E-AGRO MARKETS

Study of mapping and characterisation of the main international e-marketplaces for the agri-food industry

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List of Abbreviations

APMC – Agricultural Produce Marketing Committees
BR – Brazil
B2B – Business to business
B2C – Business to consumer
EC – European Commission
CEMA – European Agricultural Machinery Industry Association
CEO – Chief Executive Officer
CN – China
CRM – Customer Relationship Management
C2C – Consumer to consumer
eNAM – Electronic National Agriculture Market
ESP – Spain
FR – France
ICT – Information and communication technologies
IND – India
INA – Indonesia
KOR – South Korea
OECD – Organisation for Economic Co-operation and Development
SME – Small and Medium Enterprises
PT – Portugal
POL – Poland
SEO - Search engine optimization
SRB – Serbia
ROU – Romania
UNIDO – United Nations Industrial Development Organization
USA – United States of America
VIP – Very important people

Executive Summary

The study of mapping and characterisation of the main international e-marketplaces for the agri-food industry, prepared by Sociedade Portuguesa de Inovação (SPI), aims to present the global e-commerce panorama, through a detailed analysis of the main markets and e-marketplaces relevant to the agri-food sector.

The first stage of the study aimed to survey and collect key elements of markets that have a relevant presence of e-commerce platforms and e-marketplaces, as well as markets that have high potential for development in this field, namely: Brazil, China, South Korea, the United States of America (USA), India and Indonesia, including a European-level analysis with special emphasis on Spain. In this first stage of the study, it was possible to understand the importance of e-business in each of the markets by analysing data on the volume of transactions made and growth estimates for the coming years.

Based on the methodology adopted for the collection, classification, selection and analysis of the main global e-marketplaces, 33 reference e-marketplaces for the agri-food sector were selected, described and classified by country, typology, good practices and degree of technological sophistication. With the support of experts, we selected e-marketplaces with innovative and differentiating characteristics, either by the type of e-marketplace (business to business - B2B -business to consumer - B2C), the marketing strategy pursued, or by the respective degrees of technological innovation and / or logistics, among others.

The selection restricted the initial list of 33 to only 10 e-marketplaces, which were the subject of a more detailed analysis based on the elaboration of summary tables, which specify the business model, as well as the main characteristics and critical success factors of the companies of the e-marketplaces considered relevant within the scope of this Study. In addition, the elaboration of an additional summary table, which has been included to illustrate a Portuguese success story worth mentioning because, in addition to being an internationally renowned e-marketplace platform, it has been awarded on several occasions and focuses its activity on the agri-food sector. Finally, the final chapter identifies a set of best practices to consider when joining e-marketplaces and sets out a pool of recommendations for agri-food companies wishing to expand the marketing of their products through e-marketplaces. In this sense, the Study confirms that there is no exact formula to follow in the e-marketplace selection process, as this varies depending on the company's objective and the e-marketplace in question, following several influential factors such as the model business or supplier integration.

Nevertheless, the Study identifies three essential phases of the process of selecting an e-marketplace. The first phase is the determination of the critical factors that affect and influence the selection, which can be internal (strategic positioning issues and production or logistics capacity of each company) or external (related to market trends, government context, economic environment, level of market competition, the existence of strategic partners and their influence, among other factors). The second phase includes the evaluation of the factors identified in the previous stage. The third and final step is to select the desired level of integration with the selected e-marketplace.

The Study also highlights the main benefits of joining an e-marketplace, including transaction cost savings, increased transparency of pricing and product information and increased business opportunities. Concerning critical factors, there are different types that may impact the successful entrance into an e-marketplace, which are functional, strategic and technical in nature.

1. Introduction

The E-AGRO INNOVATION project, supported by COMPETE 2020 and promoted by ANIMAFORUM - Associação para o Desenvolvimento da Agro-Indústria, aims to foster digital presence and technological incorporation in business models of companies in the agri-food sector, in order to strengthen their competitiveness and enhance its export capacity through digital channels.

Indeed, in a global economic context in which adherence to the "digital revolution" is recognised as a critical factor for business competitiveness, it is important to create conditions and mechanisms that promote and contribute to the dynamics of digital transformation processes of the agri-food industry actors. To this end, it is absolutely essential for Small and Medium Enterprises (SMEs) to recognise the importance and potential benefits of adhering to this new reality, and to take advantage of the opportunities offered by a digital economy based on the provision of goods and services at a distance through communication networks, enabling business relations to be established between economic agents anywhere in the world.

In this context, the E-AGRO INNOVATION project aims at contributing to the consolidation of the digital transformation process of agri-food business models in Portugal by stimulating the establishment of stable, solid, lasting and growing business relationships in global markets, supported by online channels, strengthening the sector's responsiveness to competitiveness challenges.

Thus, bearing in mind the proposed overall objective, the E-AGRO INNOVATION project aims at the following strategic objectives:

1. Increase the knowledge and literacy of SMEs on the concept of digital economy, enhancing the production and sharing of information and communication associated with this theme;
2. Support and promote the insertion of agri-food SMEs in the digital economy, through the adoption of Information and Communication Technologies (ICT), promoting organisational and marketing innovation;
3. Promote the internationalisation of the sector, oriented downstream of international value chains;
4. Promote an environment of cooperation among stakeholders at national level (companies, universities, technology centres, business associations, public bodies, among others) with a view to preparing the agri-food industry for the challenges and opportunities of the digital economy.

Based on the defined strategic objectives, the E-AGROINNOVATION project also defines the following operational objectives:

1. Motivate and sensitise industry entrepreneurs to the importance of designing and implementing digital channel strategies for managing markets, channels, products and customer segments;
2. Create conditions for the participation and optimisation of the presence of agri-food SMEs in e-marketplaces;
3. Contribute to digital literacy and skills by business owners and technical staff, including customer relationship management (CRM), social media marketing, content marketing, display advertising, mobile marketing, search engine optimisation (SEO) and Web Analytics, among others that enable them to implement processes associated with the digital economy and e-commerce;
4. Promote cooperation and alignment of solutions and projects of companies and

technology start-ups with the needs of SMEs in the agri-food sector.

In this context, in order to achieve these objectives, the project defines an ambitious set of actions, among them is the elaboration of the following Studies:

- Study of mapping and characterisation of the main international e-marketplaces for the agri-food industry;
- Study of demand trends in digital markets and provide recommendations to small and medium enterprises (SMEs).

The present Study refers to the mapping and characterisation of the main international e-marketplaces for the agri-food industry.

The structure of the Study is as follows:

- → Introduction;
- → Framework;
- → Methodology, which includes the definition of the criteria for the selection of e-marketplaces;
- → Mapping of the main agri-food e-marketplaces at international level and compilation of summary sheets on the most relevant ones;
- → Identification of best practices to consider in adopting an e-marketplace and recommendations;
- → Conclusions.

2.

Framework

The digital revolution and the agri-food sector

The development of ICT, and in particular the internet, has been having a growing impact on the way economic sectors develop their business models and the way markets are structured.

Indeed, ICT and the Internet are increasingly offering new opportunities and challenges for businesses around the world, independent of the economic sector. The agri-food industry is not an exception, and there is a significant and growing expectation of the potential that technological solutions and networking have to offer in boosting these sectors. However, as will be concluded later, there are still obstacles related to the nature of products and the agri-food value chains that pose challenges for actors interested in embracing new technological mechanisms and processes.

Among the set of solutions boosted by the "digital revolution", e-commerce has warranted special attention, as among other advantages, it creates relevant opportunities in terms of cost reduction and increased demand. Indeed, e-commerce has boomed in the establishment of new business relationships, enabling new markets to reach the creation and implementation of new businesses and new marketing paradigms.

Broadly speaking, e-commerce encompasses all transactions that are based on the use of ICT and the various tools for collecting, generating, storing, analysing, distributing or using information by electronic or digital means. Applied to the agri-food sector, is the type of business model whereby the purchase and sales of products and services are carried out electronically, using networked computer systems and so that trading partners can share a high volume of data faster and more effectively. Thus, e-commerce transforms, through the introduction of innovative communication channels, the way products are transacted and the configuration of interactions in the various stages of the production chain between participants in the agri-food sector.

E-commerce was introduced to the agri-food sector in the late twentieth century, offering its users a revolutionary way to disseminate information about products and services and connect them to a new, larger, far-reaching supplier and customer base, instead of imposing the traditional methods.

E-commerce in the agri-food sector is defined as any method of using electronic communications and computer technology to conduct agricultural business, so that trading partners can share a wide range of data.

The agricultural supply chain was previously described as having several imperfections and obstacles that limited its efficiency. It is precisely in these areas that e-commerce has the greatest potential for improvement. The high level of fragmentation in the supply chain, the large volumes traded and the homogeneity of products make agriculture and agribusiness potential beneficiaries of using e-commerce. Agri-food sector organisations around the world have been taking advantage of the many benefits offered to improve the marketing of their products. The implementation and expansion of e-commerce will strongly change the economics of marketing channels, physical distribution patterns and the structure of distributors.

Many of the benefits of e-commerce in the agri-food sector are already identified, including: promoting information flow, market transparency and price discovery; facilitation of industry coordination; and reduction or elimination of transaction costs. However, studies show that, in addition to the barriers that any business faces when deciding to join an e-commerce, there may be additional factors that slow its entry into the agri-food sector.

There are three dominant factors that have a direct impact on the development of business-to-business (B2B) commerce in agriculture:

- The change in industry structure;
- The complexity of the product;
- The high values of commodities and agricultural equipment transactions.

The rapid development of e-commerce presents challenges and opportunities for the agri-food sector at all levels of the supply chain. Therefore, it is important to mention other factors that may have a negative impact on the development of e-commerce in the agri-food sector, namely:

- The natural changes in industrial structures;
- The complexity of the products;
- The nature of the business model that requires a high number of customer interactions.

The traditional supply chain of the agri-food sector is made up of several elements and characteristics that restrict its efficiency, with particular emphasis on its high level of fragmentation.

In the current state of development of agri-food value chains worldwide, smallholder farmers are at a disadvantaged position in the supply chain and it is important that they succeed in trying to access markets. However, many difficulties remain in this area, such as small scale, high transaction costs, lack of access to information and below par transparency.

Thus, the appropriation of market advantages and opportunities becomes especially relevant for smallholders and producers, and their size may vary depending on the evolutionary stage of the production chains and the context in which they operate.

In view of the above, ICTs and the internet are considered important tools for reducing transactional, negotiation and transfer costs, simplifying the negotiation process between geographically separated buyers and sellers, and for monitoring compliance with established agreements and standards.

In this regard, it is initially a conceptual stage where the main definitions and nomenclatures associated with the electronic market and its operations are addressed, as well as the main typologies of electronic commerce.

E-business: *businesses that use the computer as a means of transaction between at least two agents. E-business focuses on management and strategy, while the concepts of E-Marketing, E-Commerce, E-Agribusiness and E-marketplaces are subareas within the overall concept of E-business*[1].

E-marketing: *application of traditional marketing tools, techniques and concepts to the digital world, whether or not the brand has e-commerce. E-marketing is then considered the strategic process of creating, distributing, promoting and pricing goods and services to a target internet market through digital tools*[2].

E-commerce: *business conducted on the Internet, which implies a financial transaction or effective exchange of goods or services*[3].

[1] *Yiwu Zenga, Fu Jiab, Li Wanc, and Hongdong Guo. E-commerce in agri-food sector: a systematic literature review, IFAMA, V. 20, Nº 4, 2017*

[2] *Boone and Kurtz. Contemporary Marketing, 2001, 619p.*

[3] *Ernst and Ehmke. The market for e-commerce services in agriculture, 2001*

The main types of ecommerce today are as follows[4]:

- **B2B:** Business-to-business e-commerce platforms are platforms where end consumers are also businesses, such as selling industrial equipment and raw materials to agricultural producers;
- **B2C:** Business-to-customer e-commerce platforms are the most traditional end-consumer selling platforms, such as any brand that has its product for sale online - either on its own website (example Agribeef https://www.snakeriverfarms.com/) or an e-marketplace (example Amazon https://www.amazon.com/);
- **C2C:** Customer-to-customer e-commerce platforms are characterised by the sale and exchange of online items between consumers, such as eBay - https://www.ebay.com/;
- **C2B:** Customer-to-business e-commerce platforms are rarer, but allow for the exchange of goods / services from consumers / individuals to businesses, such as the Shutterstock image repository https://www.shutterstock.com/.

The specific concept of e-marketplace is presented as follows:

E-marketplace: *is a website or application that facilitates buying products from different sources. The platform operator generally does not have a stock of goods, but its business consists of presenting third party products (and stock) to consumers, intermediation (to a greater or lesser extent according to the maturity level of this e-marketplace) and monitoring of the conclusion of the transactions.*

In short, an e-marketplace works like a traditional marketplace, where each producer puts their products up for sale directly, at their own prices, paying a fee to have allocated space. All with the difference of being done virtually through network connections.

Thus, it is easy to understand how e-marketplaces offer a convenient way to compare prices and products together in one source, while also providing a higher level of buyer confidence as it deals exclusively with suppliers who are members of different groups and platforms whose approval usually lacks a certain type of quality certification. These digital markets also offer lower marketing costs compared to traditional sales channels.

In addition, digital solutions also enable production agents to significantly lower the overall cost of products and optimise business processes such as stock management and greater purchasing and transportation efficiency, with a direct impact on production speed and delivery and production flexibility.

Thus, it has become increasingly clear that e-marketplaces represent a new and efficient tool for smallholder farmers to access market opportunities. Adherence to electronic methods allows for a considerable increase in producers' selling prices as a result of the elimination of high margins retained by intermediaries and marketing restrictions related to information asymmetry.

Finally, it is worth noting that the modernisation of agriculture is a critical issue for policy makers. Indeed, a number of good practice examples have shown that e-commerce can be an effective approach to support small producers and foster sustainable agricultural practices. As such, agricultural products can be sold at higher prices while eliminating space and time constraints. In addition, high competition in digital marketing also forces producers to improve the quality of their products and the efficiency of the food supply chain.

[4] *Yiwu Zenga, Fu Jiab, Li Wanc, and Hongdong Guo. E-commerce in agri-food sector: a systematic literature review, IFAMA, V. 20, Nº 4, 2017.*

E-marketplaces: Different models and trends

Agriculture and the food industry have been moving rapidly towards a connected platform economy.

Platforms began to emerge as e-marketplaces, or virtual meeting points, where demand and supply of goods and services are matched, bringing together users and different professional suppliers in the same space. Digital technology enables these platforms to reach global markets while maintaining their roots in local or national economies.

Unlike the e-market platform model itself, whether it is its own brand (Cave Geisse - sparkling wine producer – Brazil https://loja.familiageisse.com.br/) or a retail market (Garrafeira Nacional – Portugal https://www.garrafeiranacional.com/), **what indeed characterises an e-marketplace is the online platform that brings together several suppliers.**

Just as there are different categories of e-commerce, e-marketplaces can also be distinguished between B2B and B2C, as detailed below.

B2B

Initially, B2B e-marketplaces were specialised mainly in agricultural equipment and inputs. As new technologies evolve, e-marketplaces are no longer just about intermediate consumption of agri-food value chains, but also involving agricultural production, with the potential to replace distributor markets. For example, *Comprateur Agricole* (https://comparateuragricole.com/), a French-based company founded in 2016, is an electronic market created in 2016 that operates to *"bring together professional suppliers and buyers of agricultural products to commercialise"*.

B2C

B2C e-marketplaces aim to directly market goods and services between business suppliers or agricultural producers and the final consumer. One of the greatest examples of this type of e-marketplace globally is Amazon, which enables producers worldwide to market their products through its electronic platform, with different options for joining and trading.

It should also be noted that e-marketplaces are facing a moment of great growth and relevance, where many companies that previously owned their e-commerce (for their own brand), have now opened their e-commerce to other suppliers. They can take advantage of the electronic space, visibility and reach out to also include products from other suppliers, as is the case in Portugal from FNAC and Worten, which currently already operate as e-marketplaces.

The basic mode of operation of a B2C e-marketplace involves suppliers' adherence through the registration of their business data and subsequent presentation of their products on the platform in order to enter their specifications, available quantities and possible delivery dates.

Whatever is the type of product or service and platform, the digital economy emerges as an accelerator and simplifier of agri-food trade. By integrating trade in the formal economy, a range of new opportunities open up.

International E-commerce and E-marketplaces

In 2017, worldwide e-commerce-based retail sales amounted to about US$ 2,3 billion, and this figure is expected to increase significantly by 2021, when sales from this channel are estimated to increase to about US$ 4,8 billion, according to Statista data[5].

In the same vein, it was found that in 2017, the worldwide volume of e-commerce-based retail

[5] *Statista. Retail e-commerce sales worldwide from 2014 to 2023 (in billion U.S. dollars). Available at: https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/*

sales accounted for around 10% of the overall sales value, and by 2021 it is expected to reach around 17,5% of the overall value.

In fact, shopping is one of the most popular online activities worldwide, but transaction typologies are very diverse from country to country, which also means different stages of e-commerce development. An analysis of the main global e-commerce and e-marketplaces is presented below.

BRAZIL

Brazil is the most important e-commerce market in Latin America. The Brazilian electronic market is going through a transformation phase, with greater access to different types of devices such as computers, smartphones and tablets. Online sales are estimated to grow at an annual rate of 11% between 2018 and 2022, exceeding US$ 31 billion by 2022.

At the Latin American level, Brazil accounted for 38% of online sales in 2017. In 2019, Brazil continues to represent about 36% of Latin American online sales, with about 36% of the Brazilian population already characterised as digital shoppers. Figure 1 shows e-commerce growth rates in key Latin American markets.

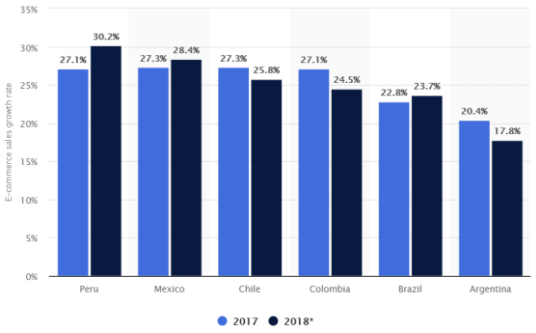

Figure 1: Growth rate of e-commerce in Latin America between 2017 and 2018

The country is a promising market for global giants such as Amazon, eBay and Alibaba, although such platforms are still in the fixation stage in the Brazilian electronic market. For example, Amazon only launched full commercial operations in Brazil in October 2017, after 5 years of having their operations restricted to books.

As described in a Paypers[6] article, the electronic market in the food and grocery category in Brazil is still residual.

According to the study by Ebit / Nilsen[7], e-commerce in Brazil had a 12% growth in online sales in the first half of 2019. In the first half of 2018, growth had also been 12%. The growth of the first half of 2019 represents a turnover of 26,4 billion reais. In terms of order volume, the first half of 2019 grew by 20%, compared to 8% in the first half of 2018. According to the Figures 2 and 3, online order volume in the first half of 2019 reached 65,2 million reais.

Figure 2: Online sales in Brazil in the first semester of 2019 in billions of reais
Source: Ebit/Nilsen Study - *E-commerce* in Brazil[8]

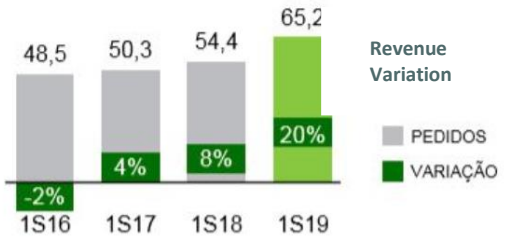

Figure 3: Total online orders in Brazil in the first semester of 2019 in billions of reais
Fonte: Ebit/Nilsen Study - *E-commerce* in Brazil[9]

[6] *The Papers – Insights into Payments. Available at:* https://www.thepaypers.com/

[7] *Estudo Ebit/Nilsen. Available at:* https://www.ecommercebrasil.com.br/noticias/e-commerce-cresce-12-por-cento-webshoppers-i-e-commerce-brasil/

[8] *Ebit/Nilsen Study. Available at:* https://www.ecommercebrasil.com.br/noticias/e-commerce-cresce-12-por-cento-webshoppers-i-e-commerce-brasil/

[9] *Ebit/Nilsen Study. Available at:*

Regarding e-commerce performance by region, the Southeast (which includes the states of Rio de Janeiro, São Paulo, Minas Gerais and Espírito Santo) has the largest concentration of e-commerce, with revenues of almost 15 billion reais in the first semester of 2019.

However, the sector has also grown in other regions. The south of the country (which includes the states of Rio Grande do Sul, Santa Catarina and Paraná) recorded, in the same period, a turnover of 5,4 billion reais. The Northeast (region that has nine states: Alagoas, Bahia, Ceará, Maranhão, Paraiba, Piaui, Pernambuco, Rio Grande do Norte and Sergipe) appears with a turnover of 3,3 billion reais. The Midwest (composed by Mato Grosso, Mato Grosso do Sul and Goiás), 1,8 billion reais, and the Northern region (Acre, Amapá, Amazonas, Pará, Rondônia, Roraima and Tocantins), 0,9 billion reais.

The categories with the highest volume of e-commerce sales in Brazil in 2018 are the following:

- Parfums, cosmetics and health, with 16,4%;
- Fashion and accessories, with 13,6%;
- House and decoration, with 11,1%;
- Electronics, with 10,6%.

The division by contribution to the overall revenue shows:

- Electronics, with 19,6%;
- Telephony, with 18,2%;
- Home and decoration, with 10%;
- Informatics, with 9,6%.

Among the main characteristics of e-commerce and its users in Brazil, the cultural characteristics of the Brazilian consumer such as impulsiveness and attraction for promotions (which is also present in internet shopping), tends to stand out. It is also possible to observe that there is still fear regarding electronic fraud, especially with the use of credit cards in virtual transactions.

Brazilian e-commerce covers practically all commercial areas, being possible to find any and all products and / or services through websites. Another feature of this market is the large number of electronic products, e.g. products that exist only in digital format, such as *ebooks*, webinars and virtual training courses.

A study on the profile of online consumption in Brazil conducted by eBit[10] showed the following characteristics:

- For 44% of Brazilian consumers, purchases made in physical stores are influenced by e-commerce;
- For 93% of consumers, convenience is the biggest factor in buying online. Promotions and product variety also matter;
- The preferred time for online shopping is early in the morning and late at night;
- The most sought-after products are of the fashion / beauty, electronics, health and aesthetics and computing nature;
- More than half of online consumers are from the upper and middle classes;
- Female consumers represent the majority of online customers in Brazil.

CHINA

China is one of the largest global players in e-commerce, experiencing rapid growth and major technological advances. According to the latest iResearch statistics[11], the volume of e-commerce transactions featured RMB 24 billion in 2017. While e-commerce growth is slowing, it still has an impressive 18% growth per year, compared to an average of 10% in developed countries.

With regards specifically to the agri-food sector, the Chinese Ministry of Agriculture estimated in 2014 that online transactions amounted to over

https://www.ecommercebrasil.com.br/noticias/e-commerce-cresce-12-por-cento-webshoppers-i-e-commerce-brasil/

[10] *EBit:* https://www.ebit.com.br/webshoppers

[11] *iResearch Gobal. 2017 China's Brand E-commerce Service Industry Report. Available at:* http://www.iresearchchina.com/content/details8_36084.html

RMB 100 billion. However, there is still much room for growth: e-commerce accounted for only 3% of total agricultural business in the country in 2014.

China is an agricultural country and varieties of e-business also expand into agricultural foods, fertilizers, agricultural products, chemicals, local specialty products, flowers, teas, fresh fruits, among others, thus creating a broad platform for the development of rural economy.

There are currently over 10.000 e-commerce websites related to agriculture and the marketing of agri-food products in China. Agricultural e-commerce websites have played an important role in the rapid circulation of agricultural products, improving agricultural efficiency and increasing incomes of rural populations.

Good practices demonstrated by China in recent years have provided an opportunity for the development of agri-food digital trade. China's national e-commerce policy is called the Internet Plus - Circulation Action Plan and aims to integrate online tools into traditional sectors where agriculture is included. The plan calls for the transformation and innovative development of e-commerce in agricultural regions to be promoted in order to further boost consumer purchasing volume and hence, farmers' incomes. The objective of the action plan includes optimising the agricultural development environment, completing the implementation of sector-relevant policies, regulations and standards, improving logistics infrastructure, strengthening internet-related capabilities, enhancing property protection and training programmes for producers.

The Internet Plus policy comprises of two basic components: one is built around the take-up of agri-food e-commerce at the business level and the other examines different modes of development at the regional level. The relationship between the two components is reciprocal: the business sector provides a basis for the development of e-commerce at a regional level and regional development leads to a broadened and deepened uptake of digital tools by businesses and the multiplication of the effects produced.

Between government support, the growing demand for agricultural products from the urban centres and the growing rural population (over 40% of the Chinese population) with technological know-how, the signs indicate an optimal time for e-commerce services to continue. to deepen their roots in rural markets. In 2015, government authorities strengthened their support for e-commerce by improving new business infrastructures such as e-payment and logistics, and promoting the development of the e-commerce service industry.

In China, types of agricultural e-commerce can be characterised as:

- **Professional agricultural e-commerce sites:** This type of e-commerce mainly provides agricultural products. This type of website is built by ICT companies and supported by the government, which provides services to local agricultural businesses and small producers;
- **Trading of agricultural products and raw materials based on B2B platforms**: Some famous B2B platforms allow transactions of agricultural products, such as Alibaba, which provides agri-food products subdivided into several categories.
- **Professional Agricultural Product Platforms:** This type of e-commerce platform has developed rapidly in China and is able to deliver products throughout China.

■ Characteristics of Chinese agricultural e-commerce

Nowadays, the agri-food sector e-commerce in China faces some barriers that directly or indirectly have the following impacts:

- **Regional characteristics:** Due to China's wide territorial extension, not only is there is a great diversity of agri-food product characteristics, but there are also logistical and access barriers to

many regions and product delivery throughout the territory. However, such existing barriers are increasingly being transposed with the advancement of e-commerce;

- → **Logistic distribution and lack of offline storage**: Agricultural products have a short shelf life, so cold chain logistics are required for distribution of agricultural products. However, most e-commerce companies do not comply with the requirement of cold chain logistics, which leads to severe restrictions on the sale of agricultural products.

According to the United Nations Industrial Development Organization (UNIDO)[12], in 2015, the total number of Chinese Internet users reached 688 million and the internet usage rate reached 50,3%.

E-commerce will be an important element in achieving China's development goal of building a prosperous society in order to improve the efficiency of social resource allocation and cultivate new drivers of economic growth.

Recent data suggest that the digital divide between rural and urban China, as well as the income gap between the two continues to widen. The rate of internet use in rural areas comes to around 30% and in the urban areas, it has increased up to around 60%. In recent years, rural residents have overcome the challenge of using weaker internet infrastructure than in urban areas, and are more likely to use smartphones.

SOUTH KOREA

South Korea is one of the largest e-commerce markets in the world. Forecasts indicate that the volume of online commerce will grow to over US$ 32 billion by 2021, well above the 19 billion registered in 2016.

Korea is the third largest e-commerce retail market in the Asia Pacific region, after China and Japan, and is the world's seventh largest in terms of transaction volume. It is also a global technology leader with a tradition of endowing robust investments in sophisticated technology. Korean consumer spending in 2015 on food and beverages amounted to about us$ 130,5 billion. Still, online spending on food and drinks per capita was US$ 94 in 2015[13].

The growth of e-commerce in recent years has been supported by the broad coverage of broadband internet and the increased use of smartphones, social networks and the internet. New e-commerce applications, platforms, and payment solutions have also facilitated involvement in e-commerce. South Korea has the highest average internet connection speed in the world – 24.6 Mbps - and is the most connected country in the world with 42 million internet users, equivalent to about 85% of the population. According to Statistics Korea[14], over 99% of Koreans between 10 and 30 years old use the internet. Even consumers between 40 and 60, who make up 80% of the population, are frequent internet users. Additionally, over 60% of the population uses Wi-Fi at home, with a 97% record of mobile phone usage.

Online shopping in South Korea still has a double-digit growth rate, despite the huge expansion seen in recent years. In 2016, for example, the growth rate compared to 2015 was 20,5%; At the same time, traditional retail channels are struggling to stay active in this dynamic market. The most popular online shopping categories on national retail platforms are travel booking services (17%), home appliances and electronic equipment (11%), clothing (10%), car and home accessories (10%) and cosmetics (8%), with products from the agri-

[12] *UNIDO (United Nations Industrial Development Organisation). Inclusive and Sustainable Industrial Development Working Paper Series WP 16 | 2017. National Report on e-commerce development in China. Available at: https://www.unido.org/sites/default/files/files/2018-01/WP16.pdf*

[13] *Agriculture and Agri-Food Canada. Market intelligence reports. Available at: http://www.agr.gc.ca/eng/industry-markets-and-trade/international-agri-food-market-intelligence/reports/?id=1522931721523*

[14] *Statistics Korea, Online shopping trend, March 2017.*

food industries not being visible in the first positions.

South Korea ranks among the top Asian economies, although its agricultural sector has declined, in part due to the country's rapid industrialisation and scarcity of farmlands. As a result, imports of agricultural products are becoming increasingly important in the South Korean agri-food chain. In fact, the preference categories of Koreans change radically as imports from foreign retailers are analysed and distributed as follows for 2017: dietary supplements (16%), cosmetics (14%), food (13%), clothing (12%), footwear (8%) and home appliances and electronic equipment (7%).

Purchases via smartphones are growing and fast and about 43% of Korean consumers use a mobile device to shop online, more than any other country in the world. Approximately 54,2% of online transactions were made from mobile phones, with a third of smartphone users making at least one purchase per week.

E-commerce in Korea accounts for 10% of all retail sales and the number is growing as more customers gain confidence in online transactions and their delivery of goods.

E-commerce has quickly become one of South Korea's favourite retail channels due to the hectic lifestyle of the majority of the population. According to a Korean Consumer Agency survey of 1.000 online consumers, 44% of Koreans shop online for foreign products. The average number of times consumers shop online is approximately 6,4 times a year, or 0,5 times a month. In general, South Korea's main target market for online retailers is young mothers, adults between 20 and 30 and women between 40 and 50. Online providers are also betting on attracting baby boomers, born between 1946 and 1964, as they emerge as a large group of consumers in the online market.

As for online shopping from outside South Korea, only eight countries focus 99% of the cross-border online commerce: the USA, China, Germany, Hong Kong, Japan, the United Kingdom, France and New Zealand[15].

SPAIN

Although e-commerce in Spain has developed at a slower rate than other European markets, mainly the United Kingdom, France and Germany, it is still the largest e-commerce market in southern Europe.

Spain has increased e-commerce rates year after year, reaching in 2017 over 30 billion euros, a 26% increase over last year, according to data from the *Comisión Nacional de los Mercados y la Competencia.*

According to an IAB Spain[16] report published in 2018, the internet usage rate in the Spanish population aged 16-65 reached 89% in 2018, while 71% reported buying online during that year. The computer remains the main tool for accessing digital markets, although smartphone use is growing rapidly.

E-commerce in Spain was worth 28 billion euros in 2018, an increase of 17% over 2017. By 2019, growth is expected to be around 20%, meaning that e-commerce in Spain will be worth 33,6 billion euros at the end of 2019[17].

In addition, the E-Commerce Foundation[18] estimates that the average online shopper in Spain will spend 1.304 euros on internet purchases in 2019, 200 euros more than in 2018. For most Spanish consumers, the main reason to buy online is to be able to receive items directly at home. Another important reason is that e-commerce is available 24 hours a day. Cheaper prices are also characterised as further important reason for buying online.

[15] *Korea Customs Service, Press release Cross-border trends 2010-2014, 13 Feb. 2015.*

[16] *IAB Spain. Estudio Anual e-commerce 2018. Available at: https://iabspain.es/wp-content/uploads/estudio-ecommerce-iab-2018_vcorta.pdf*

[17] *E-commerce news. Available at: https://ecommercenews.eu/ecommerce-in-spain-was-worth-e27-96bn-in-2018/*

[18] *E-Commerce Foundation. Available at: https://www.ecommercefoundation.org/blog/news-and-publications-1/post/press-release-2018-ecommerce-report-spain-12*

Regarding food trade, only 1,2% of this was done through online channels in 2017. Even so, the increase was 10% compared to 2016. If only fresh products are analysed, the number falls to 0,5% (annual growth of 6,4%). Most of these products are bought through online supermarkets.

About 34% of Spanish consumers spend between 50 and 100 euros on average on online stores.

Key data from the electronic market in Spain indicates that:

- 8% of all internet users in the world are Spanish;
- The main category of retail on the internet is clothing and footwear, followed by food and drink;
- Spanish is the third most used language online, after English and Mandarin.

According to Landmark Global, the typical Spanish online shopper:

- Are between 25 and 49 years old (35-49 years more specifically);
- Lives in urban areas and works full time;
- Has at least a bachelor's degree;
- Belongs to middle or upper social class.

In terms of product preferences, Spanish consumers are similar to other European consumers. They often buy clothes and shoes, home appliance electronics, and books online. In addition, car and food accessory products are also figuring in this top list.

According to the E-Commerce Foundation, with a high level of internet usage (88%) and a substantial expected demographic increase, the potential for e-commerce is high in Spain.

Spanish consumers seem quite satisfied with their usual online stores, finding fewer problems compared to the average of the European Union (EU). According to a recent survey, the main reason (98%) why Spanish customers shop online is for convenience. Price and economic factors are also differential factors when choosing an online store.

Spanish consumers know that they live in a large territorial country. Therefore, the delivery time of 2-3 days is normal and expected.

When analysing online payments, Spanish consumers indicate a strong preference (77%) for third-party payment services, such as Paypal[19].

This factor, coupled with strong acceptance of online security protocols, declares a relative lack of confidence from Spanish consumers. Therefore, cybersecurity and data protection should be of utmost concern for online retailers wishing to market their products in the Spanish market.

UNITED STATES OF AMERICA (USA)

The US ranks # 1 in the Internet Inclusivity Index and ranks among the world leaders in digital commerce. In 2017, online sales of tangible goods reached about US$ 446 billion, according to Statista. This figure is expected to exceed US$ 700 billion by 2022. However, in the same year, this represented only about 9% of total sales, placing the country fifth in the ranking of countries with the highest percentage of online sales behind China, the United Kingdom, South Korea and Denmark.

E-commerce in the USA is led by technology giants such as Amazon, Apple, Walmart and eBay, which absorb a considerable share of the total sales.

Additionally, some of the top names in the USA online supermarket ecosystem also operate in the e-commerce area. According to a study by Coresight Research[20], in 2018, 23,1% of shoppers surveyed assumed to have purchased agri-food goods online during 2017. The report also mentions that Amazon is the most sought-after retailer in this product category.

Figure 4 provides an overview of revenues generated by different sectors in USA e-commerce in 2017 and forecasts for subsequent

[19] https://www.paypal.com/pt/home

[20] *Coresight Research. Available at: https://coresight.com/*

years. In 2017, the "food and personal care" category accounted for about US$ 55 billion in revenue, representing 12,3% of total online purchases. The outlook is for growth and is expected to reach 12,5% of the total by 2023, according to the analysis prepared by Statista. It should be noted that, although growth is modest as a percentage of the total, the volume traded assumes an increase of about 65% over the same period.

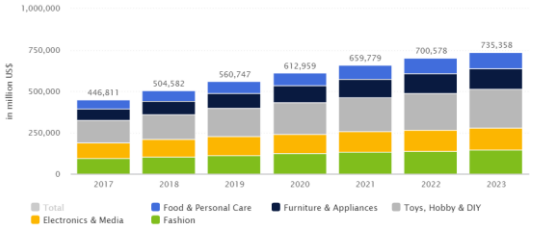

Figure 4: Sectorial revenues of e-commerce in the USA
Source: E-Marketer[21]

In the agri-food sector, e-commerce is dominated by large companies. As shown in Figure 5, in 2016, Amazon had a prominent position, with about 4 times more revenue than its most direct rival, Kroger Co. The revenue generated by Amazon from the online trade in agri-food products reached US$ 2,1 billion in 2016, representing 48% of the total in the USA.

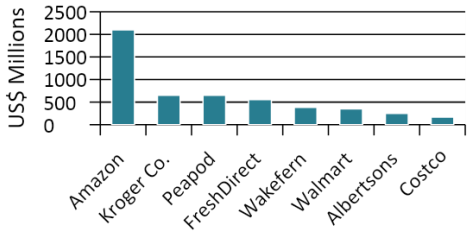

Figure 5: Main agri-food e-commerce and e-marketplaces in the USA in 2016
Source: *Coresight Research*[22]

Currently, 46% of the USA population shop online, and e-commerce accounts for 7% of national retail sales.

According to eMarketer, e-commerce for agri-food products should grow by 18% in 2019 in the USA alone - and will be ranked as the fastest growing online product category. This will result in revenue that will exceed US$ 19 billion by the end of the year.

Noteworthy are the main features of the typical online buyer from the USA:

- **Parents with young children -** They need to shop easily once or twice a month to stock up on non-perishable foods. They value excellent customer service with accurate delivery times;
- **Urban youth** - Shop online for convenience to create larger stocks and avoid the costs of delivery. They value intuitive, easy-to-use websites, as well as promotions and free deliveries;
- **Online shoppers who like technology** - Don't like to shop at stores and often buy items to stock, both fresh and non-fresh products. They value fast delivery and a wide variety online;
- **Limited budget shoppers** - Shop online to minimise weekly spending and to fill a similar basket in fresh and non-fresh supermarkets. They value easy repetition of past purchases and promotions, as well as free delivery.

According to Euromonitor[23] in 2016, USA consumers were buying more edible products online, due to the convenience and growing preference for premium and private label products. This trend symbolises an opportunity to differentiate and deliver compelling, personalised services that increase sales and gain greater customer loyalty. USA buyers want:

- Product labels with ingredients they know and can pronounce;
- Natural and healthy food products;
- Convenient and on-the-go meals;
- Ethical and ecological brands;
- Trusted brands.

[21] *https://www.emarketer.com/*

[22] *Coresight Research. Disponível em: https://coresight.com/*

[23] *https://www.euromonitor.com/*

EUROPE

In Europe, there has been a sharp growth in online commerce. The opportunities created by e-commerce are strongly supported by the European Commission (EC), which in 2015 launched the Digital Single Market initiative which, together with other measures, aims to offer European citizens and businesses better conditions for the marketing of online goods and services on European territory.

In Europe, unlike the USA, the market is not dominated by local companies, although there are in many countries a large number of reasonably sized domestic companies operating in their markets. It is the large multinationals such as Amazon, eBay and Alibaba that hold the largest shares of the European online commerce market.

European B2C e-commerce turnover is expected to reach € 621 billion by 2019. B2C e-commerce turnover continues to grow by around 13% per year.

Most B2C e-commerce revenue is concentrated in Western Europe (66%). Northern Europe has the highest spending per online shopper. Portuguese e-shoppers are the most concerned with payment security issues.

According to the E-Commerce Foundation, the highest utilisation rate of e-commerce is concentrated in Western Europe (66%). Eastern Europe, however, represents only € 23 billion, out of the € 547 billion generated at European level.

In Europe, the internet usage rate is 82,5%, with Northern Europe and Western Europe being the regions with the highest internet usage rates (93,3% and 92,3%, respectively). There are still many major differences between European countries when it comes to internet usage. For example, Iceland has a rate of 99% of usage, while in Ukraine only 64% of the population has internet access.

While many consumers in Europe like to shop online, there will always be consumers who prefer to shop in person because they like to see the product, are loyal to stores or for routine reasons. In Kosovo and Montenegro, people are more likely to refrain from ordering online, while in Poland, only 2% prefer physical stores to online stores. Denmark (11%), The Netherlands (11%) and the United Kingdom (10%) fall under similar form of thinking.[24]

The online cross-border market in Europe accounted for a turnover of € 95 billion in 2018. This corresponds to a cross-border share of total online sales in Europe of 22,8%. In these countries, € 36 billion is generated by the 500 largest cross-border e-commerce companies. Amazon leads with sales of about 32 billion euros.

It should also be noted that the European agri-food sector's uptake of digital markets has been progressing relatively slowly, despite the significant economic potential for the sector. One possible explanation lies in the mindset of European citizens and businesses who still do not consider agricultural and food products when using e-marketplaces, and end up favouring traditional physical channels for their purchase.

INDIA

India, in line with the growth of the Asian continent, presents optimistic projections of e-commerce growth. In 2016, the use of this type of trade in India represented only 28%. In terms of revenue, online sales in India are expected to grow exponentially, with projections pointing to form around US$ 39 billion in 2017 to 120 billion in 2021 and 200 billion in 2026. Amazon.in positions itself as the leading store in the Indian online market.

The retail market in India has undergone a major transformation and witnessed strong growth in the last 10 years.

India is among the best countries to invest in e-commerce. Factors that make India so attractive

[24] *E-commerce News. Available at: www.ecommercenews.eu*

include the world's second largest population, a middle class of 600 million people, and steady improvements in urbanisation, rising average household incomes, increased rural consumer connectivity and consecutive increases in consumer spending in general.

India overtook China and topped 2017 in the Global Retail Development Index from A.T. Kearney[25].

Driven by increased smartphone usage, the launch of 4G networks and growing consumer wealth, the Indian e-commerce market is expected to grow to US$ 200 billion by 2026 from US$ 38,5 billion in 2017. Flipkart, Amazon India and Paytm Mall have a prominent position with about 31% of the total sales share of e-commerce in India.

During 2018, electronic equipment was the most sought-after online category in India with a 48% share, closely followed by apparel with 29%.

E-commerce is the fastest growing channel in India in number of business transactions. In the world, India is the third largest internet user base with about 120 million users. Almost all farmers have a mobile phone, of which 40% are smartphones with internet access.

However, the agriculture scenario in developing countries like India is characterised by the involvement of various mediators, fragile infrastructure, lack of knowledge of ICT by farmers, among others. Even if the country becomes self-sufficient and exports agricultural products, most small farmers are still underpaid. Empowering farmers through e-commerce can prove beneficial in aspects such as information exchange that will reach more isolated destinations, although it will also face other constraints such as literacy and the various local languages practiced in India.

Challenges to the agri-food sector in India

Key challenges for India's agricultural sector are insufficient agricultural infrastructure and support facilities, insufficient institutional capacity to provide specific services for farmers, lack of "common platforms" for farmers, insufficient use of ICT in agriculture, among others.

India has an economic profile opposite to that of South Korea, with agriculture representing the main source of income for almost 60% of the population. The country has some characteristics that help explain the importance of the sector for the national economy: huge population, income growth with a reflection on food demand, increased agri-food exports and diversity of territories, climates and cultures that increase the variety of productions.

The Electronic National Agriculture Market (eNAM)[26] is an example of the effort to introduce online platforms linked to agricultural activity, which in this case involves only B2B trading. The concept at the national level was born by replicating the case of Karnataka Province, where the Government has established a project to connect all states through Agricultural Produce Marketing Committees (APMC), that are able to create a unique virtual market. eNAM intends to integrate all existing APMCs in the country to create an Indian e-marketplace for agricultural products through a buyer licensing system without the precondition of having a physical presence; assigning a valid single license for state trading; and a 1% tax for the first purchase from the farmer. The idea behind this e-marketplace is to provide price transparency, eliminate information asymmetry between sellers and exempt farmers from intermediate commissions.

[25] https://www.atkearney.pt/

[26] *Electronic National Agriculture Market (eNAM). Available at: https://enam.gov.in/web/*

INDONESIA

Indonesia is at an early stage in the development of internet use as well as mobile and digital technologies. With a population of over 270 million, Indonesia is one of the global markets with the most potential for e-commerce. According to a McKinsey[27] report published in 2018, the value of e-commerce in the country is estimated to grow between $ 55 and $ 65 billion by 2022. Compared to 2017, estimated at 8 billion, the confirmation of forecasts would represent an eight-fold increase in just 6 years.

This rapid growth of e-commerce is supported by several factors. Firstly, the use of smartphones and the internet has been steadily increasing, as shown in Figure 6. Secondly, Indonesia has a large population that has seen its purchasing power grow due to robust macroeconomic growth (annual growth of GDP from 5 to 6% between 2012 and 2017; per capita GDP growth of 70% between 2009 and 2017). Finally, young people can quickly and easily adapt to new technologies.

Figure 6: Consumption trends in Indonesia from 2016 to 2021
Source: ATKearney

Just over 10% of Indonesia's 270 million people shop online. But as internet performance and usage increases, e-commerce is expected to grow exponentially. Over the next three years, Indonesia will have 44 million online commerce buyers, with an estimate of US$ 55 billion to US$ 65 billion in revenue, according to McKinsey. A report from Google points out that the market will be worth US$ 53 billion by 2025.

Over 55% of Indonesia's online commerce spending comes from Jakarta, where the online retail market is more mature than in other regions. As online commerce expands beyond Jakarta, the forecast for new consumer growth is over 30%.

The main challenges for the development of e-commerce in Indonesia are outlined as follows:

→ **Indonesia's difficult geography and poor infrastructure**

Indonesia's geography is a key challenge for the country's growing e-commerce sector. Indonesia is a country of more than 17.000 islands spanning more than 5.000 kilometres from east to west, making it difficult for electronic retailers to operate throughout the country. In addition, supply chain failures, long port stays and long breaks are typical problems faced by foreign companies operating through e-commerce in the country. Poor infrastructure increases the cost of transportation, affecting the final price and delivery of goods.

According to the World Bank, logistics costs represent up to 25% of Indonesia's GDP, the highest figure from the Association of Southeast Asian Nations (ASEAN).

→ **Slow internet connection**

Indonesia has one of the slowest internet connection speeds in the Asia Pacific region. Also, in the fixed broadband speed category, Indonesia ranks 93rd behind many of its regional peers such as Singapore (1st), Vietnam (56th), Malaysia (62th) and Philippines (91st).

→ **Low adherence to payment with card (strong attachment to using money)**

Just like any other Asian economy, Indonesians are wary of online payments. Most e-commerce transactions are done by direct bank transfer or using cash on delivery, thus limiting the expansion of e-commerce in the country. In addition, low financial literacy and high number of non-bank customers also make the e-commerce scenario difficult.

Recent developments in payment systems, however, suggest improvements, such as

[27] *McKinsey&Company. The digital archipelago: How online commerce is driving Indonesia's economic development, 2018.*

alternative electronic payment mechanisms that are gaining ground in the country and e-wallets such as Go-Jek, T-cash, Doku, GrapPay and Veritrans have become increasingly popular with consumers.

Rapid growth in e-commerce is supported by various government policies. For example, in August 2017, the Indonesian Government adopted the E-Commerce Map, a roadmap aimed at boosting the growth of national e-commerce and stimulating the digital economy at large. The map provides strategic guidance to various government agencies to support and accelerate digital business development and to provide regulations applicable to issues such as financing, logistics, cyber security, taxation, human resources development and consumer protection.

Among the main reasons why e-commerce has seen such a rapid increase in Indonesia is the growth of smartphones in the country. Smartphones are also much more affordable than computers and laptops, bringing them closer to the purchasing power of most of Indonesia's population. Over 40% of the population own smartphones and approximately 70% of internet traffic in the country comes from these devices. The McKinsey report pointed out that nearly 75% of Indonesia's online shoppers use mobile devices - a much higher rate than the neighbour Malaysia (62%) and the USA (39%).

On the other hand, the growth of e-commerce can be attributed to Indonesia's digital youth. Statistics indicate that young Indonesians (and to some extent the oldest) are avid users of social networks. The country has the fourth largest number of Facebook users in the world, with 122 million people and one of the largest Instagram user populations in the region. Indonesia is also the fifth largest country in terms of Twitter users. Having so many social network users, it's no surprise the huge potential of e-commerce in the country. For e-commerce to thrive, users need to be familiar with social networks.

Indonesia has a promising e-commerce sector, however, cannot be attributed solely to its growing consumer base. It is also due to the growing number of online sellers. The number of online sellers in Indonesia has doubled each year in the last three years and reached a total of 4,5 million active sellers in 2017. Approximately 99% of these are micro businesses and half of these are online only businesses with no physical store presence.

Online commerce has made it extremely easy for many to start their own businesses and entrepreneurship has seen a sharp increase in the country. In addition to encouraging a constantly growing market, it also offers citizens a way out of socio-economic problems.

As further digitisation is expected, the digital economy may represent one of the main pillars of Indonesia's economy in the future.

Agriculture is emerging as one of Indonesia's main economic sectors. Near to 30% of the territory is occupied by farms employing about 50 million farmers, who are among the lowest social strata in the country.

The use of electronic markets in the agri-food sector is also supported by the Indonesian government, which has stated its intention to bring digital innovation, including e-commerce, to low-growth industries such as agriculture or fisheries. A government-based e-marketplace pilot project for farmers was launched in 2016 and aims to increase local farmers' profit margins by 15% while lowering consumer prices by 15%.

3.

Methodology

The proposed methodology for conducting the study of mapping and characterisation of the main international e-marketplaces for the agri-food industry unfolds into different rigorously developed stages, as shown in Figure 7:

Figure 7: Methodological proposal for the study of mapping and characterization of the main e-marketplaces

Data collection

In order to survey and collect information on agri-food sector e-marketplaces at the international level, the different e-marketplaces were mapped globally, and they were classified, in the first step, into two major groups:

1. By international market;
2. By the type of e-marketplace*:*
    a. B2B;
    b. B2C.

The process of collecting information is based on two methods, the first is desk research, where information was collected from sources available from online databases and relevant international sources, such as the following:

- Organization for Economic Cooperation and Development (OECD);
- World Bank;
- European Commission (EC);
- Scientific journals and articles published in specialised conferences, such as: International Food and Agribusiness Management Review; Agribusiness Forum; Agribusiness Journal; Journal of International Food & Agribusiness Marketing; International Journal of Electronic Commerce; Electronic Commerce Research and Applications; Journal of Electronic Commerce Research, among others.

The second method concerns primary research, e.g. interviews with internal and external experts in areas such as agribusiness, e-commerce and digital marketing, and with experts from countries and markets targeted by this study. This primary research phase aimed to include insider sources and add significant value to the overall outcomes of the study. These experts had two key roles in the development of the study, namely: (1) presentation of strategy proposals and e-marketplaces relevant to the study; and (2) validation of the collected information and data verification.

It should be noted that not only agribusiness e-marketplaces were considered and analysed, as there are a number of e-commerce and e-marketplaces strategies and trends that present lessons learnt and good practices, even though they operate in other segments and areas of expertise.

Selection of relevant international e-marketplaces

Under this step of the methodological procedure, a selection and classification of successful cases was performed globally, and Chapter 4 presents the 33 global reference e-marketplaces for the sector, described and classified by country, typology, good practices and degree of technological sophistication.

The selection process of the e-marketplaces relied on the experience of international experts, through in-depth knowledge of the different markets explored in this study and based on international rankings of reference of e-marketplaces.

Innovative and differentiating e-marketplaces were also considered, either by the type of e-marketplace (B2B, B2C, C2C), by the business model, by the marketing strategy, or by the degree of technological innovation, logistics and others.

Analysis, characterisation and description of the selected e-marketplaces

This stage includes the analysis, characterisation and description of e-marketplaces selected in the previous task. After the initial selection of 33 global benchmark e-marketplaces, the top 10 international e-marketplaces were detailed in summary sheets with business model specifications.

Within these 10 e-marketplaces, Amazon and Alibaba stood out for their relevance. The other 8 international e-marketplaces are the highlights of each country and target market covered in Chapter 2. A final summary of a reference case in Portugal - already in the international - was added to the Study - Agri marketplace.

The summary tables (Chapter 4) were developed to present the results of the Study of mapping and characterisation of the main international e-marketplaces for the agri-food industry in a more didactic, direct and organised way. The summary tables include the following analytical elements: general characterisation; financial indicators (if available); coverage; business model and critical success factors.

4.

Mapping of the Main agri-food e-marketplaces

Classification and preliminary selection

Following the initial identification of the world's leading e-marketplaces, this chapter presents the classification and further description of the major agri-food industry e-marketplaces internationally.

Note that the e-marketplaces selected for the following analysis and classification all operate in the agri-food sector.

Initially, a market classification was performed, and 33 e-marketplaces were chosen and described, classified by country, typology, best practices and degree of technological sophistication.

The “good practice” and “degree of technological sophistication” headings were graded on a scale from 1 to 5, where 1 has few good practices and little technological sophistication, going up until 5, where the case is emblematic and the technological sophistication is high.

As a result of this ranking, the top 10 e-marketplaces with the highest scores (considering one per global market analysed in Chapter 2) were selected to be described in detail in the summary tables. At the European level, a number of examples from different countries were explored, including from the United Kingdom, Poland, Serbia, France, Portugal and Romania.

In addition to the 8 e-marketplaces chosen by country, two iconic and successful cases are presented in detail - Amazon and Alibaba.

Table 1 presents the consolidated results of the classification performed.

Table 1: Classification of the main analysed e-marketplaces

Nº	*E-marketplace*	Link	Country	Type	General Information	Good practices	Degree of technological sophistication	TOTAL
1	Americanas	https://www.americanas.com.br	**BR**	B2C	The platform is one of the pioneer e-marketplaces in Brazil of generalist products that covers the entire Brazilian territory. It offers diverse products, efficient logistics and low prices. It is considered the 4th largest retail company in the country. Currently, the e-marketplace platform belongs to the largest online retail group in Brazil and Latin America, B2W, which also owns Submarino and Shoptime e-marketplaces. The group also owns a B2B e-marketplace called Americanas Enterprises, dedicated exclusively to business sales. Currently, the platform has a food and beverage section with a varied selection of domestic and imported products.	3	3	**6**
2	Carrefour	https://www.carrefour.com.br		B2C	The French retail chain Carrefour has chosen Brazil as its first destination on the American continent, currently having about 160 stores in 14 Brazilian states. Carrefour hypermarket online operations were closed in 2012 due to restructuring of the business model. After 4 years, in 2016, the group returned to operate in the e-marketplace format only by selling non-food products, such as electronic equipment, appliances, among others.	3	3	**6**
3	Mercado Livre	https://www.mercadolivre.com.br		B2C - C2C	Mercado Livre is an Argentinian technology company that offers e-commerce solutions so that people and businesses can buy, sell, pay, advertise and ship products over the internet. It operates in 19 countries, has about 4.000 employees and is the most popular e-commerce website in Latin America by number of visitors. The company has operations in Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay and Venezuela. Until 2016, Mercado Livre had 174,2 million users in Latin America. The platform has a supermarket section with a varied selection of domestic and imported products. Low prices and direct sales are the main distinguishing features of this platform.	4	4	**8**

Nº	*E-marketplace*	Link	Country	Type	General Information	Good practices	Degree of technological sophistication	TOTAL
4	Mercado Orgânico	https://mercadoorganico.com		B2C	This e-marketplace targets a specific niche of consumers of organic products through intermediation between suppliers of various products and consumers interested in organic products. Mercado Orgânico works directly with fair and sustainable production cooperatives and associations.	5	4	**9**
5	Extra Foods	https://www.extra.com.br		B2C	Extra is a Brazilian retail chain consisting of multi-format stores that include supermarkets, hypermarkets and mini-markets operated by Multi Retalho, which also operates the Pão de Açúcar premium supermarkets. The physical supermarket chain was founded in 1989. The online platform has a distribution service throughout Brazil with low price appeal and contains a food section with a wide range of products.	3	3	**6**
6	Alibaba	https://www.alibaba.com	**CN**	B2B	Alibaba is the world's largest B2B e-marketplace. Alibaba operates in 200 countries, selling over 100 million products in 40 different categories. Alibaba helps connect China-based wholesalers with thousands of companies worldwide on a single market platform. Suppliers mass manufacture and sell products to buyers looking to store goods for their companies. The company also operates on other e-commerce sites such as AliExpress, TMall and Taobao. A food and beverage section are also available on this platform, with a wide selection of products available. The platform has been increasingly exploring logistics options, being able to deliver from China to all sides of the world within a few days.	5	5	**10**
7	JD.com	http://www.jd.com		B2C	JD is the second B2C Chinese e-marketplace, with over 300 million registered users. It also operates in Spain, Russia and Indonesia. JD operates a programme that allows foreign (non-Chinese) companies and brands to sell directly to Chinese customers on JD.com. JD is the world leader in delivering high technology and artificial intelligence through drones, autonomous technology and robots. The platform has a supermarket section and a fresh call, which contains a wide range of fresh food and delivered within hours (only for the Chinese market and in specific locations, particularly in large urban centres).	5	5	**10**

Nº	*E-marketplace*	Link	Country	Type	General Information	Good practices	Degree of technological sophistication	TOTAL
8	Taobao	https://world.taobao.com		C2C	Taobao is a Chinese e-marketplace owned by Alibaba. It has 617 million active users. Taobao is ranked the 9th most visited websites in the world. The platform facilitates the C2C retail market by providing a platform for small businesses and individual entrepreneurs to open online stores that sell to consumers in Chinese-speaking regions and abroad. Currently, e-marketplace has nearly 7 million active sellers. Taobao also contains a food section with varied products.	4	4	**8**
9	Gmarket	http://gmarket.co.kr	**KOR**	B2C – C2C	Gmarket is a South Korea-based e-commerce site. The company was founded in 2000. In 2006, Gmarket became the first South Korean-listed online company NASDAQ. Some items are rare and valuable whilst many others are less valuable. Gmarket, through the online auction system, has transformed the way to buy and find collection items, making them available online and making life easier for consumers. The platform has a food section which is subdivided into four subcategories: fresh foods, processed foods, healthy foods and coffee and beverages.	4	4	**8**
10	11 Street	http://www.11st.co.kr		B2C	11st is the most visited online application in South Korea, with a total coverage of 27,5% among all online consumers. It started in South Korea, but has expanded in recent years to countries such as Turkey, Malaysia and Indonesia. It is currently the number 1 e-commerce site in Malaysia called 11st Malaysia. Users can choose their preferred currency when shopping on the website. As a differential, the platform offers a points system where customers can have discounts on their future purchases. The platform has a very varied and differentiated food section, offering a number of subcategories such as: field, fishing, livestock, side dishes, processed foods, coffee, water, sweets, instant food, healthy food, diet food, organic foods, among others.	5	4	**9**
11	Mentta	https://www.mentta.es	**ESP**	B2C	This food-focused e-marketplace aims to offer different products from different vendors grouped by categories and with fast delivery. The platform is divided into categories as if it were a virtual supermarket, with the main headings of meat, hams, fruit, vegetables, olive oil, cheese, wine, beer, cold cuts, fish and	4	3	**7**

Nº	*E-marketplace*	Link	Country	Type	General Information	Good practices	Degree of technological sophistication	TOTAL
					shellfish, dried fruits, preserves, rice, vegetables, pasta. , bread, sweets, coffee, biological zone and prepared food. The company has won a number of innovative business model awards, such as IE Business School and The App Date Awards 2015.			
12	Amazon	https://www.amazon.com	**EUA**	B2C	Amazon is the largest global e-marketplace case study with high performance, constant adaptation to the ever-evolving digital marketplace, and # 1 in USA sales. Amazon was founded in the USA in 1994. In 2019, Amazon became the most valuable company in the world, surpassing Microsoft.	5	5	**10**
13	Walmart Grocery	https://grocery.walmart.com		B2C	One of the largest USA retailers that is also an e-marketplace. The Walmart group was founded in 1962 in the USA and has already internationalised its business to several countries. It has a very strong and consolidated e-marketplace and its strengths are low prices and integrated logistics with different points of sale and storage points. The food category has an exclusive platform, Walmart Grocery, where you can find all the products you normally find in Walmart supermarkets.	3	4	**7**
14	FreshDirect	https://www.freshdirect.com		B2C	Food market e-marketplace platform that aims to deliver fresh and quality products quickly to consumers. Freshdirect is considered a pioneer in the short supply chain offering users fresh food in the best possible way. Food comes straight from the source and is delivered in just a few days by reducing the number of middlemen in the agri-food sector - also benefiting local farmers, skilled artisans and responsible fishermen through fair trade.	4	4	**8**
15	Costco	https://www.costco.com		B2C	The general platform offers diverse products, efficient logistics and low prices. It has a section of food and household products at competitive prices and with a wide range of products available.	3	3	**6**
16	Agri Marketplace	https://agrimp.com	**PT**	B2B	Agri Marketplace aims to facilitate and intermediate the purchase and sale of agricultural products and raw materials for producers through the fair market. It is considered a success story because it shortens the supply chain and reduces the role of intermediaries in order to facilitate the approach of the producer to the rest of the chain. The Agri Marketplace offers a	5	4	**9**

Nº	*E-marketplace*	Link	Country	Type	General Information	Good practices	Degree of technological sophistication	TOTAL
					secure and reliable platform for fair and sustainable business transactions and covers the entire European territory.			
17	Dott	https://dott.pt		B2C	The recent Portuguese e-marketplace of the SONAE MC and CTT group aims to present goods from different suppliers and to consolidate itself as the main national generalist e-marketplace, with a series of national and imported products and a very wide base of suppliers. Based on surveys of Portuguese consumer behaviour, Dott bets on a consumer model with contact phones, various payment methods and more than 1.600 distribution points in the country, thus ensuring delivery within 48 hours.	4	4	**8**
18	Pragmatic	https://pragmatic-net.eu	**SRB**	B2B	The e-marketplace provides small farmers with precision farming solutions by presenting different solutions, equipment and technologies on a single website. It also has an online auction tool, allowing sellers to auction their products and offer more tailored to a particular type of customer depending on product availability.	4	5	**9**
19	Cdiscount	https://www.cdiscount.com		B2C	Generalist e-marketplace that bets on low prices. It contains a grocery section where various national and imported products are presented.	3	3	**6**
20	Agrinomie	https://www.agriconomie.com	**FR**	B2B	The platform was founded by farmers' families and is today the most popular agricultural sales site in France and the European-based e-marketplace. Considered the world's first online market 100% dedicated to the needs of farmers. The e-marketplace offers a wide selection of products ranging from fertilisers, seeds, farm equipment to phytosanitary and animal nutrition products. The platform features a simple and fast purchase system and competitive prices.	4	3	**7**
21	La Ruche Qui Dit Oui	https://laruchequiditoui.fr		B2B - B2C	This platform allows consumers to buy healthy and high-quality products directly from producers, thereby shortening the supply chain and lowering prices for consumers.	5	4	**9**
22	Yagro	https://yagro.com	**UK**	B2B	The Yagro platform aims to provide farmers with the necessary raw materials for agricultural production. For this, through the	5	5	**10**

Nº	*E-marketplace*	Link	Country	Type	General Information	Good practices	Degree of technological sophistication	TOTAL
					platform and application, farmers can directly connect with all registered suppliers on the platform, allowing quick and easy quote comparisons, thus ensuring the best deal for the producer. Suppliers can also quote alternative products and different delivery dates, providing the visibility needed to ensure the best possible price.			
23	Fruugo	https://www.fruugo.pt		B2C	Fruugo is a UK based market, available in 32 countries and has over 25 million active users. Sellers may register once to sell in all available markets in the portfolio. The website supports 22 currencies and 17 languages. Fruugo's market operates with hundreds of non-sales retailers, free of charge, and offers translation, customer service, marketing and foreign exchange services, so the retailer only needs to fulfil the order.	3	3	**6**
24	SellMyLivestock	https://www.sellmylivestock.co.uk		B2B	This platform is part of the Hectare Agritech group, which also owns the Graindex e-marketplace (https://www.graindex.com/). Both platforms are e-marketplaces that link producers and industries within the agri-food supply chain in a fast and secure way. It has received several awards and honourable mentions in the UK.	5	4	**9**
25	Allegro	https://allegro.pl	**POL**	B2C	Allegro is a generalist e-marketplace from Poland and covering the whole European territory, offering diverse products, efficient logistics and low prices. The platform has a supermarket section with a range of fresh and non-perishable domestic and imported agri-food products.	3	3	**6**
26	EMag	https://www.emag.ro	**ROU**	B2C	EMag is a generalist e-marketplace from Romania, with characteristics very similar to Allegro in Poland. EMag covers the European territory with diverse products, efficient logistics and low prices. It also has a supermarket section with a range of fresh and non-perishable domestic and imported agri-food products.	3	3	**6**
27	Big Basket	https://www.bigbasket.com	**IND**	B2C	Big Basket is a leading e-marketplace in India for online food sales. In their catalogue, over 18.000 products from over a thousand different brands are available for the customer. It is also well-known for an effective delivery network spread across India.	5	4	**9**

Nº	*E-marketplace*	Link	Country	Type	General Information	Good practices	Degree of technological sophistication	TOTAL
28	Grofers	https://grofers.com		B2C	Grofers is an e-marketplace founded in India in 2013. The platform leads the online selling market for low cost grocery products. Through its platform they manage more than 5.000 partners, which guarantees the reliability of the offer. Due to the size of the domestic market, much of the business is done in India, where they are able to deliver to most of the territory, delivering on average 25 million products per month. The platform has a supermarket section with a wide range of agri-food products.	4	4	**8**
29	DMart	http://www.dmartindia.com		B2C	DMart is a generalist Indian e-marketplace and aims to bring together a diverse range of products on the same platform, whether they are food products, toiletries, beauty products, kitchenware or even clothing. Its business area extends to around 184 locations in India. It includes a varied fresh and non-perishable agri-food product and at competitive prices.	3	3	**6**
30	Godrej nature's basket	https://www.naturesbasket.co.in		B2C	Godrej nature's basket is an Indian e-marketplace that combines a website and an application from which grocery shopping is possible. By reconciling digital with the existence of a huge network of physical retail outlets, Godrej nature's basket can span the entire territory of India.	4	4	**8**
31	Patanjali Ayurved Limited	https://www.patanjaliayurved.net		B2C	Patanjali Ayurved Limited is an e-marketplace based in India and primarily engaged in the production and marketing of teas and medicinal herbs. This e-marketplace covers all Indian territory.	3	3	**6**
32	SiKumis	https://www.sikumis.com	**INA**	B2C	SiKumis is an e-marketplace that offers consumers a wide range of products, such as tools, machines, fertilisers, vitamins and medicines for animals, but also food and beverages. This e-marketplace was born in Indonesia but is already present in several countries.	3	3	**6**
33	HappyFresh	https://www.happyfresh.id		B2C	HappyFresh is an Indonesian-created e-marketplace and its business is focused on grocery products. Its target audience is Indonesia's domestic market, but its range is expanding after HappyFresh has recently partnered with Tesco and Carrefour.	4	5	**9**

Summary Tables

In this subchapter, summary tables are developed for each of the 10 selected and classified e-marketplaces because of specific characteristics of interest to the agri-food sector. In addition to these 10 international e-marketplaces, a Portuguese success case is also presented because of its international recognition and prestige. It is considered a national best practice to be learnt from and because it is focused on the agri-food sector, it is called Agri Marketplace.

The summary tables include the following analytical elements:

- General characterisation;
- Financial indicators (if available);
- Coverage;
- Business model;
- Critical success factors.

CHARACTERISATION

Website	www.amazon.com	
Location	Seattle, Washington, USA	
Year	1994	
Type of platform	☐ Business to Business (B2B) ☒ Business to Customer (B2C)	
Number of employees	☐ 0-10 ☐ 10-50	☐ 50-250 ☒ More than 250

FINANCIAL INDICATORS

Evaluation (€)	Around 908,4 billion euros in July 2019 (Bloomberg)
Average annual revenue	Around 234,5 billion de euros, according to the Financial Report of Amazon in 2018
Average value of orders	US$ 600 average annual purchase value for non-prime customers and US$ 1.400 average annual purchase value for Amazon Prime customers
Average number of monthly transactions	Around 750 million and 50 purchases per second
Average number of vendors	Around 2 million
Average number of sellers	Around 300 million

COVERAGE

Scope	☐ Vertical (sector based)	☒ Horizontal (transversal based)
Geographical coverage	☐ Local ☐ National	☐ Regional ☒ Global
Commercialised products	Generalist e-marketplace with a wide variety of goods.	

BUSINESS MODEL

Operations model	Amazon's business model is considered hybrid because it focuses on four key points: customer focus, process evolution, constant adherence and adaptation to external trends, and speed in decision making.
Distribution model	Due to its size, Amazon has a highly complex and developed distribution system and is divided into several types of storage and distribution centres: → **Cross dock centres:** These are giant containers where goods are kept that will later supply the storage centres; → **Fulfilment centres:** These are the most common form of storage and serve a variety of purposes. In 1997, Amazon started by having two fulfilment centres, one in Seattle and one in Delaware. The combined area of these two centres was about 300 thousand m^2, compared with the current about 100 million m^2; → **Sorting centres:** The use of sorting centres started in 2014. In these sorting centres, goods are sorted according to the postal code of the customer to facilitate shipping. Implementing this process has allowed Amazon to shorten delivery times and improve control of the distribution process;

- **Distribution points:** These centres are the last address of the goods before they are delivered to customers. These centres are usually located in urban areas and near airports;
- **Prime Now Centres:** These centres receive a very limited range of products as they are reserved for deliveries that must be completed within two hours of purchase, such as food. There are currently about 50 Prime Now centres spread throughout the USA territory. The number is expected to increase considerably in the near future;
- **Prime Air Centre**: This centre is still under construction, but it is expected to be completed in the near future. With the "International Prime Air Hub" project (an investment of about US$ 1,5 billion), Amazon intends to have its own aerodrome, a space of about 210 hectares that aims to reduce dependence on logistics companies such as UPS or FedEx for air freight.

CRITICAL SUCCESS FACTORS

- **Constant and continuous investment in innovation**

Amazon founder and CEO Jeff Bezos has long realised that much of his time should be dedicated to innovation. Amazon's area of innovation is constantly investing in research on both technology trends and the dynamics involved in consumer behaviour patterns. From its inception, Amazon has understood how important it is to invest in a digital marketing strategy. The shopping experience is also made easier: the consumer needs a few clicks to fill the cart and complete the payment. Coupled with these disruptive initiatives, Amazon's delivery logistics has always been famous for speed and efficiency. This makes the company a great authority when it comes to providing a great experience for its customers. For this, in addition to technology, the company has a highly qualified multidisciplinary team, composed of engineers and data scientists, among other professionals. Partnering with local distributors also greatly facilitates the outflow of goods and ensures one of the fastest deliveries.

- **Move first, try constantly and fail fast**

Amazon gives great importance to trial and experimentation. The website, for example, functions as a laboratory, where prices, algorithms recommendations or configuration options are constantly tested. On the other hand, at Amazon's Seattle headquarters, where market tests are done, testing new business models for feedback in specific niches allows the first preview of reactions before effectively launching any innovation. At Amazon headquarters, you can visit and explore various examples of such experiences including Amazon Go, a fully automated convenience store pioneering the use of artificial intelligence and video camera system that promises to revolutionise the traditional grocery shopping experience; or Amazon's first physical bookstore that opened in Seattle in 2015 and has since spread around the world. The mindset based on "move first, try constantly and fail fast" also generates failures. One example is Amazon Fire, which was a disastrous attempt by Amazon to enter the smartphone market.

- **Big Data, Artificial Intelligence and Machine Learning**

Amazon is not only a pioneer in using new devices or business models, but it is always at the forefront of new approaches to where and how to innovate. Amazon operates through

constant data analysis, enabling the company to better understand consumer behaviour. A thorough and efficient data analysis allows Amazon to know which products consumers want beforehand, without consumers even knowing the products. Amazon uses this data to create opportunities faster and more accurately. Your thinking is, "What does the data tell us about what consumers want next?".

- **Innovation in the agri-food sector**

  Amazon Fresh is Amazon's direct platform that offers fresh online agri-food products such as fresh dairy, meat, fruits, vegetables, and prepared meals, ensuring same-day delivery. In the USA, Amazon operates a service called Prime Pantry dedicated to packaged foods and partners with local supermarkets to offer a more limited selection of perishable goods in major cities. Most recently, Amazon has launched its own premium food brands. In addition, Amazon has acquired Whole Foods, a large US health food supermarket chain. On the takeover, experts say that by combining Amazon Prime's online service and Whole Foods' offline shopping experience, Amazon is getting even more information about how the same person makes online and offline purchases. This means a better ability to target ads and promotions than a grocery store is usually capable of.

CHARACTERISATION

Website	https://www.alibaba.com	
Location	Hangzhou, China	
Year	1999	
Type of platform	☒ Business to Business (B2B)	
	☐ Business to Customer (B2C)	
Number of employees	☐ 0-10	☐ 50-250
	☐ 10-50	☒ More than 250

FINANCIAL INDICATORS

Evaluation (€)	Around 381,5 billion euros in 2018 (Forbes)
Average annual revenue	Around 49 billion euros in 2018 (NASDAQ)
Average value of orders	N/A
Average number of monthly transactions	Around 44 billion on transactions per month in 2018
Average number of vendors	8,5 million
Average number of sellers	Around 700 million

COVERAGE

Scope	☐ Vertical (sector based)	☒ Horizontal (transversal based)
Geographical coverage	☐ Local	☐ Regional
	☐ National	☒ Global
Commercialised products	Generalist e-marketplace with a wide variety of goods.	

BUSINESS MODEL

Operations model	As per Amazon's example, Alibaba's business model is a hybrid. Alibaba is positioned between sellers and buyers, facilitating transactions of products through its platform. The Alibaba Group is divided into several websites, the largest being Taobao. On this platform, exchanges are free of charge; however, there is the option of paying a certain amount so that products offered for sale are more easily found through the search engine. While in the case of Taobao most sellers are small, Alibaba has a dedicated platform for big brands, Tmall. In Tmall, Alibaba generates revenue through annual deposits, annual user fees and charges for each transaction.
Distribution model	Alibaba's distribution model can be classified as an Omnichannel, e.g. this type of model is characterised by the fact that the communication channels and the support channels work in a cooperative way and not in parallel operation.

In the case of Alibaba, in addition to the traditional warehouses, there has been a focus on acquiring parts of distribution companies, such as Singapore Post, YTO Express Group, Best Inc and ZTO Express, thereby reducing costs with freight and increasing efficiency and effectiveness in delivery (on average, Alibaba takes 3 days to deliver orders).

CRITICAL SUCCESS FACTORS

- Similar to a perfect competition market

  Alibaba's bet on promoting a market structure similar to a perfectly competitive market (many small sellers, little influence on price). It puts great pressure on prices and makes the offer available to consumers and is much more diverse. This makes "suppliers" typically small businesses, but there is also room for larger companies to operate on this system.

- Profit model based on charging for services (technical and marketing)

  Alibaba's profit model is based on charging marketing services and support services, rather than charging admission fees, which allows them to have a large and robust legion of loyal suppliers.

  Alibaba's biggest source of income comes from advertising and fees users pay to make their products appear more easily when searching. One of the reasons that can best explain Alibaba's success is related to Alibaba's efforts to insert in Chinese consumers with the habit of doing online transactions. To do so, it has eliminated the registration and shipping charges that were previously operated.

- Certification process of buyers and sellers

  In order to protect both buyers and sellers, all platform sellers have to go through a certification process, thereby reducing the possibility of illegal transactions. All transactions are recorded and can be accessed by both sellers and buyers and each buyer and seller has a certain rating based on their track record, which increases the confidence of the transaction.

- Support to sellers on the platform

  In order to provide the best consumer experience possible, Alibaba offers its suppliers various tools to support their business. For example, it offers business workshops to various salespeople. Also, to facilitate buyer-seller interaction, there is a tool that allows real time communication and the request for refund of any product (within seven days of purchase).

- Support services dedicated to customer satisfaction

  Alibaba's service offerings provide a comfortable shopping environment and a positive online customer experience, leading to high user involvement. To this end, Alibaba offers a support system to suppliers by proposing key strategies for the development of their business, such as the development of a coding system to manage the large number of stores on the platform; the development of an instant communication tool to improve seller-buyer communication and allowing refund of any guaranteed return products within seven days. These support services help sellers grow their business, thereby generating higher number of transactions.

- Integration and innovation

In order to provide a complete service, Alibaba has extended its reach to several domains, for example, Alimama is a platform that provides advertising services and aims to help suppliers to reach their target audience. Taobao Ke is a group of people whose role is to help sellers promote their products and receive a percentage of the sales (upon completion). In 2014, Alibaba purchased 16,5% of China's largest video website, as well as using the platform to generate advertising in each video displayed in China, including targeted advertising, promotions and price announcements. Additionally, Alibaba has developed Ali Micro Finance, a platform that allows users to make micro deposits and apply for micro loans. Finally, it also developed the CSN (China Smart Network) project in partnership with 4 of China's most influential logistics companies to deliver products within 24 hours of purchase.

- Internationalisation

In November 2014, Alibaba expanded its operations globally.

- Relevance to the agri-food sector inside the e-marketplace

After taking over most of China's e-commerce sector, Alibaba Group has sought to renew the agri-food sector through its trade intermediation service. Hema Fresh, its high-tech fresh food shipping and warehouse management channel, plans to open stores in the largest cities in China and aims to reach at least 300 million consumers.

CHARACTERISATION

Website	https://mercadoorganico.com/	
Location	Brasil	
Year	2018	
Type of platform	☐ Business to Business (B2B) ☒ Business to Customer (B2C)	
Number of employees	☐ 0-10 ☒ 10-50	☐ 50-250 ☐ More than 250

FINANCIAL INDICATORS

Evaluation (€)	N/A
Average annual revenue	N/A
Average value of orders	N/A
Average number of monthly transactions	N/A
Average number of vendors	N/A
Average number of sellers	N/A

COVERAGE

Scope	☐ Vertical (sector based)	☒ Horizontal (transversal based)
Geographical coverage	☐ Local ☒ National	☐ Regional ☐Global
Commercialised products	→ Agri-food products of biological origins → Organic dairy and eggs → Organic grocery store → Organic frozen foods → Organic drinks → Bakery and Organic Sweets → Biodynamic foods → Organic vegan foods → Organic and lactose free foods → Biological care and beauty products → Animal Organic Food → Biological Household & Cleaning Products	

BUSINESS MODEL

Operations model	Mercado Orgânico acts as an online market for biological products, where consumers buy products directly from their own online stores, without intermediaries. Orders are received in real time by farmers, who are

	responsible for sending them quickly to Mercado Orgânico, and then delivering to the customer. When a product is delivered, the producer authorises Mercado Orgânico to transfer the sale value of the product to his account, also authorising the 30% discount on the advertised price of the product, as this is the sales commission applied by the platform.
Distribution model	The delivery is made by the Mercado Orgânico, but the farmer is the one who receives and prepares the order in the first place and then sends it ready-to-trade to the e-marketplace, which is responsible for delivering to the final customer.

CRITICAL SUCCESS FACTORS

- Buyers and supplier must be registered to the website: works as a shopping club

  It allows producers and producer associations to register in the platform and set up their online stores, thus being able to advertise their products and put them up for sale. This business model allows for a reduction in the productive sector, and for closer ties with cooperatives and associations of small organic producers, who alone would have great difficulty in serving the Brazilian consumer in large cities.

  Mercado Orgânico allows a producer to include their history or relevant data about their property or business, to organise products or services into categories and subcategories according to the website's organisation. In addition, it allows the creation of ads for products and services for sale that may contain graphics, texts, descriptions, nutritional information, photos, videos and other relevant information of the products or services offered. The products or services offered must be comprehensively described by the producer, containing all the relevant characteristics.

- Focus on a specific market niche: biological products

  Mercado Orgânico easily presents producers with an end-customer approach tool based on the niche market. Today's focus on biological products gives to Mercado Orgânico, a specialised platform dedicated to this niche market with major advantages, such as greater proximity to the producer, fair trade transactions and offering reliable products and certificates of biological authenticity In the Brazilian market, one of the most important characteristics is the reliability of the truly biological production.

- User friendly and appealing website

  The platform is easy to use and provides detailed commodity data, facilitating credibility and transparency. The platform also features the option of contacting and placing orders through Whatsapp and has a 24h webchat,

CHARACTERISATION

Website	http://www.11st.co.kr	
Location	Seoul, South Korea	
Year	2018	
Type of platform	☐ Business to Business (B2B) ☒ Business to Customer (B2C)	
Number of employees	☐ 0-10	☒ 50-250
	☐ 10-50	☐ More than 250

FINANCIAL INDICATORS

Evaluation (€)	N/A
Average annual revenue	N/A
Average value of orders	N/A
Average number of monthly transactions	N/A
Average number of vendors	N/A
Average number of sellers	Around 23 million

COVERAGE

Scope	☒ Vertical (sector based)	☐ Horizontal (transversal based)
Geographical coverage	☐ Local	☐ Regional
	☐ National	☒ Global
Commercialised products	As a generalist e-marketplace platform, 11st offers a wide range of products, broken down into categories. Especially in the grocery section, the existing subcategories are: → Grains / Vegetables / Fruits → Seafood → Meat / Poultry → Easy Home Meals / Accompaniments → Kimchi (Korean Traditional Food) → Processed food → Coffee / Tea / Beverages → Sweets / Snacks → Packed Lunches → Food Supplements	

BUSINESS MODEL

Operations model	11st is an online trading platform that offers consumers a wide range of products. This e-marketplace emerged in South Korea, but quickly expanded to countries such as Turkey, Malaysia and Indonesia.
Distribution model	All deliveries are the responsibility of 11st. If orders are placed in Korea, there are two possibilities for the delivery: for domestic products, deliveries are made within 3 business days of purchase; and for products from abroad, deliveries are made within 1-2 days after entering the distribution centre. For international deliveries (from Korea to any other country), there are also two possibilities: urgent deliveries are delivered within 2 days of purchase; and in the case of normal deliveries, the time limit is extended to a maximum of 5 days after dispatched from customs.

CRITICAL SUCCESS FACTORS

- Global range and local success

  Not all platform products are eligible for international delivery, but the vast majority already have this possibility, thus facilitating their sale to other markets. In 2018, it was the most used e-marketplace in Turkey and Malaysia, always among the top positions. Reaching upto 34,2% of Korean online traffic, 11st ranks among South Korea's largest e-marketplaces, with over 7 million unique visitors to its Android website and app.

- User friendly platform and benefits to the customers

  The company believes its success is due to the fact that it was the first e-marketplace platform to develop a mobile-friendly interface. For example, the company has begun offering a "no data" program to users who find that their limited amount of internet traffic data makes it difficult to buy on the company's mobile site. Since launching the program, the number of page views on the smartphone site has doubled.

- Discount tickets system

  11st has developed a discount coupon system that can be used for subsequent transactions, thus motivating consumers to return back to the platform for purchases.

- VIP client’s system

  By reaching a certain purchase value, the consumer obtains a VIP status, and with that, has access to exclusive discounts.

CHARACTERISATION

Website	https://www.mentta.es/	
Location	Spain	
Year	2015	
Type of platform	☐ Business to Business (B2B) ☒ Business to Customer (B2C)	
Number of employees	☒ 0-10 ☐ 10-50	☐ 50-250 ☐ More than 250

FINANCIAL INDICATORS

Evaluation (€)	N/A
Average annual revenue	N/A
Average value of orders	N/A
Average number of monthly transactions	N/A
Average number of vendors	N/A
Average number of sellers	N/A

COVERAGE

Scope	☒ Vertical (sector based)	☐ Horizontal (transversal based)
Geographical coverage	☐ Local ☒ National	☐ Regional ☐ Global
Commercialised products	→ Meat → Fish and seafood → Charcuterie → Fruit → Vegetables → Cheese → Wines → Beers → Canned → Pre-cooked meals.	

´BUSINESS MODEL

Operations model	Mentta is a Spanish e-marketplace specialised in the food sector, ranging from vegetables to pre-cooked meals. This platform acts as an intermediary between producers and the end consumer. There is also a choice between products of the so-called normal range, gourmet or organic products. Mentta was created with the goal of being an online platform that acts as a shopping centre where you can find the most varied range of food products and complement it with the offer of products that come directly from the producer.

Distribution model	At this moment, Mentta's coverage is still limited to the Spanish territory. The distribution model differs depending on the options that are available on the platform. In the case of choosing the option directly from the producer without intermediaries (specialty stores or gourmet stores) after the purchase is completed, the products are delivered within 48 to 72 hours. For prepared or fresh food and biological products, deliveries are made within 24 to 48 hours of purchase.

CRITICAL SUCCESS FACTORS

- Great variety of products

  Mentta bets on a wide range of products, such as gourmet food, biological or products coming directly from the producer (without any intermediary). It currently has a catalogue of over 3.000 articles and intends to significantly increase the number in the short term.

  Mentta offers fresh and high-quality products, such as gourmet or organic products, as well as the ability to offer products directly from the producer. Having certain products that would not be easily found (such as regional specific products) is one of Mentta's biggest competitive advantages.

- High level of customer interaction

  In addition to being able to contact Mentta by conventional means, email or telephone, it is also possible to contact via Whatsapp, giving customers the feeling of closeness and intimacy. The mobile application has been nominated for several Spanish usability awards and a number of hits.

- Very good domain of marketing tools

  With the first purchase made, users receive a physical catalogue with all the information about the products they have on the website, a fruit and vegetable calendar and seasonal recipes to make the most of their purchases and to follow the nutritional advice of the experts. Additionally, it has new membership campaigns offering discounts when users invite friends to buy.

CHARACTERISATION

Website	http://www.laruchequiditoui.fr	
Location	France	
Year	2011	
Type of platform	☐ Business to Business (B2B) ☒ Business to Customer (B2C)	
Number of employees	☐ 0-10 ☒ 10-50	☐ 50-250 ☐ More than 250

FINANCIAL INDICATORS

Evaluation (€)	N/A
Average annual revenue	N/A
Average value of orders	N/A
Average number of monthly transactions	N/A
Average number of vendors	N/A
Average number of sellers	N/A

COVERAGE

Scope	☒ Vertical (sector based)	☐ Horizontal (transversal based)
Geographical coverage	☐ Local ☐ National	☒ Regional ☐ Global
Commercialised products	The e-marketplace works through online producer and consumer communities, where each community has its own website and all the seasonal products that are offered in that community can be found. As an example, the following link demonstrates the e-marketplace of a community around Paris: https://laruchequiditoui.fr/fr/assemblies/6517/collections/195112/products/category/_all	

BUSINESS MODEL

Operations model	La Ruche qui dit Oui is an online e-commerce platform that enables consumers to buy healthy, quality products directly from producers by creating local communities or 'hives' that bring together consumers and producers. Each community has its own website where they display seasonal and fair trade-based products and biological farming. The website allows all users to manage their activities independently. Each community or “hive”, according to the free translation of “ruche”, has its own website managed by a Hive Manager. Each producer has to have an individual dedicated commercial space,where the product catalogue, prices, sales, distributions and invoicing is administered. Finally, each member has the opportunity to register in several hives to purchase the products of their choice. All of these actors are interconnected and create a new way of trading based on fair trade principles.
Distribution model	La Ruche qui dit oui features an innovative e-commerce model with a mix of online and offline commerce. The process begins with ordering on the online platform, but the products are later

retrieved in person during markets organised by the hive managers. In Paris, home delivery is now available.

CRITICAL SUCCESS FACTORS

- Balanced mix of online and offline customer experience

Much more than a marketing platform, La Ruche qui dit oui has managed to combine the available digital communication possibilities and the community living around each hive and the offline market, creating a call for fair and sustainable trade and interpersonal exchanges.

- Collaboration network

There are more than 1.500 hives in operation in Europe and approximately 10.000 producers involved in the network, in addition to about 250.000 website visits per month. In Paris region alone, there are 163 hives. The figure below demonstrates the breadth of the European territory, serving as a "hive locator":

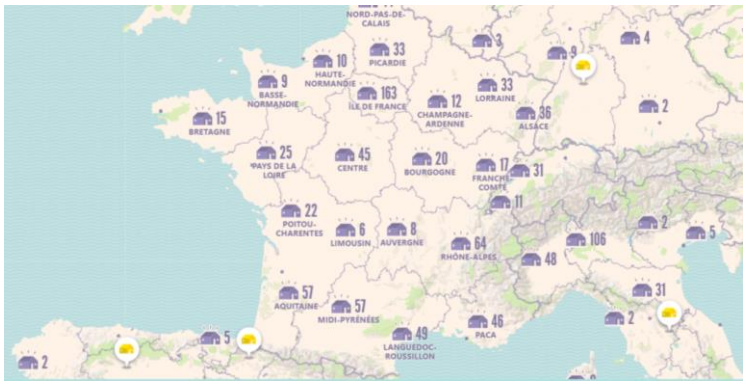

Figure 8: Beehives in different French regions and other European regions

- Consumers' support

Consumers are the biggest supporters of fairer and more sustainable agriculture. Today 1,5 million members are registered on the La Ruche qui dit oui platform. E-marketplace is currently the 6th best-known French platform according to recent research.

CHARACTERISATION

Website	http://yagro.com	
Location	UK	
Year	2015	
Type of platform	☒ Business to Business (B2B) ☐ Business to Customer (B2C)	
Number of employees	☒ 0-10 ☐ 10-50	☐ 50-250 ☐ More than 250

FINANCIAL INDICATORS

Evaluation (€)	N/A
Average annual revenue	N/A
Average value of orders	N/A
Average number of monthly transactions	N/A
Average number of vendors	N/A
Average number of sellers	N/A

COVERAGE

Scope	☒ Vertical (sector based)	☐ Horizontal (transversal based)
Geographical coverage	☐ Local ☒ Nacional	☐ Regional ☐ Global
Commercialised products	→ Chemicals → Fertilisers → Seeds → Fuels → Machinery Parts → Support services for farmers	

BUSINESS MODEL

Operations model	Yagro is a B2B platform created in 2015 in the United Kingdom to support farmers using ICT to increase profit margins and lower costs. A little different from other examples, through this platform, in addition to enabling transactions of goods, it is also possible to connect farmers and suppliers securely and confidentially. Through Yagro, it is also possible to access a price database so that the decision is as informed and conscious as possible, giving farmers a greater bargaining power.
Distribution model	Delivery time is determined by the customer during the purchase process, as the consumer can choose the date on which to receive the goods. Yagro currently covers the UK territory.

CRITICAL SUCCESS FACTORS

- User friendly platform

  The platform is user-friendly, interactive and appealing. It takes an average of 30 seconds to find the best suppliers and an average of 6 minutes to get a response from suppliers about the best price.

- Competitiveness and transparency to the consumer

  By providing information on different prices for the same products, it gives the customer the ability to make an informed and conscious choice, while also increasing their bargaining power.

- High level of interaction with consumers

  By enabling consumers to rate prices on a scale from 0 to 10, the platform provides a range of information relevant to consumers' decision-making about the price-quality ratio of a particular product.

- High degree of involvement with the client

  By offering, for example, expert advice and technical support to the subscribers of its plans, YAgro aims to support its entire network of suppliers so they are always evolving and offering the best solutions to the platform's end users and customers. The final customer is only given the decision to choose between different products, the rest of the process is the responsibility of Yagro.

- Focus on offering the lowest prices

  With the mission of offering the best price to users, Yagro offers various means of comparison and price ratings. By way of example, the figure below shows the savings that can be generated for consumers by comparing prices and making their purchases on YAgro.

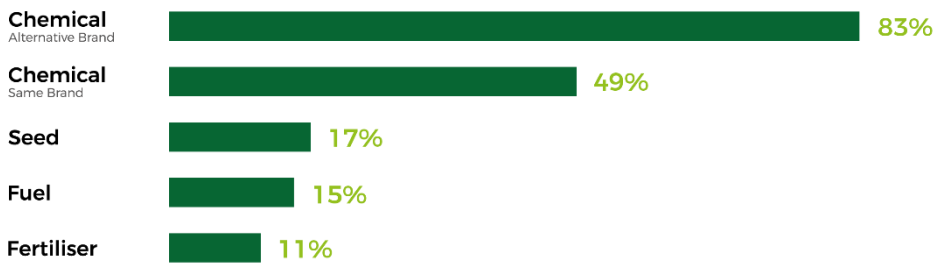

Figure 9: Savings generated for consumers through the use of YAgro

CHARACTERISATION

Website	https://pragmatic-net.eu	
Location	Serbia	
Year	2017	
Type of platform	☒ Business to Business (B2B)	
	☐ Business to Customer (B2C)	
Number of employees	☒ 0-10	☐ 50-250
	☐ 10-50	☐ More than 250

FINANCIAL INDICATORS

Evaluation (€)	N/A
Average annual revenue	N/A
Average value of orders	N/A
Average number of monthly transactions	N/A
Average number of vendors	N/A
Average number of sellers	N/A

COVERAGE

Scope	☒ Vertical (sector based)	☐ Horizontal (transversal based)
Geographical coverage	☐ Local	☐ Regional
	☒ Nacional	☐ Global
Commercialised products	→ Pesticides → Herbicides → Fertilisers → Seeds They also provide agricultural support services.	

BUSINESS MODEL

Operations model	Pragmatic is a Serbian-based e-marketplace platform. It aims to bring together both service and product suppliers tailored to the interests of producers working with precision farming techniques. Such products and services include fertilisers, seeds, sensors, crop monitoring and agronomic services, remote sensing and agricultural digitisation. The platform also has an online auction system.
Distribution model	All vendors registered in the platform have a responsibility to ship the product directly to the end consumer. When registering a seller profile in Pragmatic, it should include details such as company profile, contact details, shipping information, return policy, and more. Each supplier also has a responsibility to provide full details of the products they sell.

CRITICAL SUCCESS FACTORS

- Calculator tool

Pragmatic's calculator tool aims to support you in calculating the costs of a specific service or product, taking into account your needs. The tool consists of an online questionnaire about the user's actual needs, to present after performing analysis, the most appropriate product type and cost, recommended for each specific need. The following figure illustrates the tool.

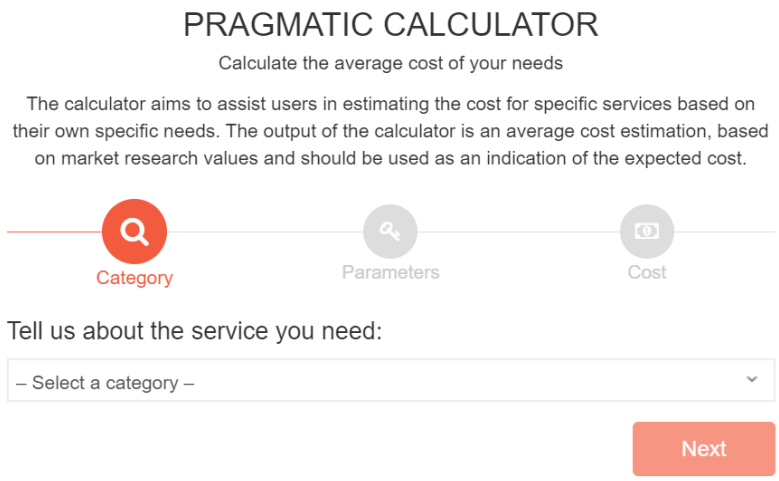

Figure 10: Pragmatic's needs calculator tool

- Online bidding system

Pragmatic also provides users with an online auction tool that allows sellers to auction their products.

- Innovative services complementary to the offer of a wide variety of products

Pragmatic offers consumers a wide range of business support services such as mechanisation and digitisation of agriculture. In addition, it offers raw materials, making it a very complete platform where consumers will find the complementarity of products and services they need for their business.

CHARACTERISATION

Website	https://www.bigbasket.com	
Location	India	
Year	2011	
Type of platform	☐ Business to Business (B2B) ☒ Business to Customer (B2C)	
Number of employees	☐ 0-10 ☐ 10-50	☒ 50-250 ☐ More than 250

FINANCIAL INDICATORS

Evaluation (€)	N/A
Average annual revenue	N/A
Average value of orders	N/A
Average number of monthly transactions	N/A
Average number of vendors	N/A
Average number of sellers	N/A

COVERAGE

Scope	☒ Vertical (sector based)	☐ Horizontal (transversal based)
Geographical coverage	☐ Local ☒ Nacional	☐ Regional ☐ Global
Commercialised products	→ Fruit and vegetables → Pastry Products → Drinks → Snacks and appetizers → Beauty & Personal Care Products → Cleaning products, among others.	

BUSINESS MODEL

Operations model	BigBasket is India's largest e-marketplace in the agri-food sector, characterised as a specialised platform in the sale of food and groceries, offering over 18.000 products from 1.000 different brands. This e-marketplace aims to be a giant grocery store that encompasses and serves all regions of the Indian territory. It currently operates in the following locations: Bangalore, Hyderabad, Mumbai, Pune, Chennai, Delhi, Noida, Mysore, Coimbatore, Vijayawada-Guntur, Kolkata, Ahmedabad-Gandhinagar, Lucknow-Kanpur, Gurgaon, Vadodara, Visakhapatnam, Surat, Nagpur, Patna, Indore and Chandigarh Tricity.
Distribution model	All deliveries are the responsibility of BigBasket. At the time of purchase, the customer may select from the possible options of time intervals that he finds more convenient. All orders are shipped from distribution centres across India. Being India's largest e-marketplace, it is obviously able to deliver to almost the entirety of Indian.

CRITICAL SUCCESS FACTORS

- **The consumer can choose the delivery interval**

  Online delivery time is usually a problem for shoppers who work and hence shop online to avoid wasting time. In order to eliminate this problem, BigBasket has an option that, at the time of purchase, allows the consumer to choose in which of the three time frames throughout the day they prefer to receive their orders (7am; 9:30am to 5pm; 5:30pm to 10:00pm).

- **Constant investment on innovation**

  BigBasket is constantly betting on innovation, for example, pioneering the use of QRcode as a payment method. Additionally, it offers the BB Express service, which consists of delivering the goods within 90 minutes of purchase.

- **Customer's satisfaction focus**

  BigBasket returns 10% of the purchase amount if the delivery is not made within the stipulated time. In addition, BigBasket's return policies are flexible, meaning that consumers can return the goods for any reason, thereby ensuring greater customer compliance and satisfaction.

CHARACTERISATION

Website	https://www.happyfresh.id	
Location	Indonesia	
Year	2014	
Type of platform	☐ Business to Business (B2B) ☒ Business to Customer (B2C)	
Number of employees	☐ 0-10 ☐ 10-50	☒ 50-250 ☐ More than 250

FINANCIAL INDICATORS

Evaluation (€)	N/A
Average annual revenue	N/A
Average value of orders	N/A
Average number of monthly transactions	N/A
Average number of vendors	N/A
Average number of sellers	N/A

COVERAGE

Scope	☒ Vertical (sector based)	☐ Horizontal (transversal based)
Geographical coverage	☐ Local ☐ Nacional	☒ Regional ☐ Global
Commercialised products	→ Meat → Fish and Seafood → Frozen → Condiments → Pre-cooked meals.	

BUSINESS MODEL

Operations model	Happyfresh is an e-marketplace created in Indonesia in 2014, but quickly spread to some Southeast Asian countries such as Malaysia and Thailand. Through a digital platform, this e-marketplace connects their physical stores with consumers, giving them the ability to shop remotely.
Distribution model	Happyfresh is responsible for the distribution process, where in each of the physical store there are several employees present who will deliver the orders as soon as they are ready. This e-marketplace is ready to ship within one hour of purchase. Due to its rapid expansion, Happyfresh covers the territory of Indonesia, Malaysia and Thailand. As a consequence of establishing partnerships with companies such as Tesco and Carrefour, it is expected that in the near future their reach will be extended.

CRITICAL SUCCESS FACTORS

- Fast and scheduled delivery

  HappyFresh allows the consumer to receive the order within one hour of purchase, or allows the customer to choose the most suitable delivery time for the customer.

- Strong partnerships

  HappyFresh has partnerships with well-established supermarket chains with a high international reputation, such as Carrefour and Tesco.

- Possible returns at the delivery

  Another critical success factor characteristic of HappyFresh is the ability for the customer to return any product they received during their delivery, useful for fresh reproduce such as trampled or visibly damaged fruits.

- Flexible payment methods

  As deliveries are made in person and at home, Happyfresh accepts to receive direct payment in person or online, according to the consumer's preference. The e-marketplace has a very dynamic pricing policy through special offers or daily promotions. Additionally, it also has a Personal Shopper service, where it is possible, through the platform, for an experienced professional to make their purchases, considering the consumer's preferences.

- Stock updated directly within the costumer

  In the event that any of the items on the list is not available, the consumer is contacted by the employee in charge of that specific order to communicate the issue and make a suggestion of a product that can replace what he had ordered, thus creating proximity, which is always positive and highly appreciated by consumers.

- Constant growth and investment on innovation

  Since the beginning of 2015, HappyFresh claimed to have seen exponential growth, especially in 2018. This is a reflection of the rapidly increasing demand for online food products. HappyFresh's growth has been even more pronounced in middle-class families looking for convenience, personalised service and a great deal on price.

AGRI MARKETPLACE
FAIRTRADE MADE EASY

CHARACTERISATION

Website	https://agrimp.com	
Location	Alcácer do Sal, Setúbal, Portugal	
Year	2016	
Type of platform	☒ Business to Business (B2B)	
	☐ Business to Customer (B2C)	
Number of employees	☒ 0-10	☐ 50-250
	☐ 10-50	☐ More than 250

FINANCIAL INDICATORS

Evaluation (€)	N/A
Average annual revenue	N/A
Average value of orders	N/A
Average number of monthly transactions	N/A
Average number of vendors	N/A
Average number of sellers	N/A

COVERAGE

Scope	☒ Vertical (sector based)	☐ Horizontal (transversal based)
Geographical coverage	☐ Local	☐ Regional
	☒ Nacional	☐ Global
Commercialised products	→ Cereals; → Dry fruits, → Among others.	

BUSINESS MODEL

Operations model	Agri Marketplace is a platform dedicated to digital commerce created in 2016 in Portugal. "Fair Trade Made Easy" is the theme of Agri Marketplace. Agri Marketplace's main goal is to promote fair exchange of goods, connecting farmers and industries around the world. Through this platform, they aim to create business opportunities for all the stakeholders involved in the industry, giving them access to market information (e.g. price developments) and promoting fair, transparent and reliable exchanges. Agri Marketplace does not buy or sell agricultural products and is not a mediator for agricultural products either. Instead, it offers the ability to effortlessly market agricultural crops through the online platform.
Distribution model	Acting as an intermediary in trade, this e-marketplace is also responsible for bringing goods from seller to buyer. Through a partnership with a logistics company, Agri Marketplace offers end-to-end services and is able to deliver almost worldwide.

CRITICAL SUCCESS FACTORS

- **Verification process KYC (know your customer)**

  The process verifies all platform users, ensuring that all of them are trustworthy, increasing confidence in the service and transparency of exchanges.

- **High quality control of the products**

  Agri Marketplace is comprised of a group of experts who devote their knowledge and experience to agriculture, agri-food industries, digital business and disruptive innovation, with the aim of redistributing value through the agriculture supply chain. For this, they bet on agility, reliability and transparency.

- **Investment of innovation, technology and disruptive methodologies**

  Multidisciplinary teams with many years of experience in the area have good insight into the market, which can be applied to facilitate exchanges. Some key success factors are:

  - → User-friendly platform that generates market opportunities for farmers and industry buyers;
  - → Unlimited access to a global market from anywhere, anytime;
  - → Transparent and reliable market information, generating trading opportunities and quick exchanges;
  - → Completely secure platform-integrated payment processes;
  - → Quality check and logistic services;
  - → Market only with certified buyers and sellers;
  - → Customer support by providing insights based on market trends and platform data analysis.

  In 2018, Agri Marketplace won the Food Accelerator Network Program Award, promoted by the European Institute of Innovation & Technology (EIT). The services offered by Agri Marketplace are:

Figure 11: Services of Agri Marketplace

5.

Identification of best practices to consider in adopting an e-marketplace and recommendations

This chapter aims to present the different ways of adhering to e-marketplaces and what are the advantages and disadvantages of each business model for producers and suppliers regarding the potential introduction of their products in an e-marketplace. In addition, the main benefits and recommendations for adhering to e-commerce in the agri-food sector in general are presented. Regarding the process of adhesion of e-marketplaces from a certain interested company, different phases can be considered according to the study "A Conceptual Framework for E-business Adoption and Development for Enterprises in the Agri-Food Industry"[28]:

1. Identification of critical factors affecting and influencing the adherence (internal or external);
2. Evaluation of the identified factors;
3. Selection of adhesion intensity level.

The general framework for adhering to electronic markets in the agri-food sector is presented in Figure 12:

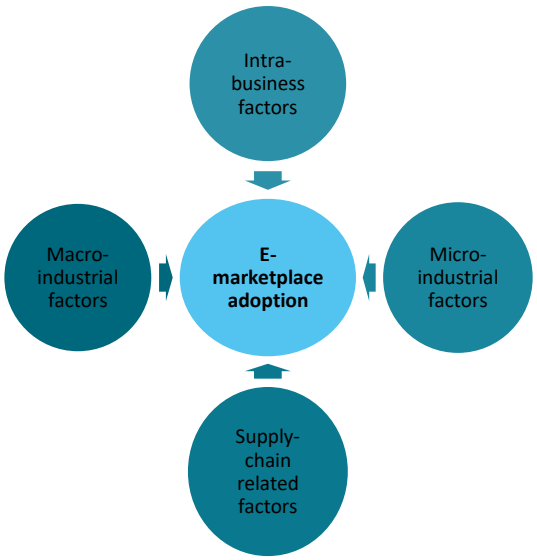

Figure 12: General framework for the adoption of e-marketplaces

Several factors are pointed as preponderant to take into account when joining an e-marketplace. These are usually divided between internal factors and external factors. The internal factors include technological competence, financial capacity (the degree of commitment a company is willing to make financially), the size of the company, the potential benefits that may result from membership, the availability of resources, the perception within the company itself about the degree of preparation, the target market, the nature of the products or services to be sold, the organisational structure and culture, and the type of business strategy.

External factors include market trends, the political context and economic environment, the

[28] *A. Matopoulos, M. Vlachopoulou, V. Manthou and B. Manos. Conceptual Framework for E-business Adoption and Development for Enterprises in the Agri-Food Industry. EFITA/WCCA, 2005, Vila Real, Portugal.*

level of market competitiveness, the existence of strategic partners and their influence, among others.

Thus, in the first phase, the relevance that participation in a given e-marketplace represents for the business in question must be considered through an analysis of the general panorama in which the company is inserted (both internal and external components). This analysis will allow us to understand to what extent the entry could benefit the business in question, what role the company will play within the e-marketplace and how it will position and equate opportunity costs between joining the platform or waiting for a later stage where technology is more accessible to all and processes are well delineated and standardised. At a later stage, the focus should be on the readiness of the business for this change in the sales paradigm and even on the company's organisational and strategic model. Through an analysis focused on the internal component of the organisation and taking into account aspects such as technological competence, financial capacity (the degree of commitment the company is willing to make financially) or the size of the company, it will be necessary to understand if the employees are equipped with the tools needed to perform new tasks, to estimate whether the business is responsive to meet any potential demand for growth from an additional sales channel.

It will also be imperative to undertake an analysis of the degree of intensity of adherence to the e-marketplace, which means to identify what is the potential impact that the adhesion may have on the business. For instance, understanding to what extent it is possible for a membership to result in most of the transactions of the business in question being performed through this platform, and what implications, whether positive or negative, may follow.

Finally, once the previous phases have been completed, it is necessary to find the platform that best serves the interests of the business in question. It is therefore necessary to identify existing platforms and assess their quality by signalling entry conditions (for example, the need to pay an entrance fee) and permanence (e.g. fixed quotas or percentage per transaction). It will also be important to understand all the procedural mechanisms involved for the operation in the e-marketplace, whether they are related to payments, profits, data manipulation, privacy policy, and others, as well as verifying the existence of offer of services associated with the sales. logistics, marketing or business support. Finally, it will still be necessary to survey the conditions of a possible drop off of the platform.

All the above elements are of utmost relevance and should be taken into consideration when assessing possible adherence to an e-marketplace.

In addition to the above, there are some specific additional elements to take into consideration during the decision-making process when entering an e-marketplace:

- **Consolidation of local market position:** It is important to start locally (in the city, region or country itself) before moving to larger markets. With the evolution of technology, it has become very simple to gain access to markets and people that would otherwise take a long time to reach. Through social networks, for example, it is extremely easy to reach consumers that are located anywhere in the world. The problem is that these markets are extremely competitive and maintaining a business requires effort and skills that are scarce or non-existent at the start of a project. As such, using the local market for testing and validating ideas is always a good strategy.
- **Data analysis**: Data is the source of success for most of the world's largest e-marketplaces, so gathering and analysing information about business sellers and buyers is a critical starting point. Platforms that make good use of

the data at their disposal manage to easily coordinate the offer to consumers and ensure a quality business environment for both sides (sellers and consumers). This type of platform ensures that sellers set fair and reasonable prices while ensuring that consumers have high quality products at their disposal.

- **Market niches**: More important than the size of the market is its potential. When it comes to niches, competition is usually lower and it is also easier to have a sizeable market share. An example mentioned in the summary sheets of a success story with a niche market was the Brazilian e-marketplace Mercado Orgânico, focusing exclusively on the biological food niche.

Main benefits and recommendations

In general, e-commerce can provide greater transparency in the purchasing process as prices and stock levels are accessible. Moreover, several time constraints in the context of international trade are removed as it is possible to operate 24 hours a day. Some of the potential benefits are presented below.

- **Transaction costs economy**

The Internet can reduce transaction costs by lowering negotiation and / or transfer costs in the following scenarios: fast information search, easier negotiations between geographically separated buyers and sellers, and better transparency in monitoring transaction processes. In addition, because internet communication costs are independent of data volume and the distance between sender and recipient, geographic distance is not important in research and negotiation.

Other buyers and sellers may benefit from the positive impact. However, currently, the positive impact on the buyer is still greater than the potential benefits to the supplier. In several markets, efficiency recovery is needed further upstream than downstream in the value chain. This is why these solutions are now mainly targeted at the buyer. Up-to-date pricing and availability information makes it easy to guarantee the best deal. E-markets offer a convenient way to compare prices and products from a single source, rather than spending time contacting each individual vendor. Established e-markets provide a level of trust for the buyers as they deal exclusively with suppliers who are members of the platform. Additionally, e-markets may offer lower marketing costs compared to other sales channels.

- **Increased transparency of price and product information**

Digital markets play an important role in increasing the transparency of price and product information and can significantly affect competition. Digital technologies reduce the marginal cost of finding new partners, and transactions can be done through a broader and more efficient comparison of market offer possibilities. Companies can have access to a wide range of business opportunities if they operate in a digital marketplace. Interacting with a large number of potential suppliers and partners reduces transaction costs and enables companies to improve their business. The fast and convenient way to compare prices online can speed up circulation of goods, reduce risk and increase competition for agricultural products in the international market.

- **Business expansion opportunities**

When companies operate in e-commerce, they exchange information flows, the intermediary usually needs to develop a complex and multifaceted partnership with different logistics operators to provide services that can reduce acquisition and transaction costs. B2B solutions are estimated to enable companies to reduce the unit cost of a single purchase process by 10 to 25 percent. B2B services enable companies to streamline the purchasing process and employ human resources in higher value-added activities. Stock management and increased shipping efficiency can also optimise the speed of delivery, production flexibility and shortened

lead times, and time to market. In digital markets, the contractual power between buyers and sellers is changed. Services such as vendor information, customer ratings, and past transaction traceability reduce market asymmetry and complexity, and increase the efficiency of the transaction process.

Critical success factors to e-marketplaces

According to Butler e Fitzgerald[29], critical success factors are the functions or areas where positive outcomes are required to ensure successful competitive performance for an organisation. E-market success factors can be classified and analysed as follows:

- **Functional factors**

Functional factors include facilitating product customisation, negotiating support, and access to a community of users with common interests. The main function of an e-market can be described as commerce, content and collaboration. In addition, differentiated functions from its competitors are required to add value to customers. Some key areas of value-added functions are: shopping experience; post-consumer product life cycle support; support and logistics; electronic payment services; integration features; and data mining services.

- **Strategic factors**

Strategic factors to consider are marketing, branding, customer focus, targeted marketing, outsourcing, and the development of a customer or user community.

- **Technical factors**

Technical factors have direct consequences for the success of the electronic market. Technical issues include quality of service items including response time, compatibility and reliability. Essentially, the technical performance goals of an e-marketplace are related to meeting the needs of all participants seamlessly and with the greatest usability and ease of purchase process possible.

[29] *Butler, T. and Fitzgerald, B. (1999), ``Unpacking the systems development process: an empirical application of the CSF concept in a research context'', The Journal of Strategic Information Systems, Vol. 8 No. 4, pp. 351-71.*

6.

Conclusion

This study aimed to present the mapping and characterisation of the main international e-marketplaces for the agri-food industry. Key data from relevant countries and regions in the e-commerce scenario or that present high potential for development in the sector were initially studied, namely: Brazil, China, South Korea, Spain, The United States of America, Europe, India and Indonesia. This analysis allowed the understanding of the internet usage rate in each market and the main access data, volume of transactions made, as well as the identification of future estimates for the coming years. It was also possible to understand patterns of electronic consumption in each market and specific culture, as well as the direct relationship with the agri-food sector and the insertion and relevance of this category in electronic commerce. Clearly, the agri-food sector is not yet at the top of the most sought-after categories of online traded goods due to the greater offline availability of these products, usually very close to all consumers (in traditional supermarkets and grocery stores). However, there is a growing change in consumption patterns, for instance, related to premium or organic foods, or for special needs diets such as lactose and gluten intolerance or food allergies.

The Study also presented the methodology for collecting, classifying, selecting and analysing the main global e-marketplaces. Initially, 33 global reference e-marketplaces for the agri-food sector were selected and described, classified by country, typology, best practices and degree of technological sophistication.

With the support of experts, all the selected e-marketplaces present innovative and differentiating characteristics, such as the type of e-marketplace (B2B, B2C, C2C), the associated business model, the marketing strategy pursued, the degree of technological innovation or, by the innovation in logistics.

The selection restricted the initial list of 33 e-marketplaces to only 10 e-marketplaces, which were the subject of a more detailed analysis based on the elaboration of the summary sheets, which specify the business model, as well as the main characteristics and critical factors. of e-marketplaces considered relevant in the scope of this study. It is also worth highlighting the elaboration of an additional summary table, which was included to illustrate Agri Marketplace's national success story, which, in addition to being an internationally renowned and awarded e-marketplace, it focuses on the agri-food sector, justifying its inclusion in the Study.

Finally, the final chapter identifies a set of best practices to consider when joining an e-marketplace, and sets out a range of recommendations for agri-food companies wishing to expand the marketing of their products through e-marketplaces.

In this sense, the Study confirms that there is no exact formula to follow in the process of selecting e-marketplaces. This is because it varies depending on the company's objective and the e-marketplace in question, taking into consideration several factors, such as the business model or supplier integration.

Nevertheless, the Study identifies three essential phases of the process of selecting an e-marketplace. The first phase is the determination of the critical factors that affect and influence the selection, which can be internal (strategic positioning issues and production or logistics capacity of each company) or external (related to market trends, government context, economic environment, level of market competition, the existence of strategic partners and their influence). The second phase includes the evaluation of the factors identified in the previous stage. The third and final phase aims at selecting the desired

level of integration with the selected e-marketplace.

The Study also highlights the main benefits resulting from joining an e-marketplace, including transaction cost savings, increased transparency of pricing and product information and increased business opportunities.

Regarding the critical factors, it is important to mention the need to separate and address the different types of factors that may impact the success of participation in an e-marketplace, which are functional, strategic and technical.