

**MATCHING PORTUGUESE RETAIL E-BUSINESSES TO
ONLINE CONSUMERS**

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Resumo

O comércio eletrónico está a ser rapidamente difundido em termos geográficos e está a moldar vários tipos de indústrias que procuram soluções para fazer face às necessidades da sociedade. Devido à crescente importância, investigadores procuram formas de acompanhar os impactos desta tecnologia a nível mundial. Algumas abordagens centram-se em indústrias específicas como o mercado alimentar online, que funciona como uma ramificação do retalho *online* mais abrangente, que engloba um número grande de categorias. Com tantas variáveis, existem ainda lacunas na pesquisa de determinadas categorias de produtos e países.

Este trabalho preenche a lacuna sobre o mercado alimentar *online* em Portugal. Visa clarificar o que os consumidores valorizam no mercado alimentar *online*, por comparação com a oferta dos retalhistas *online*. Através de uma extensa revisão de literatura, desenvolveu-se uma ferramenta que agrega os 41 atributos mais importantes para os consumidores *online* em 5 dimensões: Experiência de Compra, Acessibilidade, Segurança, Interações e Apoio ao Cliente.

Este estudo permite concluir que existem três diferentes estádios de maturação no mercado alimentar *online*. Numa fase mais madura encontram-se o Continente e o Jumbo que excedem as expectativas dos consumidores. Em seguida, o El Corte Inglés cuja oferta não se encontra tão amadurecida como a dos seus concorrentes anteriormente mencionados, mas demonstra uma visão e estratégia claras para o seu desenvolvimento. Finalmente, a oferta menos madura do mercado provém do Intermarché, que não vai ao encontro das expectativas dos consumidores. Comparar os modelos de negócio retalhistas existentes com os consumidores *online* é um ponto de partida para compreender e prever a potencialidade do mercado alimentar *online* em Portugal.

Palavras chave: Comércio Eletrónico, Retalhistas online, Compras de produtos alimentares online

Classificação JEL: O33, L81.

Abstract

E-commerce is being rapidly diffused geographically and is shaping all sort of industries that seek solutions to meet increasing society demands. Due to its growing importance, researchers are finding ways to track the impacts and variations of this technology all over the world. Some approaches focus on specific industries including e-grocery shopping that function as a branch for e-retail with a large number of product categories. With so many variables, there are still gaps on the research of certain product categories and countries.

This research fills the gap of the online grocery retailing literature in Portugal. The research contributes to a clarification of what consumers are valuing online, for grocery shopping, in comparison to what retailers are offering. Through an extensive literature review, it was developed a tool that combines the 41 most important attributes for online consumers into 5 different dimensions: Shopping Experience, Accessibility, Security, Interactions and Customer Service.

This study allows to conclude that there are three different maturity stages regarding the online supply of groceries. On a more mature phase it can be found Continente and Jumbo e-retailers that greatly exceed customer expectations. Secondly it can be found El Corte Ingles that is not as mature as the previous competitors but demonstrates a clear vision and strategy for development. Finally, with the least mature offer, it can be found Intermarché, which does not meet customer expectations. Matching Portuguese retail e-businesses to online consumers is a starting point to understand and predict the potential of the online grocery retail market in Portugal.

Keywords: E-Commerce, E-Retail, E-Grocery Shopping

JEL Classification: O33, L81

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Contents

1.	Introduction	1
1.1	Electronic Commerce	1
1.1.1	E-commerce: The beginning	1
1.1.2	E-commerce Within the Internet Era.....	2
1.1.3	E-commerce models	3
1.2	Information Technologies.....	4
1.2.1	E-commerce diffusion	4
1.3	Portuguese E-Shopper	10
1.4	E-retailing	10
1.5	E-Grocery Shopping	11
2.	Literature Review	15
2.1	E-commerce Research	15
2.2	Perceived E-Commerce Value for Customers.....	16
2.3	Perceived E-Commerce Value for Businesses	17
2.4	E-Retailing.....	18
2.5	E-Grocery Shopping	19
3.	Methodology and Data	22
3.1	Quantitative Analysis	22
3.1.1	Questionnaire Design	23
3.1.2	Sample	27
3.1.3	Method for Quantitative Analysis	27
3.1.4	Limitations.....	28
3.2	Qualitative Analysis	28
3.2.2	Sample	30
3.3	Qualitative & Quantitative Analysis.....	31
4.	Data Analysis.....	32
4.1	Quantitative Analysis	32

4.1.1 Sociodemographic Characterization.....	32
4.1.2 Shopping Frequency	34
4.1.3 Dimensions that Consumers Value the Most Online	35
4.1.4 Attributes that Online Consumers Value the Most.....	37
4.2 Qualitative Analysis	40
4.2.1 Offer by Continente Online	40
4.2.2 Offer by Jumbo Online	44
4.2.3 Offer by El Corte Ingles Online	47
4.2.4 Offer by Intermarché Online	51
4.3 Qualitative & Quantitative Analysis.....	55
4.3.1 Continente vs Demand.....	55
4.3.2 Jumbo vs Demand	56
4.3.3 El Corte Ingles vs Demand.....	57
4.3.4 Intermarché vs Demand.....	57
5. Conclusions	59
Bibliography	61
Appendix	66
Appendix 1	66
Appendix 2	67
Appendix 3	68

Figure Index

Figure 1 Question Have you ever made a purchase over the Internet?	5
Figure 2 Question In the past 3 months what items have you purchased on the internet?5	
Figure 3 Retail Ecommerce Sales Worldwide, 2016-2021	6
Figure 4 Number of Internet Users as a Percentage of the Population.....	7
Figure 5 Question Do you think you will ever need to utilize Internet? (%)	8
Figure 6 Non- Internet users - principal reason for not using (%)	9
Figure 7 Internet uses per occupation 2010.....	9
Figure 8 Gender (n=250)	32
Figure 9 Age (n=250)	32
. Figure 10 Place of Residence (n=250)	33
Figure 11 Education (n=250).....	33
Figure 12 Occupation	34
Figure 13 Subjects that Made a Purchase Online and Visited an E-Supermarket.....	34
Figure 14 Subjects that made a purchase online, visited an e-supermarket and made a purchase on the visit	35
Figure 15 Frequency of Online Grocery Shopping	35
Figure 16 Most Important Dimensions Valued by Respondents (n=250).....	36
Figure 23 Analysis to the offer by Continente Online.....	40
Figure 24 Analysis to the offer by Jumbo Online	44
Figure 25 Analysis to the offer by El Corte Ingles Online.....	47
Figure 26 Analysis to the offer by Intermarché Online.....	51
Figure 27 Analysis to demand for online channels	55
Figure 28 Comparison between demand and supply from Continente online	55
Figure 29 Comparison between demand and supply from Jumbo online	56
Figure 30 Comparison between demand and supply from El Corte Ingles online.....	57
Figure 31 Comparison between demand and supply from Intermarché online.....	57

Table Index

Table 1: Conversion Methodology for Qualitative Analysis	29
Table 2 Standard Deviation and Coefficient of Variation.....	37
Table 3 Score Attributes of Dimension Shopper Experience (n=250).....	37
Table 4 Score Attributes of Dimension Accessibility (n=250)	38
Table 5 Score Attributes of Dimension Security (n=250).....	38
Table 6 Score Attributes of Dimension Customer Service (n=250).....	39
Table 7 Score Attributes of Dimension Interactions (n=250)	40

Abbreviations;

ICT- Information and Communication Technology

UNCTAD- United Nations for Trade and Development

EGS- Electronic Grocery Shopping

TCA- Transaction Cost Analysis

TAM- Technology Acceptance Model

SERVQUAL- Service Quality

EC- Electronic Commerce

B2B- Business to Business

B2C- Business to Consumer

C2C- Consumer to Consumer

C2B- Consumer to Business

EDI – Electronic Data Interchange

ARPA- Advanced Research Projects Agency

GUI- Graphical User Interface

WWW- World Wide Web

EC- Electronic Commerce

R&D- Research and Development

INE- Instituto Nacional de Estatística

AIP- Associação Industrial Portuguesa

UMIC- Unidade de Missão Inovação e Conhecimento

FAQ- Frequently Asked Questions

1. Introduction

1.1 Electronic Commerce

Electronic Commerce is a relatively new concept defined in a practical matter as the transaction of goods and services electronically (Becker, 2008). According to Becker (2008), it is developed in two main types of interactions, Business to Business (B2B) and Business to Consumer (B2C) that allow performing many operations and functionalities. As argued by Wigand (1997), both e-commerce and organizational processes are influenced by constant mutations and fast development of technologies around the world. Consequently, there is no clear distinguish among literature on subjects like “electronic business”, “electronic commerce”, “electronic markets” and other related subjects (Wigand, 1997).

Apart from its relatively young age, there has been a great boost over the last three decades and not only companies but also countries are investing heavily to leverage commercial positions. A study undertaken by Nielsen (2008), observed that more than 85% of internet users, utilized Internet to shop online. The network expansion had a catapult effect on e-commerce sales that grew more than 40% from 2008 to 2010 globally (Nielsen, 2008). To understand this phenomenon better, electronic commerce will then be distinguished from an era before and after the Internet launch.

1.1.1 E-commerce: The beginning

An era prior to the internet, seems to have worked as a background test for the creation of modern networks commonly used today. At the time, businesses were already operating with computerized documents, and it was possible for computers to send information to other machines via telephone or leased lines (Datainterchange, 2006). However, machines were not communicating in the same format, information was unstructured and required manual manipulation to be understood from one computer to another. To reduce paper costs, time consumption, labor and warehouse facilities costs, companies ended up agreeing on a standardized format for information (Datainterchange, 2006). The system was named Electronic Data Interchange (EDI).

According to Becker (2008), the foundation for e-commerce was the electronic data interchange (EDI) originated in the 1960s while companies were finding ways to create paperless offices. EDI is defined as the exchange of information between one computer to another, in a structural format, using a telecommunication network (Branch, 1994). In a functional way, Branch (1994) defends that EDI allows the transmission of data from one computer application to another computer automatically without the need for printing or manual editing. Working as the first e-commerce enabler, EDI allowed companies to use computers to transfer funds, accept and place orders and exchange information electronically (Sawabini, 2001). Nonetheless, EDI's diffusion was proving difficult, which according to Timmers (1999), only 1% of the companies in Europe and the United States had embraced this technology by the end of the 90s.

1.1.2 E-commerce Within the Internet Era

According to Becker (2008), the development of internet goes back to the 1960s when a group of scientists was developing ARPANET. ARPANET originated from the project ARPA, created by the US Government to fund basic research and respond to the Soviet's launch of Sputnik in 1957 (Hauben and Hauben, 1997). According to Hauben and Hauben (1997), part of this project aimed at developing ways to use military's computer investment in developing advanced research tools. Becker (2008) argued that, this research tools rapidly evolved to what we call today Internet. However, internet remained not suited for commercial purposes due to its complex nature. By the end of the 1980s, internet was an unknown technology for the public and its principal users were still specialized engineers and scientists (Becker, 2008).

Internet massification came in the form of a graphical user interface (GUI) and through the intuitively World Wide Web (WWW) that turned the potent network to the public in general (Becker, 2008). The expansion raised businesses interest that leveraged the network not only to reduce operational costs but also to broader their customer base. Nanehkaran (2013) indicates that by 1994, when the first comprehensive World Wide Web appeared, a great number of researchers predicted the development of e-businesses to become a very important economic driver for present and future generations.

1.1.3 E-commerce models

Due to its massive acceleration, electronic commerce (EC) developed branches and influence within several existing business models. Isaías et al. (2017) highlighted that EC can be performed by individuals or companies in six different types of interactions:

- Business to Consumer (B2C) – Online transactions of products or services from businesses to consumers.
- Business to Business (B2B) – Online transactions from businesses to businesses.
- Consumer to Consumer (C2C) – Transactions that are made from one consumer to another using an online platform such as Ebay or OLX.
- Consumer to Business (C2B) – A model that allow consumers to add value that can be used by companies. Examples of a social network like Facebook.
- Nonbusiness EC – Non-profit organizations that benefit from lower EC costs and enhanced customer service.
- Intrabusiness EC – Internal activities involving goods, information or services interchange that businesses perform via an intranet.

A further analysis is performed by Laudon and Traver (2014), who categorized the most important B2C models into 7 business models: E-tailer, Community Provider, Content Provider, Portal, Transaction Broker, Market Creator and Service Provider (see appendix 1). As B2B models, the authors mention as the most relevant the following ones:

- E-distributor – Businesses that provide products and services directly to other businesses.
- E-procurement – Companies that generate and sell digital markets access to other organizations.
- Exchange – An individual market online used to match suppliers with a small number of large purchasers.

- Industry Consortia – Vertical marketplaces that are created to meet specific product and services demand. For example, Exostar founded by BAE Systems, Boeing, Rolls-Royce and others as an online trading platform for aerospace and defense sectors.

1.2 Information Technologies

1.2.1 E-commerce diffusion

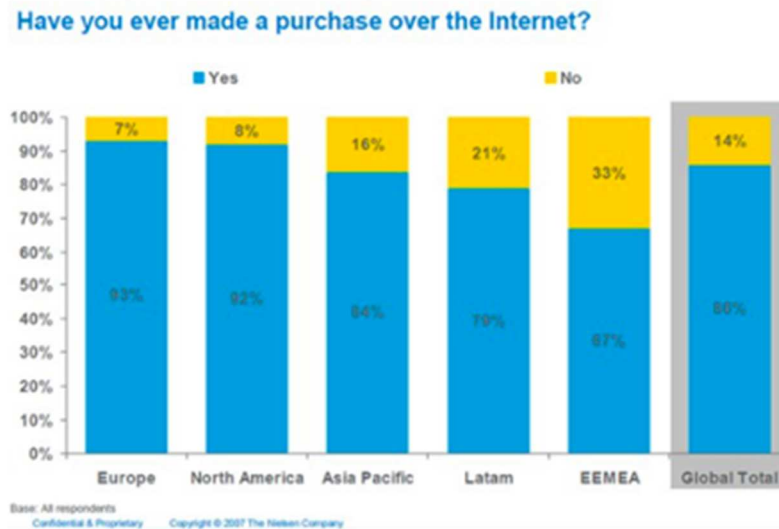
According to Kim (1998), in 1995, internet moved from federal funding to a fully open commercialization. Becker (2008), emphasizes that with a step away from the government, “*Commercial use of the Internet gradually became the dominant pattern of internet use in the mid-1990s*”.

Following the changes in 1995 it was notorious the *dot.com* burst leaded by the launch of the largest online bookstore Amazon (Becker, 2008). A couple of months latter emerges Ebay, the largest auction website in the world. As stated by Kim (1998), Dell began selling personal computers online and the commercial domain (.com) replaced educational (.edu) as the principal in use.

However, despite the clear investment that was being made on the backbone infrastructure “Internet” of e-commerce, different countries had and still have distinct levels of e-retail proliferation. A survey undergone by Nielsen (2008) to over 27 000 internet users in 55 markets from Asia Pacific, Europe, Middle East, North America and South America provides answers that help understanding better this phenomenon. As it is evidenced on figure 1, there is a clear tendency for online shopping on developed countries while less developed nations stay way below the world's average. The study gives more details and place North Korea, United Kingdom, Germany and Japan as the countries with the highest ratios of consumers that make purchases online.

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Figure 1 Question Have you ever made a purchase over the Internet?



Source: Nielsen (2008)

Taking advantage of the technological burst, electronic retail has been used to generate sales by several industrial and service sectors. Leading the ranking for the ratio of products being sold online (see figure 2) are the books (41%), followed by clothes and accessories (36%), video games (24%), airplane tickets (24%) and electronic equipment (23%). On the services side, the study reveals that the most common payment method is the credit card, with 60% of total sales, and that 1 out of 4 users preferred PayPal as the best online platform to secure and process payments (Nielsen, 2008).

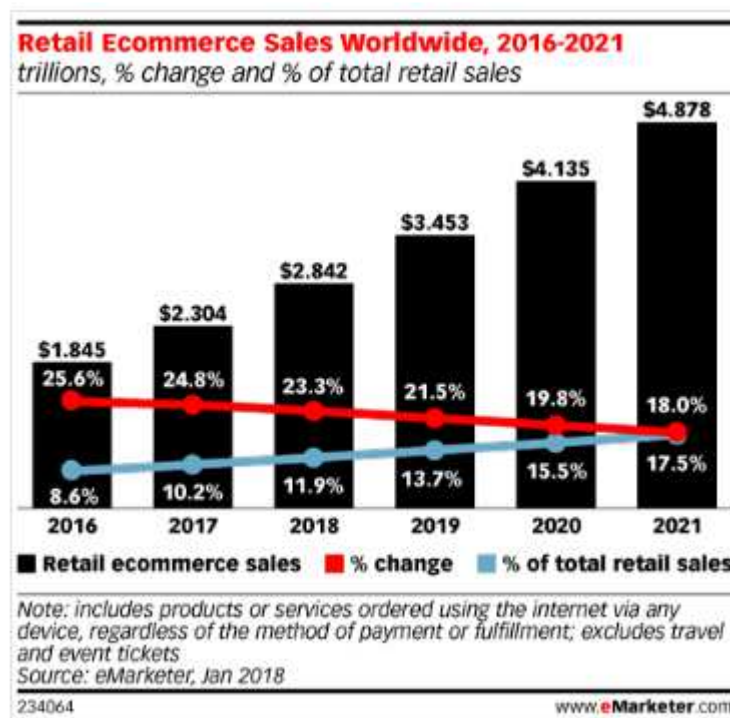
Figure 2 Question In the past 3 months what items have you purchased on the internet?



Source: Nielsen (2008)

Following the increase of products traded online, this channel is gaining importance all over the world. Highlighted by eMarketer (2018), online sales reached more than 2,3 trillion Dollars in 2017 which represents a 24% increase compared to 2016.

Figure 3 Retail Ecommerce Sales Worldwide, 2016-2021



Source: eMarketer (2018)

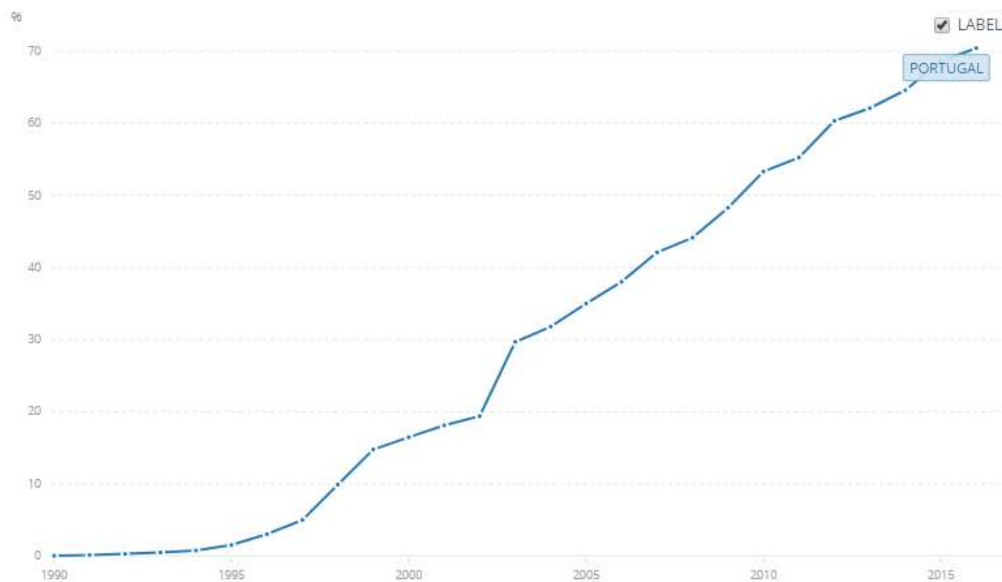
This fast valorization is more evidenced on the largest online economies that, according to Edquid (2017), are China with \$672 billion online sales, followed by the United States with \$340 billion and the United Kingdom with \$99 billion. As it is possible to verify in figure 3, online sales all over the world have shown a sustainable growth and it is expected to continue to grow until 2021 (eMarketer, 2018).

To measure the impact and diffusion of e-commerce, Anvari and Norouzi (2016), correlate directly e-commerce and research and development investment with the gross domestic product per capita in 21 selected countries and found that both had greatly contributed for the countries' growth. Additionally, Corbett (2001) emphasizes that e-commerce increases not only the company's profitability but also the efficiency that catapults the business economies of scale

1.2.2 Internet Diffusion in Portugal

Due to the internationalization characteristics intrinsic to information technologies, Portugal has been following the internet's global diffusion tendencies. According to the Lisbon and Network Institute (2010), Internet user's ratio raised from 29% in 2003 to 49,6% in 2010, which highlights the importance of the network for the Portuguese players. This tendency was reinforced by data released from the World Bank (2018). As it is possible to verify on figure 4, the number of internet users have been growing constantly, reaching 68% by 2015.

Figure 4 Number of Internet Users as a Percentage of the Population



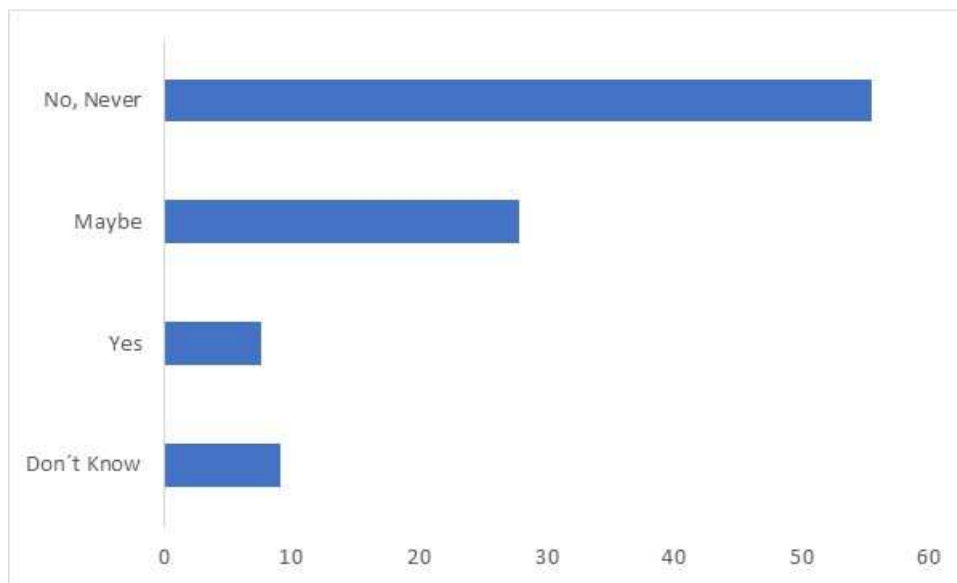
Source: World Bank (2018)

Following the growth of internet users, the Internet World Stats (2018) concluded that the penetration ratio for the Portuguese network in the last decade was 80%, which surpasses the world's average of 54%. This barometer is very important to determine the tendency for countries and societies to invest and develop information technologies. However, there are some limitations because countries have completely different penetration rates. For a clear perspective, there is a need to distinguish between two major groups of countries. On the one hand, there are developed countries in a stage where internet is well established and "fully implemented". On the other hand, less developed countries are still investing in infrastructures to allow a proper internet diffusion. For

instance, it is possible to have countries with major diffusion rates and less technological infrastructures implemented. Nonetheless, it is evidenced by the World Bank (2018) data that the number of users in Portugal grew from 4 million to more than 7 million just in one decade from 2007 to 2017.

In the last decade, there was a clear change on the Portuguese paradigm. According to Lebo (2010), who gathered Portuguese data for the World Internet Project (WIP), through a questionnaire, 55,5% of the respondents answered that they would never use internet in their lives (see figure 5). The World Internet Project was designed by the NTU School of Communication Studies in Singapore and the Observatory Internet Italia at Bocconi University of Milan to observe and record the changes that occur while households and nations acquire and use the internet.

Figure 5 Question Do you think you will ever need to utilize Internet? (%)

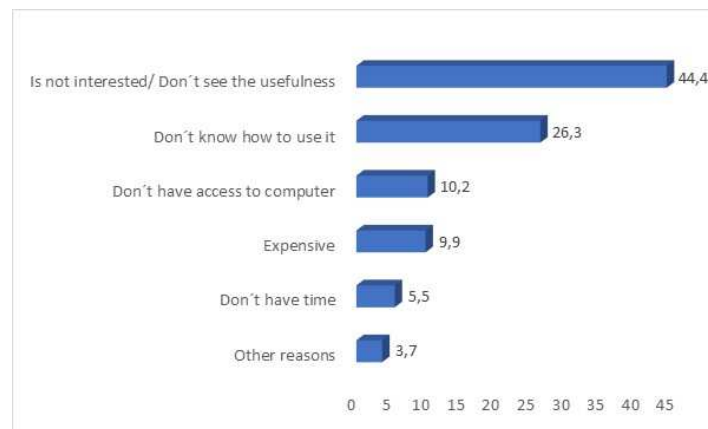


Source: Lebo (2010)

In a latter report Lebo (2012) also demonstrated reserves about the internet diffusion in Portugal, where it is stated that about 45,4% of the inquiries demonstrated no interest on the technology due to its lack of interest and applicability. Other 26,1% mentioned the lack of knowledge as the main issue for not being interested in using the internet (see figure 6).

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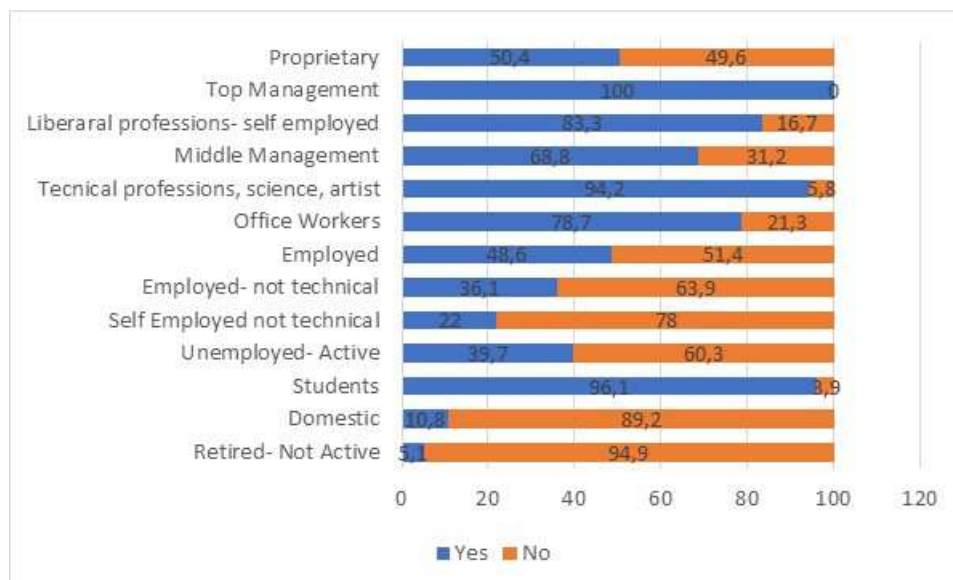
Figure 6 Non- Internet users - principal reason for not using (%)



Source: Lebo (2012)

To understand the national paradigm inversion, there are several studies and entities dedicated to the segmentation of the Portuguese internet user. According to INE (2012), the Portuguese user is between 16 and 24 years old, representing 93% of the total usage. Figure 7 shows that the majority of the internet users are students with 96,1%, high level employees with 100% and technical professionals with 94,2%. By contrast, the non-active and the domestic citizens only use internet by 5,1% and 1,8%, respectively.

Figure 7 Internet uses per occupation 2010



Source: INE (2012)

Another question on the research developed under the WIP by Lebo (2012) revealed that Portugal has a high frequency usage for users already exploring the Internet.

For the total respondents that mentioned to be using internet, about 90% revealed to be doing it daily and preferentially at home. This reinforces the report of the European Commission (2010) mentioning that wireless network players are rapidly modernizing and Portugal is one of the leaders on mobile broadband via computer or mobile phone.

1.3 Portuguese E-Shopper

Although the continuous interest regarding the information technologies in Portugal, this might not be impacting the electronic commerce directly. A study from INE (2012) supports that only 10% of the Portuguese population has made online purchases in 2011. Nevertheless, the relatively low number of users is not worrisome because it is increasing fast and in a sustainable way (INE, 2012). According to INE (2012) calculations, Portuguese e-shoppers are growing at an average pace of 23% every year.

The profile of Portuguese e-shoppers is described by INE (2012) as, mostly from highly populated centers, such as Lisboa and Porto. The majority is between 25 and 34 years old and currently graduated or taking an undergraduate degree. Consequently, it seems that there is a higher propensity for online shopping to be from higher academic levels. In a geographical point of view, besides Lisboa and Porto, that lead the ranking, the online shopper's ratio is stronger in Algarve with 12% and Alentejo with 11%, outperforming the national average of 10,3% of internet users making online purchases.

1.4 E-retailing

E-retailing is not free of challenges. According to Ferreira (2003), Devaraj et al., (2002) the channel choice is deeply influenced by the experience and ease of use by customers. The more familiar the customer is with the technology, the more he/she will be willing to purchase online frequently. Devaraj et al. (2002) reinforce that there is a clear need to develop measures and create instruments to improve awareness by businesses and practitioners on the way customers interact with technology. Ally et al. (2007) argue that websites function as the ground for shoppers to purchase online and that with the technology improvements it is possible to monitor the businesses maturity in terms of value added regarding customer experience.

As stated by Devaraj et al. (2002), although EC represents clear benefits for retailers and customers, it can also expose confidential information of customers, like personal data, credit card information, account balance or products purchased, which poses responsibility on sellers and stakeholders used to supply state of the art security. On the other side, online customers can fully leverage information of prices and assortment between players to make the most beneficial choices (Melis et al. 2014).

1.5 E-Grocery Shopping

As defined by Ferreira (2003), Electronic Grocery Shopping (EGS) “*is a type of B2C shopping that involves a high degree of familiarity with surfing tools and potential faults*”. Chin and Goh (2017) add that electronic grocery shopping is the act of purchasing groceries online via retailer’s web platform that will then deliver the products directly at home. Ferreira (2003) states three decision steps for a consumer to evolve from a non-internet user to a regular online groceries shopper. First, customers need to embrace internet, so that they can then be able to make a purchase online that will lead to the grocery shopping on a regular basis. It is argued by Ferreira (2003) that, in a practical exercise, setting a regular shopping list and accounting for grocery shopping online is not easy and takes more than 30 minutes on average to complete the process. Additionally, deliveries take time and need enhanced preparation to be processed on time. By contrast, a study developed by Anesbury et al. (2016) concluded that online shopping is fast even for the ones that are purchasing for the first time. According to the author, there is no reason for any item on the list to take longer than 10 minutes to be purchased online. Different results from these two studies are a great example of the rapid advancement of the technology that greatly evolved from 2003 to 2016.

Online grocery shopping has been noted as being a relatively young but promising area of electronic commerce (Kaur and Shukla, 2016). According to Kaur and Shukla (2016), after the EC boom, many companies moved on to the grocery shopping category. However, the dot-com burst unveiled specific category challenges that slowed surviving businesses growth. As defended by Elms et al. (2016), the ongoing research has already proven that internet grocery shopping retailers are dependent on the ability to solve the problem of geographic distribution. Additionally, Ferreira (2003) supports that the existing grocery products do not have the required features for a successful online market.

The author believes that due to the products physical and perishable nature, these do not fit the online market and require higher costs for home delivery and online presence.

According to an early study by Hiser et al. (1999), online grocery shopping is a relatively new concept that has not been studied in depth. In a more recent study Elms et al. (2016) mention that there is now a sizable amount of research focusing on online markets and electronic commerce, although it has been conducted largely in other categories rather than groceries. Moreover, the limited research also results in a lack of strong methodological approaches. Research has tended to focus on a facet of consumer behavior rather than on the actual online and store consumer choices (Elms et al, 2016).

Elms et al. (2016) defended that, for certain categories including groceries, the online channel impact is to remain limited until players facilitate the experience to shop online. Kaur and Shukla (2016) reinforce that retailers need to ensure the development of websites that facilitate usefulness and ease of use by customers online. Websites need their content and platform to be designed based on the user experience, while making consumers searching tools more efficient and ordering features easier (Kaur and Shukla, 2016). According to Anesbury et al. (2016), grocery shopping online will become more important as technology evolves and societies become more familiar with the model. Moreover, to sustain the gaining importance of this channel, European retailers are already installing more pick-up points to increase their delivery capacity for the future (Anesbury et al.; 2016).

Retailers have been adapting to the new technological paradigm to fit demand necessities, which according to an early study by Corbett (2001), at the time, there were no concrete evidence of a player operating at the optimal online grocery delivery model. For e-retailers to be successful, they would need to increase shopping frequency while reducing delivery costs. More recently, Kaur and Shukla (2016) argue that success is dependent on the capacity to meet expectations of greater choice, quality standards, convenience and better engagement on consumer-retailer online relationships. At the time, Corbett (2001) concluded that to leverage grocery shopping, the most efficient model was a combination between old fashioned traditional mortar shops and the modern online businesses, instead of central warehouses to accommodate the product for online deliveries. More than a decade after, Helms et al. (2016) advise that retailers should target

marketing messages to emphasize how the combination from traditional shops and online services can create a “lifestyle solution” that better suits diverse situations of consumers daily life and needs. Kaur and Shukla (2016) reinforce that, even though more and more consumers accept electronic models, such models are not seen as a substitute for the traditional store shopping.

Several authors, studying grocery-shopping tendencies throughout the last two decades, have concluded that there are two core drivers for purchasing groceries online, ease of use and perceived usefulness (Hiser et al., 1999; Corbett, 2001; Kaur and Shukla, 2016; Chin and Goh, 2017). Using time as a reference, Hiser et al. (1999) mentioned that online customers are primarily concerned with payment risks, convenience, prices and delivery options; Corbett (2001) included time saving as a primarily reason for grocery shopping online; Kaur and Shukla (2016) defined different delivery slots, user friendly websites, designing factors and consistent quality as key consumption drivers; Schmid and Axhausen (2017) reinforced the cost sensitivity revealed by electronic grocery shoppers online. Disagreeing with some of the mentioned key drivers, Chin and Goh (2017) stated that trust and risk either financial, private or safe have no effect on consumers’ attitudes toward online grocery shopping. Instead, they introduced the perceived satisfaction as a new core driver for online grocery shopping.

According to Elms et al. (2016), over the last 20 years, shopper behavior has become extremely complex and consumers had to use a diverse range of traditional stores to satisfy their grocery shopping needs. Behavior in shopping has been changing due to the increasing complexity of modern lifestyles. Consequently, Benn et al. (2015), recommend that online supermarkets should simulate traditional brick and mortar shops environment. The authors defend that online consumers browse product lists through categories, as they would do on a traditional retailer, rather than using the available research tools. Moreover, once consumers find the product, they tend to look for illustrations rather than detailed information (Bern et al. 2015). On the contrary, Anesbury et al. (2016) conclude that, in most cases, online consumers use default tools to browse categories, but extensively they use a variety of navigational tools to find their product. The authors conclude that 6 out of 10 products are selected through navigational tools.

Based on Anesbury et al. (2016), shoppers with less time for shopping are not willing to search for brands by browsing pages and pages of items lists. Looking for the convenience side, according to Kaur and Shukla (2016), online consumers are even willing to pay an extra fee to have products delivered at their convenient time. Moreover, Corbett (2001) concluded that 65% of the customers would accept a product change for a similar product with the same price if it is not available on the time of the purchase. Therefore, consumers rely more and more on the information that retailers supply to save time, opening opportunities for retailers and brands to get loyal customers.

According to Corbett (2001), the beauty of online shopping is that retailers can create a database full of information from consumers shopping experience and interests. Online retailers can know exactly which customers used the service and what kind of services was used to customize advertisements and promotions accordingly (Corbett, 2001). Anesbury et al. (2016) reinforce that brand names are more important online than in traditional shops and large brands have higher loyalty online than smaller brands. Additionally, promotions have more positive impact online in comparison to traditional brick and mortar shops.

2. Literature Review

2.1 E-commerce Research

Providing the base for EC development, the revolution of information and communication technology (ICT) has a great impact on the acceptance of online businesses. According to UNCTAD (2015), there is no indication that information technology should be different from other economic and societal impactful technology breakthroughs. Completely new sectors of activity, industries, business models and processes have emerged in history transformed by great technology advancements like the invention of steam engines, railways or the industrial use of electricity (UNCTAD, 2015). Following the importance of such phenomenon, there has been several studies on the evolution of the world wide web, electronic commerce in different countries, electronic business models, measures and several other technologies that tailed the evolution of electronic businesses. According to Kaur and Shukla (2016), EC can happen anytime and anywhere because there is no limit to internet browsing. However, due to the subject broadness there is still no coherent evolution on the academic research and it is still dispersed (Ally et al., 2007; Zhuang and Lederer, 2003).

To measure the EC development all over the world, Ally et al. (2003), developed an instrument to better understand the maturity of electronic businesses (websites) on the user perspective. According to the authors, by creating a model on the customer perspective, the research filled a gap left by past studies on the maturity of online businesses focused on the strategic side of the enterprises. As examples are the Grant model in 1999, the model of Earl in 2000 and the model of Chan and Swatman in 2004 (Morais et al. 2009). Thus, customer perspective is increasingly important due to the tremendous benefits of EC for consumers such as cost savings, convenience and time saving with plenty of information, where consumers can compare broaden offers (Chen and Dunbinsky, 2003). Similar researches were also performed in Portugal by Quaresma et al. (2006) and Morais et al. (2009). The authors concluded that EC was still very immature, with less than 9% of the businesses with an online B2C platform and about a quarter of the companies in an early stage of maturity.

Following the internet diffusion in Portugal, that was formerly studied by entities like Associação Industrial Portuguesa (AIP) and Unidade de Missão Inovação e

Conhecimento (UMIC), the scientific research started to focus on the actual evolution of e-commerce (Quaresma et al. 2006). For instance, Quaresma, et al. (2006) used both qualitative and quantitative data to build a picture of large and medium corporations performing an electronic business to consumer model (EC-B2C) in Portugal. The authors concluded that in 2006, the level of e-commerce development was very low. From a sample of more than 380 companies, performing business to consumer transactions, only less than 9% of the companies had online presence and lacked information required by the legislation. Moreover, businesses did not provide crucial information regarding commercial transactions, like the order status, payment due date, contract termination or legal support (Quaresma et al. 2006).

There is a need for a continuous research on the field to better understand the healthy businesses and to allocate resources accordingly. As defended by Kaur and Shukla (2016), despite the increasing popularity of web based businesses, there is still a doubt about whether all products are fitted to be traded on this channel.

2.2 Perceived E-Commerce Value for Customers

Because of the E-commerce boom, e-retailing is increasing rapidly and new players are arising fast. Consequently, consumers benefit from increased bargaining power through low switching costs and a broader range of choices (Cheng and Dubinsky, 2003). According to Cheng and Dunbinsky (2003), the higher the bargaining power from clients, the higher the need for businesses to seek differentiation. Consequently, e-commerce companies have increasingly become interested in identifying, retaining, nurturing and comprehending loyalty and satisfaction determinants to retain profitable customers (Anderson and Srinivasan, 2003).

There are several studies with different methodologies used to study the perceived e-commerce value for customers. Cheng and Dunbinsky (2003) created a model to identify variables that greatly influence customers intention to purchase. The research focus on a pre-purchase phase, because consumers are increasing the time spent on pre-purchase evaluations and on the impact of perceived customer value regarding individual purchase intentions. To compare customer satisfaction, through experiences on buying the same products on local and online stores, Devaraj et al. (2002) used three

well established frameworks, Transaction Cost Analysis (TCA), Service Quality (SERVEQUAL) and the Technology Acceptance Model (TAM).

Focusing on the perceived customer value, Cheng and Dunbinsky (2003) identified valence of experience, perceived product quality, perceived risk and price as the main influencers of perceived gains or costs for online consumers. On a more technological perspective Devaraj et al. (2002) included the perceived usefulness and the ease of use as the main factors for online customer channel preference. They also argued that an increase on EC experience leads to higher intentions to purchase with transaction costs as the key for repurchases. Anderson and Srinivasan (2003) determined convenient motivation and purchase size as the main sources to increase customers' loyalty and satisfaction.

Highlighted by Cheng and Dunbinsky (2003), traditional retail shopping support is completely different from e-commerce, either regarding the interaction with personnel, the customer service or the store itself. Once e-retailing is a human-website interaction, customers are self-servicing online and if it is not managed properly, it can lead to frustration through the lack of ease of use (Cheng and Dunbinsky, 2003). To adapt the model for e-commerce, the authors identified three factors influencing human-website interaction, namely relevant information, website usability and customer service.

2.3 Perceived E-Commerce Value for Businesses

Besides the importance given to the understanding of perceived e-commerce value for consumers, it is also important to use instruments to measure real benefits for businesses. Defended by practitioners and researchers, e-commerce is a source for market expansion, costs reduction, better customer awareness, customer service improvement, operational efficiency increases and data control enhancement (Zhuang and Lederer, 2003). However, as argued by Zhuang and Lederer (2003) there is no clear way to measure businesses benefits. According to the authors, researchers need to define dependent variables with e-commerce specific characteristics that would allow investigating antecedent events to desirable e-retail outcomes. As for dependent variables, it would be relevant to include a measure that could help determining the

market share increase or the businesses profitability through e-commerce (Zhuang and Lederer, 2003).

Within the literature, it can be found several studies that developed diverse models and systems to quantify and evaluate e-commerce and their technologies. Among them Zhuang and Lederer (2003) highlight the WebQual view, EDI, Shop.org, Balanced Scorecard Approach and General IT Benefits ¹ (see appendix 2). However, as stated by the authors, these instruments are focused on the identification of the benefits from technologies, which are similar but not the same as e-commerce (Zhuang and Lederer, 2003). Thus, there is the need to identify a model that combines the specific e-commerce technologies rather than the technologies used as e-commerce (Zhuang and Lederer, 2003).

Contributing to the literature, Zhuang and Lederer (2003) developed a model based on the definition of key components influencing e-retail. Focusing on a process to validate instruments, the authors elaborated an extensive literature review to perceive e-commerce benefits collecting 140 items that benefit e-commerce and narrowing the list through content validity. They managed to reduce the items to a reasonable number of 31 for survey purposes based on Churchill's purification method and Dillman's 16 suggestions approach. With a manageable set of specific benefits, the authors could reach five benefit dimensions: back-end efficiency, market expansion, inventory management, cost reduction and customer service.

2.4 E-Retailing

According to Zhuang and Lederer (2003), several studies highlight that e-commerce has several advantages for retailers, such as increased sales, lower costs, more customer awareness, broaden market boundaries, customer service improvement, increased operation efficiency and effectiveness, better data control, inventory control

¹ WebQual View- Measure "*site information and interaction quality*"

EDI- Measures "*benefits of EDI*"

Shop.org – Measure "*many performance measures*"

Balance Scorecard Approach- Measures "*various economic indexes*"

General IT Benefits- Measures "*benefits of IT*"

Source: Zhuang and Lederer (2003).

and delivery tracking. Due to its importance and pragmatism Poladian et al. (2017), studied the evolution of e-tail in selected countries and concluded, through the analysis of retailer sales, that the share of online business in traditional retailers, internet penetration, digital buyer penetration and the evolution of mobile devices are a very dynamic part of EC and are expected to grow.

Within the customer perspective, it can be found studies that have developed different models to analyze perceived e-retailing satisfaction (Devaraj et al., 2002; Chen and Dubinsky, 2003; Anderson and Srinivasan, 2003). The authors collected raw data on several experiments with subjects purchasing similar products in traditional and modern online retailers. The authors used already established variables from the Technology Acceptance Model (TAM), Transaction Cost Analysis (TCA), and Service Quality (SERVQUAL) or determined new options from the literature review to analyze results. It was possible to conclude that perceived ease of use and usefulness are key determinants for customer satisfaction that was also supported to be fundamental for the channel preference. On an era where e-retailers were gaining shape, Chen and Dubinsky (2003) have also advised to increase perceived product quality and reduce price to face the intangibility on the experience to purchase online.

Considering the evolution of benefits and drivers for purchase, recent studies have started to focus on more in debt e-shopper behaviors (Demangeot, 2009; Anesbury et al. 2016; Elms et al., 2016).

2.5 E-Grocery Shopping

Although electronic markets open opportunities for local e-retailers to broaden boundaries, the grocery category is very specific to local shoppers and businesses. Accordingly, most of the studies have focused their research on specific countries and areas (Hiser et al., 1999; Corbett, 2001; Farag et al. 2007; Melis et al. 2015; Kaur and Shukla; 2016).

In the literature, it can also be found studies focusing on the understanding of the drivers that lead customers to make their regular shopping for groceries online. Ferreira (2003) studied the British household to build a framework to understand electronic

grocery shoppers (EGS) drivers. Based on three phases that consumer undergo from regular consumers to regular online grocery shoppers, the author concluded that price and convenience were key factors to drive this category. According to the author, the average salary makes a difference on the intention of purchase and logistic models developed enough to increase convenience are the key to retain customers. Similarly, Kaur and Shukla (2016), on a study in Delhi, concluded that family income, age, educational level, platform costs and delivery challenges were fundamental for the channel development. In Malaysia, Chin and Goh (2017) applied the models TAM and TAR to study the Malaysians attitude and drivers of consumption for groceries online. The authors confirmed, through the expansion of these models, that perceived enjoyment, perceived ease of use and perceived usefulness positively influence the attitude towards electronic grocery shopping (EGS).

The way consumers plan to shop for groceries online has also been well explored. Farag et al. (2007) developed a study aimed to understand the impact that online searching, online buying and non-daily shopping trips have in each other and concluded that online searching has a positive impact on shopping trips. On the other side, the more consumers search online, the less time they spend on shopping. Melis et al. (2015) studied customer differences between channel choices within traditional and online retailers. They concluded that in an early stage of online experience, consumers prefer to buy groceries online without switching their regular shopping chain. This phenomenon increases with a strong assortment connection between the traditional shop and the offer online. However, according to the authors, the more consumers get online shopping experience, the more they will broaden their preferences while comparing chains from different players.

With a completely new approach, Benn et al. (2016) developed a study to investigate the way online grocery shoppers make their purchases on a naturalistic environment. As defended by the authors, several studies were developed to understand what e-consumers look for in lab-experiments or physical shops in very controlled environments. Benn et al. (2016) recorded data from a sample of customers on their weekly shopping and recorded their eye movement with subsequent interviews. They concluded that when searching for products, a great majority used search facilities available on the platforms and more than 65% navigated on the special offer pages. It was

also concluded that within the product page, customers preferred looking at the images rather than descriptions (Benn et al. 2016).

More recent approaches are now focusing on the mobility opportunities for EGS. Within this new trend Fargerstrom and Eriksson (2017) studied the way businesses can leverage internet through mobile phones, shopping baskets, store shelves, digital display and products to allow real time interactions within traditional and electronic retailers. The authors concluded that real time information about price, expiry date and quality produced positive purchase stimulus.

Customer behavior is also influencing the online grocery models. According to Pan et al. (2017), customer absence on delivery schedules is impacting the business efficiency with enhanced impact on perishable food products. By developing a tool that combine both data mining and a route to market planning, the authors calculated the probability of a delivery failure through electricity consumption. It is concluded that by applying this model, companies can reduce 3 to 20 percent their travel distance and increase first delivery orders by 18 to 26 percent (Pan et al., 2017).

3. Methodology and Data

To fully address the two research questions proposed in this dissertation: 1) Are retailers providing a competitive offer online? 2) Do customers value the online offer by Portuguese e-supermarkets?, a mixed method with a quantitative and qualitative analysis will be used. As Creswell (2002) highlights, the mixed method is commonly used for both numerical and sensorial approaches to a subject. The quantitative analysis will be focused on the definition of the most important components valued by online customers within their decision process. According to Penim (2013), a consumer decision to purchase can generally be defined into three different phases, pre-decisional referring to the research and preparation undergone by shoppers to support a purchase, decisional which regards the actual purchase and post-decisional resembling the evaluation and comparison of the goods purchased. In each phase, consumers search for certain specific characteristics from online channels designed to enhance shoppers experience. For this purpose, it will be designed a questionnaire to highlight the features that retailers should offer to match the online consumers demand in Portugal.

To compare demand and supply, the qualitative analysis will help understanding what retailers are focusing online. For that purpose, the review model conceived by Yuan (2012) will be used. On his thesis, the author developed a model to evaluate a review system offered by the major B2C websites in France. Accordingly, this model will be adapted to evaluate the offer by major retailers online and their strategic positioning in Portugal.

3.1 Quantitative Analysis

Surveys have been one of the most important means to collect information from a specific sample. As explained by Bulmer (2009), surveys are very effective tools for acquiring participants social behavior characteristics and reasons for action on certain objectives under research. Mathers et al. (2007) reinforce that surveys stand as the most common research design used to study social science.

Creswell (2002) splits quantitative research into three major classifications named descriptive, experimental and causal. In the present dissertation it will be used the

descriptive classification that focus on the observation of specific characteristics from a sample of online purchasers (Creswell, 2002). Accordingly, there is a wide range of methods to conduct a quantitative research. Among them, this study will focus on the survey research method that focus on the collection of specific data from a representative sample of the population (Creswell, 2002).

Among the several strategies to collect data, Mathers et al. (2007) define face-to-face interviews, telephone interviews and questionnaires as the three principal models. Since the purpose of this research is to collect a broad set of answers from heterogeneous subjects, it will be chosen the questionnaires. Additionally, an online questionnaire model will allow to reach a wider range of subjects with fewer costs and less time consumption.

3.1.1 Questionnaire Design

Creswell (2003) argues that quantitative research is the process of collecting specific information in a standard format so that data can be analyzed in a statistical model. To fully address the three decision-making processes, pre-decisional, decisional and post-decisional, the questionnaire will be divided into three different parts. Firstly, there will be a sub-section to collect general demographic data. Secondly, since internet serves as the backbone for e-commerce, there will be a set of questions to gather the subjects experience, willingness and frequency in using the channel for purchasing groceries. Finally, there will be a section of questions addressing key attributes influencing customers' decision to purchase via online channels (see appendix 3).

Regarding the actual questionnaire design, there are four topics that should be taken into account, whether the questionnaire will be self-answered or administrated, respondents educational level, expected response rate and resources availability (Mathers et al, 2007). In this case, the questionnaire will be self-responded while targeting highly educated respondents. The expected rate response is high and the questionnaire is designed to save as much resources as possible. Reinforced by Mathers et al. (2007) one of the most common mistakes while designing a questionnaire is to underestimate its length that leads to boredomness and less accurate responses.

Following Mathers et al. (2007) and Creswell (2003) insights, it will be used rating scales, close ended questions and multiple-choice questions. Closed ended questions will facilitate the analysis of data where rating scales provide the flexibility needed to perceive online customers key purchase needs on online markets. The multiple-choice questions are intended to make respondents life simple and to facilitate data processing.

3.1.1.1 Questionnaire Sub-divisions

3.1.1.1.1 Sociodemographic characterization

This section of the questionnaire will combine a set of five questions regarding the subject's gender, age, place of residence, level of education and occupation. These questions will be crucial to better understand the sample and will allow comparing the subjects with the traditional online shopper defined previously.

3.1.1.1.2 Shopping frequency characterization

Once maturity and experience represent key drivers for online consumption, it is fundamental to understand the respondents' level of experience online. This section is then a combination of the five questions that follows:

- Have you ever made a purchase online?
- Have you ever visited an online supermarket like Continente, Jumbo, Intermarché or El Corte Inglés?
- Have you ever made a purchase in an online supermarket?
- Do you often purchase on online supermarkets?
- If yes, with what frequency?

3.1.1.1.3 Attributes influencing online shopping

To inquire consumers about the importance they give to the 5 dimensions of electronic commerce, addressed both on the quantitative and qualitative analysis, it will be used the rating scale questions. Quaresma et al. (2006) have identified 115 attributes that generate a tool to evaluate the quality of a general website used as a platform for e-commerce in Portugal. To adapt the authors tool to evaluate an online supermarket, these attributes were combined into 42 attributes narrowed in the 5 following categories, “Shopping Experience”, “Accessibility”, “Security”, “Customer Service” and “Interactions”.

To validate the questionnaire and the attributes, there was a pilot version shared with two experts that deal with electronic commerce on a daily basis. Experts were contacted due to their experience on building e-commerce websites, which requires a deep understanding of the online businesses requirements. According to the expert’s feedback, there were two crucial points not mentioned on the original draft related to delivery times and flexibility. Another important feedback was the relevance of some attributes on the pilot questionnaire regarding security policies, payment deadlines, general contract conditions and general delivery limitations that not only were generating ambiguity but also lacked applicability for the analysis. This feedback was crucial to reach the table of questions and attributes that combine each of the five dimensions that follows:

Shopping Experience
Animated introduction before websites homepage
In case there is an animated introduction, it can be possible to skip
Virtual web-store visit
Website recognition (prize awarded)
Presentation of essential product characteristics
Price communication, taxes and other applicable costs
Product images
Any kind of special promotion for making the purchase (free trials, price reductions, gifts, contests, games and raffles, etc.

Accessibility
Navigation index
Internal search engine
FAQ
Geographical limitations information
Delivery or take away
Information about transport and deliver costs
Time between placing an order and the delivery of the goods
Flexible delivery schedules
Payment methodologies

Security
Permanent address
Existence of collection / processing of personal data
Existence of specific mechanisms / means / contacts for the interested party to exercise their rights (access, rectification, cancellation, opposition)
Information about the recipients of the data collected
Information about the possibility / form / purpose of transferring the data to third parties
Information / instructions / special mechanisms regarding the use of the website by underage people.
Order confirmation
Possibility to print/download the order confirmation and delivery terms
Tracking order

Customer Service
Email
Telephone number
Indication of a place to complain
After sale service information
Information about order cancellation
Information about changing order
Product availability
Extrajudicial conflict resolution system (own or alternative)

Interactions
Information about the company (history/business values and objectives/projects)
Traditional business information availability (service hours, physical shop locations, international presence)
Existence of a third-party advertising support
Possibility of offering any affiliate / associate program
Possibility to create an online profile
Existence of tools to participate in electronic / virtual communities
Indication when a link leads to other websites than the company's
Information about the content of the other websites

3.1.2 Sample

To get a sample with a margin of error under 5%, for a total population of 10 million, there should be at least 384 responses (Saunders et al. 2009). According to INE (2017), about 34% of all Portuguese people made a purchase online in 2017, which represents a total of 3,5 million individuals. Following the reasoning of Saunders et al. (2009), a goal of about 250 responses should be reliable for a sample under 5% error.

To fully address the respondents, the sample should be as heterogeneous as it can be in terms of gender social background and location. However, to meet the average Portuguese e-shopper profile, individuals tend to be from highly populated centers with a graduate degree or higher.

The questionnaire was diffused via email and Facebook, resulting in a total of 250 responses.

3.1.3 Method for Quantitative Analysis

To analyze the questionnaire results, it will be used the excel software to process the responses in a numerical way. Subsequently, the sample will be scanned for outliers or errors that might be deviating the analysis. Finally, the set of responses will be turned into graphs that will be used to cross specific demand characteristics with the qualitative model used to evaluate the supply side.

Likert Scale answers regarding each attribute will be summed to a total score that represents the importance given by online consumers. Attribute scores will then be combined into each of the 5 dimensions that via the coefficient of variation and standard deviation will be scanned in terms of dispersion.

3.1.4 Limitations

Since the research is compiled into two different models, the qualitative model that allows analyzing the supply side and the quantitative data that allows evaluating the demand side, the cross analysis might not be a precise match between the qualitative and quantitative data both from the supply and demand side.

With the methodology used, it is possible to build a clear picture of the respondent at the time of the research. However, it lacks the evolutionary paradigm intrinsic to e-commerce.

Conclusions are also narrowed to this sample as the research is very focused on the Portuguese e-shopper that might or might not have the same demand characteristics as the European e-shoppers.

3.2 Qualitative Analysis

According to Creswell (2002), a single approach to an individual is insufficient. Therefore, to complement the quantitative analysis, qualitative processes should be used to fully address the research questions.

For this purpose, it will be applied the model developed by Yuan (2012) that was focused on the evaluation of the French website tools for customer reviews. This model can be perfectly adapted to the research questions of this study once it is designed to highlight specific characteristics on the offers available online. Moreover, it gives a perspective of each players strategy regarding online shops.

3.2.1 Model Concept

Following Yuan’s (2012) model, it will be used a case study method, where online retailers will be assessed regarding different dimensions. The model will be adapted to reflect the five dimensions addressed in the quantitative analysis: shopping experience, accessibility, security, customer service and interactions. These 5 dimensions combine 41 attributes that will be validated for each retailer on a yes or no basis. Each attribute available on the website will count as 1 and the non-available attributes as 0. Since the number of attributes per dimension is not even and there is more than one dimension with 8 attributes, each dimension was converted into a scale from 1 to 8 as follows:

Table 1: Conversion Methodology for Qualitative Analysis

<i>Dimensions</i>	<i>Attributes Analyzed</i>	<i>Conversion Method Utilized</i>	<i>Converted Numbers</i>
<i>Shopping Experience</i>	7	8/7	1,1429
<i>Accessibility</i>	8	NA	1
<i>Security</i>	9	8/9	0,8889
<i>Customer Service</i>	8	NA	1
<i>Interactions</i>	8	NA	1

Source: Own elaboration

There is, however, an item on the shopping experience dimension that will be removed from the qualitative analysis. Once, the possibility to skip an introductory animation is directly linked to having an introductory animation available, only the availability or not of introductory animations was considered.

3.2.2 *Sample*

To address the research questions for the qualitative analysis, it will be considered the major business to consumer retailers with physical shops in Portugal and with an online presence. There are, at the moment, 5 different retailers that fit the sample's selection with the respective market share for the traditional retail market, Auchan (9,5%), Sonae (22%), Intermarché (8,5%), El Corte Inglés (n.a.) and Jerónimo Martins (20,8%) (Silva, 2018). However, this sample will not include Jerónimo Martins, one of the biggest retailers in Portugal, due to its lack of online presence so far.

Regarding the type of product categories offered by the sample, it is possible to distinguish two slightly different approaches. On the one hand, in Auchan, Sonae and Intermarché, the online offer is well established and very focused on grocery products. On the other hand, El Corte Ingles, aligned with its core strategy, has a wider variety of product categories and it is not just a supermarket specialist.

Contributing to this sample selection was both the online availability of grocery products and the existence of a physical chain of brick and mortar shops. Apart from a slight deviation from El Corte Ingles, it is important to stress that all the four players compete directly online as they compete in physical stores.

3.2.3 Method for Qualitative Analysis

Following Few (2005) that argues that radar charts are very effective in comparing multiple subjects with different attributes, it will be developed a web-chart for each retailer to fully address the dimensions proposed on the companies' qualitative analysis. Each radar-chart will represent for each player the aggregate score for the dimensions previously highlighted. Since two dimensions "Security" and "Shopping Experience" have one more and one less attribute respectively, the points to calculate the importance of these dimensions will be converted according to table 1.

This exercise will allow determining the dimensions that are more important for retailers and that suit as a tool to analyze the maturity and specific positioning of each retailer on the online channel.

3.2.4 Limitations

The main limitation of this analysis is the lack of online offer by Jerónimo Martins, one of the biggest retailers in Portugal. According to Silva (2018), Jerónimo Martins represented more than 20% of the total food retail business in 2017. With one of the major players out of the online market, it is more difficult to make a comparison between physical and online stores.

This research is focused on grocery products offered by Portuguese online retailers, which cannot be broadened to other retailing products like cars, furniture etc. For future research, it would be interesting to understand if the strategy undergone by online retailers, could also be tailored for specific product categories.

3.3 Qualitative & Quantitative Analysis

After the analysis both to the demand and supply, using the same attributes combined into 5 different dimensions, it is now possible to compare deviations occurring from what customers are valuing and what it is offered by e-supermarkets online in Portugal. For the purpose, data collected from questionnaires was converted to the same scale of the qualitative analysis. Firstly, each response within the Likert scale was converted in the following way: 1=0,2; 2=0,4; 3=0,6; 4=0,8; 5=1. Secondly, once 250 subjects responded the questionnaire, each aggregated score was divided by 250 to become comparable. Finally, scores reflecting the importance given by customers to the dimensions analyzed were demonstrated on a single web-chart that is directly compared with the offer online.

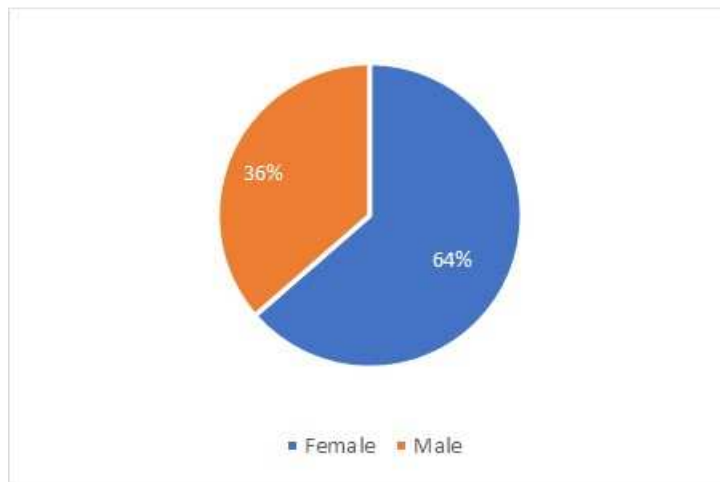
4. Data Analysis

4.1 Quantitative Analysis

4.1.1 *Sociodemographic Characterization*

Within the sample analyzed, there is a higher percentage of women than men that answered the questionnaire, representing 64% of the total participants (see figure 8).

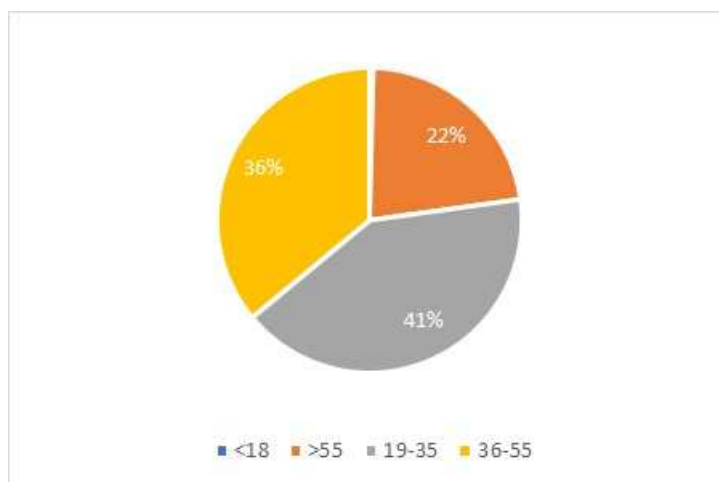
Figure 8 Gender (n=250)



Source: Own elaboration

Among respondents, there is an equilibrium on the responses in three age groups: the age between 19 and 25 (41%), 36 and 55 (36%) and more than 55 (23%), as can be observed in figure 9.

Figure 9 Age (n=250)



Source: Own elaboration

Aligned with the profile of the Portuguese online shoppers defined by INE (2012), figure 10 allows concluding that the majority of the respondents is currently living in Lisbon (70%) and inland (22%).

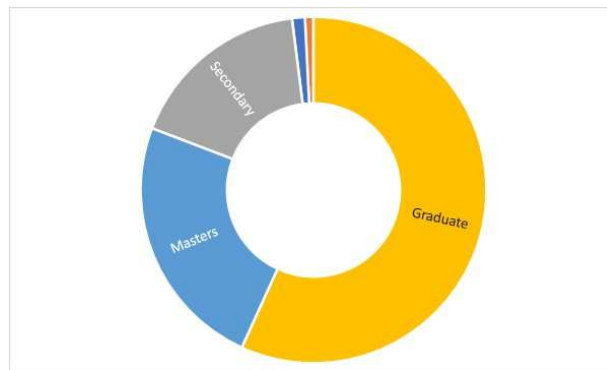
Figure 10 Place of Residence (n=250)



Source: Own elaboration

Regarding educational levels, figure 11 shows that respondents are highly educated, with more than 80% of the participants with a degree or higher.

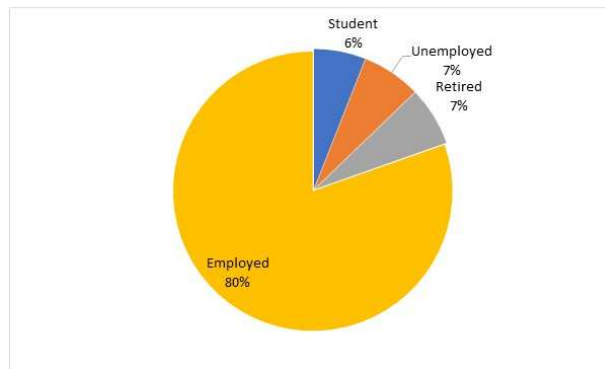
Figure 11 Education (n=250)



Source: Own elaboration

Considering the occupation, from the 250 respondents, more than 80% of the inquired are employed, 7% retired, 7% currently unemployed and 6% students (see figure 12).

Figure 12 Occupation

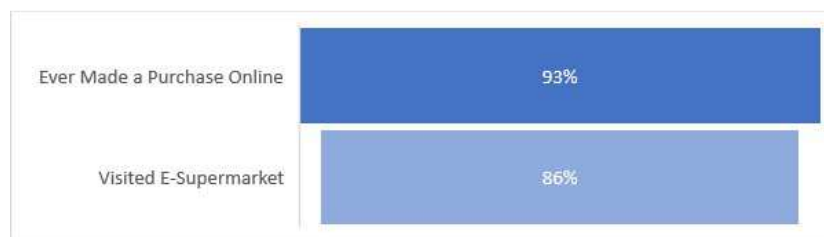


Source: Own elaboration

4.1.2 Shopping Frequency

Regarding the consumer experience and frequency in online purchases, figure 13 illustrates that the great majority (more than 90%) confirmed to have made a purchase online. However, the number falls slightly to 86% on the question whether the subjects had already virtually visited any of the online supermarkets operating in Portugal.

Figure 13 Subjects that Made a Purchase Online and Visited an E-Supermarket

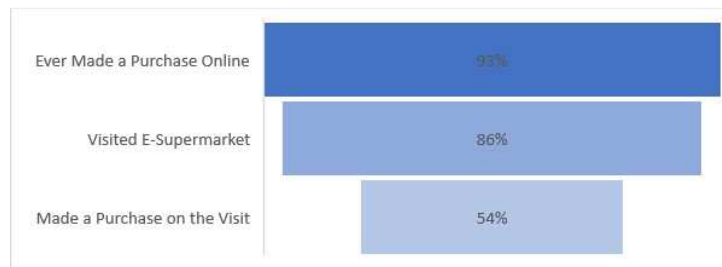


Source: Own elaboration

From the inquiries that responded to have visited the online supermarket, only half have made a purchase on the visit (see figure 14).

MATCHING PORTUGUESE RETAIL BUSINESSES TO ONLINE CONSUMERS

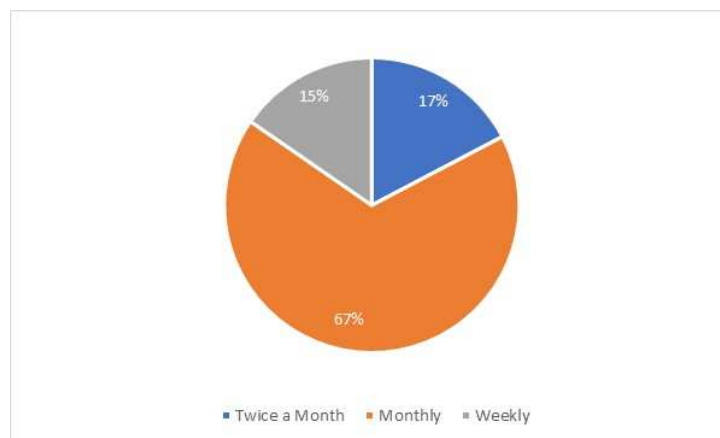
Figure 14 Subjects that made a purchase online, visited an e-supermarket and made a purchase on the visit



Source: Own elaboration

Moreover, more than 80% of the subjects affirmed not to make their regular grocery shopping online. From the 18% of the participants that regularly purchase groceries online, 68% admitted making it monthly and only 15% every week (see figure 15).

Figure 15 Frequency of Online Grocery Shopping



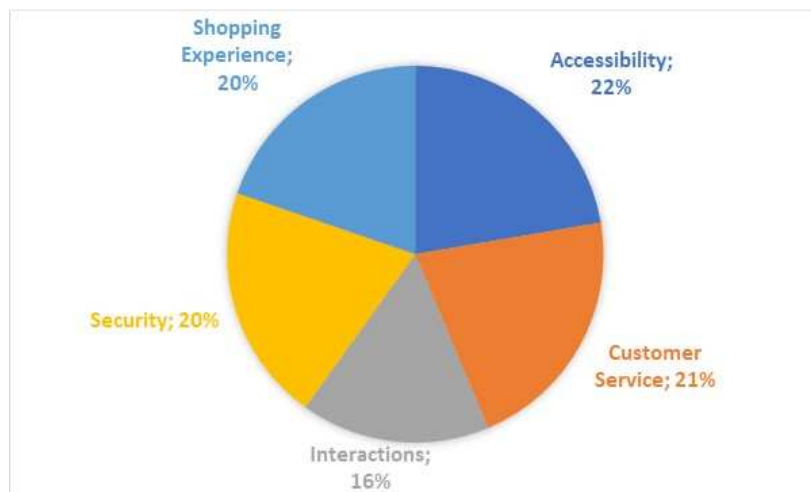
Source: Own elaboration

4.1.3 Dimensions that Consumers Value the Most Online

Within the five dimensions analyzed, when comparing the total scores for each dimension given by respondents on a Likert scale from 1 to 5, we can observe that they all are considered by the respondents as equally important to their online shopping experience. Therefore, in light of the above, it is not possible to highlight one of the dimensions as more important than the others. However, it is still possible to distinguish between three groups. Firstly, there is a slight preference for dimensions that are weighting more than 20%, which for the total of 5 dimensions represent the even share

of the total score. Within this group are Accessibility and Customer service dimensions, weighting 22% and 21% respectively. Secondly, there are the Security and Shopping experience dimensions that go straight on the average of importance, weighting 20% each. Finally, there is the Interactions as the least important dimension with a share below 20%, indicating that this is the least important attribute considered by online consumers in Portugal.

Figure 16 Most Important Dimensions Valued by Respondents (n=250)



Source: Own elaboration

Since each dimension is a combination of attributes, it is also important to analyze the dispersion within each dimension. Considering the standard deviation in table 2, it can be concluded that, according to the responses there is a higher instability on the preferences for Shopping Experience and Interaction attributes of the respondents. However, as the coefficient of variance (that measures the ratio of variance over the mean) is below 1, it can be affirmed that there is an overall stability on the importance given by subjects to the attributes.

Table 2 Standard Deviation and Coefficient of Variation

	Standard Deviation	Coefficient of Variation
Shopping Experience	200,95	0,210
Accessibility	68,70	0,063
Security	72,58	0,074
Customer Service	67,12	0,065
Interactions	127,54	0,162

Source: Own elaboration

4.1.4 Attributes that Online Consumers Value the Most

4.1.4.1 Shopping Experience

Table 3 Score Attributes of Dimension Shopper Experience (n=250)

Attributes	Score
Animated introduction before websites homepage	534
Virtual web-store visit	863
In case there is an animated introduction, it can be possible to skip	1060
Website recognition (prize awarded)	967
Presentation of essential product characteristics	1093
Price communication, taxes and other applicable costs	1153
Product images	1108
Any kind of special promotion for making the purchase (free trials, price reductions, gifts, contests, games and raffles, etc.	890
TOTAL	7668

Source: Own elaboration

Shopping experience is the dimension with higher deviation since it contains the attribute that is both the most valued and the least valued by consumers of the entire attribute list. On the one side, among all attributes, the ones that consumers value the most are the communication of prices, taxes and other applicable costs with a score of 1153 (see Table 3). This score is a sum of the importance that consumers gave to the attributes on the Likert scale from 1 to 5. On the other side, consumers gave the lowest score of importance (543) to the introductory animation before entering the website.

There is a preference for the attributes directly related to products. According to the results, consumers gave a higher importance not only to the communication of prices and the associated costs, but also to the availability of product illustrations and product descriptions with an individual score >1000. On a more neutral position are the prizes

awarded to the websites, the special promotional activities online and the virtual tools used to increase consumers shopping experience with a score between 1000 and 750.

4.1.4.2 Accessibility

Table 4 Score Attributes of Dimension Accessibility (n=250)

Attributes	Score
FAQ	793
Geographical limitations information	941
Information about transport and deliver costs	1014
Time between placing an order and the delivery of the goods	998
Delivery or take away	954
Flexible delivery schedules	958
Payment methodologies	1004
Navigation index	994
Internal search engine	1005
Total	8661

Source: Own elaboration

Accessibility is considered the most important dimension by the demand side, with the lowest coefficient of variance of 0,063. The most important attributes scoring >1000 were the transparency on the information related to the costs of transport and delivery, the availability of a search engine to access the products and different payment methodologies (see Table 4).

Overall, consumers have a positive response to most attributes designed to facilitate the purchase online with most scores close to the 1000 mark. However, the frequently asked questions revealed to have lower importance for consumers with a score of 793.

4.1.4.3 Security

Table 5 Score Attributes of Dimension Security (n=250)

Attributes	Score
Tracking order	932
Permanent address	875
Existence of collection / processing of personal data	844
Existence of specific mechanisms / means / contacts for the interested party to exercise their rights (access, rectification, cancellation, opposition)	878
Information about the recipients of the data collected	776
Information about the possibility / form / purpose of transferring the data to third parties	856

Information / instructions / special mechanisms regarding the use of the website by underage people.	796
Order confirmation	1017
Possibility to print/download the order confirmation and delivery terms	910
Total	7884

Source: Own elaboration

Observing the aggregate score for Security, in Table 5, it can be concluded that this dimension is the one with the lowest scores, with a low coefficient of variance of 0,074. Consumers valued only the importance of having the order confirmation with a score >1000. Among attributes with neutral importance, the information about the recipient of all the information generated online by consumers was the least relevant with a score of 776.

4.1.4.4 Customer Service

Table 6 Score Attributes of Dimension Customer Service (n=250)

Attributes	Score
Email	1043
Telephone number	1005
Indication of a place to complain	1018
After sale service information	1067
Information about order cancellation	1059
Information about changing order	1072
Product availability	1129
Extrajudicial conflict resolution system (own or alternative)	899
Total	8292

Source: Own elaboration

Customer service is the second most important dimension valued by consumers with a score of 8292. It is also the dimension that has one of the lowest coefficient of variation, which indicates that consumers valued each attribute evenly. Among the 8 attributes, only the availability of own or external systems to solve extrajudicial conflicts was valued as neutral, with a scale of importance between 750 and 1000.

On the pole of attributes that customers value the most are the convenience of having information about products availability, order changing and after sales service. The retailers email and telephone contacts were also highly valued by consumers as well as the availability of a place to complain with a score slightly higher than 1000.

4.1.4.5 Interactions

Table 7 Score Attributes of Dimension Interactions (n=250)

Attributes	Score
Information about the company (history/business values and objectives/projects)	789
Traditional business information availability (service hours, physical shop locations, international presence)	923
Existence of a third-party advertising support	560
Possibility of offering any affiliate / associate program	769
Possibility to create an online profile	881
Existence of tools to participate in electronic / virtual communities	643
Indication when a link leads to other websites than the company's	873
Information about the content of the other websites	868
Total	6306

Source: Own elaboration

Interactions was the least important dimension for consumers with a combined score of 6306. Operational information such as service hours, physical location and international presence were the most valued attributes. However, there is no attribute valued >1000 that is where the overall consumers attribute at least 4 or 5 on the Likert scale of importance Third party advertisements that are a major source of interactions between consumers and websites was the attribute with the least importance for consumers.

4.2 Qualitative Analysis

4.2.1 Offer by Continente Online

Figure 17 Analysis to the offer by Continente Online



Source: Own elaboration

4.2.1.1 Shopping Experience

Shopping experience is the least developed dimension offered by Continente Online, providing only five of the seven attributes analyzed: the products image, the virtual store guide to improve shoppers experience, the clear communication of prices and other costs associated to the service, special promotional activities just for online purchases and detailed information for each product. On this e-supermarket, customers can find for each product a page with the full description of the products' ingredients as well as the specific nutritional label. Regarding promotional activities tailored for the online channel, this player is not very aggressive. However, it does not miss cross selling campaigns and special promotions for consumer's online shopping. Furthermore, Continente is not enhancing customer's digital experience, missing short animations prior the opening of the e-supermarket page and it does not actively communicate any specific award or recognition given to their virtual shop.

4.2.1.2 Accessibility

Continente provides a strong accessibility pack with the means to facilitate customers' online purchase via search engine tools, menus and frequently asked questions (FAQ) that increase customer's ease of use. Continente has also adopted a model focused on convenience where flexibility is the key. This player allows flexible delivery slots at home or take away from physical shops in less than 24h. Moreover, this e-retailer is able to adapt multiple payment methodologies like Paypal, ATM or credit card. Nevertheless, it still needs to improve in some areas. Continente Online does not communicate delivery costs easily and it has standardized a minimum fee of 4,50€ per delivery that is variable depending on location, schedule and day. Apart from the effort that is being made through a recent "delivery zero" program where clients pay a pack of 100 deliveries with no extra fees in certain geographical areas, Continente online communicates delivery costs only after a finished basket. Consequently, to know the full expense of the order, clients need firstly to be affiliated and undergo a process of selecting the desired products.

4.2.1.3 Security

Regarding Security, this is also one of the most solid dimensions offered by Continente Online. The combination of attributes that comprises security can be divided into two major groups, data protection and order protection. On the data protection side, Continente protects consumer data with clear communication when data is being processed by third parties and a full disclosure of entities responsible for the process. On the order protection side, Continente supplies all the information and means for consumers to exercise their rights, shares a permanent address and makes sure that each order is followed by a confirmation that customers can download and print.

4.2.1.4 Customer Service

Continente has a strong physical presence in Portugal and it is leveraging resources to improve customer service online. For this purpose, Continente shares a direct line of contacts to support customers and has specific forums to receive customers complaints. In the complaints page, customers have access to previous complaints by other customers as well as statistical information regarding the number of items that are waiting for an answer, being administrated or completed. Moreover, visioning constant improvement through customers' feedback, Continente developed a system for managing complaints and suggestions, which is certified in accordance to the NP EN 10002:2007 that is subject to a thorough process throughout anonymous client audits. Within this process, inspectors from the institution that certify the company go through the entire purchasing process acting as undercover clients to test how the company reacts.

At any given time, prior to the stage where the order is confirmed and processed, customers can have access to their delivery history and proceed to its cancelation or modification. At this stage, changes can be made on delivery schedules and products can be added or removed to make the experience even more convenient.

Among the 8 attributes validated on customer service, Continente online is not able to confirm whether it has the products in stock for home delivery or to take away at the time when customers place the orders. To overcome it, the e-supermarket has a

replacement system that automatically replaces an unavailable product by a similar alternative, charging according to the listing price of the new article.

Overall, from the 8 attributes that are most valued by customers regarding customer service, Continente online offers 7, which reveals a strong strategic positioning and maturity of the player.

4.2.1.5 Interactions

Interaction is the strongest dimension provided by Continente online offering 8 out of the 8 attributes analyzed. The player interacts with clients by sharing all the information about its values, vision and mission that connects consumers. Another form of interaction used by Continente online is the availability of traditional information that approaches the traditional business model like service hours and physical locations.

To interact with clients, Continente uses its website to facilitate connections between clients and brands. A great example is the forum dedicated to Purina, a pet care brand that actively uses the online store to advise customers on how to better care about their pets and to communicate its own brands.

Besides the interactions through third parties, Continente also supply tools to flourish its own communities like “Missão Continente” for participants interested on social issues, “Chef Continente” that is a forum where consumers access and share receipts, “Enólogo” that connects wine enthusiasts and special events always communicated through the online store or newsletter available for subscribers.

Another attribute valued by customers on interactions is the respect that online stores must have while finding ways to interact with customers. Accordingly, it is fundamental that when there is a link to external website pages, customers are informed not only about the link to third parties but also about its content. Continente online follows the rule actively offering all the attributes valued by consumers online.

4.2.2 Offer by Jumbo Online

Figure 18 Analysis to the offer by Jumbo Online



Source: Own elaboration

4.2.2.1 Shopping Experience

To improve shopping experience, Jumbo online supplies a virtual visit that combines 6 crucial steps to enhance consumer's shopping experience on how to register online, place an order, receive goods, reduce time on orders, activate promotions and replace articles.

Jumbo developed a standardized page to provide information about each product available on the catalogue. Within this page, using as an example the food category, consumers are able to see the products image zoomed through an intuitive tool and all the relevant characteristics such as price, conservation, nutritional information, ingredients and the name and address of the producer.

Regarding incentives for consumers to buy online, the company does not provide a strong promotional activity tailored for the online channel, however, it supplies a free of charge first delivery. Consequently, consumers have the incentive to become affiliated to the e-supermarket and test the full process with no extra expense.

As Continente, Jumbo is also missing the opportunity to increase shoppers experience by not presenting a smart animation before the opening of the website page and the communication of awards for website quality features. Consequently, the e-supermarket misses two of the 7 attributes that combine the shopping experience dimension.

4.2.2.2 Accessibility

Accessibility is one of the strongest dimensions on Jumbo's offer online with 7 out of the 8 available attributes. Jumbo supplies 3 different options to make products more accessible for customers, two navigation indexes filtering all categories and a search engine where customers can search products through keywords. Additionally, to increase ease of use, Jumbo prepared a complete range of FAQ clarifying frequent doubts highlighted by consumers.

Regarding delivery services, Jumbo has a take away or home delivery option to suit demand. Additionally, there are 23 physical shops with a drive picking service to increase convenience and efficiency. To activate the service, consumers select the delivery point after placing the first product on the shopping cart. The system will then send a message to inform that the order is ready for a pick up at the most suited schedule for the consumer. All delivery costs are appropriately communicated in advance according to the delivery date and preference.

Jumbo accepts a broad range of payment methodologies both online and offline. For online payments, consumers might pay through credit card, "Jumbo card" and MB Way. For offline payments, clients have the possibility to pay through debit card on a driver's mobile terminal at the delivery.

Within all the attributes analyzed, Jumbo misses a clear communication regarding the service geographical capacity. Despite the delimitation on the physical shops equipped with the drive pickup service, highlighted on the website, there is no information about the potential coverage for home deliveries.

4.2.2.3 Security

For security purposes, Jumbo has full disclosure on data that is processed and the way it is protected. To guarantee personal data safety, Jumbo uses an encryption method called SSL with a certificate for digital safety of 128 Bits and the personal data is not transmitted to any third party. In case of any problem regarding personal data security or other disagreement, Jumbo has a document available for "free resolution" with clear instructions of what consumers need to exercise their rights. Alternatively, consumers can

also find on the e-supermarket all the means and instructions to solve problems through litigations.

Regarding the operational protection, Jumbo sends a confirmation, on a printable format, for all the placed orders. Additionally, after placing an order, consumers will be able to track their purchase through six different stages: order preparation; order prepared; goods sent to expedition, in transport, delivery closed and delivery canceled. In each stage, customers have a clear set of instructions on the website that highlight what it is still possible to manage, what is confirmed and how long it will take for delivery.

Similarly to Continente, Jumbo is missing a clear approach to the imminent risk of the current widespread use of the internet by minors. On the online offer, there is no trace of a clear protection for the use of the e-supermarket by minors.

4.2.2.4 Customer Service

Customer service is a very robust offer by Jumbo with 7 out of the 8 attributes being accounted on the e-supermarket. However, there is still the limitation of not having information about products availability at the time of the purchase. To minimize the impact of this limitation, Jumbo supply an automatic product substitution service that, if accepted by customers, will substitute a non-available product for a similar alternative. Whenever the service is activated, the company sends an email with the products being replaced and its substitutes that will be delivered on a separate transparent bag. The substitute product can always be blocked by customers and refunded by the driver whenever possible.

Apart from this limitation, Jumbo has different available contact lines to increase the quality and efficiency of their customer service. It also offers a dedicated line for customers support to deal directly to any issue that might occur during the purchasing process and after sales service. Whenever there is a need to adjust or cancel an order, it is still possible, on posterior stages, to change delivery schedules but not the products purchased on the order.

4.2.2.5 Interactions

Interaction is the strongest dimension analyzed on Jumbo’s offer online, providing all the 8 available attributes. Jumbo interacts firstly by sharing its values and vision with the society. It is a way to start connecting and targeting the customer base that best fits the business ideals. Then it transmits confidence on the online offer by giving information about the traditional operations like service hours or the shops location. On a more commercial approach, the e-supermarket starts interacting with customers through advertisement support and the affiliation program where customers join the Jumbo’s online community and might subscribe their newsletter embodied with ways to captivate customers’ attention. Customers can also design their online profile and be part of programs like “Jumbo Vida Saudável” that serves as a teaching blog with healthy receipts, workshops and activities to connect the online community.

4.2.3 Offer by El Corte Ingles Online

Figure 19 Analysis to the offer by El Corte Ingles Online



Source: Own elaboration

4.2.3.1 Shopping Experience

El Corte Ingles has one of the lowest scores on shopping experience with 5 out of the 7 available attributes. To increase shopping experience, this player developed a virtual website visit, where customers have access to instructions on how to create a profile, place an order, make a payment, save time and have access to all important details prior to the purchasing process.

Within the products page, consumers find an image of each article that can be zoomed through a tool available on the website. Additionally, the e-supermarket supplies a complete range of information crucial for consumers' purchase decision like the product's components, specific characteristics and nutritional information.

Regarding online incentives that increase consumers shopping experience, El Corte Ingles has few initiatives. Recent examples are the offer of a product on purchases over 50€ or free delivery charges plus a product on orders over 100€. This player also communicates free deliver charges on a range of more than 100 products especially for online purchases.

On a less positive note, likewise Continente and Jumbo, El Corte Ingles is missing the communication of quality certificates recognizing the web store experience or the welcoming animations that serve as the first experience between an online shopper and the website.

4.2.3.2 Accessibility

To increase ease of use, consumers have access to two distinct searching options. On the one side, El Corte Ingles supplies an internal search engine where consumers can search for brands or specific products by typing names, brands and core characteristics. On the other side, the e-supermarket has 11 pre-defined categories that consumers can use for a quicker navigation process. Category menus are also used by players to bring the online experience closer to the traditional brick and mortar retailers. Additionally, the company created a tool where customers can create shopping lists. For example, in regular orders, with products bought weekly or monthly, customers do not need to repeat the process several times by selecting pre-defined lists.

Regarding accessibility, in providing more convenience for consumers, El Corte Ingles offers both home delivery and store pick up (Click&Car) services. On the click&car service, customers can purchase the product online with no extra costs and collect their orders at their most convenient time. To make the service more accessible and reduce queues, El Corte Ingles has dedicated parking spaces for customers to pick up their orders.

On the e-supermarket website, customers have access to all details regarding delivery schedules and costs both for home delivery and click&car. Concerning home delivery timetables, online consumers select the available slots that most suit their agendas. Additionally, El Corte Ingles can deliver orders on the same day if customers place their purchase 3 hours before the selected delivery slot. Home deliveries can be chosen from 9h to 23h and are free of charge for purchases over 140€ or 100€ if paid with the company's credit card. For orders below the amount established, El Corte Ingles charges a fixed fee of 6,90€ per delivery.

For greater accessibility, online consumers can pay through credit card, debit card, Paypal, El Corte Ingles credit card or in cash at the delivery. The availability of different payment types offers not only the flexibility needed to adapt to customer needs but also the increase in the service's credibility and safety.

In accordance with Jumbo online, El Corte Ingles does not mention geographical limitations of its home delivery service. The company shares information about dedicated shops with the click&car service, but there is no information about any geographical limitation regarding the delivery service. To confirm the service, customers need to go through the shopping process to try and finalize the order.

4.2.3.3 Security

Regarding the service operational security, El Corte Ingles provides a strong offer by having a permanent address on the website and by sending an order confirmation on a printable format to every customer. However, El Corte Ingles is still not providing the possibility to track orders while they are being prepared and shipped.

Visioning data protection, the company shares a detailed document with all the relevant information related to the way data is protected, the person responsible to process data, entities that have access to data collected, how data is collected and for how long the company keeps personal details. Moreover, there is information about how the consumer can exercise its rights either by itself, using the company's protocols, or by extrajudicial entities. According to the data protection document, the applications, promotions and products are not intended for minors and it is not advised for minors to

register on the platform. However, if by any mistake the team finds personal data from a minor, it will be deleted.

4.2.3.4 Customer Service

Customer service is the dimension with a higher margin for improvement on the online offer by El Corte Ingles. With 6 out of the 8 attributes available on the e-supermarket offer, the company is missing information about the availability of products at the time of purchase and do not allow changing orders after confirmation. The company allows customers to give back products in case there is a quality issue or defect and has four distinct protocols for product replacement. However, there is no in time information about products that are not in stock for delivery. For product replacement, customers can either set an automatic substitution for products with similar characteristics, similar brand but a different format, receive a confirmation call or decide for no substitution.

To improve customer service, the company shares both an email and mobile number that facilitates contact with consumers. Furthermore, every document sent with the order confirmation comes with an additional contact to deal directly with any issue regarding the service. For order cancelation, customers are advised to contact the general support number available on the help menu. Once there is no possibility to change orders, in case the consumers decide to change it, they need to cancel the order placed and start a new process.

4.2.3.5 Interactions

The first line of interaction between the company and consumers is the traditional business information. Apart from the offer online, the company has physical shops and share information about its locations, service hours and international presence. Regarding objectives, values and vision, there is information generating synergies between consumers and the company on a separate link to a different page.

Regarding third party communication, through the company's e-supermarket, there is not an extensive partnership between selected companies and the online shop.

Examples are the dedicated space from Nestle on the baby food department and discounts on petrol stations from Repsol. The company also has an online profile registration process that allows customers to have access to all the campaigns online, to subscribe a newsletter and to participate on events. Within digital communities, the company does not offer a wide variety of interaction. However, it has several thematic pages for wine enthusiasts, healthy nutrition and gourmet experiences. Besides the efforts for increasing the business interaction with customers, there is no affiliation process that customers can join to be part of a digital community.

Whenever the e-supermarket supplies a link to external websites, El Corte Ingles informs customers about that, on the website, giving generic information about its content. Once the business is connected to several brands and services, these attributes are even more relevant than for the e-retailers that only have supermarket as their core business.

4.2.4 Offer by Intermarché Online

Figure 20 Analysis to the offer by Intermarché Online



Source: Own elaboration

4.2.4.1 Shopping Experience

Intermarché gives the least importance to Shopping experience, offering 3 out of the 7 online available attributes. The company is not actively increasing shopping experience by missing an animated introduction to welcome customers. Instead, the company occasionally blocks the e-supermarket webpage with an advertisement

communicating a special promotion. Intermarché has also the opportunity to actively participate on events to receive awards for the website that can be further communicated to attract customers.

On the other side, to increase consumers shopping experience, the company created a strong virtual visit, where customers find access to information on how to create an account, how to place the first order and tips on how to save time by using the tools available. Intermarché is also communicating properly prices and taxes with images for each article. Though, information per article is not as consistent as the other e-supermarkets, in each of the products' pages the company displays a set of similar products to allow a direct comparison. Completed products forms have detailed ingredients, conservation requirements, legal information and all nutritional composition. However, the e-supermarket has articles with parts of the information missing and in some cases with no nutritional table.

Occasionally, Intermarché has incentives that attract consumers to the online channel. For instance, the company was offering coupons of 27€ to spend online for one purchase over 100€ a week on traditional shops. Despite sporadic campaigns, there is no special discount on products that are purchased online.

4.2.4.2 Accessibility

To increase customers accessibility, Intermarché offers two distinct ways to search for products, a search engine and index menus. Within the search engine, customer can browse, through keywords, product characteristics or brands. For more traditional users used to browse supermarkets through categories, there are 14 categories available to guide the shopping experience.

Since the company uses its physical shops to support online operations, clients select the nearest shop to make their online shopping. In this way, Intermarché not only establishes its operational boundaries but also stimulates a closer relationship with clients. Moreover, the company turns its online channel more accessible by having three different delivery models: home delivery, store picking and drive through. Within the first two, consumers will either wait for the products at a selected schedule for a home delivery or

pick up on a store reception at their most convenient time. On the drive through service, customers park their car on a dedicated parking spot and wait for the company's staff to load the car.

Intermarché is transparent by charging a fixed delivery fee for home deliveries. The minimum accepted order is 30€ and the cost is 5€ per delivery. Consumers have a prior delivery schedule with all available slots, however, deliveries are only confirmed after finishing the shopping process. To guide consumers through the purchasing stages, the company offers a full set of frequently asked questions that customers can easily access.

On a less positive note are scarce payment services and the lack of instructions to pay. As evidenced on the FAQ menu, payment services are not standardized and vary from shop to shop. Also, Intermarché accepts ATM payments or credit cards. However, there is still missing an online payment method for greater convenience.

4.2.4.3 Security

Security is the company's least developed dimension with 4 out of the 9 attributes available on the online offer. Intermarché shares a physical address, informs about data collected and sends an order confirmation in printable format. However, some attributes should be improved.

Intermarché, is mainly missing attention to data protection transparency with consumers. Firstly, it is not sharing clearly an internal or external mechanism for customers to exercise their rights. Secondly, the company is not sharing, in an accessible format, information about the person responsible for processing personal data, nor if data is transferred to third parties and the reasons for that, nor it gives legal information about the use of the service by minors.

Within the operational side, Intermarché is also missing to have a tool for order tracking. Customers undergo the shopping process and receive the order confirmation, but they will only be sure about the reception of the products on home deliveries when the driver arrives.

4.2.4.4 Customer Service

Intermarché's customer service online has also room to improve with 5 out of the 8 available attributes. On the positive side, the company shares an email and a direct telephone number to be closer to consumers. Additionally, the company has developed a dedicated place to receive customers' complaints and a contact line for after sales service anchored to the shop used to make the order. Consumers will find these contacts and all the operational information required on the shop's presentation page. Within the same page, Intermarché also informs about the closest extrajudicial resources in place to increase customer service.

Besides giving information about how to cancel orders in case there is some mistake, there are no clear instructions on how far a customer can make a change on its order. Moreover, the company is missing to have a tailored after sales service for the online channel and does not share information about products availability at the time of the purchase.

4.2.4.5 Interactions

Interaction is the strongest dimension for the company with 6 out of the 8 possible validated attributes. This fact is due not only to the effort that Intermarché is making to communicate the business values, objectives and vision, but also to the approach to its traditional retail stores by sharing information like business hours and physical shop location for each operating unit.

Intermarché shares the opportunity for customers to create an online profile just with their relevant information and gives them the chance to have access to some digital initiatives, although not to participate in them. Using as an example the space for recommended receipts, consumers can choose a menu for the whole week with different dishes every day, and with a simple click it builds an instant order for all the ingredients required for the menu.

Regarding the way the business interacts with customers, Intermarché is also keen on giving information about links that might lead to external websites and the contents of these websites. Information about this process can be found not only within the e-

supermarket main pages, but also on the legal advises page accessed on the bottom of any of the webpages.

4.3 Qualitative & Quantitative Analysis

Results regarding the importance given by consumers to the 5 dimensions are represented on the web-char that follows:

Figure 21 Analysis to demand for online channels

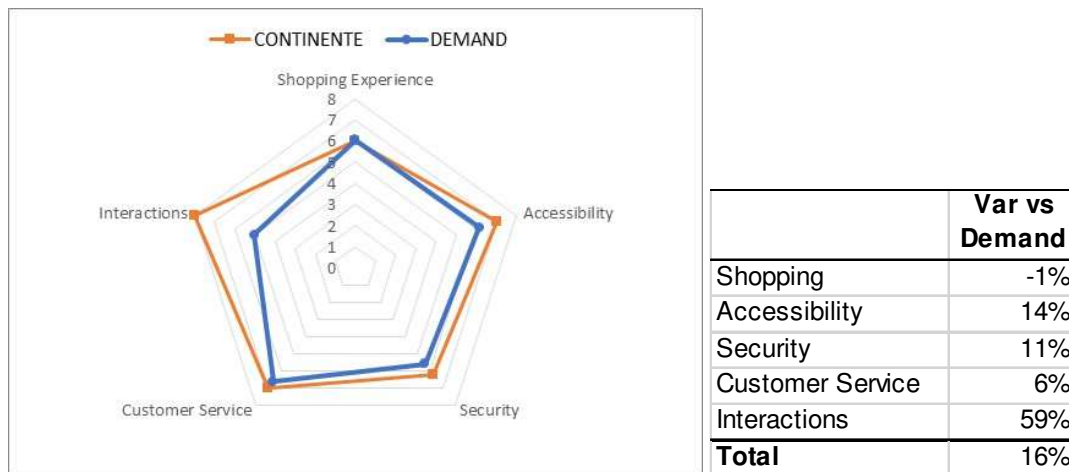


Source: Own elaboration

Figure 21 represents exactly the data gathered from the sample which will be used, on the section that follows, to analyze deviations from the businesses strategic positioning and the importance given by customers to each dimension on online channels.

4.3.1 Continente vs Demand

Figure 22 Comparison between demand and supply from Continente online



Source: Own elaboration

As demonstrated in figure 22 Continente exceeds demand expectations in terms of accessibility, security, customer service and interactions. The company greatly exceeds demand needs in terms of interactions (+59%) between consumers and their digital offer mainly due to the less importance given by consumers at this stage. Still providing a very competitive offer, but more balanced with what consumers are valuing, is accessibility (+14%), security (+11%) and customer service (+6%). Regarding shopping experience, the company falls slightly below (-1%) to what consumers are looking online. Overall, Continente is exceeding customers’ expectations for the 5 dimensions.

4.3.2 Jumbo vs Demand

Figure 23 Comparison between demand and supply from Jumbo online



Source: Own elaboration

By analyzing figure 23, Jumbo is surpassing customer expectations on their offer online. Contributing for the positive performance are attributes available to improve accessibility (+14%), security (+11%) and interactions (+59%). With room to improve, the company is not as strategically positioned in terms of shopping experience (-1%) and customer service (-10%) as what consumers value online. Once again, the company has a strong offer concerning interactions that is not valued accordingly by consumers that are more focused on the other 4 dimensions.

4.3.3 El Corte Ingles vs Demand

Figure 24 Comparison between demand and supply from El Corte Ingles online



Source: Own elaboration

Focusing on figure 24, El Corte Ingles is aligned with consumer expectations despite the lack of importance given to shopping experience (-1%), accessibility (-3%) and customer service (-10%). The company is exceeding what consumers value online in terms of security (+27%) and interactions (+19%). The strongest deviation between demand and the online offer by El Corte Ingles is positive and regards security attributes.

4.3.4 Intermarché vs Demand

Figure 25 Comparison between demand and supply from Intermarché online



Source: Own elaboration

MATCHING PORTUGUESE RETAIL BUSINESSES TO ONLINE CONSUMERS

As depicted on figure 25, Intermarché does not meet consumers expectations in most of the dimensions analyzed. The company is not positioned as expected in terms of shopping experience (-50%), accessibility (-3%), security (-37%), and customer service (-25%), only exceeding in what consumers value online in terms of interactions (+19%). With a greater room for improvement is the shopping experience dimension that is not a strategic dimension for the player, but it is strongly valued by consumers.

5. Conclusions

E-commerce is clearly a great opportunity for businesses to reinvent their operations and broaden markets. Its diffusion, not only geographically but also to all types of industries in the broadness sense is being deeply studied by academics and practitioners. However, it is a new channel with such a transformational capacity that there is not a structural flow on the studies already developed. Consequently, there are industries and countries way more developed than others and the information is disperse. A great example is found on the development of e-retailing that has been studied through different approaches but with no special incidence on the e-grocery industry. Moreover, e-retailing is still an area with great room for development in Portugal. Indeed, according to Monteiro (2016), online sales in Portugal by the end of 2016 only weighted 5% of total retail sales. Additionally, e-grocery shopping is even less developed, which according to the European Supermarket Magazine (2017), only 0,9% of Portuguese consumers have purchased online groceries in 2017.

As a contribution for the development and understanding of e-grocery shopping in Portugal, this research addresses the way traditional retailers position themselves on online channels and what customers value online. Based on a thorough literature review, the analysis was centered on 41 attributes created to evaluate the offer of online supermarkets in terms of accessibility, customer service, interactions, security and shopping experience.

Through a quantitative analysis, it was possible to conclude that of the 93% of Portuguese consumers that have made at least a purchase online, about 86% visited an e-supermarket. From the 86% that visited e-supermarkets, about half made a purchase and more than 20% is actually making their purchases online weekly, monthly or twice a month. The Shopping frequency numbers of this study are a positive sign that the number of Portuguese online grocery shoppers is increasing and there is still much room to be explored by retailers on this channel. Online customers are valuing greatly the businesses transparency, ease of use and convenience. Firstly, online players need to clearly communicate prices, delivery costs and other costs associated to the purchase on their e-supermarket. Secondly, customers are valuing safety features like having the order confirmation on their possession on a printable format. Thirdly, customers value the ease

of use like having search engines to save time on finding products or menus to guide the shopping experience. Finally, convenience appears to be a key driver for online shoppers where payment methodologies, flexible delivery or pick up slots and reduced times between orders and deliveries are greatly valued.

Regarding the offer online, for the 4 greatest e-grocery retailers Continente, Jumbo, El Corte Ingles and Intermarché, it is possible to distinguish between 3 maturity stages. On the first stage there is a very mature offer by Continente and Jumbo with high standards on the offer in each of the 5 dimensions. The offer from these two players is very similar and it is stronger in terms of accessibility, customer service and interactions. On a second stage is El Corte Ingles, with an already mature offer but with greater focus in terms of security. On a third stage is Intermarché that has a more immature offer online with less attributes available for each dimension and a clear position to improve the business accessibility and interactions.

By comparing both supply and demand, it is clear that Continente is the most mature business operating online and greatly exceeds customer expectations for 4 dimensions, except for shopping experience that is flat compared to shopper's expectations. Jumbo also has a very competitive offer and overall exceeds customers' expectation. However, with regard to shopping experience and customer service, the business is not meeting consumer expectations yet. El Corte Ingles is greatly exceeding shopper's expectations in terms of security and interactions, however, it is still missing to meet customer demands in terms of shopping experience, accessibility and customer service. Finally, Intermarché is not meeting customer expectations due to a lack of maturity regarding shopping experience, accessibility, security and customer service. With a great focus in terms of interactions, the business is greatly exceeding customers' expectations for this dimension.

As a main limitation for this research is the lack of one of the most important retailers in Portugal, Jeronimo Martins that has only launched its online offer during this study. For future research, it will be a great opportunity to analyze in more detail different e-grocery categories in Portugal and understand if online shopping is being developed evenly.

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MATCHING PORTUGUESE RETAIL BUSINESSES TO ONLINE CONSUMERS

Appendix

Appendix 1

Business Model	Variations	Examples	Description	Revenue Model
E-tailer	Virtual Merchant	Amazon	Online Version of retail store, where customers can shop at any hour of the day or night without leaving their home or office	Sales of goods
		iTunes		
		Bluefly		
	Bricks and Clicks	Walmart.com	Online distribution channel for a company that also has physical stores	Same
		Sears.com		
	Catalog Merchant	LLBean.com	Online Version of direct mail catalog	Same
Lillianvernon.com				
Manufacturer Direct	Dell.com	Manufacturer uses online channel to sell direct to customer	Same	
	Mattel.com			
	SonyStyle.com			
Community Provider		Facebook	Sites where individuals with particular interests, hobbies, common experiences, or social networks can come together and "meet" online	Advertising, Subscription, affiliate referral fees
		Linkedin		
		Twitter		
		Pinterest		
Content Provider		WSL.com	Information and entertainment providers such as newspapers, sports sites, and other online sources that offer customers up-to-date news and special interest how-to guidance and tips and/or information sales	Advertising, subscription fees, affiliate referral fees
		CBSSports.com		
		CNN.com		
		ESPN.com		
		Rhapsody.com		
Portal	Horizontal/General	Yahoo	Offers an integrated package of content, content-search, and social network services: news, e-mail, chat, music downloads, video streaming, calendars, etc. Seeks to be a user's home base	Advertising, subscription fees, transaction fees.
		AOL		
		MSN		
		Facebook		
	Vertical/Specialized (Vortal)	Sailnet	Offers services and products to specialized marketplace	Same
	Search		Google	Focuses primarily on offering search services
Bing				
Ask.com				
Transaction Broker		E*Trade	Processors of online sales transactions, such as stockbrokers and travel agents, that increase customer productivity by helping them get things done faster and more cheaply	Transaction fees
		Expedia		
		Mosnter		
		Travelocity		
		Hotels.com		
		Orbits		
Market Creator		eBay	Web-based businesses that use internet technology to create markets that bring buyers and sellers together	Transaction fees
		Etsy		
		Amazon		
		Priceline		
Service provider		VisaNow.com	Companies that make money by selling users a service, rather than a product	Sales of services
		Carbonite		
		RocketLawyer		

Source: Laudon and Traver (2014),

MATCHING PORTUGUESE RETAIL BUSINESSES TO ONLINE CONSUMERS

Appendix 2

Instrument	What is measures	Its limitations	How new instrument will overcome
WebQual view	Site information and interaction quality	Strictly considers customer's perspective on site quality	Retailer's point of and additional characteristics
EDI	Benefits of EDI	E-commerce retailing adds home-based shopping to EDI	e-commerce retailing rather than EDI
Shop.org	Many performance measures	Time needed to complete and lack of validation	Validated and quick completion
Balanced scorecard approach	Various economic indexes	Open-ended	Close-ended
General IT Benefits	Benefits of IT	Not specific to e-commerce	Specific to e-commerce

Source: Zhuang and Lederer (2003)

Appendix 3

1. Gender
Male
Female
2. Age
>18
19-35
36-55
>55
3. Place of Residence
Lisbon
Porto
In land
Litoral
4. Education
Primary
Secondary
Graduate
Masters
PhD
5. Occupation
Student
Unemployed
Employed
Retired
6. Have you ever made a purchase online
Yes
No
7. Have you ever visited and online supermarket: Continente, Jumbo, Intermarché or El Corte Ingles
Yes
No
8. Have you made a purchase
Yes
No
9. Do you usually make your purchases online
Yes
No
10. If yes, with what frequency
Once a week
Once every two weeks
Once a month

MATCHING PORTUGUESE RETAIL BUSINESSES TO ONLINE CONSUMERS

Question to Answer on a Scale from 1 to 5
Animated introduction before websites homepage
Virtual web-store visit
FAQ
Geographical limitations information
Information about costs to transport and deliver
Time between placing an order and have goods delivered
Tracking order
Delivery or take away
Flexible delivery schedules
Payment methodologies
Permanent address
In case there is no animated introduction, it is possible to skip
Is there collection/ processing of personal data
Are there specific mechanisms / means / contacts for the interested party to exercise their rights (access, rectification, cancellation, opposition)
Is there information about the recipients of the data collected
Is there information about the possibility / form / purpose of transferring the data to third parties
Are there information / instructions / special mechanisms regarding the use of the website by minors
Order confirmation
Possibility to print/download the order confirmation and delivery terms
Email
Telephone number
Indication of a place to complain
Information about a recognition prize awarded
After sale service information.
Information about order cancellation
Information about changing order
Product availability
Extrajudicial conflict resolution system (own or alternative)
Information about the company (history/business values and objectives/projects)
Traditional business information availability (service hours, physical shop locations, international presence)
Is there third party advertising support
Do you offer any affiliate / associate program
Possibility to create an online profile
Presentation of essential product characteristics
Are there tools to participate in electronic / virtual communities
Is there an indication to the user when a link leads to other websites than the company's
Is there information about the content of the other site
Price communication, taxes and other applicable costs
Product images
Is there any kind of special promotion for making the purchase (free trials, price reductions, gifts, contests, games and raffles, etc.
Is there a navigation index
Internal search engine