

# Unlocking e-commerce potential: micro and small enterprises strike back in the food and beverage industry

Food and  
beverage  
industry's  
e-commerce

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## Abstract

**Purpose** – The recent pandemic period (COVID-19), while negatively impacting many companies, has contributed to the growth and adoption of online platforms such as marketplaces and e-commerce. This environment has led many companies, which previously acted only through offline channels, to adopt new technologies and online channels and develop new e-commerce strategies. Small and micro enterprises are most vulnerable due to their limited resources and lack of capabilities. For this reason, the main objective of this paper is to unveil the e-commerce implementation capabilities that micro and small enterprises should build and the challenges they must face when managing an e-commerce strategy.

**Design/methodology/approach** – The authors adopted an inductive qualitative research design approach focused on multiple case studies. The firms operate in the food and beverage industry.

**Findings** – The findings identify several e-commerce implementation capabilities that micro and small enterprises operating in the food and beverage industry should build to manage e-commerce strategies. These are related to outsourcing management, multichannel management, time management, internal stock management and marketplace choice. Moreover, the paper identifies key e-commerce implementation challenges these firms must cope with. These regard distribution management, potential loss of control, fresh product management and lack of resources, time and capabilities.

**Originality/value** – This research shows that proper capacity management in the implementation of micro and small enterprises e-commerce strategies is critical to achieving efficient results and preventing challenges that threaten such strategies. The research offers guidelines and frameworks for micro and small enterprises to understand how to manage e-commerce and face its challenges.

**Keywords** e-commerce management, Micro business, Micro and small firms, SME, Digital transformation, Digitalization, Digital platform

**Paper type** Research paper

## 1. Introduction

E-commerce platforms have revolutionized the relationship between companies and their customers, as more and more people buy and interact online (Hajli and Featherman, 2017). However, not all customers buy online, due to psychological, cultural, functional and social reasons that are still representing important barriers (e.g. Hallikainen and Laukkanen, 2018). Moreover, not all companies, especially smaller ones, seem to be equipped to keep pace with



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the current digital transformation and to integrate digital technologies into business processes, or it is not in their strategic agenda yet (Abed *et al.*, 2015; Agostini and Nosella, 2019). From a resource-based view (RBV) perspective (Armstrong and Shimizu, 2007), thus, many firms still struggle to find the proper resources, either tangible or intangible, to successfully exploit online strategies. Small and medium-sized enterprises (SMEs), in particular, face unique challenges in identifying and deploying the appropriate resources and capabilities to capitalize on the opportunities presented by the digital world (Heubeck and Meckl, 2022; Li *et al.*, 2022; Warner and Wäger, 2019). Indeed, in the context of online strategies, SMEs have certain characteristics that can confer competitive advantages (Jantunen *et al.*, 2005; Nasution *et al.*, 2021; Teece, 2012; Teece *et al.*, 1997). Firstly, their entrepreneurial orientation allows them to be innovative, take calculated risks and explore new opportunities in the online realm. Secondly, SMEs usually have simple capital structures, meaning they are less burdened by complex financial arrangements and can be more agile in their decision-making. Thirdly, SMEs' dynamism sources refer to their ability to proactively adapt and learn from experiences, which leads to an improved understanding of their online operations. Therefore, in the digital landscape, the relationship between resources and capabilities in SMEs is especially important to maintain their competitive position in the constantly evolving online markets (Fabrizio *et al.*, 2022; Jafari-Sadeghi *et al.*, 2021).

In such context, the *impetus* given by COVID-19 to the increasing adoption of digital technologies and e-commerce platforms cannot be ignored (Bhatti *et al.*, 2020; Bresciani *et al.*, 2021a, b). The pandemic has altered the *status quo* from an economic and social point of view. At the same time, it has contributed to a further and faster "digital education" of people (Dwivedi *et al.*, 2020) while also causing negative aftermath such as increasing anxiety (Singh *et al.*, 2020). By contrast, businesses in different sectors have undergone regulatory and competitive pressures that pushed them to revise their business models digitally (Seetharaman, 2020). Hence, companies that delay in embracing a digital philosophy risk falling behind in the digital change that is affecting all businesses.

For these reasons, in a world already influenced by key driving forces such as social media, mobile, cloud computing, Internet of Things and artificial intelligence, the global pandemic has fostered the adoption and spread of e-commerce technologies even further. More importantly, whereas lockdown has led to fewer physical and more digital interactions, it is reasonable to expect an increasing diffusion of social commerce technologies and practices (Ma'ady and Wardhani, 2022).

From a theoretical point of view, the literature on e-commerce and social commerce has received increasing attention in the last years, providing explanation on consumers' behaviors and attitudes (Wang and Yu, 2017). For example, it has been established that potential customers surf social commerce platforms, before actually buying products or accessing services, to explore negative reviews containing service failure information and positive reviews containing information on core functionalities, technical aspects and aesthetics (Ahmad and Laroche, 2017). Despite this, we know nothing yet on how COVID-19 has changed their behavior and how the current relentless acceptance and spreading of new technologies (Schmidhuber *et al.*, 2020) will change their stance even further. Also, from an organizational perspective, there is a paucity of studies on the resources, skills and competences that companies need to possess to adapt business and functional strategies at this time of strong change, or how to adapt business models in response to external drivers of change. For example, the COVID-19 and the relative lockdown posed several challenges for the logistics management related to traditional and online sales channels. This makes it necessary to advance different theories (RBV and knowledge-based view among others) at this time of change driven by digitalization. This is even more relevant in the context of smaller firms, which traditionally suffer from a liability of smallness and have fewer resources compared to larger firms (Choi *et al.*, 2022; Jabeen *et al.*, 2023; Troise *et al.*, 2023).

In this context, previous research has highlighted that technological competence, digital marketing skills, customer engagement and data analytics are key capabilities that can contribute to embracing digital transformation and enhancing a company's business, especially in larger companies, as they invest more in them to achieve greater capabilities and leverage them as a leadership asset (Fitzgerald *et al.*, 2013; Sebastian *et al.*, 2020). In contrast, financial constraints, limited technological infrastructure, insufficient digital skills among employees and concerns over data security and privacy are among the challenges that SMEs may encounter when embracing digital transformation (Bresciani *et al.*, 2021a, b). Despite the importance of this topic, it is worth noting that the existing literature on the adoption of e-commerce strategies by SMEs remains limited and scarce. To the best of our knowledge, little comprehensive research has been conducted in this specific domain, with insufficient attention given to understanding the nuances of e-commerce strategy adoption among SMEs. Thereby, examining the factors influencing e-commerce adoption decisions among micro and SMEs and assessing the outcomes of these strategies can shed light on the challenges and opportunities faced by smaller enterprises in the digital marketplace.

In line with the above, scholars that have studied the underlying issues behind SMEs' low e-business adoption have revealed that smaller firms experience the high costs of successfully integrating external and internal business processes into e-business as barriers (Cassetta *et al.*, 2020). Hence, the major challenge for smaller firms aiming to operate online is determining how to make their overall e-business strategy less risky, while incurring the minimum costs possible.

In view of this, this paper aims to address the following research question:

*RQ1.* What are the essential e-commerce implementation capabilities that micro and small enterprises should develop and what challenges must they overcome while implementing and managing an e-commerce strategy?

This research leverages an inductive qualitative research design approach focused on multiple case studies (Eisenhardt and Graebner, 2007) of micro and small enterprises. The data was primarily drawn from observations and semi-structured interviews. We interviewed managers of food and beverage companies. The findings identify several e-commerce implementation capabilities that micro and small businesses operating in the food and beverage industry should build to manage e-commerce strategies. These are related to: outsourcing management, multichannel management, brand management, time management, internal stock management and marketplace choice. Moreover, the paper identifies key e-commerce implementation challenges these firms must cope with. These are related to: distribution management, loss of control, fresh product management, lack of resources, time and capabilities. Overall, the paper contributes to the literature of digital transformation of SMEs (Jafari-Sadeghi *et al.*, 2023; Riaz *et al.*, 2023), unveiling the e-commerce implementation capabilities that SMEs should build and the challenges they must face when managing an e-commerce strategy. In terms of practical implications, the paper gives insights and tips to embrace an e-commerce strategy will less uncertainty.

## 2. Literature

With the outbreak of the pandemic, e-commerce grew exponentially and allowed companies to continue to reach their customers during the lockdown (Bhatti *et al.*, 2020). From a consumer perspective, the pandemic accelerated the adoption of these technologies to buy online, allowing customers to learn new skills and technology usage at a faster pace (Hernandez *et al.*, 2009). However, not all companies, particularly micro and SMEs, were able to fully capitalize on this opportunity (Amornkitvikai *et al.*, 2022; Ramanathan *et al.*, 2012). To effectively thrive in online marketplaces, companies should strategically manage and leverage the resources and

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capabilities at their disposal (Kurnia *et al.*, 2015; Bargoni *et al.*, 2023). Indeed, the success or failure of firms is not solely determined by industry structure, but rather hinges on their ability to strategically deploy and develop the resources and capabilities under their control (Schendel, 1994). In this regard, the dynamic capabilities framework has emerged as a prominent focus of research in strategic management, which refers to the organizational and strategic routines employed by firms to adapt their resource configurations in response to ever-changing market dynamics (Eisenhardt and Martin, 2000; Santoro *et al.*, 2019). Hence, dynamic capabilities view (DCV) and RBV (Bargoni *et al.*, 2023; Barney, 1991; Wang and Ahmed, 2007) can be applied to explain the ability of SMEs to adopt e-commerce strategies. First, SMEs need to be able to detect opportunities and threats in the e-commerce market (sensing). This step involves monitoring industry trends, analyzing competitors and identifying customer needs. Second, once opportunities are detected, SMEs must be able to “capture” them and translate them into concrete actions (seizing). This could include implementing an e-commerce strategy, acquiring the necessary resources and creating strategic partnerships. Third, DCV also implies the ability to adapt and reconfigure the company’s resources and skills to support the e-commerce strategy (reconfiguring). SMEs may need to acquire new technical skills, develop new digital marketing capabilities, or invest in technological infrastructure. Finally, DCV emphasizes continuous learning. SMEs must be willing to experiment, learn from mistakes and adapt to new information and challenges that emerge in the field of e-commerce (learning).

Nevertheless, although the literature on digital transformation processes has become much richer in recent years (Bresciani *et al.*, 2021a, b), the one on the adoption of e-commerce strategies has not followed the same trend. This is rather surprising considering the adoption trends of this technology in many countries around the world. In this sense, there are some empirical studies on the topic, but there are still many answers to be provided by academics to business management.

For example, companies can approach the online channel through three main methods. Indirect selling, marketplace, proprietary e-commerce (Ballerini *et al.*, 2023a, b). The first allows selling through a buyer’s e-commerce channel. In other words, a company decides to sell to another company, which then sells online through its own channels. The second concerns an online marketplace where there are multiple buyers and sellers. A classic example is Amazon Marketplace. The third allows companies to sell via their own e-commerce site, dedicated 100% to their own company.

The literature seems to be lacking on which channels are most effective, what the challenges of each channel are and how to manage multiple channels simultaneously. Furthermore, it is reasonable to infer that SMEs have more difficulty in approaching several channels simultaneously, due to a lack of resources (Klein and Todesco, 2021). Finally, the literature has not yet identified findings on how to guide the choice of SMEs in the three different channels.

More generally, there seem to be few studies on e-commerce in smaller organizations, which are traditionally slower to adopt and implement new technologies. The adoption of an online channel offers small businesses opportunities for gaining foreign customers’ reach and reduce costs (Mushayavanhu and Simuka, 2022). Hence, it allows for an increase in the efficiency of operations and revenue generation. Moreover, using digital tools permit to acquire of relevant information about customers, to be exploited to customize products and services (Saura *et al.*, 2022). However, selling online is far from simple. Studies have identified some barriers to adopting an e-commerce strategy in micro and small enterprises (Mushayavanhu and Simuka, 2022). Some of the barriers to the implementation of an e-commerce strategy in smaller enterprises are related to limited resources and lack of technological infrastructure, the scope and affordability of information technology (IT) (Raisinghani *et al.*, 2005).

Amornkitvikai *et al.* (2022) examine the factors and barriers affecting the e-commerce sustainability of Thai micro-, small and medium-sized enterprises. Overall, the authors find that internal e-commerce tools (i.e. smartphones and websites) and external e-commerce

platforms (i.e. social media, e-marketplaces and food delivery platforms) can enhance e-commerce sustainability. Similarly, the e-commerce experience is very important to achieve benefits. Conversely, the age of firms and owners (CEOs) affects e-commerce sustainability negatively, meaning that younger firms with younger owners are more likely to sell online successfully. This is consistent with the RBV (Kraaijenbrink *et al.*, 2010; Zheng *et al.*, 2013). Firms with key resources such as IT infrastructures, knowledge and experience are the ones able to embrace this innovative strategy in a sustainable way. This is confirmed by studies, which suggest that small and medium-sized enterprises, which typically suffer from liabilities of smallness (Bertello *et al.*, 2022; Lefebvre, 2022), often lack the necessary resources to cope with digital transformation. Therefore, there is a so-called digital gap between large and small firms in adopting new technologies (Arendt, 2008). They also lack marketing knowledge and experience in adopting e-commerce (Das *et al.*, 2020). These constraints can inhibit smaller firms from adopting e-commerce.

### 3. Methodology

This research leverages an inductive qualitative research design approach focused on multiple case studies (Eisenhardt and Graebner, 2007) of micro and small enterprises operating in the food and beverage industry. This industry can be considered appropriate to answer the research question because e-commerce in this area increased a lot during the pandemic. Given the widespread restrictions and lockdowns, traditional brick-and-mortar businesses faced severe challenges in reaching consumers (Bytyçi *et al.*, 2021; Hamid *et al.*, 2022). As a result, many enterprises in this industry turned to e-commerce as a means of survival and adapting to the rapidly changing market dynamics (Mancuso *et al.*, 2023). As restrictions eased, this technology adoption continued to persist, indicating a lasting change in how consumers interact with businesses and make their purchasing decisions. Therefore, investigating the experiences of micro and small enterprises in this sector will provide valuable insights into the strategies employed, challenges faced and the long-term impact of e-commerce adoption on consumer behavior in a post-pandemic landscape.

The data was primarily drawn from observations and semi-structured interviews. Specifically, our empirical study relies on 6 case studies. More specifically, we conducted in-depth interviews with managers 6 companies who lead all or some of the digitalization efforts in their respective organizations. The research focuses on micro and small enterprises at a very early stage of their digitalization journey, namely the e-commerce strategy started recently. Additionally, the selected businesses are struggling to overcome the barriers associated with the implementation of technology (Zamani, 2022). The participating companies have been selected purposively as they are part of a digital transformation project funded by a local foundation. Thus, in this way we selected companies that aimed to implement an e-commerce strategy. Table 1 shows the sample characteristics and the interviewees included in our study.

Business sector/type	Company size	Interviewee position
Meat production	small	Manufacturing plant manager
Handcrafted sweets	micro	Manager
Handmade pasta	micro	Quality assurance office manager
Fish and seafood	small	CEO, manager
Fish and seafood	micro	CEO, manager
Fresh food	micro	CEO, manager

Source(s): Authors' own work

**Table 1.**  
Characteristics of the  
sample and  
respondents

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In addition to the above criteria, we were interested in companies that were forced to enter the digital environment because of the pandemic, creating a website or e-commerce they never had before, addressing new supply chain processes.

The choice of an inductive qualitative study (Eisenhardt, 1989; Gioia, 2021) is due to the scarcity of research focused on our specific objective, which is to explore how micro and small enterprises have responded to the digitalization caused by the pandemic crisis (COVID-19). Our sample consists of 6 Italian micro and small enterprises that reconfigured their internal and external supply chain processes. Moreover, they have adopted various channels (indirect, marketplace, e-commerce).

Over a period of two months (from September to October 2022), we collected data and conducted the interviews. The interviews were conducted one-on-one by more researchers and lasted from twenty minutes to sixty, for an average of thirty minutes per interview. The interviews were semi-structured with open-ended questions, as we delved deeper into the resources and capabilities needed for digitization, the obstacles involved and the difficulties caused by COVID-19.

To facilitate qualitative data analysis, the interviews were fully transcribed and analyzed. More specifically, qualitative data collected through in-depth semi-structured interviews was analyzed through the guidance of the Gioia method (Gioia *et al.*, 2013). The Gioia approach relies on interview protocols and informant quotes as a means to make sense of the data being collected, on the basis of similarities and differences between the categories. Our analysis led to the codification of the capabilities and challenges faced by micro and small enterprises during the period of the COVID-19 crisis. First, after examining the interviews and the related transcriptions, we coded the data and grouped the main concepts into categories, i.e. the first-order concepts (Strauss and Corbin, 1998). Coding process was developed by considering existing theory and the novel insights emerging from the data. The discussion between the authors led then to the definition of the two main categories, i.e. the aggregate dimensions, deriving from the combination of six and four second-order themes, respectively.

## 4. Findings

The final data structure is shown in Figure 1. Ten main themes emerged from the analyses, and they collapsed into two main aggregate dimensions, namely “E-commerce implementation capabilities” and “E-commerce implementation challenges”. Our findings reveal that both dimensions play a key role in the approach to online sales, although composed of positive aspects, such as an increased user base, and negative aspects, such as logistical and distribution difficulties. In addition, the current competitive environment of online sales, strongly fueled by the pandemic, has given a strong impetus to many firms, which have been forced to open an online channel to survive.

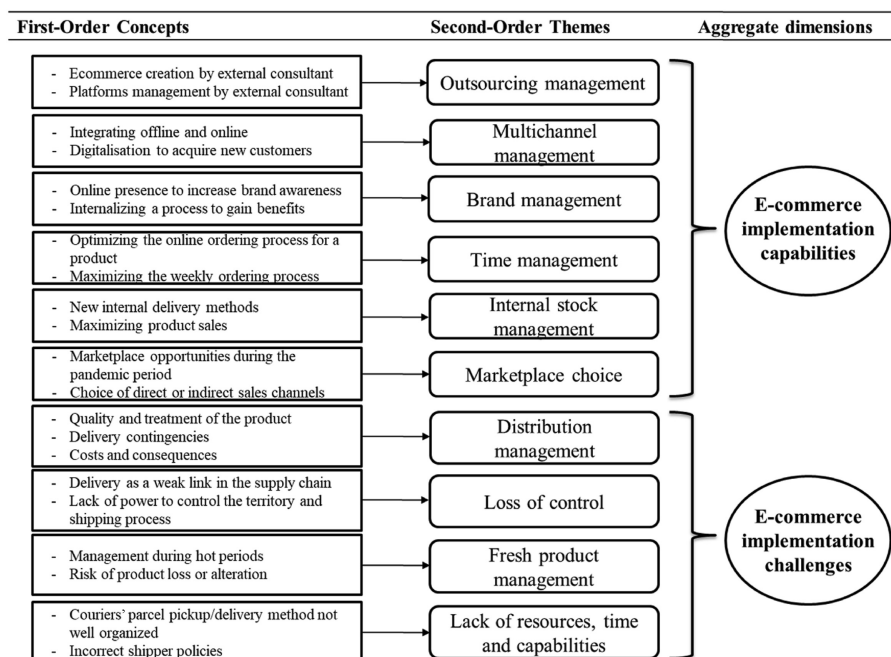
Findings related to both the aggregate dimensions are discussed below in the following sub-sections.

### 4.1 E-commerce implementation capabilities

As for the e-commerce implementation capabilities, six second-order themes emerged and are supported by a series of first-order categories. These six themes are: outsourcing management, multichannel management, brand management, time management, internal stock management and marketplace choice.

Most of the interviewees highlighted that capabilities are essential factors to set up and manage an e-commerce strategy, as they include several facets that enable to operate properly and adapt to certain conditions based on the possessed resources. In this context, choosing to outsource certain tasks or stages of the supply chain could help compensate for the company's shortcomings.





Source(s): Authors' own work

Figure 1. Data structure

Not all firms have the ability, resources and skills to be able to build a fast, optimized and reliable e-commerce for online shopping, so outsourcing this task to external consultants/firms should be considered, as highlighted by several participants. For example, *“For those with limited time and expertise in building an e-commerce site, the process can be overly complex. As a result, we had to rely on an external collaborator who, although not exclusively dedicated to our project, also manages our social channels and the entire e-commerce aspect”*. After the creation of an e-commerce business, another form of outsourcing may regard the shipping logistics processes. In the case of a company that has its own means and couriers to ship e-commerce products within a limited territory, outsourcing could extend this process by leading the company to rely on outside couriers to deliver to more distant areas, so that it can give customers the availability to ship products to a wider territory. As highlighted, *“As we mastered delivery, we gained a deeper understanding of the market and established our quality benchmarks. To enhance scalability, we partnered with external suppliers”*. Similarly, viable alternatives to setting up an e-commerce business can be marketplaces. The firms interviewed revealed that they have relied on several marketplaces to expand their catchment area and sales, some of which are geared toward dropshipping sales. *“We work with a platform that takes care of selling the products, while we take care of the dropshipping service, as well as managing the warehouse”* as one manager underlined. While another stressed that *“We outsource marketplace management to an external company, responsible for software maintenance, system monitoring, discounts, and marketing”*.

Likewise, multichannel management proves to be another factor that, if online and offline channels are leveraged properly, can help firms expand their user base and offer them more touch points. In this context, some firms interviewed emphasized the importance of integrating traditional offline channels, such as events or local retailers, with online channels

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such as e-commerce, to give consumers the opportunity to shop in different ways and get information from them. One manager stated what follows: *“At national fairs, artisan food products tend to be more expensive due to their exceptional quality. Customers can sample the products before making a purchase and later find them online. This combination allows for the collection of addresses and potential newsletter subscribers, creating a database for future promotional online campaigns. [...] In today’s world, an online presence is indispensable for any business. It has become a vital channel that cannot be ignored and must be seamlessly integrated with the traditional sales approach. The effectiveness of combining these two channels is crucial for success”*. The offline-online strategy is also pursued to attract new customers from local retailers, as discussed: *“With the advent of Covid-19, we embraced e-commerce, aiming to attract new customers and provide our loyal consumers, who traditionally purchase from our retailers, the chance to buy our products online as well”*.

In support of this, clear brand management can help improve sales processes and consumer relations. In this sense, some firms surveyed see online as the key to greater profits. *“Online presence is crucial as it not only boosts brand visibility among consumers but also offers higher profit margins compared to direct sales. This positive cash flow enables handling additional expenses each month effectively”*. In addition, the internalization of processes, such as internal logistics, allows for several benefits, including greater mastery of the process itself and better knowledge of customer and market habits. This strategic approach can significantly impact a business’s success. One interviewee highlighted the significance of insourcing during an interview, stating: *“To achieve our goal, the pivotal step was to embrace insourcing, taking full responsibility for our deliveries. We decided to test our business idea by handling the entire delivery process ourselves – from picking up the package for our customers to personally delivering it to their homes. This turned out to be a critical turning point for us as it allowed us to gain invaluable knowledge about our customers’ habits right from the outset. Additionally, it helped us create a unique and engaging customer experience. We perceived it as a core distinctive competence for our business start-up project”*. Hence, this approach contributed to the creation of a memorable and distinctive customer experience. By actively participating in the delivery process, they were able to infuse a personal touch and attention to detail that customers might not typically experience with external delivery services. This hands-on involvement allowed them to establish a strong brand identity centered on exceptional service, reliability and care.

Another key requirement that emerged from the interviews for operating online concerns time management. Firms must monitor, organize and maximize the time spent from the time a product is chosen by the customer until it is delivered. The firms interviewed emphasized that the main component of this time management is weekly organization, which must be broken down into specific daily tasks of arranging, storing and shipping to optimize time and avoid waste. *“The week kicks off with a flurry of phone calls as our clients have grown accustomed to and appreciate our organized and clear approach to our services. Within just two days, we efficiently define the entire week’s agenda. Mondays and Tuesdays are dedicated to organizing and distributing orders, ensuring a rational and streamlined preparation of our products”*. No less important, if firms knew in advance what the customer wants, they would be better able to organize themselves to satisfy the customer as they wish. *“You need to maximize the work during the week, so it is very important for us to know how much, what and when to deliver. That is what organization is all about”*.

Still in the context of optimizing internal processes, internal inventory management is also important, from which firms can benefit. Indeed, firms often must manage a large number of products that are expiring or unsold after the last production. Therefore, firms need to find new ways to differentiate themselves and at the same time reduce waste from inventory. At this stage, distinct ways emerged from the interviews depending on the context of origin. For example, in the case of shipping and delivery of fresh products, one solution that emerged is



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delivery via locker, to store food and keep it at the desired temperature, which can be used for both fresh/cremated and ready-to-eat/cooked food. *"We're considering installing coolers in strategic locations, like lockers, where customers can conveniently pick up products ordered online. While we believe this service is a winning idea, our main goal isn't just to increase revenues"*. In the case of a warehouse that is always full of expiring products, firms should find a way to optimize inventory and have fewer products in stock as a result. *"Using software, we try to push expiring products online"*, stated one manager.

Finally, in addition to traditional e-commerce, other online sales channels that firms can rely on are marketplaces, which are sales platforms outside the company that provide a showcase and additional notoriety for the products placed within them. The likelihood of selling products increases exponentially if the marketplace is well known and popular among target consumers. Amazon, for example, has scaled and conquered the marketplace market to become one of the best in the world. During the pandemic, many firms that operated only in traditional offline channels found themselves displaced by the situation at the time, which did not allow people (consumers) to physically go to stores to purchase certain products. This situation brought out the need for firms to survive even in that unexpected environment. For this reason, different ways of adaptation emerged from the interviews based on the needs and resources firms had available at the time. Some firms, lacking the capacity and time to set up a proprietary e-commerce, immediately relied on territorial marketplaces to curb the problem arising from the pandemic period (*"During the pandemic, we launched an online sales platform connected to our website. While it had some limitations and unintuitive features, it served as a starting point for our venture into e-commerce. It allowed us to dip our toes into the online market and get acquainted with the process"*), although significant logistical efforts were required for some (*"During the pandemic, we found a great source of support and inspiration in a territorial marketplace that emerged during that crisis. Customers actively made purchases on this platform, but it required us to handle all payment and delivery matters manually. Essentially, they had to call our company, place their orders and then we would arrange the deliveries. Thankfully, the platform provided visibility, connecting us with other producers and a variety of products, which simplified the ordering process"*). However, other firms have reacted differently to this situation, exploiting the potential of direct sales channels (*"During the pandemic, we created a website, and we have been managing it since its inception. It has been steadily growing since its launch"*) or indirect sales channels (*"We supply our products to a prominent large-scale retailer, which, in turn, resells them through its e-commerce platform"*).

#### 4.2 E-commerce implementation challenges

Based on what was said in the previous section, the surveyed firms found e-commerce implementation challenges inherent in four second-order themes and supported by multiple concepts. The four main themes emerged are: distribution management, loss of control, fresh product management and lack of resources, time and capabilities.

In approaching online sales, encountering challenges in various internal or external business processes turns out to be a very common in all the firms participating in this research. All the firms interviewed reported that in order to expand their sales channels and increasingly meet consumer needs/requirements, clinging to online sales is not always the best or even the most profitable choice.

Interviews revealed that the underlying reason may be related to possible logistical problems such as product handling or maintenance, additional costs, or negative references associated with manufacturing firms. For example, one manager suggested that: *"A quality handcrafted product differs significantly from a mass-produced supermarket item. While consumers might accept minor imperfections in a discounted supermarket product, when it comes to a handcrafted product with a higher price tag due to its superior quality, it is*

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*imperative that it reaches the consumer in a flawless state. Any deviation from perfection could lead to customer dissatisfaction and create negative feedback for the manufacturing company".* Most of the firms interviewed found that shipping products with a courier company represents a form of insecurity, both in terms of delivery ("*Our response to orders, even from faraway places, is always transparent. We do apply shipping charges, and this may bring along some associated challenges when entrusting our shipments to a courier company. These challenges include product mistreatment, delays, package loss, or non-delivery*") and the resulting treatment ("*During transportation there is a risk that the package will arrive damaged to the customer*"), which in terms of possible costs or contingencies ("*Shippers lose packages, the goods may not be found. This results in costs for the manufacturing company and also a loss of reputation*").

Similarly, during the transportation process, delivery remains a weak point. As argued previously, in the absence of e-commerce management capabilities, firms may decide to outsource product shipping to external couriers. However, the interviews revealed how this leads to multiple critical issues. For this reason, it emerged how the shipping process is seen as the weak link in everything related to delivery to the end consumer ("*The primary weak link in our operations isn't related to e-commerce, product communication, or market offerings; instead, it lies in the delivery process. Specifically, it's the pickup and transportation of products to their destinations. Our lack of control over this critical phase can lead to crises within the company*"). This weakness, according to some managers, was also found in the loss of control over the shipping process and territory, as discussed: "*We depend on external couriers to deliver our products to remote areas, leading to a loss of control over the territory and shipping process. To streamline our operations and regain control, we should consider exploring alternative solutions*".

Staying in the context of shipping, not all products belong to the same category and therefore not all shipments are executed in the same way. For example, products belonging to the cold chain require adherence to specific guidelines and standards to maintain temperature control and not alter the condition of the product during the shipping process. In this context, given the conditions associated with the cold chain and associated shipping methods, not all firms choose to ship products year-round. For this reason, interviews revealed that times of the year, such as hot weather, can influence sales choices and decisions. One manager clearly stated: "*In the hot season, we withdraw certain products from the market as we lack confidence in maintaining their quality through the cold chain. While we can keep these items temperature-controlled on our end, we cannot guarantee the same for our customers. Hence, we prioritize ensuring the highest level of reliability for our customers and prefer not to risk compromising the quality of these products during warmer periods*". Similarly, the main difficulty in shipping a fresh product that emerged from the interviews relates to maintaining the temperature, which must be such that the product's quality characteristics are not compromised ("*Fresh product is an extremely delicate product, it only takes small changes in temperature to compromise its characteristics*").

Finally, another challenge that all the firms interviewed found is precisely the lack of resources, time and capabilities to be able to work with couriers in a proper and organized manner. In this regard, the first difficulty that emerged is that related to the pickup or delivery of courier parcels, according to which firms would find it difficult when they must organize themselves to wait for the courier to arrive during the day. As emerged during the interviews, "*Logistics presents significant challenges for small businesses, especially concerning courier pickups. The lack of specific time slots for the courier's arrival forces us to dedicate entire days at the company, waiting anxiously. This wasted time disrupts our ability to make timely shipments. Moreover, our limited bargaining power leaves us unable to influence logistics firms on pickup schedules or expedited delivery options. As a result, we feel powerless in managing this crucial aspect of our operations. To enhance efficiency and streamline logistics, we urgently need more*

*precise pickup times or some influence over scheduling. Such improvements would allow us to optimize our time, minimize waiting periods, and focus on other vital aspects of running our small business". As such, the low bargaining power is a key challenge for small businesses. Alternatively, parcel delivery at courier delivery points has also not proven to be an appropriate solution for small businesses because, again, it will require a great deal of time and effort ("Parcel delivery at courier points isn't a viable option as it demands significant time and effort on our part to transport the parcels to the delivery points").*

## 5. Discussion and implications

As widely discussed, the continuing evolution of digital and new methods of selling online have had a major impact on all types of enterprises, regardless the size. E-commerce in SMEs has proven to be a great opportunity to reach new targets and create new customer touch points (Wagner *et al.*, 2020). In this regard, even micro and small enterprises can benefit from e-commerce if they take advantage of it by building specific capabilities and mitigating some threats.

Our research aimed to enrich the existing body of literature by offering new insights on the e-commerce implementation capabilities that micro and small enterprises should build and the challenges they must face when managing an e-commerce strategy. From our empirical analysis, we firstly present the key role of online channels in leading digitalization process and, grounded in the RBV of the firm and DCV, we determine what capabilities are needed or missing for an effective e-commerce strategy. Currently there is a scarcity of research in this field and little attention has been paid to exploring capabilities and challenges in e-commerce management, to explaining how to foster an effective e-commerce strategy.

This study showed the e-commerce implementation capabilities that micro and small enterprises should build and the challenges they face in managing an e-commerce strategy; in particular, the results indicated the type of management that micro and small enterprises should pursue to implement an effective e-commerce strategy. In this regard, two key aggregate dimensions emerged from the study: "E-commerce implementation capabilities" and "E-commerce implementation challenges".

As for the e-commerce implementation capabilities, our findings highlight that micro and small enterprises, before embarking on an e-commerce strategy and entering new online channels, need to consider the capabilities they have at their disposal and need to set up a good method of operations management. Prior research confirmed that SMEs often lack the necessary resources to cope with digital transformation (Lefebvre, 2022), in our case, it is also true for micro enterprises. Our results show that outsourcing to expand online can compensate for a firm's lack of resources and skills, especially if the firm has little or no experience in e-commerce management. The data suggest that integrating online and offline channels can help firms expand their user base and offer them more touch points. In this vein, the study unveils the importance attached to multichannel management in micro and small enterprises. In addition to creating new economic and social benefits, online also proves to be a great growth opportunity for the brand and its management and allows them to connect with customers more quickly, which is very attractive for micro and small enterprises. In addition, another key factor that firms need to manage better to do e-commerce is time. Our research shows how micro and small enterprises manage to optimize the ordering and shipping time resulting from an online purchase by making the most of the first few days of the week. Interestingly, our research found that micro and small enterprises are constantly looking for new solutions that can improve internal management and bring benefits. In addition, the pandemic has prompted small enterprises, which so far lacked an online sales channel, to take advantage of additional digital opportunities, such as marketplaces, to expand their user base and offer an additional sales channel to potential consumers.

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The findings of this research show that not only does e-commerce management require certain skills to operate optimally, but it also creates challenges. The latter are particularly important in this change, as firms must adapt existing processes, resources and skills to face scenarios and challenges arising from their digitalization. Our research reveals that challenges in managing e-commerce occur frequently, especially in micro and small enterprises, due to several factors that affect the supply chain and require its modification. These include distribution practices, which may relate to product management, contingencies, or unexpected costs. Another factor that creates problems is loss of control, since, being small enterprises, they have low bargaining power towards larger firms, such as logistics companies. Moreover, the situation would worsen if they had to handle special products, such as those belonging to the cold chain, which require compliance with certain circumstances. The last challenge noted by our research, no less important, is precisely the lack of resources, time and capabilities to be able to work with couriers in a proper and organized manner. The e-commerce implementation challenges described so far lead micro and small enterprises to be at a disadvantage, both in terms of management and logistics.

In this vein, the findings support the idea that micro and small firms embracing digitalization could have expanded the management of online commerce technologies and practices efficiently, although, at the same time, they confirm the presence of potential challenges between the digitalization process and the approach to online channels. Therefore, to approach the new online channels and take advantage of them, it is first necessary to curb these challenges and look for solutions that ease the transition for micro and small enterprises.

The academic and practitioner interest in e-commerce management has grown rapidly; therefore, the findings of this research will reveal interesting implications for theory and practice.

### *5.1 Theoretical implications*

Prior research has predominantly centered on investigating the e-commerce adoption process and evaluating associated benefits and barriers in technology adoption. However, this study stands as a pioneer in exploring the adoption and management of e-commerce strategies specifically among micro and small enterprises. By delving into this underexplored domain and using the theories of RBV and DCV (Teece *et al.*, 1997; Wernerfelt, 1984), our research significantly contributes to the existing literature by analyzing and discussing the challenges that arise from approaching into online marketplaces and the essential capabilities required to effectively manage e-commerce strategies.

The primary objective of this study was to address a critical question that has hitherto remained unexamined in the literature: *What are the essential e-commerce implementation capabilities that micro and small enterprises should develop and what challenges must they overcome while implementing and managing an e-commerce strategy?* By identifying the pivotal capabilities and challenges influencing e-commerce strategy adoption in micro and small enterprises, our research makes a substantial contribution to knowledge in this field.

First, this research pioneers the investigation of e-commerce adoption and management within the context of micro and small enterprises. Traditional models and frameworks developed for larger enterprises may not be directly applicable to smaller businesses. This highlights the need for tailored strategies and theories to understand the unique challenges and opportunities faced by micro and small enterprises in the e-commerce domain (Amornkitvikai *et al.*, 2022; Bhatti *et al.*, 2020; Kurnia *et al.*, 2015).

Second, the study underscores the significance of the context, with a specific focus on the food and beverage sector, in comprehending the determinants that shape the e-commerce adoption process. By examining a range of factors, including specific skills, capabilities and

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challenges that exert influence on micro and small enterprises' adoption of digital technologies (Zamani *et al.*, 2022), this research illuminates which of these factors are essential or lacking for the formulation of a successful e-commerce strategy. Moreover, while our findings are directly applicable to micro and small enterprises in similar sectors, they also hold valuable insights for enterprises operating in other industries with analogous characteristics to the food and beverage sector (Mancuso *et al.*, 2023; Ballerini *et al.*, 2023b).

Finally, building on RBV and DCV, this paper adds to the literature by showing what capabilities are needed for micro and small food enterprises to manage an e-commerce strategy (Kraaijenbrink *et al.*, 2010; Zheng *et al.*, 2013). Regarding the first theory, the study highlights the specific resources that micro and small enterprises need to excel in the e-commerce space, contributing to the adaptation of RBV to this particular business segment. Regarding the second theory, the study analyzes how micro and small enterprises adapt to the ever-changing e-commerce landscape, showing the importance of agility and adaptability in the context of e-commerce strategy management. It also underscores how micro and small enterprises need to develop dynamic capabilities to stay competitive and effectively manage their e-commerce initiatives.

### 5.2 Practical implications

From a practical perspective, our findings will help micro and small enterprises managers design better and effective strategies through proper implementation and management of online sales channels. Our proposed framework encompasses the capabilities and challenges that micro and small food enterprises face when approaching online sales channels and can be a reference for managers to offer guidance in choosing channels to implement more effective online strategies.

Based on the first aggregate dimension of our framework ("E-commerce implementation capabilities"), we propose the following practical takeaways. First, where specific skills, capabilities and resources are not present within the company, our framework advises managers to rely on outside consultants to ensure good performance. Second, our framework suggests to managers that proper management of offline-online interaction can bring more users and touch points to their company. Third, our framework suggests to managers that the online approach is the key choice for optimizing brand management. Fourth, our framework also provides managers with guidance on how to better manage the time associated with the online ordering process. We believe our framework could help managers have more control over the ordering process and, as a result, maximize its management. Fifth, provides guidance on internal inventory management, which advises that managers should find new ways to differentiate themselves and, at the same time, reduce inventory waste. Finally, in the absence of resources and skills to quickly open an e-commerce or website, our framework advises micro and small business managers, who are often unprepared for contingencies such as the pandemic period, to leverage advantage of opportunities arising from the use of digital platforms such as marketplaces.

Based on the second aggregate dimension of our framework ("E-commerce implementation challenges"), we put forward the following tips. First, given the frequency of possible logistics problems encountered, our framework advises managers to constantly monitor the not always efficient and effective performance of couriers to curb any difficulties or problems related to them. To do this, an internal customer service company structure could be set up to preside over, anticipate and monitor order tracking, in order to immediately and directly intervene with the external logistics company, retrieve all information and trace the origin of issues. Second, when a firm has product categories that require special attention to temperature control and maintenance, our framework provides managers with guidance on how to avoid problems associated with such products, such as those belonging to the cold

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chain. One example would be collaboration among territorial companies to create a kind of self-managed fleet to overcome transportation problems for particular product categories. Lastly, when a small company decides to deal with a large delivery company, the small company would have to abide by the conditions set by the large company due to less bargaining power against it, causing multiple difficulties, such as loss of time and resources. Therefore, our framework suggests to micro and small enterprises managers that if they knew a time slot when the courier comes by to pick up/deliver packages (e.g. 2–3 p.m.) and not randomly during the day, things could change and even speed up delivery times.

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## 6. Conclusions, limitations and future research

In the fast-evolving online landscape, e-commerce has emerged as a transformative force, reshaping the way companies engage with their customers and operate in the global market. The rapid proliferation of Internet technologies, coupled with the growing preference for online shopping, has significantly altered consumer behavior. As the global marketplace becomes increasingly competitive and consumer behavior continues to shift towards online shopping, it is imperative for micro and small enterprises to embrace and leverage e-commerce as a core aspect of their business strategy. As a result, micro and small enterprises need to adapt swiftly and develop robust e-commerce implementation capabilities to meet these shifting demands and capitalize on the vast opportunities offered by the digital marketplace.

The main aim of this research was to explore the essential e-commerce implementation capabilities that micro and small enterprises in the food and beverage industry should build to thrive in the digital age, while also shedding light on the challenges they must navigate while managing an e-commerce strategy.

To this end, our study looked at the key e-commerce implementation capabilities that smaller food enterprises should prioritize when establishing their online presence. We investigated various aspects, including outsourcing management, multichannel management, brand management, time management, internal stock management and marketplace choice. Understanding and mastering these capabilities can help micro and small enterprises enhance customer satisfaction, expand their market reach and ultimately boost revenue generation. However, while the potential benefits of e-commerce are evident, smaller food enterprises encountered numerous challenges when adopting and managing an e-commerce strategy. Several e-commerce implementation challenges emerged including distribution management, loss of control, fresh product management and lack of resources, time and capabilities.

To conclude, it is worth noting that our study has several limitations. First, our sampling strategy and the relatively small sampling size limits the generalization of our findings. Second, our study is based on the views and perceptions of a collection of CEOs, managers and supervisors, and their views may not be entirely objective. Third, the research is qualitative therefore, given its nature; this represents a limit in the generalizability of the results.

We do, however, hope that our insights and framework can serve as a basis for further research by other scholars. Future works should consider e-commerce management of micro and small enterprises in other contexts, such as in the fashion or luxury industries; it should also consider the challenges faced by established firms in different industries in implementing e-commerce strategies. Also, we believe that quantitative research on these topics would complement our qualitative results, even better with a larger research sample.

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