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STRATEGIC BUSINESS MODELS IN THE ONLINE FOOD DELIVERY INDUSTRY IN EUROPE

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Abstract

This research provides an overview of the food delivery industry, focusing on the key traits of traditional and contemporary business models. The thesis includes an in-depth analysis of the Hybrid Delivery Model, which exists within the OGD field and leverages the advantages of Brick-and-Mortar establishments along with the flexibility of Pure-Play Online platforms. Additionally, it assesses both strengths and weaknesses. The paper proposes strategic recommendations to tackle current challenges and leverage opportunities in the OGD sector, specifically examining how hybrid business models can successfully merge various elements to improve customer experience, operational efficiency, and ultimately, profitability.

Keywords

Strategic Business Models, Online Food Delivery, Online Grocery Delivery, Hybrid Delivery Model, Strategic Recommendations

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List of Abbreviations

AI – Artificial Intelligence

API – Application Programming Interface

BM – Business Model

BMI – Business Model Innovation

CVP – Customer Value Proposition

D2C – Direct-to-Consumer

IT – Information Technology

OFD – Online Food Delivery

OFP – Order Fulfillment Process

OGD – Online Grocery Delivery

POS – Point of Sale

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1. Introduction

Food delivery has existed for numerous years; however, it is not an exaggeration to claim that it underwent a significant transformation during the pandemic. An industry already progressing swiftly due to technological advancements faced considerable pressure as new opportunities emerged during the COVID-19 pandemic. The pandemic, in conjunction with technological advancements, profoundly influenced customers' lifestyles, preferences, and purchasing behaviors. The food industry experienced a revolution during the lockdown, as customers were unable to visit restaurants and supermarkets, thus creating new, previously unrecognized needs. To face this, online food delivery (OFD) played a crucial role in maintaining a sense of normality for consumers by allowing them to enjoy the restaurant experience from the comfort of their homes, reminiscent of pre-pandemic dining. Or by conveniently bringing groceries into their home. Fueled by the maturation of a generation that grew up with the Internet of Things and are tech adopters – Gen Z and Millennials –the OFD industry has broadened its customer base and grown in value (Mason 2019, 365). Once a niche market, OGD has seen rapid expansion in recent years, driven by evolving consumer behaviors and needs (Hübner, Kuhn, and Wollenburg 2016). This promising market is projected to experience a steady growth rate of 10.05% annually (CAGR 2024-2029), resulting in a market volume of €137.40bn by 2029. The Grocery Delivery market in Europe is expected to generate a revenue of €85.80bn by 2024, with Retail Delivery as the main revenue driver with €72.18bn (Statista 2024e).

This thesis aims to showcase the main features of the most widely adopted business models in the OFD sector, developing strategic recommendations for the Hybrid Model, after evaluating strengths and vulnerabilities. Firstly, it presents a conceptualization of the business model definition and frameworks, followed by a review and composition of the methodology used to develop this work. Next, the size and configurations of this industry are assessed followed by the evolution over the last 40 years of the different business models. Furthermore, the different business models are defined and explained comprising the meal and grocery delivery segments. This thesis provides an in-depth analysis of the Hybrid Retail business. This research narrows its focus to the Hybrid Model, which is characterized by a partnership between Pure-Play and Brick-and-Mortar platforms. This emerging business model will play a pivotal role in transforming the entire grocery industry, facilitating the shift from the traditional routine of visiting supermarkets to a more technology-driven approach while providing European consumers the familiarity of supermarkets' products. The advantages and vulnerabilities of this BM are evaluated, forming the initial basis for recommendations. This work provides further insights into the OFD literature with a practical-oriented approach, identifying drivers of change in this environment and market trends among consumers which will shape how BMs operate in the future. The strategic recommendations outlined in this report aim to eliminate entry barriers for non-users, tailoring the process to meet consumer needs while enhancing business profitability.

The macro-factors depend on geographical choice, for which the research focuses on the European market, where significant differences in market maturity and penetration rates are evident. The UK, France, and the Netherlands are considered more advanced online grocery markets, with higher penetration rates compared to countries such as Portugal, Italy, and Spain (Caine and Koetter

2018). The UK, a pioneer in e-grocery, saw major supermarket chains adopt online shopping as early as 2006, resulting in a more mature and developed market with established players and sophisticated logistics networks. Consequently, each recommendation provided in this study should be viewed as a guideline and tailored to the specific characteristics and needs of the market where it is to be implemented (Saskia, Mareï, and Blanquart 2016).

Moreover, although the market's significance and growth have been previously discussed, the authors are very interested in new technologies and the industry's adaptation to such a competitive landscape. The inherent difficulties of slim margins and limited revenue streams have further fueled the authors' interest in this topic. The diversification of business models and the different nuances within each of them was an interesting topic to study, learning about how companies uniquely harness and develop specialized technological competencies. Additionally, grasping the reasons behind the limited adoption of the OFD concept in Europe was vital for crafting recommendations to develop a superior business model. While it may be hard to envision a world without food delivery services, change is always necessary to thrive and remain competitive.

1. Strategic Business Models Conceptualization

To compare various business models, it is essential to first grasp the concept of a business model itself. In the mid-1990s, the term "business models" entered management discussions, leading to a swift evolution in its definition, resulting in over 500 related articles by 2000 (Shafer, Smith, and Linder 2005, 200). Strategist Michael Porter described business models as part of the "Internet's destructive lexicon" (Michael Porter 2000 cited in Shafer, Smith, and Linder 2005, 200). However, most management scholars disagree, considering it to be a valuable tool in corporate management and innovation. The concept of a business model lacks a universally accepted definition, with

interpretations varying across different business perspectives (Shafer, Smith, and Linder 2005, 200). According to Afuah (2014), a business model serves as a framework or blueprint for revenue generation by creating and capturing value. Magretta (2002) describes business models as "stories that explain how enterprises work," which outline the target customer, the value offered, and how this value is delivered. Osterwalder and Pigneur (2010) define a business model as the foundational logic by which organizations create, deliver, and capture value. While the terminology surrounding business models may differ, existing literature agrees that a business model reflects the operational logic of a firm without explicitly addressing market competition – this is the role of strategy. It portrays the core logic behind a firm's strategic choices for value creation and capture within a value network (Shafer, Smith, and Linder 2005, 202). This representation can be developed in various manners based on different frameworks. Numerous analytical frameworks have been developed for studying and evaluating business models, each emphasizing distinct key components. Notable frameworks include the Business Model Canvas (Osterwalder and Pigneur 2010), which consists of nine elements, and Amit and Zott's (2012) Why, What, Who, and How Framework. Afuah's (2014) framework simplifies the components into five core building blocks: Customer Value Proposition, Market Segment, Revenue Model, Growth Model, and Capabilities, which will be utilized in this thesis. Generally, these frameworks' components are consolidated into four main themes as shown in Figure 1.

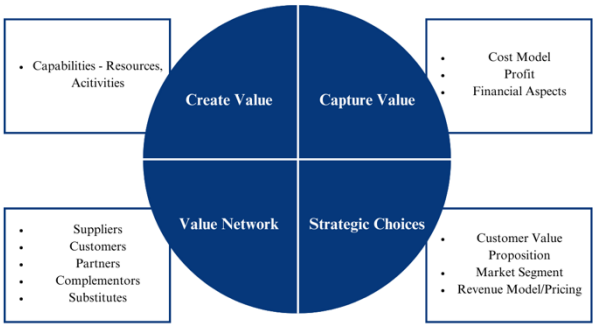


Figure 1 – Clustering Business Model Components (Adapted from Shafer, Smith, and Linder 2005)

BMs delineate how firms create value by differentiating from competitors and leveraging capabilities, resources, and potential advantages. They also illustrate how companies capture a share of this value creation through revenues. Moreover, both processes depend on a value network comprising partners, customers, distribution channels, and suppliers (Shafer, Smith, and Linder 2005, 202).

It is important to note that strategy and business model are not synonymous. As Michael Porter (1996) states, the “essence of strategy is choosing to perform activities differently than competitors," which aims to create and sustain a competitive advantage. Conversely, the business model aids in analysing, testing, and validating strategic choices, while reflecting their impact on operations. It helps illustrate cause-and-effect relationships between strategy and company operations. For instance, when constructing a house, there are numerous decisions related to design, floors, furniture, etc. These choices are strategic; the business model emerges from these decisions as a detailed floor plan created by the architect. The integration of strategy and business models helps explain the varying profitability of companies. Both aspects are necessary for maintaining competitive advantages by tailoring their customer value propositions, establishing mechanisms for delivering that value, and defining isolating mechanisms to protect the strategy from being compromised (Teece 2010). Taking this into account, a strategic business model comprises what should change in the BM to remain competitive in the future, considering drivers of change and its impact on the future environment of its value network (Betz 2002).

Business model innovation (BMI) is crucial for success. According to Afuah (2014), innovation often stems from disruptions to conventional practices and arises through the alteration of established norms. BMI can be obtained by designing a new BM or by reconfiguring an existing one (Massa and Tucci 2013). The main point that distinguishes the BMI types is the nature of the

challenges faced. BM reconfiguration faces challenges that are idiosyncratic to businesses such as management processes, modes of organizational learning, and organizational inertia which new BMs do not face (Massa and Tucci 2013). BM design requires the creation and elaboration of the content, structure, and governance of how a company operates (Amit and Zott 2001 cited in Massa and Tucci 2013). According to Afuah (2014), BMI is commonly linked to product or service features. However, it usually pertains to identifying and leveraging opportunities that enhance value creation or capture (Afuah 2014). It can be obtained by being the first mover in changing the rules or by coming in later but employing a better business model. Innovations often focus on changing the customer value proposition, influencing customer preference for one firm over another. Additionally, it can be derived from how firms interact with the market, particularly in sales or revenue models. During the innovation process, it's important to assess which elements to modify and how these modifications influence other components. As mentioned earlier, the business model operates within an external environment shaped by both industry and macro factors. Innovation typically stems from capitalizing on the opportunities and threats present in these environments. This thesis will provide strategic recommendations for BM reconfiguration aimed at leveraging macro and micro-opportunities while minimizing vulnerabilities within the analysis of BM.

2. Methodology

This thesis presents a qualitative examination of strategic business models in the OFD sector. A comprehensive review of academic literature, industry reports, company websites, media sources, and journal articles was performed to clarify the distinctions among various business models and draw insights from industry size and configuration. To analyze the different BMs, Afuah's (2014) academic book "Business Model Innovation: Concepts, Analysis, and Cases," was used to identify

and define the different BMs in this industry. Afuah (2014) categorizes BMs into five fundamental components: Customer Value Proposition, Market Segments, Revenue Model, Growth Model, and Capabilities. Afuah's (2014) framework serves as a streamlined version of the business model canvas, presenting components that are more precise and easier to grasp. In this analysis, the growth model correlates with the cost model, recognizing that OFD BMs frequently operate on slender profit margins, often lacking profitability. Thus, the focus shifted toward understanding operating costs.

Afuah's framework was employed to highlight essential characteristics of relevant BMs in OFD as well as drawing advantages and disadvantages from the identified BMs – Aggregator Model, Direct-to-Consumer Model, Full Stack Model, Pure Online Player, Brick-and-Mortar, and Hybrid Model. Additionally, it is the framework used for the in-depth analysis of the Hybrid Delivery BM. To gather further insights into industry trends and the current landscape of different BMs, a survey (Survey_1) was conducted (Appendix 1). It aimed to evaluate general customer behavior in the OFD industry, gathering 146 responses. Collecting primary data is crucial for generating in-depth analyzes and strategic recommendations, supplementing insights from secondary data. Two primary data types were used to establish a strong foundation of findings for the in-depth analysis. Firstly, interviews were conducted with six industry experts from various companies and roles (refer to Appendix 2). Participants were recruited through personal networks and the professional networking platform LinkedIn. The interviews lasted between 45 minutes to one hour following a pre-established plan consisting of three primary sections: the first aimed to grasp how they define the industry and their general vision about its dynamic, the second explored BM elements concerning customer value propositions, revenue models, resources and capabilities, market segments, and cost structures, and the final part included open-ended questions about industry

opportunities and challenges, fostering brainstorming for potential innovations and changes in the BM. This method aimed to promote unbiased opinions and innovative ideas grounded in participants' expertise rather than explicit suggestions. Furthermore, targeted questions regarding potential recommendations were posed to assess their viability.

Secondly, a survey (Survey_2) specifically regarding OGD was developed to gain a nuanced understanding of consumer behavior and preferences regarding OGD, encompassing both users and non-users of the services (Appendix 1). For users, purchase behaviors, pain points, and service preferences were examined, while non-users provided insights on their reasons for non-adoption and future usage possibilities. For both groups, questions addressed areas for improvement, the likelihood of adopting future recommendations, and suggestions through open-ended queries.

Upon these insights, the strengths and vulnerabilities of the hybrid delivery BM were identified. To compose actionable and suitable recommendations, macro and micro trends were identified and key drivers of change were evaluated. According to Afuah (2014), BM's performance depends on the external environment and strategic BMs are an adaptation of current BM into the foreseen future, so scenario planning tool was elaborated. Scenario planning tool is crucial to improve strategic decision-making and align recommendations with the most probable and plausible scenario by analysing drivers of change and understanding what the future of OGD might be. After comprehending the critical uncertainties in the environment along with insights from experts, the information base for the recommendations was supported by two additional sources of primary data. Due to Europe's low levels of OGD adoption, 20 customer interviews were conducted to explore in detail the needs, concerns, perceptions, and preferences of individuals who do not regularly use e-grocery services (Appendix 1). Furthermore, a dynamic focus group session with

e-grocery users to interact with each other and derive key insights (Appendix 1). Promoting interaction among participants—viewing the focus group as more than just a group interview—proved effective in facilitating idea exchange and ensuring a smooth discussion flow. By comparing and integrating insights from user interviews with findings from non-user interviews, we sought to identify both differences and similarities that will inform robust strategic recommendations to assist companies in attracting new customers, enhancing retention rates, and improving the overall customer experience. The combination of insights from customers, industry experts, and environment drivers allowed for the development of strategic recommendations that not only align with customer demands and expectations but also anticipate adaptation to potential shifts in macro factors. To evaluate the relevance of these recommendations, the DVF framework was applied to analyze each recommendation's desirability, viability and feasibility. These were rated on a Likert scale from 1 (very low) to 5 (very high) to prioritize the recommendations with the highest scores. Finally, the impact of each recommendation on every component of the BM was assessed.

3. Strategic Business Models in the Online Food Delivery Industry

Convenience, speed, variety, and ease of order became imperative when discussing the food industry (Ahuja et al. 2021). COVID-19 was a pioneer in changing the landscape of the strategic BMs in this industry. The need for ultra-fast and ultra-convenience has shaped the last few years (Ahuja et al. 2021). OFD consists of ordering groceries or ready-to-eat meals through an app or website from restaurants, supermarkets, or local markets with variable delivery times from scheduled to instant (Statista 2024d). Platforms can either deliver ready-to-eat meals for direct consumption (Meal Delivery) or non-prepared food and beverage products, household, and

personal care products (Grocery Delivery) from supermarkets or retailers (Statista 2024d). All BMs feature the same customer journey, which consists of six key touchpoints as depicted in Figure 2. This journey begins with the initial step: the recognition of a need for fast and convenient food delivery.

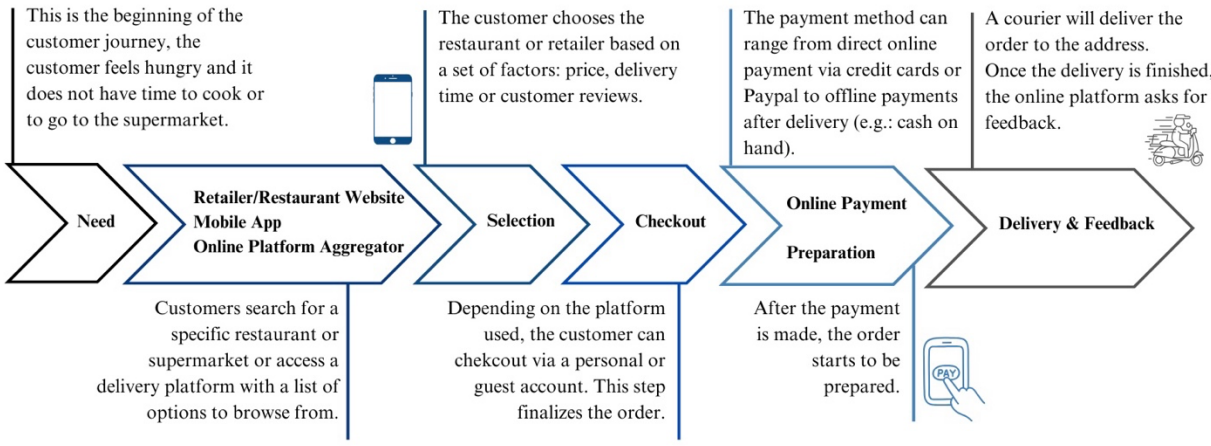


Figure 2 - Customer journey in the OFD industry (Adapted from Statista 2024d)

Tong et al. (2020) defined OFD platforms as a system "that connects not only merchants and drivers but also customers and merchants, which we name as a dyadic two-sided market structure". The industry functions in a two-sided market, requiring a balance between meeting the needs of both end consumers and restaurant or retail partners. The Country Manager of Mercadão (2024) even classifies it as a three-sided market, adding the courier as a stakeholder. This creates intricate challenges in managing networks and ensuring satisfaction across the three sides (Eisenmann, Parker, and Alstyne 2006). Christopher Payne, the chief operating officer of DoorDash, mentioned to the *Wall Street Journal* that OFD business is a "cost-intensive business that is low-margin and scale driven." (Ahuja et al. 2021). As players act as intermediaries between these three agents, their profit margins remain minimal, making it challenging to develop differentiation strategies that require substantial investment capital.

3.1. Market Size

Over the years, Europeans have increasingly adopted technologies to promote convenience and ease in daily life (Ahuja et al. 2021). To accurately assess the market prospects of the OFD industry, it is essential to analyze its positioning within related industries, such as e-commerce and food tech. The OFD sector leverages advancements from these industries to foster its growth and technological progress. The OFD industry is a subset of the e-commerce sector, specifically focusing on the online ordering and delivery of food and beverages. As the largest segment within the food-tech industry, OFD integrates digital technologies to enhance food delivery services.

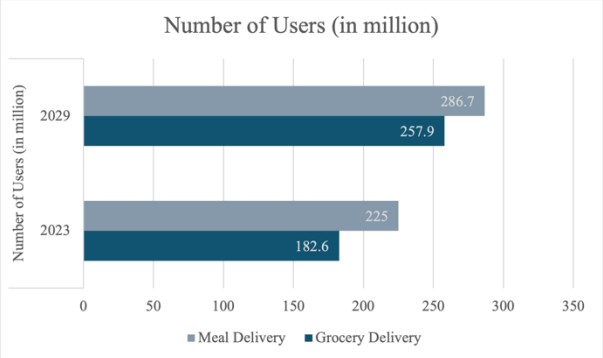
Firstly, OFD is deeply connected to the e-commerce ecosystem, relying heavily on technology and mobile apps to manage orders and deliveries, process payments, and connect platforms with couriers and clients. This connection allows for more streamlined operations, optimized last-mile logistics, and personalized customer experiences through data-driven insights. It has been growing over the years through digitalization and globalization and is supported by Millennials and Gen Z, who are very comfortable with the use of technology (Hirschberg et al. 2016). In Europe, the e-commerce sector was valued at US$566.08 billion in 2023. This sector is expected to grow by 9.09% (CAGR 2024-2029) (Statista 2024a). The anticipated expansion of the e-commerce sector, alongside the innovative omnichannel strategies employed by major players such as e-commerce leader Amazon, is expected to further drive the adoption of online services. These advancements will shape the future of the industry by improving logistics efficiency and enhancing the personalization of customer experiences, leading to unforeseen developments that will continue to redefine consumer expectations and service delivery (Caine and Koetter 2018).

Furthermore, the food tech industry is the result of the emergence and adoption of innovations in the food industry. It comprises companies that use technologies to turn agri-food into a modern

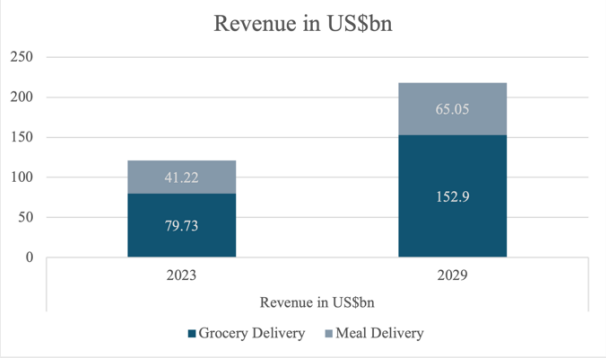
sector, from production to distribution (Iberdrola 2024). In 2022, the sector within the European food tech industry with the largest venture capital investment was food delivery, with US$3.2bn, followed by online supermarkets, with US$1.7bn (Statista 2024c). This reveals that in the upcoming years, the industry will grow based on investment in innovation and efficiency. It will become an even more relevant sector in consumers' lifestyles, reaching a wider base of customers by answering emerging concerns and issues.

The OFD industry is growing rapidly, reaching a market size of US$1.02 trillion worldwide in 2023. In 2024, the largest country consumer of online delivery is Asia with 63.85% of worldwide users followed by Europe with 12.30% (Statista 2024d). The United Kingdom is ranked third worldwide in terms of revenue, generating US$44.76 billion in 2024 (Statista 2024d).

Their dominance is attributed to their early adoption of food delivery services and the establishment of major industry players. The European OFD market reached a value of US$120.95bn in market share in 2023 (Statista 2024b). It is expected to have an annual growth rate of 8.78% (CAGR 2024-2029) and is projected to reach a market volume of US$217.95bn by 2029 (Statista 2024b). The OFD market comprises grocery and meal delivery with the key data insights regarding segment value and penetration rate displayed in Graphs 1 and 2.



Graph 1 - Number of Users in million per segment (Adapted from Statista 2024b)



Graph 2 - Revenue in US$bn per segment (Adapted from Statista 2024b)

The grocery delivery segment comprises retail delivery, quick commerce, and meal kit delivery (Statista 2024b). It is an important part of OFD growth in Europe, with a projected revenue growth of 15.40% by 2025, fueling market growth (Statista 2024b). The leading countries in European grocery delivery share in 2021 were the United Kingdom (12.0%), followed by France (8.6%), The Netherlands (7.5%), and Sweden (7.3%) (Simmons et al. 2022). Meal delivery includes platform delivery, such as Uber Eats, and restaurant delivery, such as Domino's Pizza. This segment has remained stable over the years, being the one with a higher penetration rate. These numbers reflect that the grocery segment is growing and forecasts the biggest innovation opportunity with higher revenues but also more complexities in adoption rates, still being a future adoption for certain market segments. Additionally, Simmons et al. (2022) state that "fueled by evolving customer expectations, increased competition, and technological advancements, OGD could account for up to 18 to 30 percent of the food-at-home market in some leading European countries by 2030".

3.2. Multi-sided Market

The OFD industry can be considered as a three-sided market, where network interactions occur between the three main participants: customers, suppliers, and drivers. Unlike traditional single-sided markets, multi-sided markets exhibit cross-side effects, meaning the value each participant derives is influenced by the active involvement of all sides. The utility of customers, suppliers, and drivers is interconnected (Bahrami et al. 2023). For instance, customers benefit from a wider range of options when there are many suppliers, suppliers can fulfill more orders when there are more customers, and drivers can complete more deliveries, thus earning more when the demand for orders is high. Customers pay a delivery fee, suppliers pay a fee to list themselves on the platforms,

and drivers earn a wage for each completed delivery. Furthermore, platforms can adjust these fees to influence the market dynamics (Bahrami et al. 2023).

The industry is dominated by a few well-established players, that are associated with widely recognized restaurants, brands, and supermarkets, making it difficult for new entrants to compete. Entering the industry requires significant capital investment in the development and maintenance of the online platform, as the sector is heavily reliant on IT expertise (Shetty 2023). Securing and retaining personnel may also pose a challenge, as workers tend to prefer companies offering higher compensations, which is only possible in big players due to their higher margins. A potential advantage for new entrants is the low brand loyalty among end-customers in this industry, that switch between platforms easily. Given the high number of available choices, customers can choose the provider that offers the lowest price and the highest quality. This behavior is facilitated by the lack of significant differentiation among industry players, allowing consumers to switch providers without incurring additional costs. To improve customer retention, companies have responded by high spending in marketing and offering discounts or subscription models (such as Delivery Plus or Glovo Prime) to reduce delivery fees. Different players have applied different business strategies, such as Glovo endorsing a low-price strategy and charging lower fees to capture a low-end market segment (Head of South of Portugal at Glovo 2024). Despite fierce competition among big players, local and regional players compete effectively by serving niche markets or specific needs of customers such as Thuisbezorgd in The Netherlands (Statista 2024b). The points of differentiation include the delivery speed and the range of suppliers affiliated with the delivery app (Shetty 2023).

4. In-Depth Hybrid Delivery Model Analysis

The importance of Grocery Delivery within the OFD Industry has been increasing throughout the last decade, with no signs of slowing down. According to Statista (2024b), Grocery Delivery's penetration rate is forecasted to grow with an average CAGR of approximately 3.65% per year between 2024 and 2027, compared with an average CAGR of 1.43% per year within the same period for Meal Delivery. The European Retail Delivery market is expected to generate a revenue of US$78.65bn by 2024. With an anticipated annual growth rate (CAGR 2024-2029) of 10.56%, the market is projected to reach a volume of US$129.90 billion by 2029. Due to the presented reasons and insights from industry experts, the Hybrid BM was chosen for further study.

4.1. Business Model Innovation

The next section will apply Afuah's (2014) framework to analyze the Hybrid Delivery Model. The Methodology section has previously described this framework, while the growth model component has been modified to align with the cost model, as attaining profitability poses significant challenges (as illustrated in Figure 3).

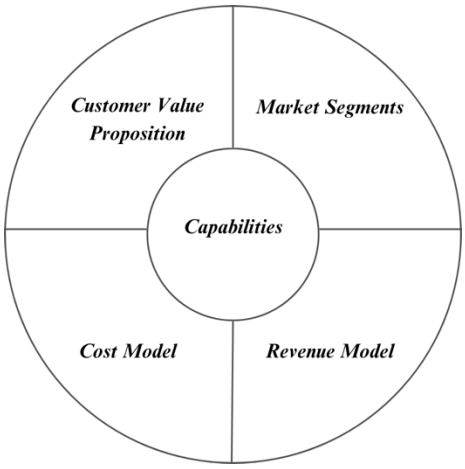


Figure 3 – In-depth business model framework (Adapted from Afuah 2014)

4.1.1. Growth Model & Cost Structure

Companies operating within the OGD sector have found profitability challenging to achieve. While some firms have managed to reach break-even points or record modest profits, profitability remains elusive for most (Simmons et al. 2022). The Head of E-commerce of Continente (2024) highlighted that the retail industry typically operates with very thin profit margins. When factoring in the additional operating costs required for delivery services, these margins are further reduced, creating significant challenges for profitability in the grocery e-commerce sector. Due to the reason mentioned, the further analysis is more focused on the costs companies incur, i.e., the cost structure, instead of how the companies within the BM grow profitable, i.e., the growth model. A McKinsey study further illustrates the impact of delivery on profit margins: when customers purchase groceries directly in-store and handle their own transportation, retailers achieve an approximate profit margin of US$4 on a US$100 grocery basket. Conversely, when the same basket is delivered to the customer's home, this profit margin shifts to a loss of around US$13 (Simmons et al. 2022). When delivering the goods, companies must overcome the logistical problem, which is influenced by the fluctuation in demand, that impacts the efficiency of both order picking and home delivery (Kämäräinen and Punakivi 2010): the two primary cost drivers in the e-grocery BM as referred by the Head of E-commerce of Continente (2024). Achieving cost-effectiveness in this model can be accomplished by either providing consumers with alternative methods for receiving the goods or by enhancing the efficiency of picking processes and home delivery. On the one hand, in terms of the picking process, store-based picking is not cost-efficient since the store is not designed for the picking but for sales (Kämäräinen and Punakivi 2010). However, they are an opportunity to offer the full product range to customers and to easily change the product choice when the initial one is not available (Country Manager of Mercadão 2024). On the other hand, home delivery, the other

big cost driver, has been offered using different models and time windows. To address the mentioned costs, supermarkets have directed themselves to a *Team up Strategy* (Afuah 2014), increasingly pursuing strategic partnerships, acquisitions, and alliances to leverage shared resources and improve operational efficiency. This approach reflects a concerted effort to enhance the financial sustainability of OGD services. Some retailers have prioritized partnerships with companies encompassing the hybrid BM to help reduce operating costs and provide increased flexibility for both them and their customers (Rougès and Montreuil 2014).

For the companies operating within the hybrid model, although they do not incur any direct inventory or delivery costs, they lose the flexibility of setting the market prices. Their costs are minimal: warehousing and inventory expenses are outsourced to local stores, delivery costs are shifted to gig-economy workers, and transportation relies on the personal vehicles of the personal shoppers (Li, Chan and Levallet 2022). According to the Food Delivery Consultant (2024), the personal shopper or driver is the platform's largest recurring expense, receiving approximately €3 in compensation per order, based on an average order value of €30. No initial investment in physical assets is required, only in the online platform, which is the most current cost to maintain the proper functioning. However, despite these lower operational costs, revenue levels remain insufficient to offset them, resulting in low net margins for companies operating within this model. Apoorva Metha, founder of Instacart, highlighted that higher service fees were necessary to cover the significant costs of maintaining the technical infrastructures required for virtual transactions, which involve a workforce of engineers, designers, and technicians (Sorvino 2021).

4.1.2. Capabilities

Capabilities consist of both resources and activities. Every entrepreneur faces the challenge of building the right set of capabilities to take advantage of the available opportunities. This combination of resources and activities is designed to create and capture value, which is then applied to deliver an effective customer value proposition, target the appropriate market segments, support the revenue model, and enable the firm to grow profitably (Afuah 2014).

Interaction of Resources and Activities

Considering the specific context of grocery delivery, and within the companies adopting a hybrid BM, the interaction between resources and activities assumes relevance in four main areas: Technology, Data and Analytics, Logistics and Brand and Customer Relationship.

i. Technology

Technology is a crucial asset for OFD companies. The need to stay competitive through technology is underscored by the industry's high rate of digitalization. The focus on technology arises from the need to efficiently handle high transaction volumes while meeting customer expectations for convenience and reliability, through the platform (Dubosson-Torbay, Osterwalder, and Pigneur 2002). Technology enables platforms to offer a user-friendly experience, offering a wide product selection, convenient delivery options, and features such as real-time order tracking and integrated payment systems, greatly enhancing the user experience and broadening the service accessibility (Hübner, Kuhn and Wollenburg 2016). Hays, Keskinocak, and de López (2005) highlight that a key differentiator for each platform is the integration of e-commerce and logistics systems. For instance, Amazon in the UK utilizes AI and robotics to provide a smooth shopping experience, merging physical and online shopping into one cohesive platform. The partnership between the brick-and-mortar and the pure player can provide comprehensive service offerings, helping

traditional retailers to stay updated with technological advancements and gain customer trust, while minimizing the need for large-scale infrastructure investments (Chambers 2018; Short et al. 2022). For instance, as mentioned earlier, Ocado has created a distinctive AI-driven technology alongside its proprietary software and hardware (Ocado Group n.d.a). The "Ocado Smart Platform" serves as a comprehensive e-commerce solution designed to enhance efficiency in fulfilment centres, ensuring the consistent delivery of fresh products to customers (Ocado Group n.d.a). It utilizes AI and automation to navigate complex supply chains, effectively managing large volumes and perishability. For example, "Ocado Intelligence Automation" incorporates robotics that proficiently handles stock management and retrieval from storage (Ocado Group n.d.a). Since 2013, Ocado has partnered with Morrisons in the UK, providing the technology to its partner, enabling Morrisons to leverage Ocado's fulfillment center capabilities and increase order volumes (Wright 2024).

ii. Data & Analytics

Data is a powerful resource to be collected by platforms, to ensure the correct strategic decisions and to enhance the service offerings. With the help of predictive analytics and AI, companies can forecast future demand, optimize inventory levels, and improve delivery logistics (Manyika et al. 2011). Each company can rely on two fundamental types of data: customer data and operational data. According to Chintala, Liaukonytė and Yang (2023), customer data can be categorized into three main types. The transactional data, which includes historical purchases and frequency, across both online and offline stores. This type of data provides insights into what customers buy and how often they shop. Secondly, behavioral data, collected through online platforms and loyalty programs, reveal preferences, browsing patterns, and responses to marketing campaigns, offering

a deeper understanding of customer engagement. Lastly, demographic and psychographic data provide valuable insights into customer lifestyles, needs, and motivations, helping businesses tailor their offerings to meet diverse expectations.

Operational Data provides real-time visibility into the efficiency and effectiveness of the entire supply chain (Liashenko and Yakymchuk 2023). It can consider the inventory data, consisting of real-time tracking of inventory levels across warehouses and physical stores, which is vital for effective stock management. Order flow data plays a crucial role in understanding customer behavior and preferences by analysing order volume, timing, and composition. This insight helps retailers understand demand patterns, optimize resource allocation, tailor the user interface and product selections, and improve the overall shopping experience (Pramudito et al. 2021). By leveraging the data from delivery performance, platforms can track delivery times and optimize routes, ensuring timely deliveries and managing customer expectations. Singh and Söderlund (2022) emphasize the consumer preference for home delivery, making efficient delivery performance a key factor in customer satisfaction. Lastly, financial data, keeping track of costs related to picking, packing, delivery, and returns provides better control over operational expenses and supports profitability analysis. Liashenko and Yakymchuk (2023) consider the narrow profit margins as the major financial challenge in e-grocery due to high delivery and collection costs.

In the e-grocery business, data-driven decision-making represents a golden rule to create value. Utilizing advanced analytics helps inform decisions regarding assortment, pricing, and promotions, which can boost sales and enhance profitability (Sawall et al. 2024). Additionally, a strategic decision support system that leverages financial and operational data facilitates informed decision-making, optimizing delivery processes and further improving profitability (Liashenko and Yakymchuk 2023).

iii. Logistics Network

A strong logistics network is an essential resource for grocery delivery services. However, various strategic challenges need to be addressed to ensure smooth operations. Efficient logistics not only reduce delivery times but also reduce operational costs and their environmental impact, which are becoming increasingly critical factors in customer decisions (Boyer and Hult 2005). All the activities from the pick-up to the last-mile delivery are part of the Order Fulfilment Process (OFP), which can be observed through the strategic planning framework adapted from Hübner et al. (2016). The OFP has two key phases: Back-End Fulfilment and Last-Mile Distribution. The framework in Figure 4 emphasizes that the strategic choices made in both phases directly impact the efficiency and profitability of the business.

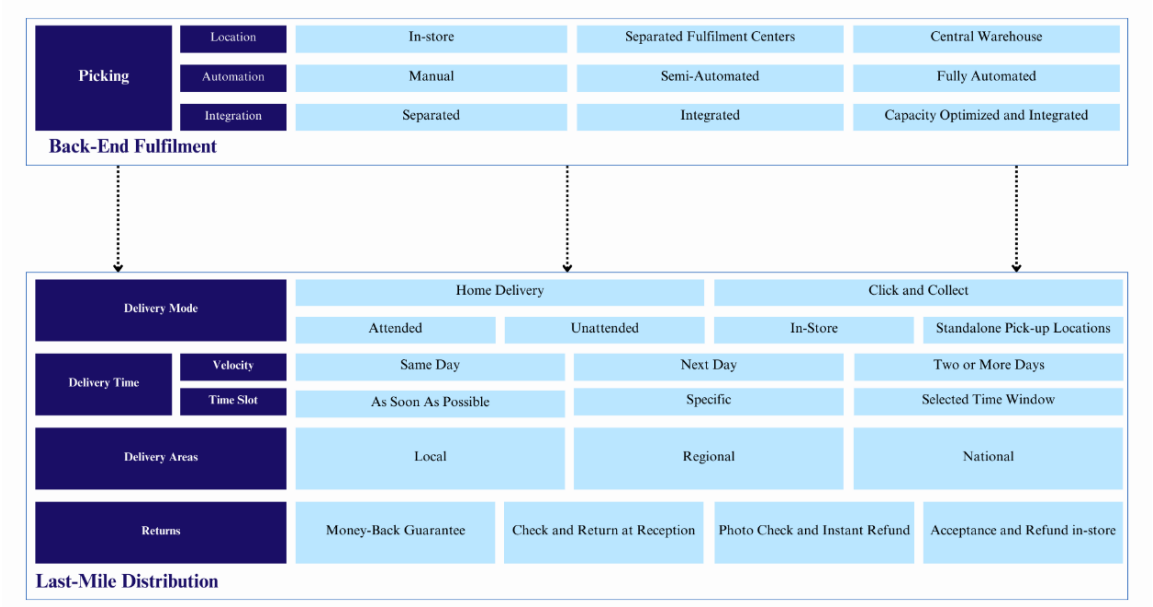


Figure 4- Order Fulfilment Process Strategic Framework (Adapted from Hübner, Kuhn, and Wollenburg 2016)

The primary challenge to which the OFP is highly relevant is the designing of the distribution network, which consists of the area each distribution center will serve and the designing infrastructures, such as stores, specialized fulfillment centers, central warehouses, or a combination of these, where online orders are fulfilled. The most straightforward and resource-efficient

approach for a brick-and-mortar retailer to enter the online grocery market is by offering a click-and-collect service. In the hybrid model, order picking at the store can either be performed by the retailer's in-house staff or outsourced to couriers who are integrated into the platform's system. To capitalize on this approach, stores adjusted their layout to facilitate in-store pickup, designating dedicated pick-up areas and fully integrating store inventory with online platforms. Existing brick-and-mortar stores serve as valuable resources for fulfilling orders and enabling customer pick-ups. However, dedicated fulfillment centers are significantly more efficient and often become essential for companies that have been operating online grocery channels for a while. These centers allow for streamlined operations, enabling scalability and sustained growth within the industry (Hübner, Kuhn, and Wollenburg 2016). Strategically locating the centers has a positive impact on transportation costs due to higher proximity to consumers' homes, with a consequent reduction in delivery time and increased customer satisfaction. Another way to leverage the warehouse network is by utilizing it for both online sales and traditional store distribution. This approach enhances efficiency through several benefits: increased opportunities for risk pooling, which lowers inventory levels and reduce stock-outs; shared resources, which cut overhead expenses; and decreased inbound transportation costs (Beamon 2001). A significant challenge of using a warehouse to manage both online and in-store orders lies in integrating the systems for handling, inventory, and storage (Hays, Keskinocak, and de López 2005). Regarding Last-Mile Distribution, the first condition to manage this phase efficiently is to optimize delivery routes and manage time windows. High demand for specific time frames, travel uncertainties due to traffic, and tight schedules further complicate the process (Hays, Keskinocak, and de López 2005). Platforms operate proprietary software that allows freelancers to register as couriers. As customers place orders, the system automatically dispatches them to available couriers, who can then choose to

accept or decline the assignment (Country Manager of Mercadão 2024). With this system, the platform automatically assigns couriers to the orders. However, platforms possess a lack of control over them, which might create schedule lapses.

iv. Brand and Customer Relationship

For hybrid players in the OGD sector, their brand and customer relationships are valuable assets that can be leveraged to create and capture value in such a competitive industry. Platforms can capitalize and take advantage of brick-and-mortar's already established customer loyalty base. Furthermore, a strong brand is an essential differentiator (Caine and Koetter 2018). Such distinction can be achieved by providing a seamless and harmonious customer experience across all touchpoints, ensuring consistent brand messaging, product availability, and service levels, regardless of whether the customer interacts online or offline (Head of E-commerce of Continente 2024; Hübner, Kuhn, and Wollenburg 2016). In the competitive grocery sector, brand awareness is fundamental for attracting and retaining customers. Brand perception is one of the main drivers of customers purchasing decisions, underscoring the competitive advantage provided by a strong brand image, transcending the actual products or services offered (Afuah 2014). Brands need to maintain consistent messaging and service quality across all platforms to build trust and strengthen their image (Cocco and Demoulin 2022). Additionally, the rise of retail media as a significant revenue stream for grocery retailers highlights how powerful brand recognition can be in boosting profitability through targeted advertising and promotions (Sawall et al. 2024).

5. Hybrid Business Model Recommendations

5.1. Relevance and Approach

Considering insights from primary data – including expert interviews, customer interviews and a focus group – as early indicators of scenario development, scenario 2, “Full-Potential” is regarded as the most probable and plausible for long-term development. Aligned with further developments on the macro and microenvironment as well as strengths and vulnerabilities of the hybrid BM, this information provides strategic insights to guide innovation in the future. Galante, García López, and Monroe (2013) suggest platforms should prioritize profit optimization and consider making significant strategic investments to succeed in this market. In every scenario, enhancing financial performance is vital for sustainable growth, especially as the market rapidly evolves in response to external factors and changing customer preferences. To boost profits, platforms need to raise average order values and conversion rates while cultivating customer retention and loyalty. The instability of platforms arises from fluctuating demand; inadequate supply negatively affects demand, and vice versa. While the trend of online shopping continues to grow, 32% of 69 surveyed individuals expressed that they are "very likely" to start using OGD services, assuming improvements should be made to the offerings. To boost demand, platforms must tackle significant obstacles preventing customers from using their services more regularly. Customers are particularly sensitive to delivery pricing; when asked about the top factors influencing their choice of grocery delivery services, 21 out of 49 respondents identified "price" as the most important, followed by “delivery speed" (second), “product variety" (third), and “quality of products" (fourth). A hybrid model must maintain competitive pricing while enhancing the customer value proposition. To enhance customer adoption and satisfaction as well as profit maximization,

recommendations encompassing customer experience and logistics and operations were elaborated, as seen in Figure 5.

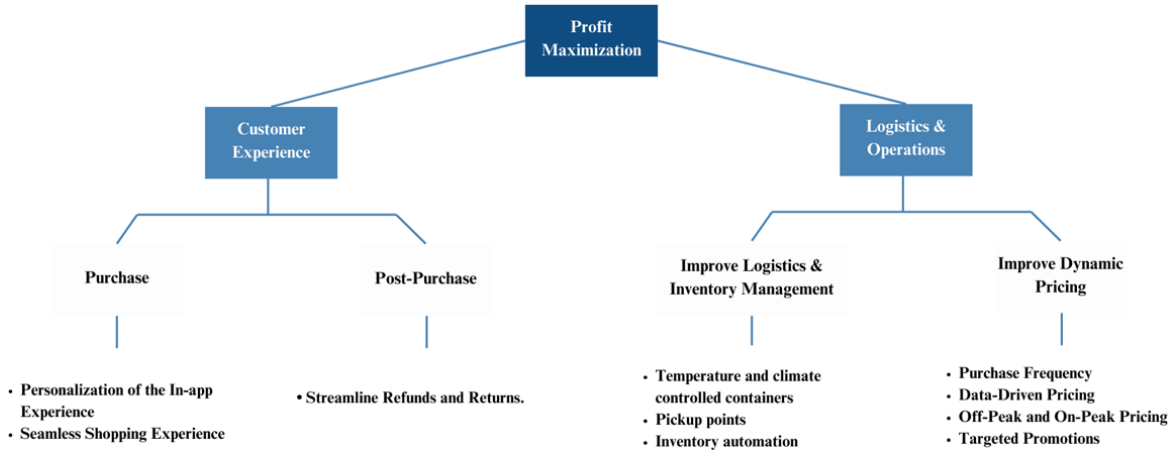


Figure 5 - Summary of Strategic Recommendations (Authors' illustration)

5.2. Recommendations

5.2.1. Improvement of Customer Experience

The customer experience was identified as a key area for innovation and improvement, with 5 out of 6 industry experts emphasizing its importance. Additionally, both users and non-users highlighted it as the critical factor for enhancing satisfaction and driving greater adoption of this type of service. In an era marked by dynamic shifts in consumer preferences where quicker, faster, simpler and freer are desired, enhanced customer experience has become a vital component of the customer value proposition in online grocery delivery (Mason 2019). Hybrid delivery can enhance customer value by addressing the essential need to simplify regular, often routine purchases. To maximize this value, it's critical to deliver a high-quality experience across all customer touchpoints. Key factors include personalized service, user-friendly ordering systems, fast and reliable delivery, and hassle-free refund processes (Anckar, Walden, and Jelassi 2002).

Action 1: Personalize the In-app Experience

This personalized value remains largely untapped. There is significant potential for online grocery platforms to create even greater value by harnessing data insights more effectively to understand and anticipate customer preferences (Simmons et al. 2022). Fully personalized platforms, shaped by behavioral data, could enhance customer satisfaction by delivering a unique and individualized shopping experience, setting online services apart from in-store competitors in ways that go beyond mere convenience and speed (Simmons et al. 2022).

The strategy of Personalized Content aims to boost customer value by leveraging an existing resource—the online platform—and customizing it to enrich the shopping experience. This approach can draw in more customers who have previously shied away from online grocery shopping, potentially changing their buying intentions with the new features introduced. Additionally, feedback from the focus group underscored the importance of a personalized experience as a vital factor for the long-term engagement of customers' platforms. One conceivable way of enhancing the platform's personalization is addressing key customer pain points identified on surveys and the focus group such as limited product selection, poor product quality, lack of personalization in recommendations, and a slow, non-automated ordering process.

Hybrid platforms benefit from both online and in-store partner experience, and they possess a significant competitive advantage over traditional stores, yet many fail to fully utilize this advantage. Galante, García López, and Monroe (2013) highlighted a missed opportunity in not offering contextual product recommendations, based on customers' purchase history, or enabling users to repeat previous orders with just one click. The success of e-grocery platforms relies significantly on the user interface, referring to the interactivity, look, and feel of a product screen or web page, and user experience (Figma 2023). The user experience can be enhanced by providing

each customer with a personalized experience, tailored through advanced analytics. According to Sulikowski et al. (2021), incorporating advanced intelligence into platforms helps proactively deliver personalized content by identifying user interests and understanding the motivations behind their purchasing decisions. This approach enables companies to adapt and respond dynamically to customer needs and preferences. Moreover, industry experts, including the Strategic and Operations Manager of Bolt (2024), have pointed out that this level of personalization not only enhances customer value but also boosts sales (Galante, García López, and Monroe 2013). Furthermore, the Country Manager of Mercadão (2024) highlighted that online transactions yield a wealth of data that should be exploited by incorporating AI algorithms into the platforms to develop uniquely tailored shopping experiences. By examining purchasing patterns, these algorithms present products that align closely with each customer's preferences. Once data is collected and analyzed, the platform can create a customer profile based on their preferences and history, suggesting a specific basket delivery without requiring the customer to navigate the platform. For instance, if a customer orders a basket of fresh products every two weeks, the platform could automatically propose this basket for re-ordering two weeks later. This feature would be highly valued by customers, as indicated in the survey conducted. Of the 113 respondents surveyed, 68% declared a willingness or tendency to pay more for premium services that ensure product quality. The concern about the quality of fresh products was shared by both users and non-users of e-grocery services (Customer Interviews and Focus Group 2024). A possible solution would be to introduce a 360º viewing feature to improve product visualization, giving customers a comprehensive view, and boosting their confidence in purchase decisions. This technological advancement proved particularly true for younger consumers (Torres 2020). Additionally, integrating a chat feature could address any situation in which the 360° camera would not be

enough. This would allow customers to interact in real-time with a personal shopper who can provide any required detail and take pictures of the products, ensuring they meet the customer's standards before purchase, enhancing overall satisfaction and increasing retention rate. Platforms could implement this by developing similar software they use to connect orders and couriers, but instead connect customers with couriers. Finally, implementing a section within the app with a social media-style feed could enhance personalization and address the need for inspiration, a major concern among brick-and-mortar store users regarding e-grocery (Customer Interviews 2024). In this section, users could view and share recipes and ideas with friends, nutritionists, influencers, or chefs and,share their own purchases (Head of South of Portugal at Glovo 2024). If a customer interacts with a recipe, the platform could automatically suggest adding the necessary ingredients to their shopping cart to replicate the dish. This functionality would not only foster a sense of community and boost engagement but also, as users can interact and be influenced by the shared insights, leading to increased visibility and sales of products.

Action 2: Seamless Omnichannel Experience

Partnerships between brick-and-mortar and pure players allow businesses to grow without substantial initial investments. As a result, companies can adopt strategies that enhance sales for both sides while sharing investment costs. Hansen’s (2005) findings suggest that e-grocers should focus on creating an experience that is as seamless and familiar as in-store shopping, to cater to a broader customer segment rather than relying solely on the adoption of technology-savvy customers. Survey 2 indicates that 76% of participants prefer in-person shopping, while 20% prefer a hybrid approach depending on the situation. Key reasons for choosing in-store shopping include the personal selection of products, a broader array of options, in-store promotions or discounts, and

the overall enjoyment of shopping (Survey_2 2024). In-store shopping continues to thrive, offering a complete sensory experience that caters to consumers who take pleasure in the shopping journey. The rise of omnichannel strategies is fueled by the extensive availability of retail technologies (Lazaris and Vrechopoulos 2014). Furthermore, cultural differences in Europe suggest that grocery shopping is often a family activity on weekends. Therefore, a purely online method might not resonate with many European customers as effectively as it does in the US or Asia. Hence, adopting an omnichannel strategy proves to be the most effective for attracting and retaining European clients while increasing OGD usage.

Supermarkets can improve the shopping experience using QR codes. These matrix barcodes provide various product details, including nutritional facts, stock availability, promotions, ratings, and reviews. Customers can scan these QR codes with their smartphones within the app, seamlessly adding items to their virtual shopping carts. This feature caters to consumers who enjoy in-store shopping and want to discover new products by scanning items. Users can pay through the app and choose a convenient delivery time (Caine and Koetter 2018). Shoppers can wander the aisles and scan products without the need to push a cart. For instance, the Korean retailer Emart features QR codes on in-store products, enabling customers to scan items to their app, process payments, and schedule deliveries. They also offer QR codes for exclusive promotions and discounts, showcasing innovative retail technology (Caine and Koetter 2018). When a product is unavailable in-store, the QR code will recommend alternatives that have comparable nutritional value or meet similar purchasing preferences. Customers can also reorder previous purchases since the products scanned in-store will be retained. This approach allows platforms to meet consumer demands for product visualization, exclusive in-app promotions, and the ease of future delivery. According to survey_2, 66.25% of customers expressed interest in or willingness to try an option where they select fresh

items in-store while having other products delivered later. Additionally, 70% of respondents showed some likelihood of utilizing this type of system.

Action 3: Streamline Returns and Refunds

The focus group found the complexity of the refunding process a major pain point in OGD. They consider refund processes unclear or complicated with no immediate reporting options. The need for refunding may originate from product quality issues and delivery inaccuracies, which are major challenges in grocery delivery that deter customers from shopping online. A news report by Fonseca (2024) highlights that Mercadão received 30 complaints in a single month concerning product quality at delivery, including spoiled fruits. The platform failed to respond to refund requests promptly; when responses occur, they typically seek explanations for the issue. This undermines customer trust in the platform, discouraging future purchases and significantly reducing the likelihood of repeat orders. Thereby, the ability to offer a simplified refund process significantly impacts a platform's profitability and customer retention. Research by Li, Li, and Gharehgozli (2022) shows that consumers' decisions to purchase online depend on product pricing, the likelihood of dissatisfaction, and the effectiveness of return and refund policies. Therefore, to attract more customers, streamlined refund policies must be established.

Refunds comprise complaints such as inaccurate delivery times, incorrect product selection, missing products, and spoiled/defective products. The survey revealed that the most popular items purchased include 'fresh products' such as fruits and vegetables at 36% and “dairy products” at 38%, which compose perishable goods with higher complaint rates. Hybrid models can define partnership agreements with brick-and-mortar stores, reducing refund costs and enabling tailored solutions for perishable items. According to the Country Manager of Mercadão (2024), the

platform assumes full refund in case of product defect caused by delivery or missing products, and problems concerning quality are reimbursed by the brick-and-mortar.

Li, Li, and Gharehgozli's (2022) study also indicates that refund types should correspond to profit margins, suggesting that full refunds are appropriate for high-margin perishable items. Additionally, full refunds should be considered for expensive groceries with low return rates to mitigate consumer uncertainties and boost demand. For products with either high prices or high return rates, partial refunds are advisable. Refund policies must be thoroughly reviewed and adjusted to avoid excessive costs and profit reductions. Furthermore, platforms could provide return options at physical stores or collecting at customer houses, allowing them to return spoiled or defective items, thus building trust. As such, refund and return policies should match product categories; instant refunds should be provided for perishables without requiring a return, while larger grocery items may necessitate returns for refunds (Li, Li, and Gharehgozli 2022). Based on the insights gained from the focus group, platforms should streamline and automate their refund processes as shown in Appendix 5. When customers receive their orders, they will interact with an AI support assistant to rate their experience and, if needed, request a refund. After clicking the refund button, they must choose a reason and submit proof of any defect or missing item. The AI will analyze the provided image and process the refund automatically and promptly. For instance, the focus group noted Uber's refund policy as being both automated and straightforward, supporting the suggested approach. Additionally, refunds could be converted into in-app credits to promote future purchases and enhance consumer satisfaction while encouraging continued engagement, not differently from strategies used in other retail sectors. Platforms might also provide free delivery for customers who choose to use in-app credits, making this a requirement for their next purchase.

5.2.2. Logistics and Operations

Logistics and distribution are another potential area for improvement in OGD. According to research conducted by Oracle Retail for 2020 (n.d.), nearly 3/4 of consumers who order groceries online opt for home delivery, while the remaining 27% prefer either in-store or curbside delivery. Those are the main options that most supermarkets in Europe offer. However, the online ordering experience for home deliveries still has significant flaws, one of them being timely delivery, according to the insights from the focus group conducted. Hence a great opportunity exists for improvement which could create higher customer satisfaction and an increased usage rate. Platforms such as Mercadão work with freelancers meaning that it is often challenging to manage the deliveries to make sure that the products are delivered at the exact same time slot, and late deliveries are sometimes inevitable (Country Manager at Mercadão 2024). Moreover, the focus group highlighted that having to be available for an extensive period to pick up the order is a major downside for online delivery.

Action 4: Implement Temperature-controlled Containers and Pickup Points

To find a solution that would allow groceries to be delivered to a person's garage, home or office unattended, temperature and climate-controlled containers should be considered. Based on the type of products to be delivered, the appropriate container would be chosen. This would allow higher flexibility for the customer (Ladd 2020). These containers could also be placed inside the supermarket. Home delivery is a more costly and harder-to-scale delivery mode, so click-and-collect is usually the preferred way for e-grocers to sell their products online. At the same time, last-mile delivery may involve significant costs and offering the pickup in-store option or curbside pickup has proven to be a great way to minimize costs. However, these options may involve costly labor as well since employees need to be available to deliver the groceries either in-store or outside

directly into the customer's car. This becomes especially challenging during peak hours. If the allocated personnel are not enough to ensure speedy packing, customers may have to wait additional amounts of time which can significantly impact their experience. These containers could be used as one of the solutions to fix this challenge by providing a self-service option, potentially allowing for saved time and reduced costs (Tveraabak 2022).

Another potential suggestion would involve the use of dedicated pickup points in areas with a higher population density. For instance, Carrefour initially created pick-up for pedestrians near their supermarkets in 2018 (Publications Checkout 2018). In 2022 they expanded this concept by partnering with La Poste, which is a postal service company in France, to significantly increase their network of pickup points in the country (Carrefour 2021). This allows consumers to pick up different kinds of non-food purchases they made online and now they can also pick up their groceries. It also increases the practicality and convenience for supermarket customers. It is also a secure solution as the lockers where the deliveries are stored can only be opened by the customer. By leveraging the postal service network in Paris, Carrefour was able to significantly expand its delivery offer (Carrefour 2021; Das 2021). A similar concept was introduced in Belgium by Colruyt. The chain created pickup points exclusively for pedestrians and cyclists in convenient locations. Drive-through deliveries are more suitable for the outskirts of large cities where customers will often go by car. When looking at high-density central areas this type of pickup is often preferred. At the same time, it is also seen as a more sustainable travel solution and Colruyt itself also established recycling points at the pickup center while the deliveries from the store are made by bicycle couriers (Neerman 2022). It is thus visible that this is a promising concept for high-density areas and some firms can use it to improve their sustainability practices as well. Since most supermarkets only offer in-store or near-the-store pickup options we suggest this type of

pickup as a potential way to increase customer satisfaction and demand for online purchases in more densely populated areas.

Action 5: Implement Automation in Operations

Automation is a highly relevant topic in OGD. The popularity of buying groceries online is increasing worldwide, including in Europe. Many large chains have experimented with automation but ultimately reverted to manual methods as automation usually involves highly complex processes and concepts that may be hard to understand and implement. This is usually true for large chains for which it would require a reorganization of an already complex system. Ocado, on the other hand, entered the market with an automated model from the beginning and started to license its technology in 2014 (Eley and McMorrow 2020).

The manual method has been working for a long time, where there are dedicated pickers that then fill the trucks or other transportation methods and deliver the order to customers' homes. However, it is far from being an efficient method. It is costly since it may require extensive personnel especially for many orders. The number of orders that can be fulfilled is also limited since the stores that also have many customers can usually fulfill no more than 100-200 orders per day. Moreover, the pricing strategies that grocery brands tend to use online exacerbate the costs since they often focus on discounts, coupons and reduction/elimination of delivery fees. This forces many supermarkets to operate their online deliveries with negative profit margins (Chandra et al. 2022; Eley and McMorrow 2020). To solve these issues, automation may be used as a potential solution. As previously mentioned, building such processes may be highly complex and require significant capital expenditures. To understand which fulfillment method is the most appropriate, a McKinsey study conducted by Chandra et al. (2022) suggests that the choice of fulfillment option should be based on geographic area and urban density, as well as the needed speed of delivery and

the desired range of products. In-store picking and dedicated in-store warehouses for order assembly can serve as cost-effective solutions for less densely populated areas while maintaining a wide assortment of products. However, these approaches rely heavily on manual processes, resulting in slower picking speeds compared to more automated options. Dark stores and traditional warehouses require higher investment but can also handle more orders and can be applicable to moderate areas in terms of urban density. Dark stores are the ideal solution for moderate-density areas since they offer an optimized solution for manual picking and allow for speedier deliveries since traditional warehouses are often located far from the consumers which can compromise the delivery speed. Lastly, robotic micro fulfillment centers and highly automated warehouses are the most suited for high-density areas. Robotic micro fulfillment centers swap the manual pickers with robots and can thus greatly increase capacity and decrease operating costs while also allowing for speedy deliveries since the picking is much faster and they are often located close to consumers, but the product range might be more limited. A highly automated warehouse, in turn, introduces automation into all aspects and is also able to offer a broader product range, which makes it suitable for the general consumer (Chandra et al. 2022). By taking the mentioned approach and performing this analysis, a supermarket may understand which options suit it best, and the platform that provides the delivery may also be able to understand which picking options work best depending on the specific needs. This may help both partners to ensure that the customer experience is done in the best possible way and increase the competitiveness in the e-commerce segment. Highly automated solutions may create several benefits for the grocery brand. It can help to create a much more seamless experience with the use of AI. It can be used to track website traffic and make better predictions on demand to control stockouts to ensure better customer acquisition and retention. Machine learning is also used to ensure precise and accurate order picking and coordination in the

warehouses. In a time where sustainability is also becoming as relevant as ever, automated solutions can also improve the ability to track close-to-expiration date products and aid the grocery brand in its donations. This aspect, providing higher picking accuracy as opposed to manual picking can help to significantly reduce food waste. AI capabilities and machine learning can also be used to significantly improve customer experience and fraud detection (Marr 2020; Ocado Group 2023).

Action 6: Improve Dynamic Pricing

Technology enables platforms to increase their revenue by extracting greater consumer surplus – charging higher prices to consumers who are willing to pay more. Price sensitivity is a key factor influencing consumer choice of grocery delivery platforms, particularly regarding delivery fees.

Focus group findings further reveal that consumers dislike additional delivery fees and prefer smaller, more frequent purchases over large, single transactions—a trend evident in Southern Europe. To solve this problem, improving the current subscription models would be important for customer retention. Subscription models, although implemented by some platforms, show mixed results when weighing their benefits against operational costs. Research by Wagner, Pinto, and Amorim (2020) highlights that subscribers spend €107 more per month and order 1.56 times more often than non-subscribers. However, these customers typically purchase 13 fewer items and spend €23 less per order, which increases delivery costs per transaction and reduces overall efficiency.

One viable strategy could involve subscription plans, promoted and targeted to specific customer segments, who purchase higher volumes per order and more frequently, instead of indiscriminate targeting. Furthermore, the plan should offer free delivery but require a higher minimum basket value. As shown in the survey, for 82% of correspondents, having free or low-cost delivery fees would increase the likelihood of using grocery delivery. This approach encourages larger orders while mitigating the operational cost burden associated with frequent, low-value deliveries.

Additionally, platforms could optimize dynamic pricing strategies by tailoring delivery fees based on two key variables: customer profile and usage frequency, as well as off-peak and on-peak periods. As Kamel et al. (2022) suggest, loyal customers could benefit from progressively lower delivery fees, encouraging more frequent purchases and deepening customer engagement. It should also consider price elasticity and sensitivity. For customers less sensitive to price and willing to pay for value-added services, platforms could implement higher delivery fees, reflecting the enhanced experience. Platforms should also consider tailoring delivery fees for off-peak and on-peak times by offering exclusive promotions or reduced fees during less busy periods. For instance, Korean Emart successfully implemented this strategy with lunch-time exclusive promotions (SpringWise 2012). Similarly, reducing delivery fees for off-peak slots or for time slots closer to the existing delivery route can optimize delivery efficiency. This approach not only improves route planning but also supports green practices by minimizing traffic and environmental impact (Koch and Klein 2020).

Platforms could increase customer engagement by offering exclusive online discounts and coupons tailored to different customer segments. According to 59% of respondents, such incentives significantly boost the likelihood of choosing grocery delivery. Discounts might be personalized based on purchase history, ensuring that customers receive savings in their most frequently purchased product categories.

The tailored promotions according to customer segment foster higher trust in the platform-consumer relationships as it might be seen as competent and helpful, categories associated with higher trust (Altman and Taylor 1973 cited in Inman and Nikolova 2017, 16).

Moreover, platforms might frame their offer around reducing food waste. Globally, one-third of food is wasted – brick-and-mortar stores are one of the bottlenecks when tackling the problem,

given that 85% of food waste stems from fresh product spoiling. Platforms can use technology to implement in-app discounts for fresh items nearing their optimal consumption period. These discounts would factor in seasonality, food categories, and expiration dates (Eit Food 2021). Such measures would align with stricter environmental regulations concerning food waste management.

5.3. DVF Framework

To give a more objective evaluation of the recommendations, the Design Thinking (DVF) framework is going to be used. The DVF framework is used to evaluate solutions by analyzing whether they are desirable by the customers, viable with regards to returns and long-term potential as well as feasible, i.e., whether they can be implemented leveraging the existing capabilities (Alejo 2023; Orton 2017). Desirability analyzes the main pain points and needs of the customers and evaluates whether the proposed solution will be in line with those needs. Viability assesses the current and long-term profitability aspect of the new venture as well as the sustainability impacts. Feasibility analyzes whether the operational strengths can be utilized to implement the proposed solution. The less related the solution is to the company's core capabilities, the riskier and less feasible it will be (Orton 2017). Lastly, each of the 3 aspects is going to be analyzed on a Likert scale of 1 to 5, to provide an easier understanding of the assessment as detailed in Appendix 6 (SurveyKing n.d.). Table 1 showcases a summary of the scores concerning the three aspects of each recommendation.

Number	Recommendation	Desirability	Viability	Feasibility	Score
1	*Personalize the In-app Experience*	5	4	4	**13**
2	*Seamless Omnichannel Experience*	5	5	4	**14**
3	*Streamline Returns and Refunds*	5	4	4	**13**
4	*Implement Temperature-controlled Containers and Pickup Points*	5	4	4	**13**
5	*Implement Automation in Operations*	4	4	4	**12**
6	*Improve Dynamic Pricing*	5	5	4	**14**

Table 1 - Scores Attributed to Recommendations (Authors' illustration)

Action 1: Personalize the In-app Experience

The first action addresses the lack of personalization and an engaging experience that many customers often refer to as a big drawback in OGD according to the literature about the topic and the primary data. This solution can significantly enhance the CVP and create a distinctive shopping experience. It appears that consumers are indeed looking for more personalization and improved shopping experience and it aligns with current trends of convenience, personalization, and social interactions among customers (Head of South of Portugal at Glovo 2024; Purta et al. n.d.). Hence the desirability of this action is evident.

For analyzing the viability of this suggestion, there is a need to look at long-term impact and value chain implications (Tardi 2024). This recommendation is going to be beneficial, as the demand for personalization is going to remain relevant. It is a very established trend, as previously mentioned (Haan 2024). This means that these features can potentially allow companies to increase customer satisfaction and loyalty in the long run. It helps enhance the customer experience and improve the value proposition, which can indirectly improve sales by increasing market share and customer loyalty (Expert Panel 2023). Since it also requires some upfront costs, a more detailed profitability overview metric such as return on investment can be used (Beattie 2024). Nonetheless, it is a recommendation that will not only impact the short-term performance but is also likely to be a significant value-adding feature in the long term as well.

The recommendations leverage technology through AI and machine learning for advanced personalization, requiring platforms to implement real-time data analysis and pattern identification. Technologies such as Apache Kafka can process and deliver data in real-time, integrating seamlessly into existing databases to handle inputs from multiple sources such as mobile apps and GPS tracking (Villalba 2024; Apache Kafka 2023). Additionally, tools such as Microsoft Power

BI utilize machine learning to analyze customer behavior, enhancing the ability to offer personalized product suggestions and automated reordering (Microsoft Learn Language 2024). Integrating a Chatbot or Voice Assistant allows customers to interact directly with the platform through speech or text, facilitating tailored suggestions and automated addition of items to their shopping cart. This not only caters to specific customer needs but also streamlines the shopping process, reducing search times and increasing efficiency. According to the Strategic and Operations Manager of Bolt (2024), there is significant potential for app development to help users efficiently navigate the extensive choices available in European markets. Chatbots significantly enhance the online grocery shopping experience by offering functionality that includes locating specific products, suggesting alternatives when items are unavailable, and providing customized recipe ideas, thus saving time and offering personalized recommendations (Wamba et al 2023 cited by Chakraborty et al. 2024). Digital voice assistants have also transformed shopping with advanced speech recognition that captures and processes user inputs effectively (Aw et al. 2022). Consumer acceptance of these assistants has risen, indicating potential benefits for businesses, especially those operating in hybrid models (PwC study, 2018). These technologies not only meet functional needs but also add relational value, enhancing customer satisfaction and trust in AI solutions (Vlai et al. 2021 cited by Aw et al. 2022). A study by OC&C Strategy Consultants revealed that voice shopping in the UK generated approximately US$5 billion in 2022, underscoring the impact of voice-assisted devices as a transformative force in retail (OC&C Strategy Consultants). Uber Eats in the US exemplifies this trend, having integrated an AI assistant powered by the Uber Large Language Model and built using Google PaLM. This tool helps customers find new meal ideas, complete tasks, and discover deals by analyzing the merchant catalog and utilizing search engine technology. Uber also collects customer feedback to continuously refine the assistant's capabilities

(Uber n.d.c). Individuals with vision impairments often face challenges when shopping both in-store and online. Voice assistants offer a tailored solution that enhances accessibility, engagement, and autonomy for these shoppers (Villegas-Ch, Amores-Falconi, and Coronel-Silva 2023). These tools are particularly beneficial on platforms adopting a hybrid model, as they can serve a broader audience. Digital voice assistants provide detailed product descriptions, pricing, personalized recommendations based on past purchases, and streamline the checkout process, improving inclusivity and user-friendliness for customers with vision problems (Villegas-Ch, Amores-Falconi, and Coronel-Silva 2023). However, companies will encounter some challenges in integrating advanced intelligent solutions into the platforms. Managing and processing the vast amounts of data generated from customers´ previous purchases and interactions necessitate scalable infrastructure and advanced computing techniques to ensure timely and efficient analysis (Thippanna, Albert, and Ramachandra 2023). This process also requires skilled professionals with expertise in the field. To provide customers with accurate and personalized suggestions, AI models must be trained to process data in real-time, a task that is both computationally intense and time-consuming. Moreover, platforms must prioritize data privacy and security, adhering strictly to the regulatory requirements and ethical guidelines. Implementing such technologies demands substantial investments in infrastructure and computational resources. Therefore, companies must carefully evaluate the associated costs and weigh them against the potential benefits to determine the feasibility and value of adoption (Thippanna, Albert, and Ramachandra 2023).

Action 2 – Seamless Omnichannel Experience

This recommendation is also highly desirable. Omnichannel has been a significant trend and utilizing it to its maximum advantage is key. By improving the omnichannel experience the companies can further increase the convenience and personalization options of online and in-store

shopping (Briedis et al. 2021). Implementing these features will boost customer satisfaction and loyalty, likely leading to higher sales through increased order frequency and larger average purchases. Consequently, these enhancements can help companies, particularly larger chains, sustain long-term growth and enhance their brand image and market position (Briedis et al. 2021). These QR codes would be managed through backend systems, linking the scanned code to product barcodes, promotions, and additional details. Platforms and physical stores can collaborate with GS1, a non-profit organization specializing in digital link technology, which provides QR codes compatible with barcode scanners and smartphones (GS1 2024). GS1 (2024) describes this technology as a "true revolution for supply chain management and marketing." The QR code will contain information about the barcode, thus prompting platforms to integrate QR scanning libraries into the app (Caine and Koetter 2018). Implementing this tech-based strategy comes with specific risks and challenges that require careful management for a successful outcome. Integrating QR scanning libraries into existing systems can present compatibility issues, necessitating a robust technical setup. Additionally, the QR codes, linked to customers' accounts and sensitive data, pose significant data security risks, demanding stringent security measures to comply with data protection laws. A major challenge is going to be convincing both less tech-savvy customers and those who are reluctant to share their data to adopt this new technology, potentially slowing widespread acceptance. Moreover, the strategy's success relies on the reliability of QR codes themselves. A poor scanning experience for the customers could lead to a negative response to this innovation, highlighting the need for precise quality control. A further risk factor is a reliance on external entities, given the importance of partnerships such as the one mentioned above with GS1 (Cocco and Demoulin 2022).

Action 3 - Streamline Returns and Refunds

The conducted focus group highlighted that complex refund processes are a significant drawback when purchasing online. The data suggests that companies using this model often have complex and inefficient return and refund processes, which can lead to customer dissatisfaction. Simplifying these processes could greatly enhance convenience and encourage more customers to shop online. This may prove to be a strategic move in the long run since more convenient and streamlined returns and refunds will increase customer satisfaction and retention, as was highlighted in our research. It may lead to having a competitive edge over companies that have inefficient processes in place, while also increasing brand recognition and loyalty. At the same time, implementing an automated process may require significant process changes and an initial investment.

For an efficient refund process, platforms should integrate a robust issue reporting system in their app, focusing on common problems including inaccurate delivery times, incorrect product selection, and defective items. This system should compile past issues and feedback to fuel an algorithm that determines eligibility for automatic refunds based on photo proof and set criteria (Wagner, Pinto, and Amorim 2020). In complex cases, a dedicated team should manually review the issue. Additionally, using data analytics to monitor product margins and return rates can help refine policies. However, automation risks include potential fraud, as seen with Amazon's multimillion-dollar losses (Palmer 2024). To mitigate fraud, platforms could track frequent refund requests, require photo evidence under certain conditions, and rate couriers based on their performance in handling issues (Uber 2024). Real-time fraud detection using AI and machine learning could also be integrated, though this poses challenges with legacy systems and requires seamless API integration (Wheeler 2024). Scalability is essential for managing large data volumes and ensuring the performance of tech platforms. Protecting against cyber threats is crucial,

necessitating strong encryption and data anonymization (Wheeler 2024). Finally, while optimal refund policies can control operational costs, offering only partial refunds may impact customer satisfaction and brand perception negatively (Li, Li, and Gharehgozli 2022).

Action 4 – Implement Temperature-controlled Containers and Pickup Points

Primary data pointed out that home delivery still has significant flaws in the eyes of consumers. Delays and inefficiencies in delivery also impact the choice to purchase groceries online. The temperature and climate-controlled containers could help to solve some of these problems, making the process easier and more convenient. It can help to make the delivery less unpredictable for the customers. Home delivery is the most expensive method and click-and-collect options are preferred (Tveraabak 2022). Having a convenient network of pickup points will have a positive impact in the long run leading to sustainable e-commerce operations. At the same time, the possibility of delivering the items unattended may also be a great additional feature for home deliveries. It will lead to higher customer satisfaction and an increased usage rate leading to increased revenue (Ladd 2020). They also have great potential from the sustainability point of view, further strengthening the case for long-term viability (Neerman 2022). Additionally, it will require a thorough analysis and finding the right partners, with potential upfront costs regarding real estate which could prove to be more challenging.To implement temperature and climate-controlled delivery containers, companies would need to expand their supply chain, potentially partnering with specialized providers or considering in-house production to handle logistics (XPO 2022). These containers would require integrated technology for GPS tracking and temperature monitoring to ensure product integrity (Bai et al. 2023). Security measures, such as security codes, must be in place to prevent unauthorized access. A pilot program could test the system's effectiveness and gather customer feedback (Wood, 2022), and a marketing campaign would educate consumers about this

new delivery method (Smallwood, 2019). For container returns, solutions including designated drop-off points, in-store returns, or collection during subsequent deliveries could be explored, possibly supported by a deposit fee that is reimbursed upon return (Dublino 2024). This delivery method introduces additional considerations such as ensuring data security, especially if biometric data is used, in compliance with GDPR and other regulations (European Commission n.d.). Food safety is another critical aspect, requiring adherence to regulations and effective monitoring of conditions, including temperature and humidity through IoT and sensor technology (Bai et al. 2023; European Union, n.d.a.). Dedicated pickup points could be established through rental or local partnerships, optimizing for high-density areas with easy access for cyclists and pedestrians (Carrefour 2021; Neerman 2022). These points must ensure secure order collection, potentially using biometric verification or security codes. The financial implications of acquiring real estate for these points necessitate a thorough cost-benefit analysis. Operations would need to adapt for efficient delivery, and customer education on the new pickup method is crucial (Twin 2024).

Action 5 – Implement Automation in Operations

This is a highly desirable solution for customers, and companies have been trying to automate their processes for years. Customers want convenience, speed, and accuracy. All of this is provided by effectively implementing automation (Eley and McMorrow 2020). This would likely increase customer satisfaction. However, as previously mentioned, some of the options could lead to lower product range, which could be a downside (Chandra et al. 2022). Automation has been a relevant topic, especially in e-commerce, over the last decades. It may be able to significantly reduce the costs with personnel as well as faster and more efficient deliveries and grocery picking, it can potentially increase the low margins in the long term. The downside is that it is highly complex technologically and may require significant capital expenditures (Eley and McMorrow 2020). A

careful analysis needs to be performed to understand which degree of automation the companies need and in which geographic markets it would make more sense. When implementing automation, a comprehensive strategic analysis is essential to assess business needs such as geographic location, product range, volume, speed requirements, and target audience to select the most suitable solution. Utilizing existing in-store warehouses or the company's current facilities can be less complex than third-party solutions, which may be more appropriate for advanced automation needs if in-house capabilities fall short (Head of South in Portugal at Glovo 2024; Chandra et al. 2022). Large-scale automation might be efficiently addressed through third-party providers such as Ocado, which licenses its technology and has completed multiple implementations (Eley and McMorrow, 2020). An initial pilot program can be beneficial in testing these technologies and refining processes (Wood 2022). Implementing complex automation systems will involve high upfront costs and require significant workforce training, leading to additional financial investment. It's also important to consider the potential displacement of jobs, necessitating careful analysis and communication during the transition.

Action 6 – Improve Dynamic Pricing

Consumers may not directly seek a solution such as dynamic pricing, but the price is one of the major factors in e-grocery shopping (Purta et al. n.d.). According to research findings, consumers would buy more if they had no delivery fees or if those were reduced. Loyal consumers will benefit from better delivery fees, and customers seeking value-added services will also be targeted accordingly. Tailored promotions according to the customer segment are also highly desirable as they would offer a more personalized experience and would increase grocery delivery usage.

The current subscription models are mostly inefficient. The proposed changes to the loyalty programs are a great alternative to reducing delivery costs and improving efficiency. Tailoring the

delivery fees based on customer profile and usage frequency may further boost this proposition (Wagner, Pinto and Amorim 2020). It will likely lead to a more personalized offer, increased customer satisfaction and loyalty, and boost online grocery sales. The suggested changes to leverage the items nearing the optimal consumption level make this a viable long-term solution to improve the environmental impact as well. To implement dynamic pricing effectively, platforms should utilize their data analysis and pattern recognition technologies to tailor subscription offerings and delivery fees based on customer profiles, which could include factors such as basket size and purchase frequency (Wagner, Pinto, and Amorim 2020). By analyzing real-time data, platforms can segment customers by price sensitivity, activity, inventory levels, competitor pricing, and time-based willingness to pay (Koch and Klein 2020). Additionally, platforms could employ dynamic pricing algorithms for perishables by partnering with technology providers such as Wasteless, which uses QR codes for real-time inventory tracking and adjusts prices based on expiration dates, demand, and competitor pricing (FT Strategies 2023; Kumar et al. 2021). Dynamic pricing is permissible under EU consumer law if platforms disclose that prices are based on automated decision-making, in compliance with the Omnibus Directive and Directive (EU) 2019/2161. Transparency about how customer data influences pricing is essential (European Union n.d.b.). However, adopting dynamic pricing carries risks, such as potential price discrimination and market impacts if competitors adjust their prices simultaneously (Mackay and Weinstein 2022). The controversy around the Wish platform demonstrates the pitfalls of undisclosed personalized pricing – which was prohibited of applying dynamic pricing in Europe (Heidary 2022). To avoid legal and ethical issues, platforms must comply with GDPR, ensure algorithmic fairness, maintain transparency, and define clear policies for the use of data in pricing decisions (Siau and Wang 2020).

5.4. Impact on Current Business Model

Based on the provided recommendations, a potential future BM is now going to be outlined. Concerning the value proposition of the Hybrid Model, evaluated through the DVF Framework, all proposed recommendations are assessed as highly desirable by customers, except for Automation with a score of 4. The enhancement of personalization will enable customers to perceive the platform as more intuitive and aligned with their specific needs, fostering trust and loyalty among existing users. Additionally, the development of a seamless omnichannel experience will expand the service´s accessibility to a wider audience, making the platform more appealing across different customer groups. The simplification of refunds and returns will enhance customer confidence when purchasing groceries, thereby increasing their willingness to engage with and rely on the platform. Furthermore, innovations in logistics and delivery will provide greater flexibility and improve the overall customer experience, ensuring timely service without delays. The implementation of dynamic pricing strategies and value-added services, such as free delivery and promotional offers, will further incentivize customers to place orders more frequently, fostering long-term loyalty and engagement. These recommendations will also expand the range of customer segments the BM can serve. Quality-conscious customers, who prioritize the products they acquire, will find confidence in the 360º product view and real-time personal shopper interaction, reinforcing their trust in the platform. Younger generations, attracted to social media interactions, will be targeted through the integration of social features that align with their digital habits. Older customers, who often prefer in-store shopping, will find the option to scan products and schedule a delivery at a convenient time a practical bridge to online shopping, thereby broadening their adoption of the platform. Price-sensitive customers will benefit from the platform´s dynamic pricing approach, perceiving it as more cost-effective and thus encouraging frequent purchases.

Collectively, these advancements aim to position the business as inclusive, adaptive, and capable of meeting the diverse needs of its customer base while driving growth and loyalty. The proposed recommendations will significantly influence the revenue model by diversifying revenue streams, enhancing customer retention, and optimizing pricing strategies. Personalization efforts, such as recommending products aligned with customer preferences, are expected to lead to larger basket sizes, as customers purchase more items online rather than offline. Additionally, enabling customers to visualize products more comprehensively will encourage increased online transactions. Integrating social media-style features into the platform will drive revenue growth by encouraging purchases influenced by recommendations from individual customers to follow on the platform. Collaborations with partner stores to integrate QR code features will target customers hesitant about online shopping, converting them to the hybrid BM. Similarly, introducing flexible pickup points will attract revenue from additional customer segments. Dynamic pricing mechanisms will adjust delivery fees based on demand, thereby optimizing revenue generation for the platform. Furthermore, segment-specific pricing strategies will maximize customer surplus and overall profitability. The implementation of these recommendations will also reshape the cost structure of the Hybrid BM. Initially, the development of necessary technologies will require substantial investment. For instance, algorithms designed for personalization will need to analyze purchasing patterns and manage data effectively. Other technological advancements, such as social media-style features, 360º product viewing, real-time shopper interaction, automated refund systems, dynamic pricing, and subscription models, will demand significant upfront expenditures. While these innovations may increase initial and maintenance costs, they will ultimately reduce inefficiencies and enhance margins. From a logistical and operational perspective, investments in infrastructure such as temperature-controlled containers and delivery lockers will make companies

incur high initial costs. However, these investments will reduce long-term delivery fees associated with personal shoppers, enhancing overall platform profitability. The technological, operational, and human capabilities of the BM will also experience substantial improvements. The company will need to deepen its expertise in AI and data storage to implement the proposed recommendations effectively. Advanced technological proficiency will become a core competency, necessitating comprehensive staff training to ensure the platform's operation. As delivery operations expand, the development of more efficient logistics systems will be essential, to improve inventory management and stock levels accurately. Operational excellence will be essential to deliver a great customer experience.

6. Limitations & Extensions

The research conducted and the recommendations suggested in this paper were prone to limitations. Firstly, it was limited by resource and time constraints. Due to these challenges, the number of research techniques used, and the amount of data gathered, was limited. Additional resources and time could have allowed for a more in-depth analysis of specific aspects of the BM studied and additional insights. Furthermore, the industry presents a complex pattern of BM and interplay between the different parties. Companies may present characteristics that allow them to be considered in several BMs simultaneously, for instance, Glovo operates its own dark stores, and serves as a platform for meal delivery as well as a platform for grocery delivery. This is also a dynamic industry which is deeply affected by technological advancements. Characterized by a rapid change, it may quickly make our recommendations obsolete. To attenuate this problem a Scenario Planning framework was used. The geographical scope of the paper is also limited since only the European market was analyzed. This market has some distinct players and has a dynamic

picture in terms of customer preferences as well as a strong regulatory landscape. However, there are markets that are often considered more advanced when it comes to OGD, such as the US market or China.

To extend this paper and provide additional insights on this industry several possibilities exist. Firstly, applying this analysis to other geographies could provide additional understanding of consumer behavior and a better understanding of future trends. Regulatory challenges, especially in the European market, are also a major force affecting this industry. Potential regulations on the status of gig workers could have profound impacts on many of the BMs studied. A more in-depth analysis of the current and potential regulations that may affect the European market could also prove insightful. Regulations on sustainability topics, as well as a broader analysis of the environmental impact of each BM, could also provide a better understanding of the long-term viability of each model. Lastly, an in-depth analysis of emerging technologies could help to further create a picture of this industry's outlook.

7. Conclusion

The OFD sector has rapidly evolved due to the global increase in digitalization and smartphone usage. In Europe, this transition has been more gradual, yet it has seen substantial advancements over the last decade. As a result, the industry features a variety of BMs, ranging from mature BMs as aggregators and direct-to-consumer to newer concepts such as quick commerce (Q-commerce). This sector has diversified significantly, with grocery delivery models emerging and showing promising growth, surpassing that of ready-to-eat meals. Given the projected growth in this area, together with experts' interest and the scarcity of research, the hybrid delivery model was selected for in-depth analysis based on its blend of brick-and-mortar and pure-play partnerships. Experts

interviewed expressed concerns and curiosity regarding the future of this BM. It offers multiple advantages through its unique partnership structure, which leads to cost reduction and shared risks while providing a robust customer value proposition that builds trust among European consumers. Nevertheless, it faces fierce competition, marked by price wars and struggles for cost leadership, compounded by narrow profit margins. Experts have expressed concerns about macroeconomic factors, including gig worker regulations, rapid technological advancements, and shifting behaviors among the emerging Generation Z. Additionally, customer personalization has emerged as a persistent theme in the interviews in the context of high inflation and slow economic growth. Furthermore, the vulnerabilities related to supply chain disruption and insufficient communication concerning inventory management, due to its partnership nature, present a significant challenge in meeting customer needs. To formulate reliable recommendations, understanding customer needs and desires was essential. Insights gathered from surveys, interviews, and a focus group enabled the development of suggestions that would meet consumer demands while addressing the issues highlighted by experts. To mitigate the challenges posed by slim profit margins, the recommendations focused on strategies to enhance and maximize profits by increasing purchase frequency, basket size, and fostering customer retention. Considering these insights, six main recommendations were drawn up, exploiting BM's main advantages of market reach and awareness as well as assessing vulnerabilities and external factors. The recommendations focus on two primary areas for profit maximization: improving customer experience and enhancing logistics and operations. They include: (1) Personalize the in-app experience; (2) Ensure a seamless shopping experience; (3) Streamline refunds and returns; (4) Implement temperature-controlled containers and pick-up points; (5) Implement Automation in Operations; (6) Improve dynamic pricing strategies. These recommendations address the main pain points identified by customers in their

in-app and shopping experiences, targeting the needs of European consumers while recognizing the prevalence of both online and offline shopping. Furthermore, they enhance the value proposition by leveraging convenience and technology. By increasing customer satisfaction and meeting current needs, these strategies are expected to foster customer loyalty and trust, ultimately improving long-term profits. According to experts, platforms are not only focused on their success but also the success of their partners. These recommendations enable the creation of an enhanced experience for both and leveraging network effects. After evaluating the recommendations based on desirability, viability, and feasibility, the most urgent ones to implement were identified based on the highest scores: (2) Ensure a seamless shopping experience and (6) Improve dynamic pricing strategies. The other recommendations also hold significant importance and urgency as the scores do not differ markedly. These recommendations empower hybrid platforms to increase the average ticket price and encourage customer retention, which will establish a superior BM for hybrid delivery with a strong emphasis on personalized service and an easy-to-manage platform, enabling the diversification of revenue streams and enhancing its offerings by targeting and segmenting different types of products. The research goal of this work was to propose changes to the Hybrid BM. The context and environment were carefully evaluated and studied, resulting in accurate and applicable recommendations.

In conclusion, market and macro trends are profoundly shaping changes in the OFD industry and its BMs. There is a strong need to develop personalized experiences and offer further customization and convenience to European consumers to formulate a differentiating proposition and have a chance to succeed in this competitive market landscape.

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Appendix

Appendix 1: List of customer interviews, surveys and the focus group

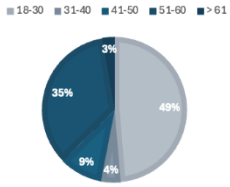
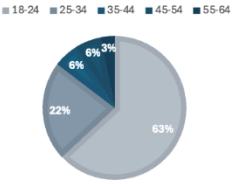
Interview Type	Objective	Age Group	Answers	Insights	Date
Customer Interviews	Understand the needs, concerns, perceptions, and preferences of who do not regularly use e-grocery services.	20-30	20	Identify barriers to adoption, uncover expectations and pain points, explore potential motivators, and analyse how non-users compare their in-store experiences with their perceptions of online grocery shopping.	01/10/2024 - 30/11/2024
Survey_1	Analyse insights from customers who have at least once used online food delivery services.		146	Information regarding purchase behavior,routines, pain points, most used platforms, and open ended questions for recommendations.	04/10/2024
Survey_2	Analyse insights from customer who use or do not use online grocery delivery services.		113	For users, understand motivations to use this service, pain points and purchase patterns. For non users, understand motives to not use and which factors would motivate them to use. For both, it was tested the adoption of potential recommendations and identification of areas of improvement.	18/10/2024
Focus Group	Encourage e-grocer customers to share their personal and professional backgrounds, fostering an informal atmosphere essential for full expression of opinions on areas of improvement.	22-27	5	Deepen the understanding of their preferences for online grocery shopping and specific pain points, drawing valuable information for strategic recommendations.	21/11/2024

Table 2 - List of customer interviews, surveys and the focus group (Authors' illustration)

Appendix 2: List of experts interviewed

Expert	Interviewee's Position	Company	Company Description	Gender	Date	Format
1	Head of South of Portugal	Glovo	Spanish multi-vertical platform established in 2014, now operating in 25 countries worldwide	Male	10/10/2024	Online
2	Country Manager in Portugal	Mercadão	On-demand marketplace for retailers, specializing in delivering large-size baskets for Pingo Doce	Male	10/10/2024	Online
3	Strategy and Operations Manager	Bolt	Technology company which provides mobility and food delivery services, present in 45 countries worldwide	Male	16/10/2024	Online
4	Head of E-Commerce	Continente Online	Renowned portuguese brick-and-mortar company	Male	04/11/2024	Online
5	Food Delivery Consultant	SAVOUR	Company which helps restaurants and supermarkets fully outsource delivery platform management	Female	22/11/2024	Online
6	Business Developer	HelloFresh	German company that delivers meal kits with fresh and high quality ingredients	Female	28/11/2024	Online

Table 3 - List of experts interviewed (Authors' illustration)

Appendix 3: PESTN Analysis of Hybrid Delivery Model in OFD Industry

FACTOR	KEY INSIGHTS
POLITICAL & LEGAL	• **Legislation of digital labor economies:** In 2024, European Governments became the first legislators to propose legislation regarding employee status of couriers – providing labor rights, transparent work conditions and minimum wages (European Council 2024). An attempt to provide legal certainty on the "misclassification" of millions of workers, who were 28 million in 2023, and expected to reach 43 million by 2025 (European Parliament 2019). • **European Green Deal:** new growth strategy aimed at achieving climate neutrality by 2050. Includes EU's Directive on single use plastics and imposing green technologies using electricity and renewable energy sources (European Commission 2019).
ECONOMIC FACTORS	• **Market Penetration Rate Heterogeneity:** UK has a 10% market penetration for online grocery shopping, while Portugal lags at 3% to 5%, shaped by cultural preferences (Head of E-Commerce of Continente 2024). • **Inflation:** downward trend accompanied by slow wage growth in the second quarter of 2024 (Barnes 2024). Impacted by the COVID-19 pandemic and Russia's invasion of Ukraine, inflation was impacted significantly leading to its surpassing of per capita disposable income growth and thus reducing the budgets of European households. Despite recent improvements, European consumers are not significantly increasing their spending but rather downtrading and putting a bigger spotlight on price (McDougall 2024; Romei 2024). • **Higher sensitivity to price:** The premium that consumers were willing to pay for healthy and sustainable items is also decreasing.
SOCIAL FACTORS	• **Cultural Differences:** both between and within countries is magnified by refugee movements and migration. In Southern Europe, grocery shopping is often a weekend family activity, whereas in Nordic countries, where brick-and-mortar stores are closed on Sundays, grocery delivery is more appealing. • **Urbanization**: relevant phenomenon across the globe but also cities, and this creates many opportunities for businesses (Runde 2015). • **Social media:** consumers are increasingly using social media to make purchases, and this is an area that industries need to be familiar with and utilize to their benefit (Haan 2024).

	• **Health and Sustainability:** Sustainability concerns are especially present among the young consumers which are still willing to pay a premium for sustainability, although less so than a few years ago, while wellness (e.g. weight management products) are increasingly important transversally (Adams, Alldrege and Kohli 2024). • **Aging Population:** This trend is characterized by an increase in the share of the elderly population and a decrease in working-age people in the total population (Eurostat • 2024). At the same time, Europe is seeing an increase in single-person households (Eurostat 2018). The demographic changes can have a significant impact not only on consumer spending, but also in the labor market so businesses should be aware of these factors.
TECHNOLOGICAL FACTORS	• **Automated delivery:** either through vehicles or drones. In 2024, Amazon challenged the status quo, by implementing *Amazon Prime Air* in Italy and the UK, an autonomous drone delivery system to penetrate the European market. This system consists of individual packages' autonomous delivery within 30 minutes (Lok 2017). Amazon is investing in refining the security design of the drones to reach far locations, integrating them into the Amazon Delivery Network (Amazon 2023). In 2024, Bolt in a partnership with Starship Technologies launched autonomous robots that deliver groceries in Tallinn in a 3km radius of stores (Bolt 2024). This development supports green technologies by reducing carbon emissions and traffic. • **Artificial Intelligence:** powerful tool that can greatly enhance customer experience by personalizing options on platforms, optimizing routes, and enabling real-time tracking, which offers customers increased security (Costa 2024). Allied with the evolution of big data, Europe's industries and services can be transformed by using analytics and transforming data into innovative and complete products that can fulfill customer needs (European commission 2024).
ENVIRONMENTAL FACTORS	• **Extreme weather conditions**: lead to significant supply chain disruptions. It is expected that indirect costs associated with supply chain disruptions will grow exponentially in the following decades, while direct costs will also remain relevant. Since the world has become growingly interconnected, a disruption in one part can cascade onto other parts of the world. Supply chain disruptions can affect costs, so it is relevant to consider, and it has been a growing threat over the last years (Wang, 2024). Businesses must adapt to the growing

	demands by looking into renewable energy sources and reduce the dependency on fossil fuels. But at the same time, the research has found that companies that invest in having a sustainable offering often face issues as on paper consumers are willing to buy them but often don't follow with that commitment and price still plays a more tangible role (White, Hardisty and Habib 2019; Purta et.al. n.d.). • **Sustainable Offering:** leveraging the domino effect, as after consumers adopt sustainable practices in one area, they are more likely to follow through with the same approach in others, can make companies be able to be more successful when it comes to having a sustainable offering (White, Hardisty and Habib 2019). Making a sustainable offering is thus an option for companies and can provide an advantage in the eyes of the consumer if the price increase is reasonable. But environmental topics are also regulated and so it is also necessary to abide by certain rules, such as EU rules on packaging and packaging waste are important for the food delivery sector and need to be considered (European Commission, n.d.).

Table 4 - PESTN Analysis on Hybrid Delivery Model (Authors' illustration)

Appendix 4: Analysis of Market Trends based on Primary Data

SOURCE	KEY INSIGHTS
SURVEY RESULTS	**Survey 1 (OFD users – including meal and grocery delivery)** • **Diverse Consumer Preferences**: The European OFD market is characterized by significant heterogeneity influenced by diverse eating habits and lifestyles across countries. Some nations possess deeply rooted dining traditions that may impact the adoption and growth of delivery platforms (Statista 2024a). Nonetheless, there is a notable trend towards online ordering
	gratification affecting consumer behavior across different countries. • **Important factors for selection**: A critical factor in platform selection, pricing, particularly delivery fees, is pivotal with 72.2% of consumers identifying it as a key selection criterion. Discounts and promotions were valued by 66.1%, while 55.7% highlighted the importance of the delivery speed. The preferred delivery fee range is between €2 and €4, highlighting a strong consumer aversion to high charges.

	Survey 2 (OGD users and non-users) • **Frequency and Spending on Grocery Delivery**: Among the respondents who used OFD, 64% have used online platforms for grocery delivery, although 45% do so less than once every two months. Expenditure patterns show that 41% spend under €20 per order, while 35% spend between €20 and €50, indicating varied spending habits. • **Motivators**: Convenience was the most cited motivation accompanied by the ability to save time and the avoidance of physical stores visits. The ability to shop niche products as organic and vegan products is also valued by respondents. • **Product Preferences and Platform Choices**: Commonly ordered items include packaged snacks, beverages, dairy, and fresh products (such as fruits and vegetables) as well as household essentials such as cleaning supplies, with Glovo and Uber Eats being popular choices alongside traditional supermarket chains. • **Low Subscription Uptake**: Despite marketing efforts, 75% of consumers do not subscribe to any delivery platform, with those who do subscribe primarily motivated by access to discounts, indicating a general reluctance towards subscription commitments. • **Desired Improvements**: There is a strong consumer preference for platforms that offer free or low-cost delivery. Additionally, enhancements in customer experience, availability of local specialty items, and the integration of AI for personalized service recommendations are highly valued by users.
FOCUS GROUP (E-GROCERY USERS ONLY)	• **Diverse Consumer Motivations:** Consumers choose online grocery shopping for convenience, influenced by identified customer subgroups. The first own defined as "food deserts" by Food Empowerment Project (2017) – a geographic area where the access to affordable and healthy food options is restricted. Other subgroups include ones with limited local store options, or personal time constraints. • **Pain Points in E-Grocery:** Main issues include mismatches between expected and received products, complex return processes, non-eco-friendly packaging, and inventory discrepancies impacting product availability. Regarding the mismatching between expected product and received, there are two sub-issues. Firstly, there is the high selectiveness of consumers regarding fresh products such as fruits, vegetables, meat, and fish. Secondly, for packaged perishable goods such as beverages and dairy products, it is impossible to verify expiration dates when shopping online.

	• **Recommendations for Improvement:** Suggestions include ability to set product preferences (such as expiration dates), access promotions for products near expiry date, easing the returns process, reducing plastic use, and maintaining accurate online inventory systems. • **Enhanced Personalization:** Proposed enhancements to personalize shopping experiences through data-driven suggestions and integrating social-media-like features to inspire and facilitate shopping.
CUSTOMER INTERVIEWS (E-GROCERY NON-USERS ONLY)	• **Personal Connection to Shopping:** Many respondents view grocery shopping as a personal and social activity, appreciating the ability to physically check and select fresh products. • **Quality and Handling Concerns:** Skepticism exists about the ability of online services to match the quality and care of first-hand in-store selection, especially for perishable items. • **Barriers to Adoption:** High delivery fees and unfamiliarity with online grocery options are significant barriers, together with concerns over delivery reliability. • **Habitual Shopping Patterns:** There's a misalignment between the spontaneous and frequent shopping habits of some consumers and the structured nature of online ordering. • **Flexible Delivery Needs:** Consumers desire flexible and responsive delivery options that align with their varying schedules and immediate needs. • **Motivators for Adoption:** Financial incentives such as free or discounted delivery and assurances of product quality and proper packaging could motivate non-users to try e-grocery services. • **Conditional Consideration:** Some participants might consider using e-grocery services under specific factors – financial aspects (discounts or free delivery), improve quality standards for perishable items delivery and life circumstances that make traditional shopping challenging (e.g.busy schedule.

Table 5 - Market Trends Based on Primary Data (Authors' illustration)

Appendix 5: Proposed Example of a Streamline Refund Process

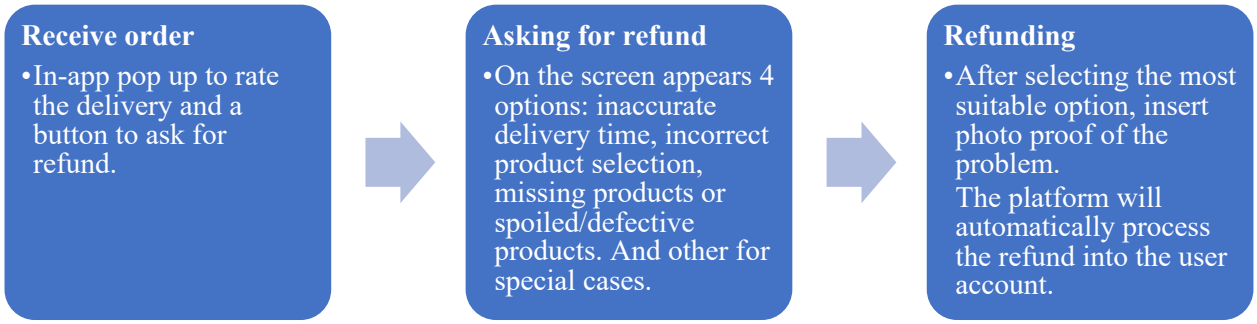


Figure 6 - Proposed Example of a Streamline Refund Process (Authors' illustration)

Appendix 6: Summary of the DVF Framework Applied to Recommendations

ACTION	DESIRABILITY	VIABILITY	FEASIBILITY
ACTION 1: PERSONALIZING IN-APP EXPERIENCE	**5**	**4**	**4**
	Highly desirable since personalized and engaging shopping experience is highly sought after	Despite the initial investment, it is expected to generate significant benefits in the long-term proving to be a viable option	The technological requirements including AI and machine learning can be complex but with the increasing availability and developments in the area it is a worthwhile investment
ACTION 2 - SEAMLESS OMNICHANNEL EXPERIENCE	**5**	**5**	**4**
	Highly desirable due to significant demand for a seamless omnichannel experience aligning with the trends for convenience and personalization	Highly viable providing a boost in customer satisfaction, loyalty and increased sales	QR codes technology despite having benefits requires careful analysing of the technical challenges as well as data security

			and customer adoption
ACTION 3 - STREAMLINE RETURNS AND REFUNDS	**5**	**4**	**4**
	Highly desirable since a complex refund process may curb online shopping and provide an unpleasant experience. The recommended process will boost customer satisfaction and willingness to shop	It is viable since it can increase customer satisfaction and loyalty, but at the same time may require significant investment and process changes	Implementing a robust issue report system may be feasible, but it can also present issues when it comes to scalability, data security and fraud prevention
ACTION 4 - TEMPERATURE AND CLIMATE-CONTROLLED CONTAINERS AND PICKUP POINTS	**5**	**4**	**4**
	Very desirable since it helps to alleviate current problems with the delivery enhancing convenience and customer satisfaction	It is a viable long-term solution due to the benefits in sustainability, customer satisfaction and cost reduction. But may require upfront investment and careful planning and partnership selection	It is a feasible solution but will require a significant investment in terms of logistics and technology. Supply chain management, data privacy, food safety and efficiency will need to be considered.
ACTION 5 - AUTOMATION	**4**	**4**	**4**

	Desirable since a significant boost in efficiency can create a better customer experience but certain modalities may compromise on product range	Viable action, but despite allowing for a significant cost reduction and efficiency boost, it requires a significant level of investment	Feasible but involves a through strategic planning to select the right options and partners. The technology may also prove to be quite complex
ACTION 6 - IMPROVE DYNAMIC PRICING	**5**	**5**	**4**
	Highly desirable. It can boost customer satisfaction and loyalty, while also improving the environmental impact	Highly viable leading to improved customer satisfaction, reduced costs and sales increase	Feasible solution but requires a thorough analysis of the legal framework and ethical considerations. Transparency and fair treatment become paramount

Table 1 - Summary of the DVF Framework Applied to Recommendations (Authors' illustration)