancements or entirely new business models; it can also encompass smaller improvements, such as enhancing customer service or adding new features to existing products (Boyles, 2022). Additionally, what may be considered an innovation can vary depending on the perspective of the individual or organization adopting it (Orlando et al., 2013).

2.2.1 Innovation Adoption Process

The concept of adoption encompasses a sequential progression of phases in which an individual transitions from initial knowledge of an innovation to making a decision regarding its adoption or rejection, subsequently implementing the innovation, and ultimately seeking validation for the adoption decision (Humes, 2007). This idea aligns with the Diffusion of Innovation (DOI) Theory, which posits that the adoption process seldom happens suddenly but progresses through several phases and unfolds gradually over time (Rogers, 1995).

In its broadest sense, adopting innovation can be seen as a multi-step process, often depicted as a linear sequence, known as the unitary sequence model (Damanpour & Schneider, 2006). It typically involves stages like awareness, where the organization learns about a new solution, followed by interest, evaluation, adoption, and finally, post-adoption assessment to decide whether to continue using the innovation. However, some theorists, like Van De Ven and Poole (1995), propose a different perspective known as the multiple sequence model. According to this view, the process is more complex and less predictable. In this model, stage boundaries are unclear, the development pattern is disorganized with feedback cycles, and the order of phases is not universally defined.

While both perspectives hold significance in understanding decision-making and the adoption of innovation, the unitary sequence pattern appears to be more pragmatic. Gopalakrishnan & Damanpour (1994) argue that this pattern offers a normative framework that outlines the expected progression of the process. It resembles the rational decision-making model but is less arbitrary and more manageable in its manifestation.

2.2.2 Innovation Adoption Model

Numerous models have concentrated on behavioral models that aim to elucidate the fundamental motives for the acceptance of technology. The Theory of Reasoned Action (TRA), formulated by Fishbein and Ajzen in 1975, holds a prominent position in the field of technology adoption. This model draws upon principles from the field of social psychology, positing that individuals' behavioral intentions will ultimately shape their actions (Fishbein and Ajzen, 2010). In brief, these actions are shaped by individuals' beliefs and the perspectives of their peers within their social context. Nevertheless, the TRA is not devoid of limitations. In response to these limitations and as a complement to the TRA, Ajzen (1991) introduced the Theory of Planned Behavior (TPB). This theoretical framework posits that individuals, in a general sense, engage in rational decision-making by taking into account all relevant information and evaluating the potential consequences of their actions.

Another widely used model is the Technology Acceptance Model (TAM) (Davis, 1989). This model aims to forecast the acceptance of technology and does so by considering two predetermined constructs: perceived usefulness (PU) and perceived ease of use (PEOU). Nevertheless, when applied in diverse contexts, the model's PEOU construct lacks specificity. As a result, Ventakesh et al. (2003) introduced the Unified Theory of Acceptance and Use of Technology (UTAUT), which employs more general constructs and moderators to include a wider array of applications. The UTAUT model draws its theoretical foundation from the TRA and includes elements from several other models, such as TAM (Davis, 1989) and TAM2 (Venkatesh & Davis, 2000). According to UTAUT, four main factors determine the intention and usage of technology: performance expectancy, effort expectancy, social influence, and facilitating conditions.

At the organizational level, most research undertaken aims to gain a deeper understanding of the factors that influence the adoption of innovation inside an organization, as well as the subsequent impact of such adoption on its overall performance. The existing body of literature demonstrates that the predominant theoretical models employed in organizational-level research include the Diffusion of Innovations (DOI) theory proposed by Rogers (2003), the Institutional Theory developed by DiMaggio and Powell (1983), and the Technology-Organization-Environment (TOE) framework introduced by Tornatzky and Fleischer (1990). The DOI theory assesses adoption based on innovation attributes and proposes five measurable attributes that are anticipated to impact the adoption rate of innovation. These attributes include relative advantage, which denotes the extent to which the new idea represents an improvement

over existing alternatives; compatibility, which refers to the degree to which the new idea aligns with preexisting beliefs and values; complexity, which pertains to the level of difficulty associated with comprehending the new idea; trialability, which signifies the feasibility of dividing the new idea for experimental purposes; and observability, which emphasizes the ability to observe and perceive the outcomes resulting from the adoption of the new idea.

In contrast, the Institutional Theory posits that institutions are intricate and enduring social systems comprised of symbolic elements, social practices, and tangible assets (Scott, 2004). According to the theory, organizations that choose to adopt innovation must adhere to the concept of isomorphism and face three distinct pressures: coercive, which refers to the portrayal of external forces employing tactics such as threats, punishments, or other punitive measures to enforce compliance with particular laws and regulations; mimetic, which is a result of social expectations and values; and normative, resulted from businesses' propensity to copy the behaviors of other successful ones in their area or industry.

The TOE framework is another model that aids in predicting adoption at the organizational level. It is a well-known model that offers an all-encompassing group of components that explain and predict the likelihood of innovation or technology adoption in an organizational environment. The TOE framework proposes three business contexts—technological, organizational, and environmental—that affect innovation acceptance and execution, in contrast to the DOI theory, which emphasizes the innovation's features as the defining element influencing its adoption.

2.3 TPOFD Services as a Food Service Innovation

The rise of TPOFD services can be attributed to the evolving consumer demand for quick and convenient meal options (Lau & Ng, 2019). However, this concept is not entirely new; it has historical roots. For instance, in the late 1700s, milk delivery began in the United States and saw a surge in demand during the Industrial Revolution (Barbano, 2017). Mumbai's *dabbawallas*, or 'lunchbox-men' on the other hand, initiated food delivery around 1890 by distributing homemade meals to Indians working under British administration (Chakraborty & Hargude, 2015; George, 2019; Mutraja & Sundarakani, 2018; Pathak, 2010; Percot, 2005). Similarly, volunteer organizations delivered packed meals during World War II to those in need (Keller & Smith, 1961; Oppenheimer et al., 2015; Warburton et al., 2018). These are some historical moments that marked the origins of food delivery.

Subsequently, restaurants commercialized this concept to enhance customer convenience. Customers could now place orders and await home delivery. Initially, online food delivery was mostly limited to items like pizza, with Domino's Pizza leading the way before Pizza Hut's entry in 2008 (Kumar et al., 2021; Sengupta et al., 2012). This model, referred to as the traditional online food delivery service (restaurant-to-customer) model, involves restaurants managing delivery either through their own staff or third-party services (Ali et al., 2021; Li et al., 2020; Lord et al., 2022).

In the 21st century, technological advancements and the internet transformed the food delivery model. Consumers could now order from restaurants via social media, mobile apps, or online platforms managed by third-party OFD service providers (platform-to-customer) (Li et al., 2020). This model introduced digital services, offering customers convenience with various restaurant options, real-time order updates, and secure mobile payment methods (Garmdare et al., 2018; Yapp & Kataraian, 2022; Zhao & Bacao, 2020). Regarding delivery, platforms either employed in-house delivery professionals or engaged independent riders, who may not be platform employees (Melián-González, 2022). Professional delivery employees received training and a guaranteed portion of their compensation, while independent riders earned on a commission basis per order (Li et al., 2020).

3 Conclusion

The adoption of TPOFD services by restaurants, especially micro food businesses, is a significant research area due to its impact on the industry and innovation adoption. Notably, the explorative journey of this kind will be among the first to explore innovation adoption within micro food service businesses, which have received limited attention in previous research due to their limited exposure to innovations. TPOFD services present an opportunity to study the innovation adoption process within this population subset and contribute valuable insights to the literature.

Delving into the adoption issue, it is apparent that to enhance the adoption rate of the TPOFD services by the micro food service businesses, all barriers discussed must be addressed directly. Yet, the path to a solution necessitates a holistic strategy that enlists the participation of various stakeholders, including government bodies and service providers, who could potentially play a pivotal role by offering incentives or subsidies to alleviate the financial constraints faced by micro-traders (World Bank Group, 2022). Alternatively, another approach can be considered —an approach rooted in organic acceptance. This entails micro-businesses making a conscious choice to embrace TPOFD services autonomously as a service innovation for their business despite the aforementioned barriers, which can be materialized if individuals who have not yet adopted the service could observe and replicate the successful implementation of TPOFD within the micro-business landscape. This replication can be facilitated by providing individuals with insights into the experiences of the 20% of micro-businesses that have seamlessly integrated TPOFD services (Tech for Good Institute, 2023).

Collectively, the existing research on the adoption of TPOFD by businesses has fixated their attention on two primary aspects: the motivation for adoption (Huang & Siao, 2023; See-Kwong et al., 2017; Sin et al., 2021; Traynor et al., 2022), the pressure driving the adoption decision (Fauzi, 2019) and impacts (Das & Ghose, 2019; Huang & Siao, 2023; Macias et al., 2023; Traynor et al., 2022). However, while these studies provide valuable insights, they all are unduly simplistic in explaining the TPOFD adoption by businesses. Besides, they lack essential details about the types and sizes of food establishments studied, resulting in an incomplete understanding of how micro-sized businesses in the

food industry adopt TPOFD services. Moreover, prior studies often overlook the strategies businesses employ to ensure the success of the adoption. To address these limitations, comprehensive research is urgently needed. This research should not only examine the motivations behind adoption but also delve into the intricacies of the adoption process, explore its implications, and uncover the strategic responses of businesses. Such research would pave the way for a more comprehensive understanding of TPOFD adoption in the business landscape, especially by micro-scale merchants.

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