IMPACT OF ONLINE TRADE ON SUSTAINABILITY. THE CASE OF AMAZON

Author: Daniel Hernández Fernández

Tutor: Teresa Vallet Bellmunt

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0. INTRODUCTION

The final thesis presented here has a twofold objective. On the one hand, it aims to theoretically analyse the impact of e-commerce on sustainability. On the other hand, the aim is to apply this analysis to the world's largest retailer, Amazon. Solutions will be proposed to reduce Amazon's impact on sustainability, if necessary.

Sustainability poses a balance between the growth of the economy, the care and maintenance of the environment, and the well-being of society, but the increase in online commerce is disrupting the sustainability objectives set both in Spain and in Europe, and the existing purchasing trends of online consumers can negatively affect the sustainable development of the country. Therefore, the first objective of this study is to identify which decisions in the e-commerce purchasing process affect and obstruct the achievement of the sustainable development goals to which the European Union is committed. This is why, in the theoretical framework, different sub-objectives of the main objective are proposed:

1. Know what e-commerce is, how it works, and how it has evolved over time.
2. Knowing the phases and habits in e-commerce
3. To know what sustainability is, the sustainable development goals, and how they are met in Spain.
4.- What online shopping habits affect sustainability?

As online consumers we must be aware of the repercussions that our consumption habits can have, both positive and negative, as these acts have a direct influence on sustainability.

In order to achieve the first objective, the methodology to be used is the analysis of secondary sources, both academic and professional in the e-commerce sector, which will allow us to identify the theoretical framework of this work: what is e-commerce, sustainability and the interaction between these two concepts.

The second objective of this work, through a case study, is to find out how sustainable Amazon, the platform most used by Spaniards to make online purchases, is. The following sub-objectives arise from the second objective:

1. Analysis of Amazon; data for Spain, business model, its supply chain, management of online commerce and complaints and returns.

2. To understand how online and Amazon consumers' decisions affect sustainability, and whether they are willing to change their online shopping habits to be more sustainable.

3. Know what Amazon's e-commerce practices influence sustainability.

4. Propose targeted improvements to Amazon's practices.

To achieve the second objective, the methodology to be used will be twofold. On the one hand, the analysis of secondary sources, such as Amazon's sustainability reports and news about the impact of its actions on sustainability, will allow us to study Amazon's marketing method, in order to analyse whether its commercial practices are sustainable. On the other hand, primary sources will be used, by conducting a survey of users who buy through Amazon, to obtain a reference on whether these habits really affect sustainability and whether they can be modified in search of more sustainable purchases.

Finally, proposals will be made to improve Amazon's e-commerce practices, if necessary, focusing these proposals with the intention of bringing the company closer to achieving more sustainable practices, and conclusions will be drawn from the study carried out.

I. THEORETICAL FRAMEWORK

1. E-COMMERCE

Before e-commerce revolutionised the traditional form of marketing, catalogue sales managed to standardise the sale of products without having to see, touch or try the product, managing to sell at a distance, in markets where traders had not previously imagined. eCommerce was born in 1960, thanks to a system called Electronic Data Interchange, a system with which companies could exchange commercial information and also carry out transactions between them (Rois, 2023).

E-commerce means the transfer of normal, commercial, governmental or personal transactions to computerised means via telecommunications networks, including a wide variety of activities (Somalo, 2017).

The data generated through the internet feeds eCommerce, which takes advantage of practices such as email marketing, marketing automation and audience segmentation.

1.1 Evolution of e-commerce

As mentioned above, electronic commerce was born in 1960 with the existence of Electronic Data Interchange, a system used by companies to carry out transactions among themselves and to exchange commercial information. With the passage of time, the ARPANET was launched in 1969 (the first network of connected computers), and this facilitated the arrival of the World Wide Web thanks to Tim Berners-Lee in 1989, which generated a drastic change in buying and selling relationships and in the ways of communicating and interacting with the environment and with the different stakeholders (Rois, 2023).

In 1979, thanks to Michael Aldrich, it was possible to create an online exchange system between companies and individuals, which would lead to the creation of eCommerce, by connecting a modified television connected to a computer processing transactions in real time via a conventional telephone line. This would lead to the first online purchase five years later, in 1984, by Jane Snowball, who selected the products through the television that gave her access to a list of products from Tesco supermarkets. (Rois, 2023).

Given the advances in transmission, processing and storage technologies, forms of presentation, ergonomics, availability, speed and reliability of information, more specifically with the development of the Internet, a wide range of possibilities were observed from the 1990s onwards, with special emphasis on communication. Some companies, having noticed the potential of this tool, claimed to use it to interact with their customers - at first, to disseminate information about their products, then to receive orders and, subsequently, to distribute products and services - until the advent of open e-commerce, which would even include reception and reverse logistics. (Ferreira Dos Santos et al, 2017).

In 1995, eBay and Amazon were created, although with different names than they are known today, and in 1995, e-commerce became a massive sales channel in which the first third party payment systems using credit cards began to be tested. (Rois, 2023).

In Spain in 1995, the Casa del Libro online shop was created, and Barrabes.com was born, a company that commercialised mountain and mountaineering products online, which meant the beginning of the growth of e-commerce in Spain. (Rois, 2023).

The openness and global nature of the Internet, its ability to connect an ever-increasing number of users, and its dedication to providing intuitive interfaces that provide access to

vast amounts of information made the Internet's success inevitable (Ferreira Dos Santos et al, 2017).

E-commerce is currently in a very consolidated phase, taking into account the constant development of information technologies, the ease of access to the Internet and the profile of this new consumer. The demands of this new consumer mean that companies are developing in order to remain competitive in the market in which they operate. To do so, they seek to follow market trends, the current one being the search for convenience through e-commerce (Ferreira Dos Santos et al, 2017).

1.1.1 Evolution in Spain

In Spain, in reference to 2022, 94.5% of Spaniards have access to the Internet, which means that 33.5 million people in Spain have the option of buying through this channel (Instituto Nacional de Estadística, 2022).

E-commerce has been growing steadily since the advent of the internet, until the Covid-19 crisis, when its growth was boosted to a large extent by the health policies put in place to curb the pandemic. In 2020, internet sales grew by 27.6% worldwide and, according to eMarketer, almost 150 million people bought online for the first time. In Spain, e-commerce in 2020 grew by 5.8% compared to the previous year, reaching a turnover of 51,600 million euros and 1,038 million transactions, according to data from the CNMC. (Gonzalez, 2022)

According to data from the national commission for markets and competition (CNMC), e-commerce in Spain 2022, in the first quarter of the year exceeded the data obtained with respect to the previous year, with 25.3% more, and with a turnover of 15,627 million euros. In the second quarter of 2022, e-commerce exceeded with 33.1% the turnover in e-commerce in the second quarter of 2021, being 18,190 million euros, making the variation the largest turnover since 2017. (CNMC, 2022)

Graph 1: Quarterly development of e-commerce turnover and year-on-year change (EUR million and percentage)

Source: CNMC.es (2022)

With reference to the above data, the companies that will benefit most from e-commerce in the second half of 2022 are travel agencies and tour operators, with revenues of 10.2% of total turnover, followed by air transport companies with 6.6% and textile companies with 6.5%. (CNMC, 2022).

Graph 2: Top ten industries with the highest percentage of e-commerce turnover (Q2 2022 data, Spain)
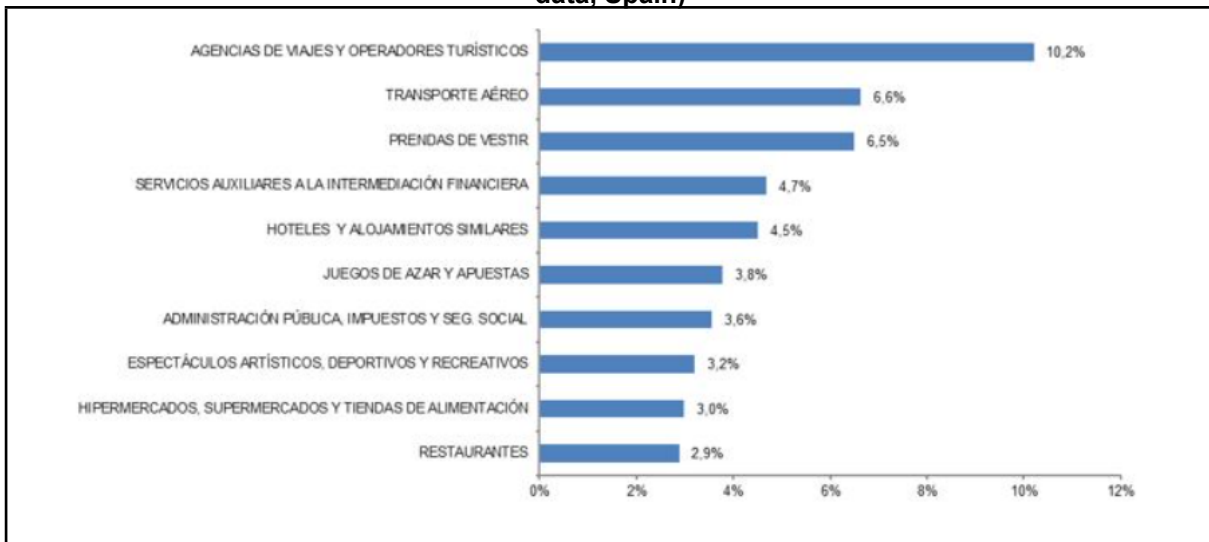
Source: CNMC.es (2022)

In the first quarter of 2022, the products that benefited most from this type of trade were clothing, probably due to the sales campaign, with revenues of 7.3% of total turnover, followed by travel agencies and tour operators, with 7%. (CNMC, 2022).

Graph 3: The ten branches of activity with the highest percentage of e-commerce turnover (Data Q1 2022, Spain)
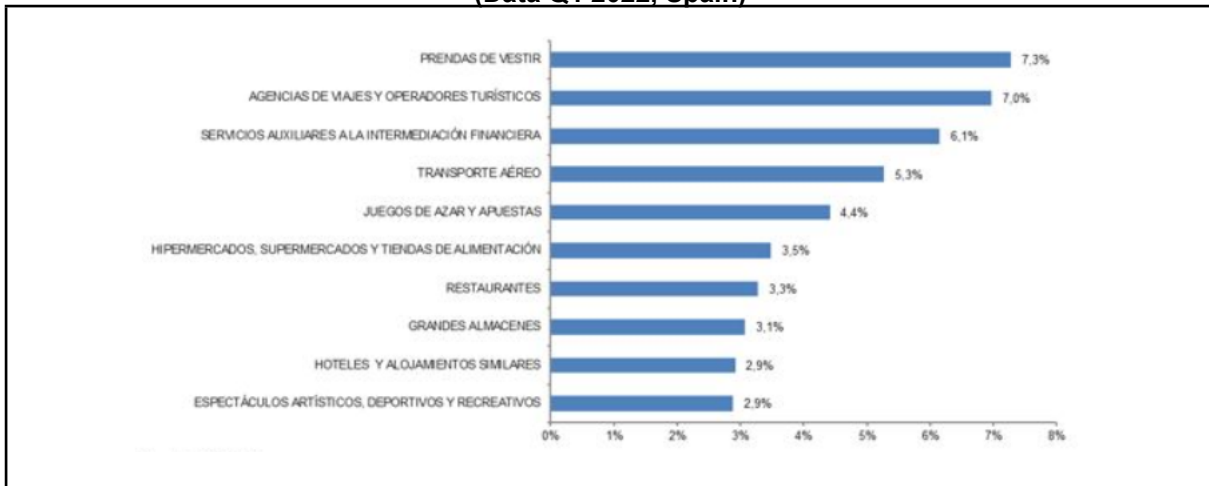
Source: CNMC.es (2022)

In Spain, purchases made through e-commerce follow a constant evolution, reaching the second quarter of 2022 (date of the latest data obtained) to be the quarter with the highest number of transactions within Spain in the history of national online commerce, with a total of 105,503,099 transactions within Spain. As can be seen in graph 4, from the third quarter of 2018 there is a large increase in transactions at national level, and thanks to the Covid-19 pandemic, from the second quarter of 2020, rising from 65,538,252 transactions to 80,504,947 transactions in the third quarter of 2020. From that period onwards, transactions no longer decrease from 80 million, but continue to grow until reaching the record number of transactions achieved in the second quarter of 2022 (CNMC, 2022).

Graph 4: Quarterly evolution of e-commerce transactions within Spain
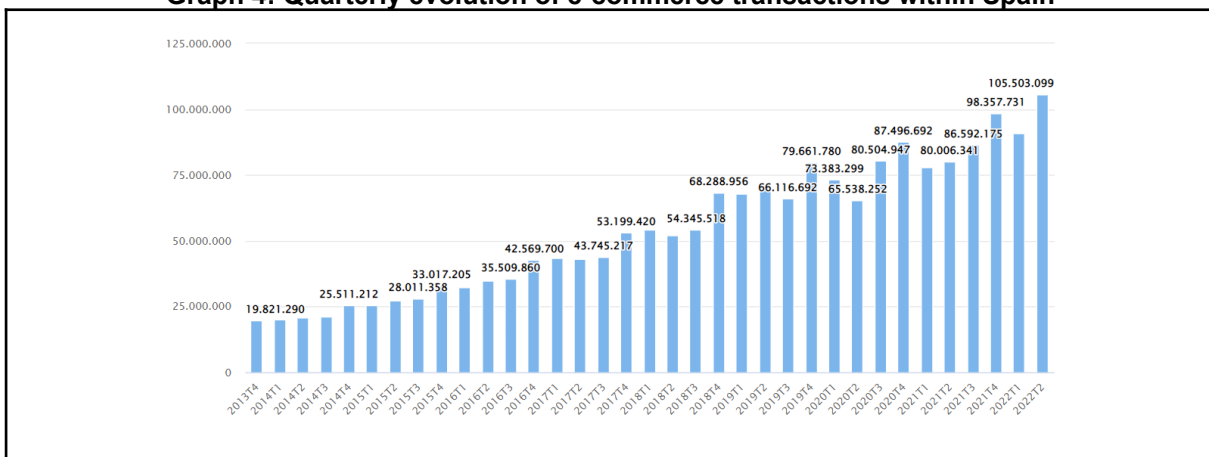
Source: CNMC.es (2022)

1.2 Types of e-commerce

To understand the types of e-commerce that exist, it is necessary to look at who is the buyer, and who is the seller. Knowing the buyer and the seller, six types of e-commerce can be identified (Ferreira Dos Santos et al, 2017).

1. Business to business (B2B). This type of e-commerce refers to commercial transactions of products or services between companies.

2. Business to consumer (B2C). A company sells its products or services to the end consumer, with the end customer visiting the company's website or other electronic means such as the company's own app to make a purchase.

   In 2022, the ongoing fear of the spread of Covid-19 among part of the population continued to increase e-commerce in Spain, especially for certain products and services. According to a survey conducted by Statista between 20 October and 8 November 2022, 78% of respondents said they had bought fashion-related products online. And so, this category topped the national rankings. Tickets, books, music and other leisure-related products and services ranked second with 77% and the travel category ranked third with 72% (Statista, 2022a).

Graph 5: Products purchased over the Internet by online consumers in Spain in 2022

Category	Percentage
Moda	78%
Ocio	77%
Viajes	72%
Calzado y complementos	71%
Salud y belleza	66%
Dispositivos móviles	63%
Alimentación	61%
Electrodomésticos/informática/electrónica de consumo	59%
Deportes (textil/equipamiento)	53%
Hogar	50%
Juguetes	50%
Gaming	44%
Formación	38%
Elementos de descanso	29%
Coches/accesorios para coches	27%
Productos para bebé	24%
Bicicletas/accesorios para bicis	19%
Motos/accesorios para motos	11%
Sistema de eficiencia energética	6%
Otros	13%

Porcentaje de consumidores online

Source: Statista (2022a)

3. Consumer to consumer (C2C). In this case, two end consumers interact as buyer and seller through electronic means to carry out a commercial transaction.

4. Government to government (G2G). This type of e-commerce refers to transactions between public administrations and their departments.

5. Business to government (B2G). In this type of e-commerce, it is the company that acts as a seller of its products or services to the public administration.

6. Government to business or consumer (G2B/C). Finally, the public administration also offers its services online so that citizens and businesses can access their administrative procedures.

1.3 The e-commerce supply chain

The supply chain is the integration of activities that take place in a network of assets that provide raw materials, transform them into components and then into finished products, and deliver the products to consumers through a distribution system. The goal of the supply chain is to achieve maximum efficiency in the process of sourcing, producing, distributing and consuming products regardless of which company performs which specific task (López et al., 2017).

According to Risberg (2023), the following phases in the supply chain are divided in the e-commerce.

- Internal supply and distribution.

Internal supply and distribution ensures the effective availability of the product, or its supply on demand, when the consumer places an order. A key decision is whether or not to have the product available in stock (internally or available from the supplier) when the consumer places the order.

E-commerce disconnects the pick-up location from the order location to a greater extent than physical commerce. The retailer can let the supplier pick up the products, either by shipping them directly to the consumer, or by letting the supplier ship them through a location chosen by the retailer. Letting the supplier store and hold the product can be beneficial when the retailer has financial or space constraints. The dual approach, consuming internal inventory first and shipping it from the supplier when the retailer runs out of stock, is the most beneficial approach for the retailer.

Another important decision of the retailer is which locations the supplier should replenish. This is closely related to the pick-up location and assortment optimization. The supplier can replenish central warehouses, stand-alone e-fulfilment centres or shops. Inbound transport from the supplier to the retailer's preferred location can be done with trucks, or with other road vehicles. Retailers can choose to use their own trucks, outsource the transport or let the supplier take care of the transport. Internal distribution between retailer locations can be static, following a predefined flow, or dynamic, allowing reallocation of products between internal locations such as shops.

- Consumer direction in the last mile.

Cross-channel consumer steering can improve the financial performance of the omni-channel retailer. The logistical aspects such as cross-channel inventory information, consumer delivery fees, delivery speed differentiation, and consumer delivery and return fees can be used to guide consumers' channel choices.

There is a risk that retailers will invest in the "wrong" capacities in the long run if the direction of the consumer in the last mile is not taken into account when designing the logistics network: the results can be over- or under-capacity in certain locations. It also highlights the importance of also providing online visibility of shop inventory when competing in an omni-channel environment. In other words, retailers can choose to display online inventory levels by shop or only online channel availability. Omni-channel retailers compete with e-retailers by offering faster free in-store deliveries. Retailers may also choose to offer free delivery above a certain order value. Consumers are willing to pick up the order themselves or wait if delivery is free. The retailer can influence the consumer's choice of courier service by providing information about the courier service on the retailer's website. Return rates also influence the consumer's choice of delivery.

- Back-end compliance in the last mile

A key retailer decision that influences its financial performance is the type of location (such as central warehouse, independent e-fulfilment centre, shop or supplier) that an e-commerce retailer chooses to collect and manage online orders.

Online in-store fulfilment achieves higher performance than in-store fulfilment. Therefore, the retailer must decide whether to work with a symmetrical assortment, which means that all products are available in all locations, or with an asymmetrical assortment that keeps the longest queue of products in central locations or at suppliers. An asymmetric assortment increases inventory turnover and could increase picking efficiency; the trade-off, however, could be slower deliveries. The retailer can choose to allocate orders statically to the same pick location each time, or allocate them dynamically; the latter option is superior in terms of product availability and resource utilisation, but requires appropriate processes and systems. Smart dynamic order allocation systems improve sustainability goals, such as reducing environmental impact, reducing economic cost and expanding customer coverage, compared to static order allocation. A retailer can opt for a manual, semi-automated or fully automated fulfilment operation. The level of central warehouse integration explains the degree of shop integration and online fulfilment in the central warehouse, both from an order fulfilment and inventory perspective.

A consumer's order may contain several items that are picked from different warehouses or different areas of a large distribution centre; the retailer has to decide how to split the order and whether to consolidate the consumer's order into a single delivery or send it in several partial shipments. The retailer can also choose to group orders delivered in the same geographic area before dispatching them; this allows for online distribution or faster courier deliveries at a lower cost. The final decision after designing the order fulfilment solution is whether to do the operation in-house or to outsource to courier companies.

- Last mile delivery

Retailers offer consumers a variety of delivery modes with different speeds and time slots. The last mile delivery experience influences the online shopping experience and consumer satisfaction. Retailers increase consumer satisfaction by offering consumers the option to select a preferred courier service. In general, last mile delivery is one of the most difficult and costly logistical aspects of e-commerce due to the rigidity of consumer service demands. Assisted home deliveries can be booked for a specific time slot or for a less well-defined time slot up to a whole day. Flexible delivery slots benefit both retailers and consumers: the consumer selects a combination of regular time slots and agrees to be informed shortly before delivery of the time slot to be used, and in return the retailer could offer the consumer a lower delivery fee.

The fulfilment location can serve a local, regional, national or even international area. Omni-channel retailers favour centralised distribution with pooled inventory and more efficient fulfilment when consumers will accept slower delivery times, and local distribution when shorter delivery times are required. A growing trend is to use shops with a smaller product assortment for quick deliveries of popular products. The retailer can reduce distribution costs by 44% by integrating the omni-channel transport system by sharing distribution vehicles between the shop and the online channel, rather than working with separate channel transport systems. The transport fleet can be fossil-fuelled or fossil-free electric vehicles, and autonomous or manned. Autonomous delivery vehicles (ADVs) and unmanned aerial vehicles (UAVs), such as drones, can be used in urban delivery due to high population density. ADVs and UAVs have the potential to reduce the transport cost of local distribution and line hauls, and also provide contactless distribution.

Figure 1: Supply chain phases in e-commerce
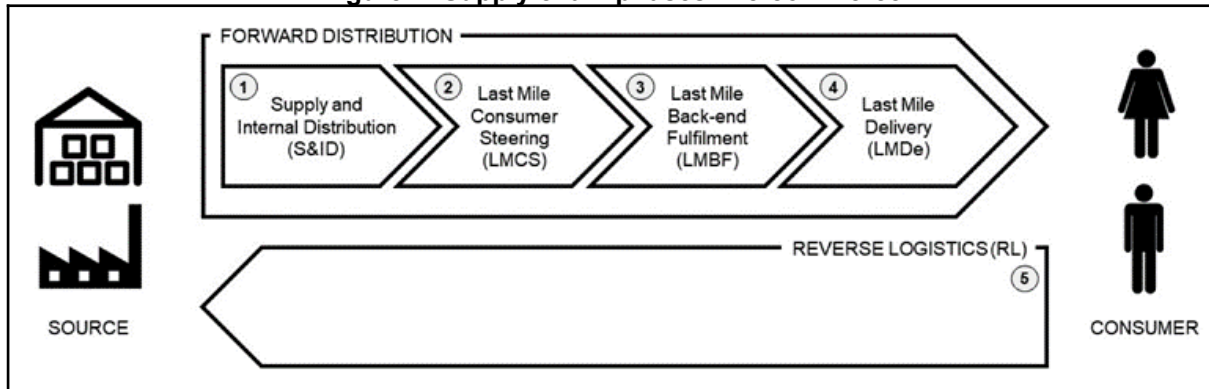
Source: Risberg (2023)

- Reverse logistics

Returns mode is one of the most important elements in an online retailer's fulfilment performance, and having a variety of returns options positively influences customer satisfaction. The returns process can create a competitive advantage for retailers and an efficiently managed returns process can reduce costs and environmental impact.

The retailer may choose to offer consumers several modes of return, such as home collection, return by post, return in-store or return to a solitary location, such as a courier office or parcel terminal. Each type of return may be free of charge or a return fee may be charged. The retailer decides whether the return should be handled in-store, at the central warehouse, at an independent electronic fulfilment centre, at a specialised returns centre or by the retailer. Specialised return centres are beneficial to the company when returns are handled at the final inventory location, as additional transportation is eliminated and the product is available more quickly as saleable inventory.

Another decision made by the retailer is whether the company should use local, national or international return handling locations. The reverse transport service from the consumer's chosen return location to the returns handling location can be provided by a national courier company, or by local courier companies with experience in the online retail sector. The retailer can choose whether or not to return the product to inventory; the alternatives may be to dispose of the product, sell it to a reseller or donate it to charity. The quickest way to return the product to inventory for resale is to keep the product in the return location, which also carries the lowest operational cost. However, there is a risk that the return location may reduce the chances of resale or lack sufficient space. Retailers may decide to outsource the transport from consumers to the returns handling location, the returns handling operation, the

transport from the returns handling locations to the final inventory locations, or to perform these operations themselves.

Figure 2: Reverse logistics
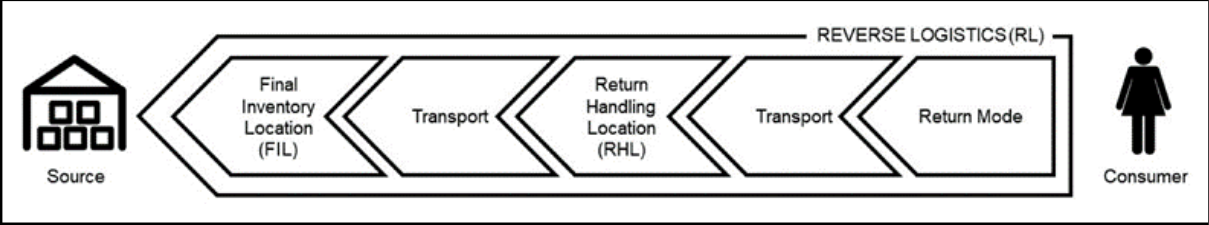
Source: Risberg (2023)

1.4 Online shopping in Spain

To understand the characteristics of online shopping in Spain, two secondary sources will be used. For the demographic profile we will use the Statista reports (2022, 2023). For online shopping habits, we will also add the IABSpain report (Elogia, 2022).

1.4.1 Demographic profile of the online consumer

As mentioned above, 33.5 million people in Spain have the option to shop through e-commerce (Instituto Nacional de Estadística, 2022).

Online consumers are people who have internet connectivity and who have a lot of information at their fingertips regarding the products or services they wish to purchase. The unlimited content that exists on the Internet forces users to search, read reviews and consider all possible options until they are sure they are making the right purchasing decision.

The online consumer is a very demanding person. With the unlimited supply of goods and services on the web, it makes sense to be non-conformist with the first thing we see. This demand comes from the desire to find the best product/service at the best price, the desire to find the highest possible satisfaction is born.

The closure, for a few months, of most physical shops due to the Covid-19 pandemic has boosted Spain's e-commerce in 2020, with more than 340 million transactions made already in 2021, an all-time high. Although it seems that the image of the online shopper has been preserved. Moreover, users between 35 and 44 years old are the group that makes more purchases over the Internet. Specifically, around 5.5 million people have done so in 2022. However, young people and teenagers are no strangers to this type of online activity. In

2022, more than 3.5 million Spaniards aged between 16 and 24 bought a product or service on the Internet; if we include those aged between 25 and 34, this figure exceeds 8 million. As we can see in graph 6, as age increases from 45 to 54, the number of online purchases decreases, due to the lack of knowledge of internet use or the distrust generated by the use of new technologies in older people (Statista, 2022b).

Graph 6: Number of Internet users who shopped online in Spain in 2022, by age group (in millions)
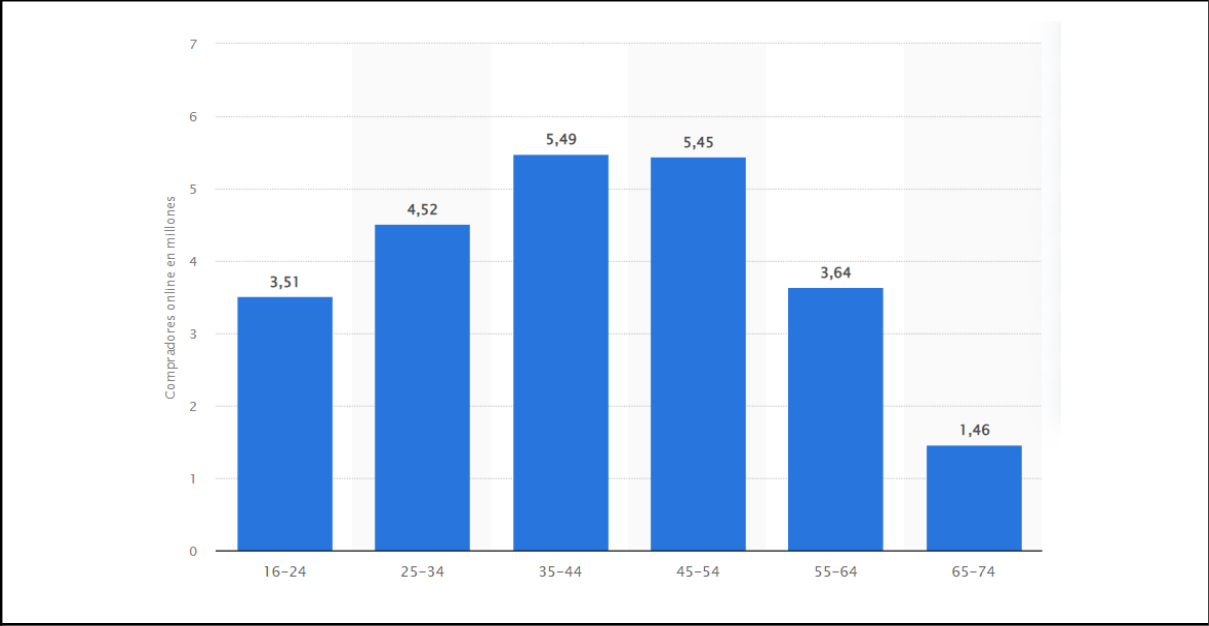
Source: Statista (2022b)

Graph 7 shows the number of internet users who shopped online in Spain in 2022, by gender and in thousands. In that year, male online shoppers accounted for just over 50% of all shoppers, although the gender gap is narrowing. In fact, the number of women who shopped online during 2022 was around 11.5 million (Statista, 2022c).

Graph 7: Number of Internet users who shopped online in Spain in 2022, by gender (in thousands)
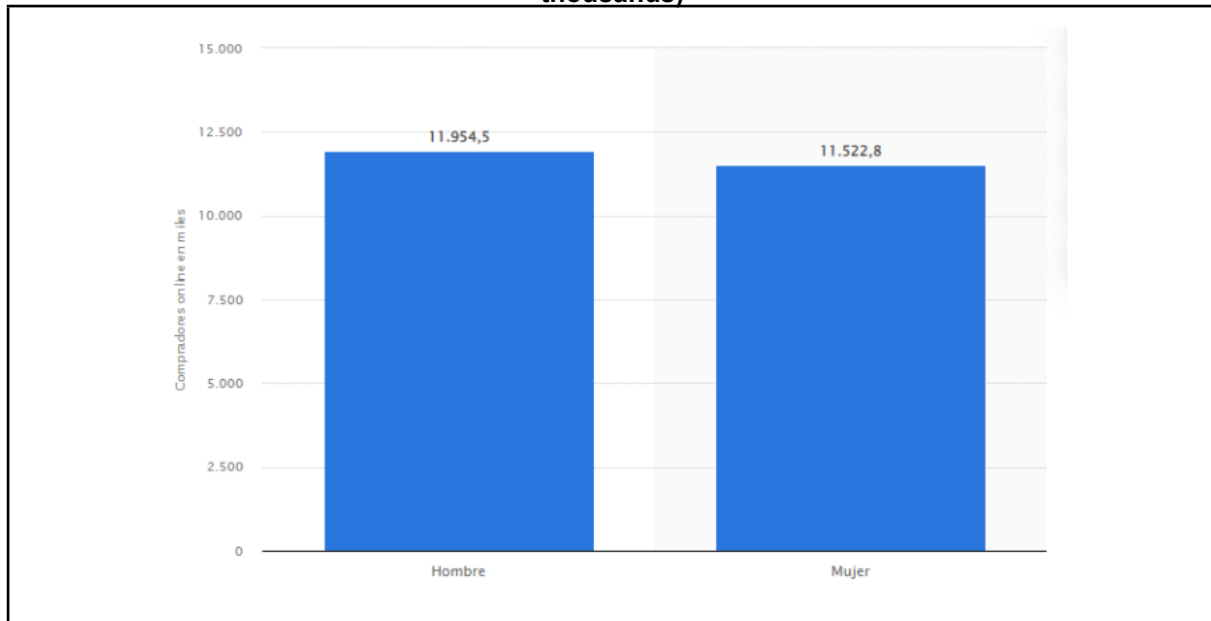
Source: Statista (2022c)

1.4.2 Purchasing habits

Now that we know the profile of the online consumer, it is time to find out what online shopping habits they follow.

According to IAB Spain's e-commerce study (Elogia, 2022), in 2022, Spaniards who shop online will shop on average 2.8 times a month. According to Statista (2022d), it can be seen in graph 8 that 30% of respondents buy products online once a month.

Graph 8: Frequency of consumers shopping online per month in Spain in 2021
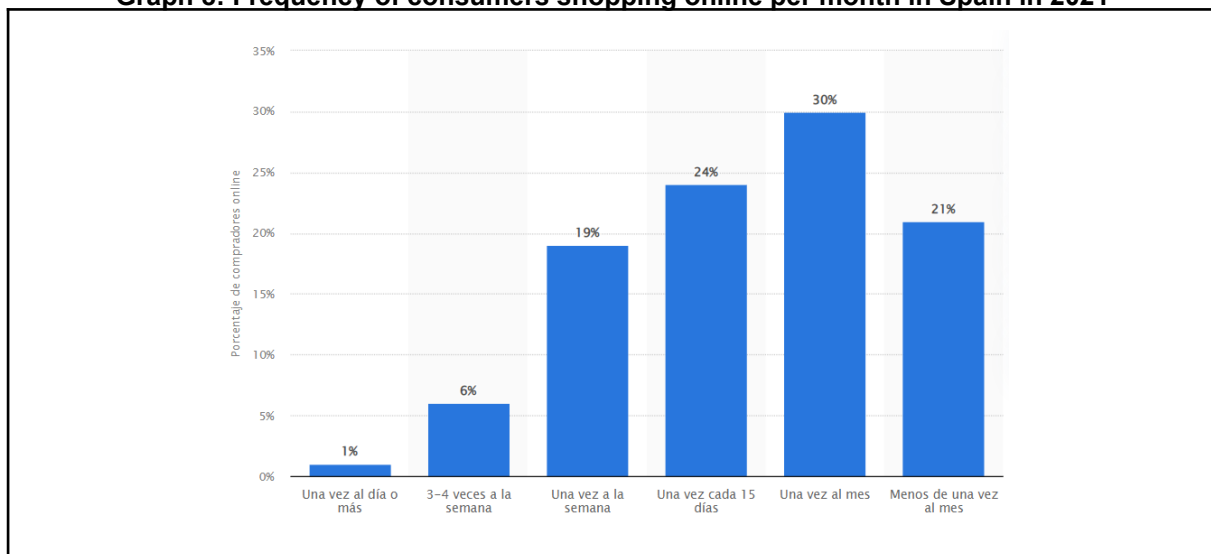
Source: Statista (2022d)

Graph 9 shows how much Spanish internet users spent when shopping online in 2022 (between April and May). According to Statista (2022e), approximately 30% of e-commerce shoppers spent between €51 and €100, and 45% spent between €25 and €50. According to Elogia (2022) the average spend per purchase is €69, with the average spend being higher among men and in the 25-44 age group.

Graph 9: Average spend by internet users on e-commerce in Spain in 2022, broken down by spending bands.
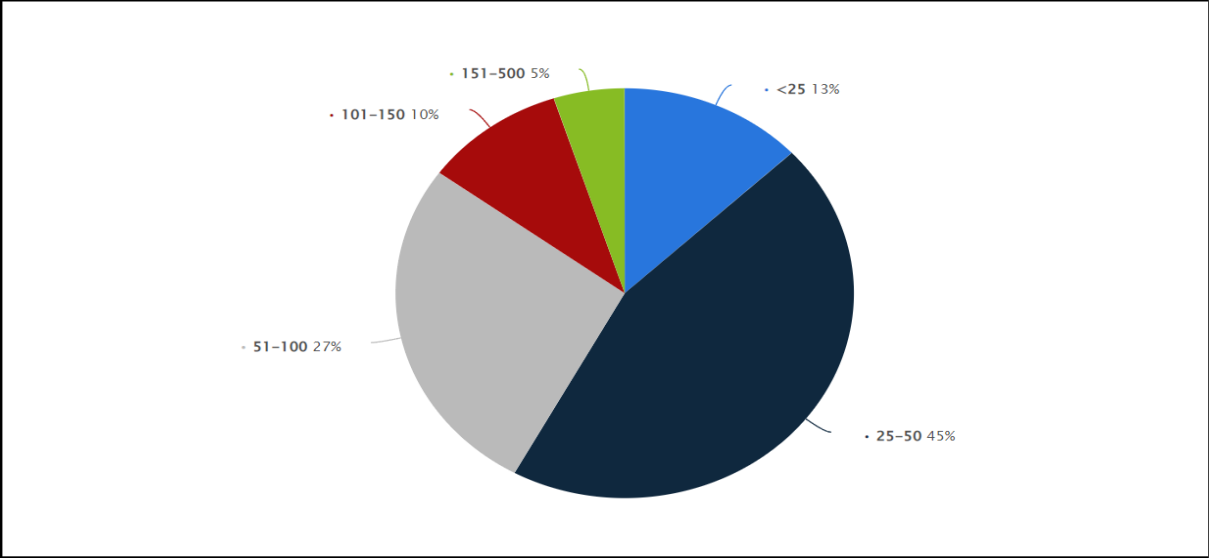
Source: Statista (2022e)

In 2022, Facebook was the social network most used by online shoppers in Spain to buy online. Specifically, 77% of respondents said they had used the platform to buy a product or service. Instagram and YouTube followed with 63% of online shoppers (Statista, 2022f).

Graph 10: Top social networks used by internet users to buy online in Spain in 2022
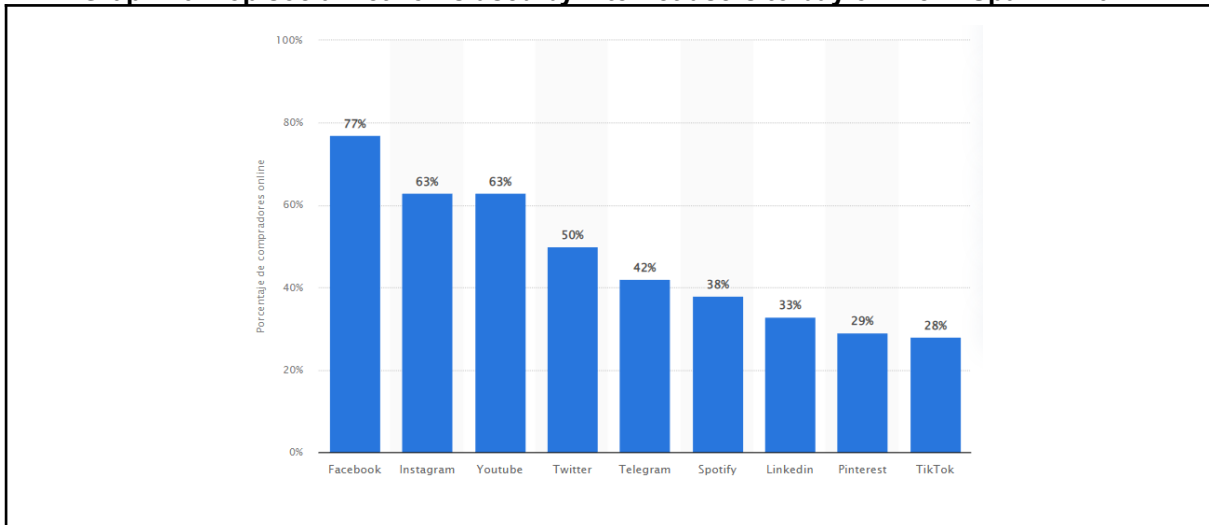
In 2022, as in previous years, the workplace was the second most used online shopping site by Spanish internet users. On the other hand, the first position also remained unchanged throughout the study period. Home seems to be the place where Spaniards prefer to shop online compared to anywhere else (Statista, 2022g).

Graph 11: Typical online shopping sites in Spain from 2017 to 2022, by location
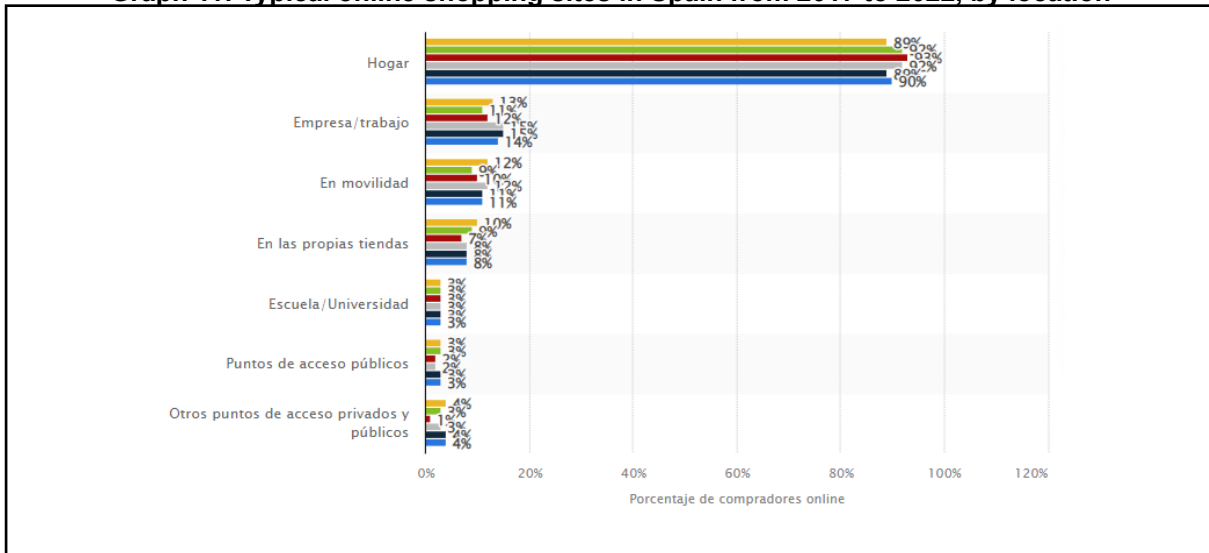
According to Elogia (2022), convenience, choice and price remain the most important factors in online shopping, and trust remains another key attribute that directly influences purchasing decisions, with previous experience and secure payment methods being factors that increase internet users' trust.

In terms of the devices used to make online purchases, the computer is still the most used device, with 78%, followed by the smartphone, with 59%, and finally the tablet, with 15%. Older people tend to shop online using computers, while those under 45 tend to use smartphones more, and in terms of gender, it is men who are more likely to shop online using computers (Ditrendia, 2021).

Graph 12 refers to shopping habits by device and age, data obtained by IAB Spain, and the graph is prepared by Ditrendia based on this data. In it we can see that the computer is the most used device, with 83%, followed by the smartphone with 55%. By 2022, the computer was less used than in 2021 for online shopping, and the smartphone was more used in 2022. This is because younger generations tend to use the smartphone for online shopping, while older generations prefer the computer, so it is a trend that will continue to change until the smartphone is used more than the computer. In Spain, the time we spend using mobile devices has increased by 25% to almost 7 hours a day. This time is spent in several categories, one of which is e-commerce, which ranks sixth among Millennials and Generation Z. People over the age of 34 spend the most time on e-commerce on mobile devices, accounting for 60% of the time. They are followed by Millennials, who spend 59% of their time. Generation Z spends 41% of their time on some kind of e-commerce related mobile application. When it comes to online shopping via mobile devices, we see that men aged 55-64 shop more from computers, while women aged 16-24 shop more from mobile devices (Ditrendia, 2021).

Graph 12: Purchasing habits in Spain by device and age (2021)
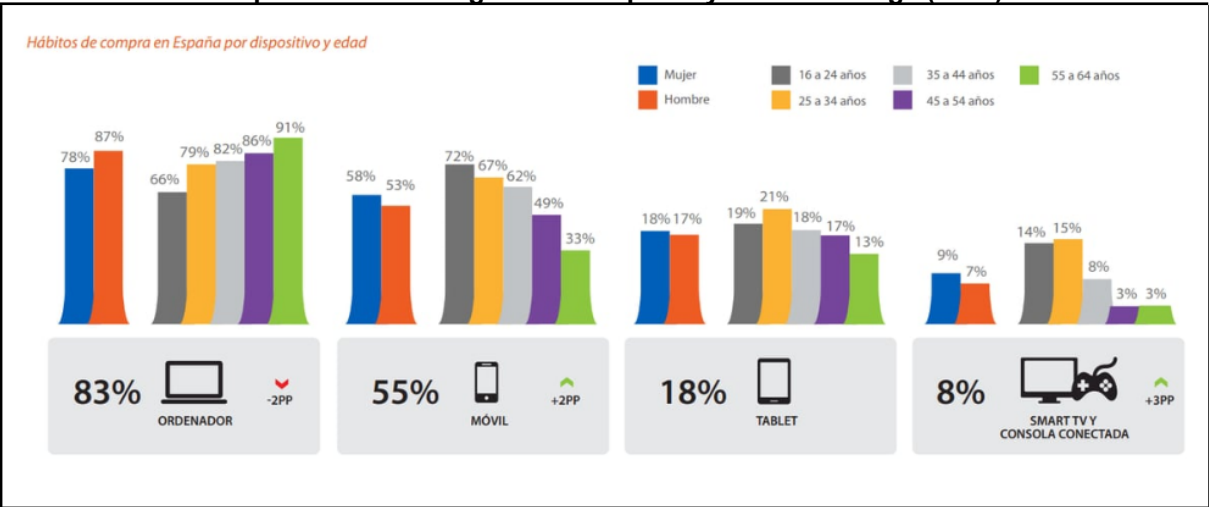
Source: ditrendia (2021)

1.4.3 Phases in the purchasing process

The e-commerce buying process is the journey a consumer takes from the moment he or she discovers an online shop and finally decides to make a purchase from that shop.

Every time a user enters an online shop, they go through a series of steps that lead them through a process until they complete their purchase. Below we will analyse the stages of the buying process, and what actions consumers take at each stage.

There are eight phases from the moment the online shopper discovers the shop or is attracted to visit the website, until they end up buying the product and become a loyal buyer (Romero, 2022):

1. **Attraction:** The attraction phase is the stage where the entire e-commerce buying process begins. It is simply a matter of attracting users to the online shop, and can be current customers, unknown customers, etc.

2. **Interest:** Once users are engaged and enter e-commerce, they enter the interest phase, where they begin to show interest in the brand or the products or services offered by the e-commerce, with the aim of transforming interest into a desire to buy.

3. **Desire and consideration:** Of those remaining, a certain proportion will begin to research the product or service. It is at this point that the desire and consideration phase begins, where buyers begin to want the product/service being offered and consider a possible purchase.

4. **Shopping basket:** When the user completes the consideration stage and finally decides to buy, they move on to the shopping basket phase. Here, online shoppers simply add the products they decide to buy to the shopping basket.

5. **Checkout process:** Once the shopping cart stage is completed, we move to the payment flow where the buyer registers or enters their contact information to complete the purchase. Some products require a more complicated checkout process than others.

6. **Shipping, payment and confirmation of purchase:** The shipping and confirmation stage is the final stage before the transaction is completed. The user chooses the

desired shipping option (standard, express, etc.), views the order details and makes payment using one of the methods indicated. You will usually receive an immediate confirmation of your purchase.

7. **After-sales:** The purchasing process for e-commerce does not end after the customer has paid, as retailers may also include two additional stages. The first is after-sales, where quality communication (in terms of delivery time and other relevant data) must be ensured and the product must meet the customer's needs. This can be done by providing technical support, consultancy, satisfaction emails, content related to the use of the product (instructions, guides), good management of exchanges and returns, etc.

8. **Loyalty:** Finally, we conclude with the loyalty stage, which is closely related to the previous one. Once the purchase is complete and satisfaction is assured, businesses can begin to develop strategies to build customer loyalty. Some of the methods that can be used include cross-selling, up-selling, the use of repeat purchases, the implementation of loyalty programmes, etc. The goal is to keep customers who have purchased and remain connected to the retailer for as long as possible.

1.4.4 Advantages and disadvantages of e-commerce

Online commerce has a number of advantages that make it more attractive compared to physical commerce, but it also has a number of disadvantages that may lead the customer to finally choose to buy the product/service physically by going to the shop (Ferreira Dos Santos et al, 2017).

Table 1: Advantages and disadvantages of e-commerce

Advantages	Disadvantages
- Better product information - More information on prices - Service availability, 24 hours a day, 7 days a week - Lower communication costs - Interactivity and reliability of on-demand information - Real-time stock updates - Online technical assistance - Rapid response to customer requests - Customised orders - after-sales service - No personal contact - Virtual showcase visible to all Internet users - Lower transaction costs - Allows microtransactions - Reduction of human error - Reduction of purchase cycle time - Lower storage and other associated costs - Possibility to customise promotions and sales - Price flexibility - Shorter delivery time to receive digital products and services, and lower cost of delivery of digital products and services. - Allows customers to track their order - Reduce the number of representatives	- There is a lack of communication and personal relationships - It is not possible to test the product before purchasing - You need a secure internet connection and a device capable of connecting. - There is fear of fraud and theft of personal information - Fraudsters are difficult or impossible to detect. - Absolute dependence on the Internet - There is discomfort in returns - Delays in deliveries may occur, leading to irritation of buyers.

Source: Ferreira dos Santos, et al (2017).

2. SUSTAINABILITY

The pandemic has also brought about an evolution in sustainability, thanks to positioning at political, business and individual levels.

Sustainability is a frame of reference, a set of values, a set of principles, which give rise to an open-ended process in pursuit of sustainability. This quest for sustainability applies both to the design of the development model and to the natural environment, with the aim of maintaining and improving the living conditions of current and future generations, while safeguarding non-human life forms. Sustainability is thus a firm commitment to the future (Saavedra, 2010).

Sustainability is meeting the needs of the present without compromising the ability of future generations to meet their own needs, ensuring a balance between economic growth, environmental care and social well-being (Corporate Social Responsibility and Sustainability, 2022).

2.2 Sustainable Development Goals

The Sustainable Development Summit, which took place in 2015, brought together several heads of state and government from various UN member states to create the 2030 Agenda. In order to ensure economic growth, care for the environment and social well-being, 17 sustainable development goals were proposed for 2030 (Educo.org, 2019).

The fundamental principle is that all nations must commit to fostering prosperity and safeguarding the environment, regardless of their level of wealth or development. While it is not mandatory to achieve the Sustainable Development Goals, each nation is still responsible for doing so (Educo.org, 2019).

In total there are 17 Sustainable Development Goals (SDGs), which will ensure a better future for all people, and they are (Educo.org, 2019):

1. **Ending poverty.** Although the number of people living in poverty has decreased by 50% since 2000, millions of people still survive on less than $1.90 a day. Hunger, malnutrition, lack of adequate housing, inability to get an education and disease are just some of the many effects of poverty. The poor are also discriminated against, preventing them from participating in society.

2. **Ending hunger.** To end hunger and poverty, the food industry and agriculture are crucial. Land and water in oceans and rivers are currently being degraded and are experiencing the effects of overexploitation.

3. **Ensuring and promoting health and well-being.** Infectious diseases continue to spread, reproductive health is poor, and maternal and neonatal mortality rates are very high.

4. **Ensuring quality education.** To escape poverty and have a better future, people need the skills that education and literacy offer. The fact is that currently more than

265 million children are not enrolled in school. Among other issues, the poor state of schools and inadequate teacher training must be addressed.

5. **Achieving gender equality.** The basis for achieving sustainability is gender equality, which is a fundamental human right. The ability to participate in political and economic decision-making processes, as well as access to education, health care and decent employment, are prerequisites for achieving equality for women and girls.

6. **Ensure water availability and sanitation.** For many people around the world, food security and livelihoods are affected by the lack or poor quality of safe drinking water. To ensure that everyone has access to clean water and sanitation, it is essential that the world's water resources are managed sustainably.

7. **Access to affordable and sustainable energy. Despite** the fact that energy is used for many daily tasks such as cooking and personal hygiene, more than 300 million people around the world continue to cook with highly polluting fuels. Promoting the use of renewable energy for transport, heating and other uses, as well as financing the development of cleaner technologies, is essential for the protection of the environment.

8. **Promote decent employment and economic growth.** It is said that around half of the world's population subsists on less than $2 a day, and child exploitation is a problem in many countries. Working doesn't always lift you out of poverty, so it's about everyone being able to find a good job in this sense, with the aim of reducing unemployment and increasing productivity and consumption.

9. **Industry, innovation and infrastructure.** Substantial investment in a country's infrastructure is necessary for a robust economy. More productive industry that produces less pollution also depends on innovation. Although manufacturing has recently reduced its carbon dioxide emissions, the reduction has not been uniform across the world.

10. **Reducing inequalities between countries.** With regard to access to health services, education and productive assets, there are currently significant disparities within and between countries. Favouring exports from developing countries and reducing tariffs is key to reducing inequality.

11. **Inclusive and sustainable cities and communities.** It is generally believed that cities have helped many people to advance socially and economically. Indeed, urban areas have grown and are expected to continue to grow to the point where 5 billion people will live in urban areas by 2030. Cities must become safe, inclusive, resilient and sustainable spaces to accommodate so many people.

12. **Responsible consumption and production.** As unsustainable consumption contributes to pollution and environmental degradation, it is important to take proactive measures and to switch to sustainable and environmentally friendly production methods. In addition, everyone must adopt sustainable lifestyles to protect the environment and halt climate change.

13. **Combating climate change.** The effects of climate change on people, the economy and the environment are real and damaging. Several countries committed to working to keep global temperature rise to less than 2 degrees when they signed the Paris Agreement in 2016 as a means to combat climate change.

14. **Conserving oceans, seas and marine resources.** As well as being a source of life, the seas and oceans are essential for trade and transport, but right now, pollution and acidification are changing ecosystems. Effective regulation to reduce pollution and overfishing is crucial for the preservation of the seas and oceans.

15. **Sustainable management of terrestrial ecosystems.** Forests cover more than 30% of the planet's surface and are important for reducing climate change. Currently, 13 million hectares are lost annually, contributing to desertification. It is difficult to preserve forests, manage resource use sustainably and halt desertification.

16. **Promoting just and peaceful societies.** Violence in all its forms continues to be a problem for people all over the world. In this context, it is important to draw attention to child abuse and its serious repercussions. The key is to pass legislation that makes laws more useful and protects people's rights.

17. **Global Partnership for Sustainable Development.** Setting targets is meaningless if all the necessary stakeholders - governments, businesses and individuals - cannot agree on what those targets should be. In this sense, it is essential to promote partnerships to pool resources and efforts to achieve the SDGs.

Figure 3: Sustainable Development Goals

Source: Educo.org (2019)

2.2.1 Action plan to meet the targets in Spain

It includes the circular economy lines of action and the Spanish circular economy strategy.

- **Circular economy action lines**

The 1st Circular Economy Action Plan (PAEC), with a budget of 1,529 million euros and 116 initiatives, has been approved by the Council of Ministers. It will be implemented by the General State Administration during the three-year period 2021-2023 in order to support and consolidate the progressive deployment of a circular and decarbonised economic model (MITECO, n.d). Production, consumption, waste management, secondary raw materials and water reuse are the five lines of action around which these measures are organised to enable the implementation of circular economy actions. In addition, and in a cross-cutting manner, awareness-raising and participation initiatives, as well as research, innovation and competitiveness, employment and training. (MITECO, n.d.)

The first line of the Action Plan, focused on production (design and manufacturing), consists of 17 actions that promote eco-design or add qualification criteria to aid programmes, loans and public credit lines to incorporate the circular economy in industries from the food industry to forestry. The Pyme Circular initiative stands out because it aims to incorporate the circular economy in small and medium-sized enterprises, as well as new business models, creating spaces for creativity and the generation of ideas. Finally, measures related to the tourism industry are mentioned, such as promoting the use of the "Smart Tourism Destination Method" tool to help municipalities develop sustainable tourism action plans, or developing new circular tourism products (La Moncloa, 2021).

The second line of action, focusing on consumption, has 13 points related to consumer information, including the European Ecolabel (ECOLABEL) and the creation of an information label on product lifetime and reparability index. Actions are also being planned to reduce food waste, support second-hand shops, reuse public infrastructures and promote the circular economy in public procurement (La Moncloa, 2021).

Thirdly, the 30 measures in the waste management chapter are aimed at modifying waste plans and regulations to adhere to circular economy standards (La Moncloa, 2021).

Fourthly, the secondary raw materials axis has 12 measures, including the implementation and promotion of the use of by-products, the creation of end-of-waste criteria and the analysis of their effects on the secondary raw materials market. In addition, it aims to adopt a roadmap on mineral raw materials or the identification of waste facilities of extractive industries containing basic raw materials, as well as measures related to the use of secondary raw materials that are safe for both human health and the environment. (La Moncloa, 2021)

And fifthly, the four measures of the water reuse axis include actions to support irrigation systems using reclaimed water, to improve knowledge of water uses and to examine the legal framework for water reuse.

Finally, the transversal axes include (La Moncloa, 2021):

➔ The 19 measures that make up the awareness and participation axis focus on the creation of effective circular economy practices in the business world or awareness campaigns in the consumer world.

➔ The 12 actions that focus on the development of schools, workshops and trade houses to support the development of schools, workshops and trade houses to support employment in the field of circular economy, as well as 9 actions that promote research, innovation and competitiveness in bioeconomy and circular economy.

● Spain's circular economy strategy

Spain Circular 2030, the Spanish circular economy strategy, lays the foundations for the promotion of a new production and consumption model that preserves the economic value of

goods, materials and resources for as long as possible, minimises waste generation and maximises the use of waste that cannot be avoided. Thus, the Strategy supports Spain's efforts to develop a competitive, sustainable, decarbonised and resource-efficient economy (MITECO, 2018).

The Strategy sets a series of quantitative targets to be achieved by 2030, as shown in the following image.

Figure 4: Objectives of the Spanish circular economy strategy
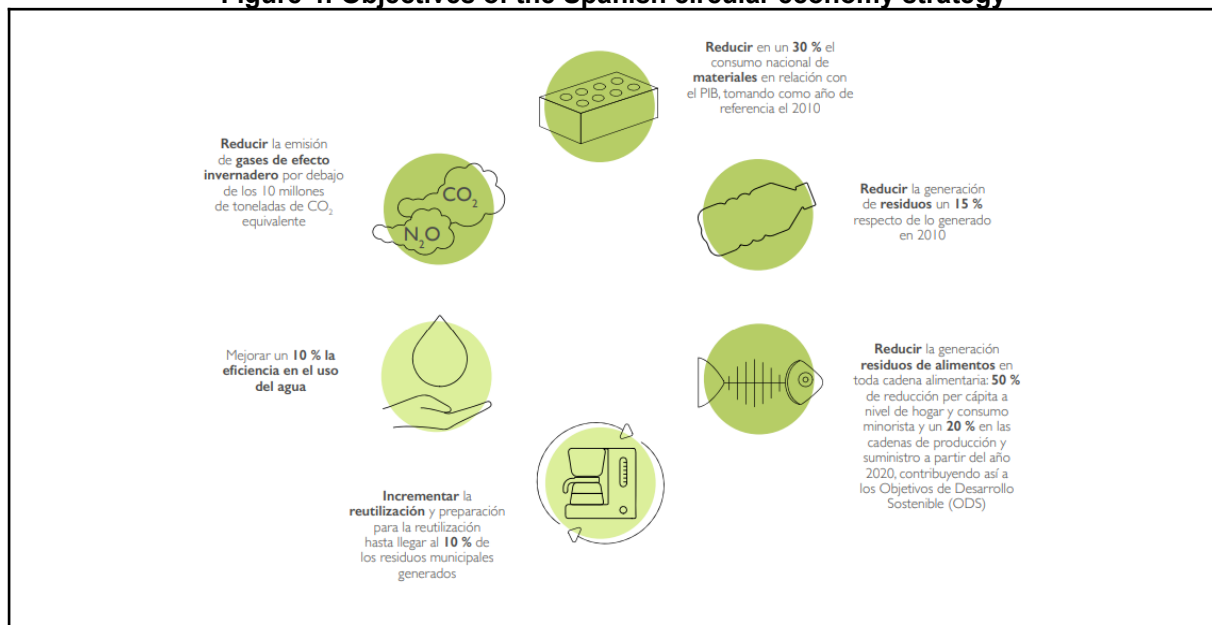
Source: MITECO (2018)

3. IMPACT OF E-COMMERCE ON SUSTAINABILITY

E-commerce has a significant impact on the sustainable development goals set by the UN, as it influences consumption habits, mobility in urban areas, and the environment. Therefore, the analysis will be divided into the economic, social and environmental impact of ecommerce on society and sustainability.

The sustainability issues identified in e-commerce and their environmental, economic or social impact are described below (see Table 2), most of which have been identified by Lopez (2020).

Table 2: Problems arising from the impact of e-commerce on sustainability

Environmental Impact	- Problem 1. Outdated transport fleet. - Problem 2. Individualised delivery. - Problem 3. Missed deliveries. - Problem 4. Express deliveries. - Problem 5. Over-consumption and sales campaigns. - Problem 6. Returns. - Problem 7. Home-delivered meals. - Problem 8. Waste management. - Sub-problem 1. Packaging management. - Sub-problem 2. Management of electrical equipment - Sub-problem 3. Destruction of returns. - Problem 9. Sourcing the product online. - Problem 10. Digital Impact.
Social Impact	- Problem 1. Outdated transport fleet. - Problem 4. Express deliveries. - Problem 9. Sourcing the product online. - Problem 11. Taxation in online commerce. - Problem 12. Job insecurity.
Economic Impact	Problem 11. Taxation in online commerce.
Positive Impact	- Development of courier and parcel companies - C2C trade development

Source: Own elaboration

Problem 1. Outdated transport fleet. Transport is responsible for 27% of all greenhouse gas emissions. The concentration of the population in cities, where more than 80% of Spaniards currently live, multiplies the effects produced by the increase in the per capita volume of freight transport, which accounts for 20% and can reach 40% of traffic in sales campaigns (Lopez, 2021). With the exception of online grocery deliveries, which are mainly (1%) delivered by bicycles and motorbikes, the fleet used for 87% of e-commerce deliveries is old and highly polluting. More than half of the vans making up the fleet in Spain in 2020 were over 15 years old, and 35% of them were over 20 years old, contributing approximately 7.5 per cent to Spain's total CO_2 emissions (Deloitte, 2020).

But whether the final recipient is a private individual (B2C or C2C) or a business (B2B), the effects of freight transport in cities are very different. B2C trade generates a higher environmental and social impact, as it is a single buyer, buying small quantities (compared to business-to-business purchases), requiring fast deliveries, in many urban and geographically spread out areas, with a high percentage of impulse purchases, and with individual packaging, which generates a number of additional problems.

Problem 2. Individualised delivery. The product is delivered separately to each individual address, increasing the number of kilometres needed to deliver the product that was previously delivered to a single point (shop) in a consolidated manner (López, 2020).

Problem 3. Failed deliveries. Delivery is typically made to a home address, which is usually in an urban area, with greater access, parking and delivery restrictions, as well as challenges in locating the delivery address. The average failure rate for first home deliveries is actually between 10% and 15% for parcel services, resulting in double costs for subsequent deliveries. Incorrect addresses alone account for 60 to 70 percent of failed deliveries (Deloitte, 2020). That is inefficient because it requires more delivery attempts. Therefore, there is a greater environmental impact from inefficient deliveries.

Problem 4. Express delivery. Express shipments (less than 24 hours) have increased by more than 10 per cent each year (Deloitte, 2020). Because more trips are made in half loads and more vehicles are needed for delivery, express shipments have a greater negative impact on the environment. Fifteen per cent of online customers want their orders delivered the same day, and 86 per cent of deliveries request home delivery, which can result in costs that are up to three to four times higher than those associated with selling products in physical shops (Post, 2020). In addition, around 60% of online shoppers are willing to pay more for fast delivery. 35% of online consumers would pay to receive the product the same day, and 28% to receive it the next day at the latest (Sendcloud, 2021).

This problem also has a **social impact**, as it leads to transport precariousness. Urgent deliveries and intense marketing campaigns concentrated in short periods of time lead to inefficiency. And because there are too few delivery drivers (there is a shortage of more than 15,000 drivers in Spain alone), the resulting job insecurity is contributing to a crisis in the supply chain (López, 2020).

However, due to economic constraints, the process of fleet renewal is slowing down, which, combined with the need for speed of delivery drivers, is leading to an increase in road accidents.

Problem 5. Over-consumption and sales campaigns. The increase in the world's population generates increases in consumption, which leads to resource scarcity. This over-consumption is also producing a large amount of waste, which damages the environment in terms of CO_2 emissions, soil, air and water pollution. In fact, current consumption accounts for more than 60% of global GHG emissions (Lopez 2020).

Certain marketing campaigns incite consumption when the product is not really needed. According to a study carried out by OCU.org (2020), it shows that during the week of Black Friday, product prices are 0.5% more expensive, and on the day of Black Friday itself, prices in general are 2.6% more expensive than in the weeks prior to the campaign, so these campaigns are of no benefit to consumers.

Some marketing campaigns, such as Black Friday, produce 30-40% increases in orders in a short period of time, making it difficult to manage orders. Distribution companies have to work hard and spend a lot of money on technology and human resources to manage temporary production peaks. However, this investment is accompanied by new recruits and inexperienced staff, which increases the risk of incidents at different stages of delivery, degrades the quality of services and makes procedures more inefficient. This suggests more returned goods, more failed deliveries and, in addition, more traffic in the city (Deloitte, 2020).

Problem 6. Returns. Spain is the fourth European country with the highest number of returns. The percentage of returns for online purchases has increased year on year, now standing at between 20% and 30%, compared to 6% for B2B deliveries, reaching 50% of returns in intensive sales campaigns such as Black Friday, due to the implementation of policies that facilitate returns, often at no additional cost to the customer (entregasostenible.org, 2022). The return rate of online purchases surprises many by reaching 20%. In other words, customers return approximately 1 in 5 online orders (Romero, 2022).

Mass returns are an increasingly common consumer behaviour. These customers buy more than they would normally buy and then try to return a considerable part of the items they bought. It is a problem that is particularly prevalent in online fashion and clothing shops. Consumers who intentionally buy more products and then return the ones they didn't like account for 30% of all consumers. 19% of customers say they buy several styles or sizes of the same item to try before returning the rest (Barclaycard, 2022).

According to a study by marketing consultancy Exprimenet (2022), seven out of ten shoppers use free returns for online purchases as a deciding factor, and 71% of shoppers have used this benefit in the last three months. The study also notes that 71% of respondents have returned an online purchase in the last three months. The aim of the study was to determine how return policies and payment options influenced consumers' purchasing decisions at a time when online shopping and consumption were particularly high, such as Christmas and the sales campaign that followed.

The natural resources needed for packaging, the waste produced as a result and the related transport emissions are affected by this consumption pattern.

Problem 7. Home-delivered food. This is one of the fastest growing categories, resulting in high resource consumption from packaging and waste production, as well as high economic costs. Delivering food to a customer's home costs the supermarket 300-400 per cent more than having the item displayed on a shop shelf (Deloitte, 2020).

Problem 8. Waste management. Urban mobility is also affected by the logistics involved in the collection, handling and management of packaging and products.

Sub-problem 1. Packaging management. Today's e-commerce forces individualised delivery requiring more packaging and often over-packaging for marketing purposes, which directly contributes to the environmental impact caused by the use of raw materials and the subsequent generation of waste (López, 2020).
PlasticsEuropa (2022) estimates that the Eurozone produces around 40% of its plastics for product packaging. After a single use, much of it is discarded. In most of the world's economies, the need for packaging will only increase, so this poses serious environmental problems as waste accumulates.

Sub-problem 2. Management of electrical appliances. According to a survey on equipment and use of information and communication technologies (ICT) in households for 2022, carried out by the National Statistics Institute, 82.9% of households in Spain have a computer and 95.5% have mobile phones. The recycling of these products is very important because they may contain substances that deplete the ozone layer and affect global warming, such as mercury, cadmium, lead, arsenic, phosphorus, antimony, beryllium, nickel,

zinc and up to 40 toxic materials (dirigentesdigital, 2023). According to data from the National Institute of Statistics, the daily domestic water consumption of all Spanish households is 600,000 litres, an amount that can be contaminated by the lithium battery of a single smartphone.

Sub-problem 3. Destruction of returns. Media research condemns the practice of mass product destruction of unsold product returns, which clearly violates the guidelines of the Spanish Circular Economy Strategy and has a negative impact on both the environment and the economy. Returns, especially through marketplaces, are mainly concentrated in household goods (67%), electronics (65%) and clothing (57%), and have a high impact on waste generation due to the high cost of processing and returning the product to the original retailer (Lopez, 2020).

Problem 9. Origin of the online product. To the impact on CO2 emissions caused by last-mile distribution, excessive consumption and waste generation, we must add the origin of the manufacture of the products already mentioned, as a large part of the products bought online in Spain have a high carbon footprint, because they originate from other countries, such as China (30% total CO2 emissions) or the United States (14%), which according to Climatetrade (2021), are the countries that pollute the most. When express delivery is requested, the impact increases even more as air transport is prioritised over land and sea transport.

Moreover, in terms of **social impact**, the online market is organised in a few organisations with a great import power and which make use of intensive sales campaigns that lead to overproduction, which disadvantages local shops and proximity products (Lopez, 2020).

Problem 10. Digital impact. E-commerce also generates a digital impact, due to the infrastructure to be able to shop online. While the energy used during each online interaction may seem insignificant, when multiplied by the billions of devices and daily interactions, it is already estimated to be responsible for between 3 and 4 percent of all CO2 emissions. An impact that is expected to be almost five times greater than the total CO2 emissions of a nation like Spain by 2025. Although the technologies are the present, there may be a problem with their consumption in the future. Yes, in the medium term, given that traditional

computers are expected to consume around 20% of the energy produced in 2025, and that percentage may increase significantly before 2030 due to devices, cloud computing and access to services such as social networks (Del Palacio, 2021).

Problem 11. Taxation of online commerce. Online trading platforms with the largest market share and the highest profits are taxed very little compared to local commerce. According to data from the European Commission (2018), digital companies pay 9.5% tax compared to 23.2% for conventional companies.

This problem also has a **social impact**, as small businesses do not benefit at all from the disparity in tax payment or VAT collection. Consequently, an increasing number of companies and organisations are actively protesting against such campaigns (Lopez, 2020).

Problem 12. Precarious employment. The migration of commerce to digital platforms results in the creation of direct and indirect "temporary" employment, which is often part-time, generally poorly paid, has a very high turnover rate, has demanding shifts and working hours, and has few labour rights and protections. The national economy and competition are threatened as the industry consolidates into a small number of transnational companies that revert their profits and taxes. This will lead to retail shop closures, widening inequality. Because many jobs are seen as precarious and unregulated, the increase in food delivery has led to conflict (Lopez, 2020).

Positive impact. As a positive impact, it is worth noting that e-commerce has led to a large development of courier and parcel companies, and has also benefited the development of C2C commerce, and the reuse of many pre-owned products (Lopez, 2020).

4. SUSTAINABILITY PRACTICES IN ONLINE COMMERCE

Different solutions and good practices to the problems have been identified. Table 3 shows the equivalence between the problems and the solutions.

Table 3: Problems of e-commerce in sustainability and their solutions

Problems	Solutions
Problem 1. Outdated transport fleet	Solution 4. Opting for sustainable online shops and suppliers Solution 5. Transition to electric vehicles
Problem 2. Individualised delivery	Solution 1. Multi-order shipments and avoiding express shipments Solution 2. In-store delivery or collection point option
Problem 3. Missed deliveries	Solution 2. In-store delivery or collection point option
Problem 4. Express delivery	Solution 1. Multi-order shipments and avoiding express shipments
Problem 5. Over-consumption and sales campaigns	Solution 10. Raising awareness of marketing campaign scams
Problem 6. Returns	Solution 3. Reduce returns Solution 8. Return Policy
Problem 7. Meals on Wheels	Solution 4. Opting for sustainable online shops and suppliers Solution 5. Transition to electric vehicles
Problem 8. Waste management - 8.1 Packaging management - 8.2 Management of electrical equipment - 8.3 Destruction of returns	Solution 4. Opting for sustainable online shops and suppliers - Solution 6. Green and recyclable packaging design (Q 8.1) - Solution 7. Sustainable manufacturing and distribution (Q8.2) - Solution 8. Return policy (Q8.3)
Problem 9. Sourcing the product online	Solution 7. Sustainable manufacturing and distribution
Problem 10. Digital impact	Solution 7. Sustainable manufacturing and distribution
Problem 11. Taxation in online commerce	Solution 9. Digital services tax
Problem 12. Precarious employment	Solution 11. Regularise job insecurity

Source: Own elaboration

The solutions are detailed below.

Solution 1. Multi-order shipments and avoid urgent shipments (solution to problems 2 and 4). Avoid extreme urgency, provide customers with reasonable delivery options that

allow for optimisation and allow them to combine multiple products in a single order. Two examples of best practice are provided by Correos in the run-up to Black Friday. :

1. Correos is calling for urgent deliveries to be avoided in favour of ordinary deliveries (Europa Press, 2020). The difference between sending an express parcel in a single vehicle and waiting for the vehicle to be fully booked means significant savings in emissions, as the number of routes can be reduced.

2. This Black Friday, Correos is once again offering a reflection on the responsible use of express deliveries (Correos, 2021). Under the slogan "Not everything is urgent, but taking care of the planet is", Correos invites you to reflect on the impact of express parcels on the environment, in order to promote responsible use of this service.

Solution 2. Store delivery or pick-up point option (solution to problems 2 and 3). By reducing the distance to be travelled for delivery, this method is estimated to reduce urban congestion by 22% and CO_2 emissions per parcel by an average of 20% compared to home delivery. In addition, they sometimes combine the options of collection and final delivery to the recipient using more environmentally friendly delivery methods (Deloitte, 2020). Additionally, 63% of system users use clean transport to pick up their parcels (either on foot or by bicycle), with 86% of users having a convenience point within 5 km of their home and 58% within 1 km (Deloitte, 2020). "Only 10% ask for their parcel to be delivered to a convenience point, because they want it now, but more than 30% ask for their return to be delivered to one, because they also want speed in getting their money back" (Bolsa, 2022).

Solution 3. Reduce returns (solution to problem 6). If the customer decides to return the order, they should be aware of the effects this will have on the economy, sanitation, air quality and other factors. Measures to help reduce returns include providing all kinds of product photos and videos, sharing reviews, and obtaining information from customers regarding their tastes, measurements, etc., to translate that information into more accurate purchase recommendations. Augmented reality is also used to give customers a more realistic view of the product. Some companies use Big Data to track and charge consumers who abuse product returns (Bolsa, 2022).

Solution 4. Opt for online shops with sustainable deliveries and sustainable suppliers (solution to problem 1, 7 and 8). The environmental impact of deliveries is reduced by opting for companies that provide more environmentally friendly delivery options. As alternative vehicles can access low-emission areas of cities, this ensures that products can reach any location. According to Lopez (2020), this is essential to achieve the targets set out

in the European Green Pact, national guidelines and concerns about air quality impacts related to greenhouse gas (GHG) emissions.

Solution 5. Transition to electric vehicles (solution to problem 1 and 7). According to a forecast by Statista (n,d), delivery vehicles will increase to 7.2 million by 2030, which would generate 25 million tonnes of CO2, so companies, in their transition to electric vehicles, could reduce this impact. Furthermore, according to the European Commission and the European Council, from 2035 it will be prohibited to sell cars with combustion engines, an objective supported by the Law on Climate Change and Energy Transition in Spain, a decision that anticipates the use of more sustainable vehicles. Ros, Villaverde (2022).

Solution 6. Design of environmentally friendly and recyclable packaging (solution to sub-problem 1). A design that considers the entire life cycle of packaging is essential to enable this change. Better design can significantly reduce the adverse effects on the environment, from the materials used, through the production process, to the distribution of the packaged products and the disposal of the used product. Reduce, reuse and recycle are the three main objectives of environmentally friendly packaging design (Antalis, 2022). This is supported by the Spanish Packaging and Waste Law.

Solution 7. Sustainable manufacturing and distribution (Solution to subproblem 2, problem 9 and 10). Select companies and products that manufacture and distribute their goods according to sustainable and durable standards. Opting to buy second-hand products, in order to extend the useful life of the product. An example could be the Wallapop campaigns, which reflect on excessive and unsustainable consumption:
1. "What's done is done" (Jimenez, 2022). Wallapop invites brands and consumers to take advantage of "what's already done".
2. "Thank you very much" (Marketing Insider Review, 2023). Wallapop highlights "real details of the manufacturing processes of all the brands featured in the campaign and claims that their products can be used or reused many times because they are so well made. Specifically, companies that manufacture "things as well made" as Miele, Levi's or Lexus.

On the other hand, identifying and valuing manufacturers and online retailers who are dedicated to sustainability in their products and placing them on the market in a sustainable way will help to encourage conscious consumer decision-making, promote responsible consumption in society, generate greater commitment to sustainability in organisations, and enable consumers to act as agents of change through their purchasing decisions. As a

solution to sub-problem 2, organisations should commit to collecting electrical appliances for recycling at clean points. As an example, the Ecolec Foundation explains the concept of "Extended Producer Responsibility": products that are likely to become waste are also the responsibility of the producer who made them. This is a responsibility that has been regulated by the European Union for years and which is present in our legal framework and from which they cannot escape (ECOLEC, nd).

Solution 8. Return recovery policy (Solution to sub-problem 3). Implementing a waste minimisation policy is also a key solution for companies. To reduce waste, companies can make donations to NGOs, to company staff, or to other causes (Lopez, 2020).

Solution 9. Digital services tax (solution to problem 11). On 16 January 2021, the Google tax came into force, which involves a 3% levy on income derived from online advertising services, online intermediation and data transmission, which will be produced for each taxed service provision, and whose settlement period is quarterly (Infoautonomos, 2022) to alleviate the problem with the taxation of taxes.

Solution 10. Awareness of marketing campaign scams (solution to problem 5). In this type of campaign, companies sometimes take advantage of them to act illegally, making people believe that they are offering products at a lower price than the original price, when certain studies, such as the one mentioned above, on problem 5, by OCU.org (2020), show that 0.5% of prices are more expensive than the original price, days before Black Friday, and on the day of Black Friday itself they are 2.6% more expensive.
To discourage this type of marketing campaigns, companies should be transparent, showing an evolution of the prices of products, so that the customer can check if the variations in price really offer a discount on the original price, or the online shops that carry out these campaigns are acting in bad faith. On the other hand, such campaigns incite overconsumption, and although this affects sustainability, many companies will not stop offering such campaigns, because they generate a large increase in revenue, so it is very difficult to solve this problem.

Solution 11. Regularise precarious employment (Solution to problem 12). New information technologies have led to a disruption in labour relations, giving rise to new employment and contracting models. The misuse of the term "own-account worker" or self-employed results in significant "negative externalities at the social and labour level", according to a report on the actions of the Labour and Social Security Inspectorate aimed at

activities carried out through digital platforms accessed by Gutiérrez (2019), for the newspaper El Mercantil.

The solution to this problem is therefore being fought by both the Labour and Social Security Inspectorate and the trade unions, which are defending workers' rights and calling for workers not to act as self-employed in favour of online shops, but to be self-employed.

II. AMAZON CASE

5. METHODOLOGY

Having defined the theoretical framework on online commerce, sustainability, and the advantages and problems that arise when e-commerce has an impact on sustainability, it is time to analyse, through a case study, the marketplace that sells the most in Spain, Amazon. The aim is to find out the impact of this company's commercial operations on sustainability, both positive and negative, and to analyse how the purchasing decisions of the consumers of this marketplace could influence the company's sustainability. This analysis will allow us to determine to what extent Amazon achieves the sustainability objectives set out in the European framework, and will allow us to understand the concepts developed in the theoretical framework, as they will be applied in a practical way.

In the following sections, Amazon's business model will be presented first, and an analysis will be made of how its logistics and commercial operations work, with the aim of finding out how its activities affect the development of sustainability. The study of this case will be carried out through internal secondary sources, such as reports issued by the company itself, and external secondary sources, such as articles on websites, will also be used.

Secondly, in order to understand the purchasing decisions of Amazon consumers, primary research will be carried out by means of a questionnaire, and this research will be cross-checked with external secondary sources. The objective of the market research is to understand the habits of Amazon users and their attitudes towards sustainability.

6. AMAZON

Amazon is one of the 500 largest companies in the United States. Headquartered in Seattle, Washington, the company is a world leader in e-commerce. Since Jeff Bezos launched Amazon.com in 1995, there have been significant advances in its products, website, international distribution and customer service network. Amazon currently offers a diverse

product portfolio, ranging from books and household products to electronics and textiles. Amazon has a direct presence in the US, UK, Germany, France, Italy, Spain, Japan, Canada and China, but they are also able to serve customers in most countries around the world. (Equipo Historias Amazon, 2022)

To learn more about this company, we will start by detailing the business units it has to focus on online shops, then we will explain a Canvas analysis that will allow us to see Amazon's competitive advantages and where they are generated, to move on to the third section, which details the investments it has made in Spain, and finally, the management of Amazon's supply chain.

6.1 Amazon business units

Amazon's business units are 5 in number, the importance of which to the company is detailed below.

Amazon offers a diversified range of products and services. These include: Amazon Retail, Marketplace, Retail third-party seller services, Amazon Content and Amazon Web Services.

Amazon retail (Physical stores): Amazon offers a window for retailers. The platform offers the possibility to showcase products and sell them through its website. It also gives these, usually small, companies the opportunity to make themselves known and visible to a wider audience. (Alonso, 2020).

Marketplace (Online stores): As defined by the company, Marketplace sellers are: "Independent companies or individual sellers that offer a selection of products in new, used, reconditioned and collectible condition". (Alonso, 2020)

Retail third-party seller services: These are sellers who use the platform to sell products, but they are responsible for dealing with the customer, i.e. they sell the product directly to buyers, take care of customer service and ship the product themselves (Robinson, 2022). In other words, they sell the product directly to buyers, take care of customer service and ship the product themselves (Robinson, 2022).

As for the FBA (Amazon's logistics strategy), basically to put on sale the products of suppliers who want to sell on their website, Amazon is responsible for collecting it for subsequent storage, at this point Amazon receives the order from the customer, this order

reaches the warehouses that through internal logistics systems that have is responsible for sending the product properly to the point where the customer has indicated, to be collected properly (Robinson, 2022).

Amazon Content (Subscription services): In this case we are talking about Amazon Prime. This is a paid subscription service that can be paid both annually and monthly. Prime members have access to a variety of benefits, from a wider range of products, to access to 24-hour delivery and including services such as Amazon Prime Video and Amazon Prime Music (Alonso, 2020).

Amazon Web Services: The world's most comprehensive cloud platform, offering more than 200 data centre services globally. It offers everything from infrastructure technologies such as compute, storage and databases to emerging technologies such as machine learning and artificial intelligence, data lakes and analytics and the internet of things. This platform enables faster innovation (Alonso, 2020).

Gartner research places AWS in the Leaders quadrant of the new 2021 Magic Quadrant for Cloud Infrastructure and Platform Services (CIPS). CIPS, in the context of this magic quadrant, are defined as 'standardised, highly automated offerings, where infrastructure resources (e.g. compute, networking and storage) are complemented by integrated platform services' (Alonso, 2020). (Alonso, 2020)

In this case study, we will focus on the Marketplace business unit, focused on Amazon.es.

6.2 Amazon's Canvas business model

Amazon's business model is mainly e-commerce, which accounts for almost half of its sales. This model is based on online sales of all kinds of physical and digital products.

According to Tatyana Yun (2021), Amazon's business model is divided into 9 parts:

1. **Amazon's value proposition.** Jeff Bezos identified three key propositions that will make Amazon the first choice for all customers:

   - Fast delivery: customers can receive the product they want within 24 hours, especially if they choose the prime delivery option.

- Low prices: Amazon always has attractive offers and discounts, and prices can vary greatly from day to day, offering customers interesting savings.
- Variety of products: Amazon is the largest retailer in the world today, with almost every category in its catalogue.

2. **Customer segment.** Amazon has basically two types of customers.

- Private customers: Millions of customers around the world buy and use the company's products and services.
- Businesses: Merchants using Amazon to sell their products. Therefore, many potential customers.

3. **Distribution channels.** The main distribution channel is Amazon's own website, and its online shop with its own domains is available in more than 10 countries. In countries where the company's own website is not available and there are no restrictions, customers can place orders from the homepage of www.amazon.com. Amazon also has alternative channels such as its own app, the Amazon Prime platform and the affiliate programme.

4. **Activities.** Amazon is mainly focused on the development and maintenance of its commercial platform, the main sales engine through which it manages the different services and products it offers to its customers.

That is why Amazon invests heavily in the management and development of its platform, the improvement of the logistics system, IT security and all business related to its brand.

5. **Customer relations.** Amazon offers multiple channels of communication with its customers, with fast response times thanks to the online chat option in some cases. Customers can also contact by email and telephone. On the other hand, shoppers can communicate through product reviews.

6. **Source of revenue.** Amazon generates revenue through:

- Patents: The company currently holds more than 2,000 patents.
- Web Services: This is a platform focused on providing technological resources to companies and organisations around the world.

- Advertising.
- Amazon Prime: The premium subscription model offers customers interesting incentives. In addition to faster delivery and free shipping, subscribers can store unlimited photos and access a catalogue of series, films and music.
- Amazon Kindle: Amazon's exclusive reading platform where customers can access an extensive catalogue of books, magazines and exclusive content. Independent artists can even publish and sell their work on the platform.

7. **Resources.** Amazon's main resource is its strong technological structure that allows it to handle many orders from different parts of the world in an instant. Amazon, on the other hand, has physical infrastructure such as offices and warehouses.
Physical structures include human resources such as engineers, computer scientists, developers, designers or professional customer service staff.

8. **Partners.** Amazon's key partners include:

- Customers: They are the company's most important partners and generate most of its revenue. It is estimated to have more than 100 million customers worldwide, of which around 65% are Amazon Prime users.
- Logistics companies: These are third-party companies in charge of transporting and distributing boxes and seals.
- Affiliates: these are people who display Amazon products on your website and receive a commission in return. They play an important role in increasing traffic and attracting new customers.
- Independent author: a person who creates content independently and publishes their work using Amazon's platform. They do this by publishing directly from Kindle, the company's digital book service.

9. **Cost structure.** Amazon has a cost structure that includes:

- Information technology (IT) infrastructure - including the applications and devices needed to run your business
- Physical space: offices, warehouses, distribution and sorting centres, shipping stations
- Marketing
- Software development and maintenance
- Expenditure on human resources

- Membership fees

Figure 5: Amazon business model

Source: Own elaboration

6.3. Amazon's commitment to Spain

According to aboutAmazon (2022) in Spain, since amazon.es was created in 2011, the company has invested more than 10.5 billion euros in the country and currently employs 18,000 people.

- Investment in infrastructure. Since 2011, Amazon has invested more than €10.5 billion in its operations in Spain. This figure includes both capital and operating costs. In 2021 alone, they have invested more than €3.7 billion in the country not only to satisfy their customers and improve their services, but also to continue supporting more than 13,000 small and medium-sized Spanish companies that sell on Amazon. Today, 60% of the items sold on Amazon are third-party products (aboutAmazon, 2022).

In 2021 Amazon Spain opened several new offices and now has around 40 branches in Spain between operations and headquarters. Amazon's economic impact is not limited to metropolitan areas, but also affects small towns that are short of jobs. In addition to these openings, they are growing rapidly with software development centres in their technology hubs in Madrid and Barcelona, where approximately 600 software developers, computer engineers and data scientists work on Amazon Business, Kindle and books, retail and artificial intelligence. In early 2022 they announced the arrival of Lab126, a technology hub in Madrid (aboutAmazon, 2022).

● Job creation. Amazon planned to create at least 2,000 new full-time jobs by 2022. Over the last three years, they have added 13,000 full-time jobs. Amazon had a total of 18,000 full-time employees in Spain in September 2022 and is working to increase this figure to 25,000 by the end of 2025. (aboutAmazon, 2022)

The company offers career opportunities to all kinds of people, from new entrants to those with decades of experience. Amazon is also the gateway to the world of work for many young people. As of 2018, more than 1,500 new employees are under 28 years old, and the average age of Amazon employees in Spain is 34. Most of the jobs it created in 2021 were high-skilled, high-demand jobs. In 2021 Amazon hired more than 350 people in software development, information technology and engineering roles. Amazon's Global Leadership Principles include its ambition to be "the best place to work on Earth". In 2021 and 2022 Amazon was certified as a "Best Employer" in Spain in recognition of the diverse and inclusive work environment, career development opportunities and training programmes offered to its employees. According to a 2021 Randstad survey of 10,000 people, Amazon was named the best company to work for in Spain and, in early 2022, LinkedIn recognised Amazon as one of the best companies to work for in Spain. (aboutAmazon, 2022)

● Stakeholder training. Amazon also invests in tools and support for many companies across the country that use its technology and services to grow their business by increasing sales in Spain and beyond. In 2021, more than 13,000 Spanish small and medium-sized enterprises (SMEs) sold on Amazon. Almost half of them exported their products worldwide and achieved an international turnover of more than 850 million euros. In addition, these suppliers have created more than 35,000 jobs. Spanish small businesses sold more than 90 million products on Amazon in 2021, with a total of 175 products sold per minute (aboutAmazon, 2022).

In 2020, Amazon launched Despega, a programme developed jointly with IE University, CEPYME, ICEX and AECOC, which has since been joined by other public and private partners to boost the growth and digitisation of small businesses in post-pandemic Spain. Since its inception, more than 13,000 Spanish SMEs and entrepreneurs have benefited from the programme (aboutAmazon, 2022).

Amazon Web Services is also helping Spanish businesses grow. To support the digital transformation of our economy, AWS enables Spanish customers, including small and medium-sized businesses, startups, large enterprises or government agencies, to run workloads in Spain and store data. The new AWS region, located in Aragon, represents an additional investment of €2.5 billion and the creation of 1,300 new full-time jobs over 10 years. AWS estimates that this investment will increase Spain's gross domestic product (GDP) by around EUR 1.8 billion over 10 years, of which around EUR 500 million will come from Aragon. (aboutAmazon, 2022)

● Tax contribution. Amazon is a high-growth, high-volume company, but like most retailers, operating income is relatively low due to pricing pressures, capital-intensive investment and rising operating costs (including labour-related increases and inflation). Many governments, including Spain's, actively encourage companies to make these investments and often use tax systems to do so. Several Amazon entities operate in Spain, including two branches of European entities that manage its retail and cloud computing business. Like other Spanish companies, all of these entities pay taxes in Spain (aboutAmazon, 2022).

Amazon's investments amounted to €3.7 billion. In 2021 they reinvested more than half of their profits. The total tax contribution, including direct and indirect taxes, was €292 million. It breaks down into (aboutAmazon, 2022):

- The total amount of direct taxes was 224 million euros. Many of these relate to wages and social security taxes paid by Amazon. Other direct taxes include corporate income tax, land acquisition or construction tax, digital services tax and import duties.

- As a result of its operations in Spain, the company collected a further €68 million in indirect taxes. This is a tax they collect and pay from their customers, employees and other third parties in connection with their

business activities in Spain. This includes VAT and taxes paid by employees and withheld by Amazon.

They also help third parties selling with Amazon to pay VAT in Spain. So far, they have not included this figure in their indirect taxes. This is because these taxes are paid by third parties to the Spanish tax authorities (aboutAmazon, 2022).

6.4 Amazon's supply chain

Amazon's supply chain needs to be as efficient as possible to guarantee the fast deliveries that are so valuable to customers. Amazon uses FBA (Fulfillment by Amazon), which takes care of the logistics (storage and delivery of the product), both for the sale of its own products and those of external customer-partners. Due to Amazon's faster delivery fulfilment, Amazon's customer-collaborators generally experience a 63% increase in sales when they switch their products to FBA in Spain (sell.amazon, 2020). That is why Amazon has a large number of external sellers selling through Amazon (business partners) and suppliers.

In Spain, in order to be able to maintain this range of products and ensure that customers can have the items they have purchased available to them the following day, an immense logistics network has been created, which also continues to grow year after year. The first Amazon logistics centre in Spain was located in San Fernando de Henares, Madrid. After this, logistics centres have been opened in El Prat (Barcelona), Martorelles (Barcelona), Castellbisbal (Barcelona), Illescas (Toledo), Dos Hermanas (Seville), and Alcalá de Henares (Madrid) and, in addition, two robotic centres have been opened in Illescas and Corvera (Murcia) (sell.amazon, 2020).

On the other hand, to service Amazon fresh, Amazon has three urban logistics centres in Madrid and Barcelona. It also has two distribution centres in Barberá del Vallés and Getafe, and more than 16 logistics stations throughout Spain, to meet customers' needs with fast deliveries (sell.amazon, 2020). (sell.amazon, 2020).

According to a list drawn up by González (2022), these would be the locations of all Amazon's logistics facilities in Spain (see Figure 6).

A Coruña, Alcalá de Henares, Alcobendas, Alicante, Almería, Barberá, Barcelona, Barcelona, Cádiz, Castellbisbal, Coslada, Madrid, Dos Hermanas (Seville), El prat de Llobregat, Getafe, Illescas, Leganés, Madrid, Málaga, Martorelles, Mollet del Vallés,

Montcada i Reixach, Murcia, O Porriño (Pontevedra), Onda, Parets del Vallés, Picassent, Rubí - Barcelona, San Fernando de Henares, Sevilla, Trapagaran (Bizkaia), and Valladolid.

Figure 6: Distribution of Amazon's logistics facilities in Spain
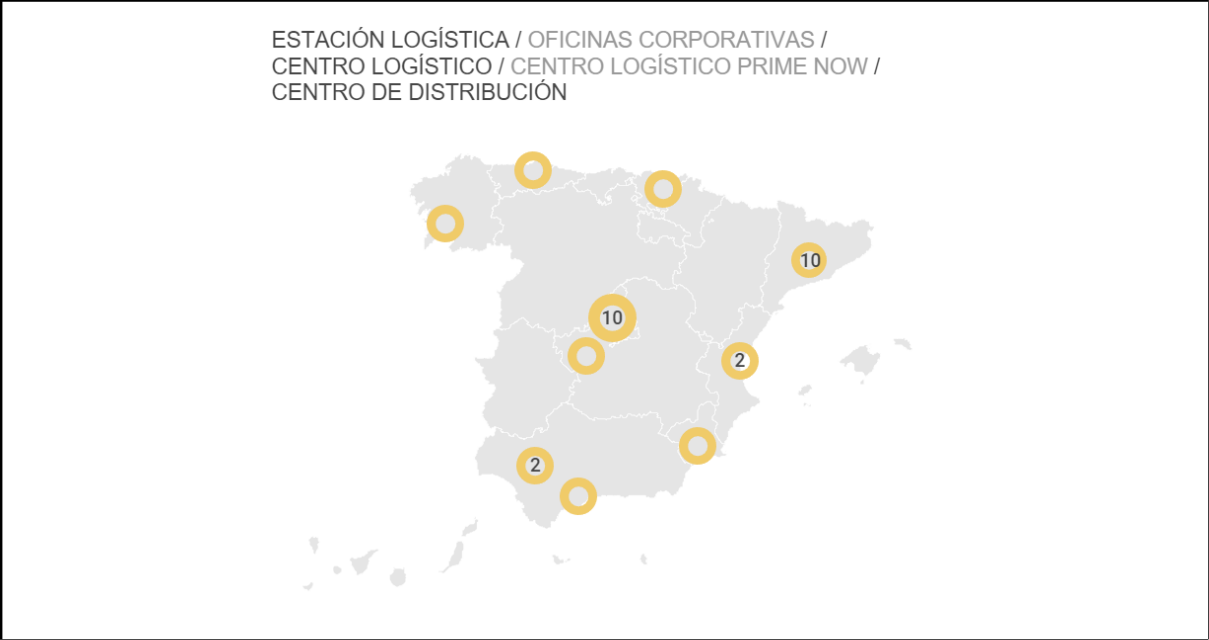
Source: Lainformación.com

6.4.1. Procurement

In terms of procurement, Amazon collects, packages, and ships the products of the commercial partners, i.e. Amazon controls the logistics of these partners, so that they only have to supply the product sold. In addition, customer service and returns of these products are also handled by Amazon. (Amazon.es, n.d.)

Partners can choose the logistics management solution that best suits their business from a wide selection offered by Amazon across Europe. The best known and fastest fulfilment programme is Amazon's Pan-European Fulfilment Programme, which uses fulfilment facilities across the EU to store and ship products. With the European logistics network, products are shipped from the main warehouse in the partner's home country, with inventory in multiple countries. Inventory is warehoused and shipped from logistics centres in the countries specified by the partner. (Amazon.es, n.d.)

According to Sell.amazon (2020) website in Spain, commercial partners have to follow four steps to be able to sell through Amazon's marketplace, and to be able to supply this e-commerce.

Step 1. Register with Amazon. You need to create a trading partner account on Amazon, and log in to Seller Central to configure the type of logistics you will follow to sell your products.

Step 2. Create a list of products for sale. In this step, the commercial partners must add the products they are going to sell to the Amazon catalogue, and add that the inventory will be managed by Amazon (there is the option of selling through the Amazon marketplace, but the selling company is responsible for the entire logistics process, customer service and returns).

Step 3. Prepare the products. The collaborators, once they have put their products on sale, prepare the products for transport to logistics centres, following the packaging guidelines established by Amazon, and following shipping and routing requirements.

Step 4. Ship the products to Amazon. A shipping plan is created, and shipping identification labels are prepared, so the partner can either ship the products themselves to an Amazon logistics centre, providing carrier information, or they can choose to have Amazon pick up their products and transport them to a logistics centre.

6.4.2. Internal logistics processes

Within Amazon's logistics and supply chain, in some processes, they use an artificial intelligence system, but it is mainly based on meticulous robotic automation work that supports human capital. They claim that this is the secret of Amazon's logistics and distribution systems and value chain (Beetrack, 2022).

1. All the products that Amazon sells are delivered to the warehouses in trucks that are scheduled to unload at specific times, which starts Amazon's supply chain process. Currently the system has everything under strategic sourcing control because it has full knowledge of the products arriving, the day and the time. The process consists of removing all the goods from inside the trucks, scanning them to check that the goods are as expected, and taking them to an intermediate area to check that they are in good condition (Beetrack, 2022).

2. Workers begin placing items into warehouses after they have been unloaded from trucks. Amazon Aurora software, which monitors inventory operations and database needs, then aggregates the millions of items that arrive each day into inventory (Beetrack, 2022).

Amazon offers customers a wide selection of products and fast, often free, shipping. However, providing a simple and seamless shopping experience requires a great deal of infrastructure and technology behind the scenes. Some of Amazon's largest warehouses occupy nearly a million square feet, employ thousands of associates, and can hold millions of different inventory items. (AWS Amazon, n.d.)

The Amazon Fulfillment Technologies (AFT) team builds and maintains the company's warehouse management systems. These include Inventory Management Services (IMS), which facilitates warehouse processes, including inbound and outbound shipments, picking, sorting, packing and inventory storage of items. These are essential for the timely delivery of customer orders (Brent Bigonger, Senior Database Administrator, Amazon).

3. The next step in Amazon's supply chain begins once everything is ready and a customer makes a purchase. This starts with the customer's order being received by a centralised system. The order is then immediately delivered to one of the thousands of robots in the distribution centres, which know the exact locations of the products in the warehouse. These deliver the products directly to the workers' station, where they will see, on a screen, an image of the item and the quantity of that product to be packed. From there, the goods are transported to the packing stations (Beetrack, 2022).

In the case of logistics centres where the technology is not yet so well implemented, such as the San Fernando de Henares logistics centre in Madrid, the products are collected by workers in the inventory area (Beetrack, 2022).

4. Finally they are prepared for delivery and packaging. The products go through SLAM, which stands for; scan, label, apply and manifest, as they move along the 28 kilometres of conveyor belts. This step in Amazon's supply chain involves putting the name and address of the person to whom the product is to be shipped. The SLAM system determines the best mode of transport to deliver the product in the shortest possible time and at the lowest cost (Beetrack, 2022).

5. Before sending the product, the system checks for possible faults, such as checking whether it matches the product that was ordered. To do this, the system provides the weight of the box so that it can be compared with the actual weight entered. If they do

not match, the items are taken to a special checkpoint for examination by a worker (Beetrack, 2022).

6. Boxes with packed orders are sorted into different trucks according to (Beetrack, 2022):

   - Shipping method.
   - Delivery time.
   - Location of the addressee.

   Each truck simultaneously transports more than 2,000 orders from the logistics centres to the sorting centres.

7. Depending on the location of the recipient and the requested delivery time, the goods are reorganised in the sorting centres. According to the type of delivery, each box is assigned to a different means of transport, such as a van, pick-up truck, motorbike or bicycle (Beetrack, 2022).

   Each mode of transport delivers the products from the sorting centres to the location that the end consumers have selected. The last mile delivery drivers follow a route using a GPS, which has the route marked in blue, with the number of deliveries to be made, and the packages to be delivered with each delivery. Each package has a number that identifies the order, which is identified in the application, and also shows what type of packaging covers the product (whether it is a box, envelope, etc.).

6.4.3 Amazon's relationship with customers

For Amazon, the relationship it has with its customers is crucial to its success. The company has realised the value of knowing their habits. That is why Amazon is committed to collecting all the information about customers' shopping habits and preferences. Amazon's system allows it to offer its customers useful options, such as reminding them to buy a repeat item, recommending additional purchases, performing specific searches, etc. Jeff Bezos calls Amazon's market penetration strategy "customer obsession". Amazon has improved its execution, focusing on delivering real value to its users despite the fact that customer satisfaction is a fundamental principle of marketing (Advance, Universidad Andrés Bello, n.d).

The Amazon team maintains high quality standards and efficient methodologies in its production, delivery and payment methods to understand and meet customer expectations. Amazon satisfies its customers by offering a wide range of products, simple registration, purchase and payment procedures, data security, free or low-cost shipping, a subscription programme and fast delivery. However, the most important factor is how the shopping experience is personalised, which makes the difference. Because of this, Amazon spends a lot of money on learning its customers' preferences in order to offer a personalised browsing experience that encourages customers to return to the platform and loyalty. With over 400,000,000 items in its catalogue, Amazon developed its own algorithm for making recommendations. Consumer purchases are linked to listings of similar products in a process known as 'item-by-item collaborative filtering' (Advance, Universidad Andrés Bello, n.d).

On the other hand, Amazon also stands out for its return policy, which will be explained in the next point, and the quick resolution of any shipping problems. For orders, the customer has a tracking code (Advance, Universidad Andrés Bello, n.d).

But the real difference in achieving maximum customer satisfaction lies in whether or not you are an Amazon Prime user (Mundodeportivo, 2021). When Amazon Prime was first launched in 2005, it was designed with its most loyal customers in mind. Since then, it has continued to develop into one of the platforms with the most benefits for its users (see Table 4.1 and 4.2). In addition, Amazon introduced its latest enhancement to this service in 2019, free one-day delivery for all Prime members, with no minimum purchase amount and no extra cost to pay. This service, apart from having different benefits such as; being able to watch series and movies in prime video, read for free with prime reading, have free and unlimited photo storage, opt for exclusive content in computer games with prime gaming, or listen to music without ads with prime music, benefits that are not the subject of study in this paper, also have other types of advantages for customers, and that affect sustainability.

Table 4.1: Prime user benefits

Advantages of being a Prime Member	
1. Free, fast and secure shipping.	Free shipping is undoubtedly one of the best benefits of Prime membership. For users who shop online often, the costs associated with each shipment can add up to a significant amount at the end of the month. More than 100 million products on Amazon's website come with free shipping. In addition, there are numerous options available, such as standard delivery, which allows you to receive your orders the next day, or even the same day for millions of items. On Saturdays and Sundays, some products are also available.
2. Exclusive offers	Prime customers can consistently save money by having access to special offers and products at unbeatable discounts. In addition, Prime users have priority access to limited-stock Flash Deals 30 minutes earlier than non-Prime customers.
3. Amazon Fresh	This fast home delivery service is available to residents of Madrid, Barcelona, Alicante, Bilbao, Malaga, Seville, Valencia and Zaragoza. The list of Spanish locations is growing over time. The catalogue includes more than 10,000 products, including fresh and frozen food, dairy products, snacks, cosmetics, personal care items, toys and stationery. Orders over 50 euros are free of charge. The minimum order amount is 15 euros, and the shipping costs for these orders will be an additional 3.90 euros. Orders over 50 euros will have a cost of 4.99 euros if you choose the one-hour delivery option. In the case of Valencia, the minimum order is 30 euros, with free shipping for orders over 80 euros, which in the case of orders under 80 euros, shipping has an additional cost of 1.99 euros. In Madrid and Barcelona, deliveries are made from 8 a.m. to midnight from Monday to Sunday, so there is a very wide time slot for receiving orders. In the case of Valencia, the hours available are from 10 am to 10 pm, and orders can be delivered within 2 hours, as in the rest of the cities. (Amazon.es)
4. Prime Day	As an Amazon Prime user, you can access 'Prime Day', which in 2022 will be on 12 and 13 July and 11 and 12 October. On these days, Prime users can access exclusive offers across the entire website.

Source: Own elaboration

Table 4.2: Prime user benefits

5. Amazon Family	Nappies, baby food and such products for babies and children are up to 15% off with Amazon Prime. In addition, coupons, individualised guidance and special offers are also available.
6. Amazon Hub Locker	Prime customers can pick up Amazon packages securely and at their convenience using Amazon Locker, a locker service. Users receive an email from Amazon with a unique 6-digit code once the package has been deposited at Amazon Locker.
7. Amazon Pantry	Prime users can also find grocery products in convenient sizes and at affordable prices at Amazon Pantry. A further benefit of having an Amazon Prime account is the ability to add any item labelled "Amazon Pantry" to the shopping cart and complete it every time a minimum of €15 is reached. Customers will only be charged €4.99 for shipping once the sale is completed. However, if at least 5 items are purchased from a promotional selection, users can benefit from free shipping on their order.
8. Deliveries on launch day	Another benefit of having Amazon Prime is being able to receive a desired product on the day of its launch. Launch day delivery is a free option for customers with Amazon Prime. Shipping costs for non-Prime members are €4.99 per shipment.

Source: Own elaboration

6.4.4 Complaints and returns management

The return process at Amazon is as follows, according to Amazon.es (n.d):

1. The first step for customers is go to 'My orders', to see the orders that have been placed recently. To return a gift, go to 'return a gift'.

2. Then you choose your order, and select the product(s) you wish to return under 'return or replace products'.

3. In the 'Reason for return' menu, first choose the item you wish to return.

4. It is then determined how to handle the return. Depending on the situation, you can opt for a refund or a replacement. There is an option to 'Send a return request', if the product was sold by an Amazon seller. Before issuing a refund or replacement, the Amazon seller reviews the return requests. Claims can be made under the A-Z Guarantee if a response is not received within two business days.

5. The preferred method of return is selected.

6. The return authorisation and label are printed. You can return the item in its original packaging using the Amazon box if you choose the Celeritas or SEUR return option. You do not need to print labels for the product packaging or the Amazon box. Products sold and shipped by Amazon or sold by third parties and shipped by Amazon and weighing less than 5 kg and having a length of less than 30 cm are eligible for the Celeritas and SEUR options.

7. Finally, the products are packaged for return, including the return label (if applicable). When a return is requested, the Returns Centre sends instructions to customers to package the product securely.

According to Amazon.es (n.d), for most products sent to addresses within Spain, Amazon offers free returns. But for returns to be free, they have to meet certain requirements.

- No minimum amount is required for free returns.
- Deliveries to addresses in the UK only are eligible for free returns. Certain products may be subject to additional shipping limitations.
- If you are not satisfied with your purchase, any unused item that can be returned free of charge and is still in its original packaging can be returned for a full refund, in accordance with their returns policy. Only if a return is requested within 14 days of receipt of the product will the customer be refunded the initial shipping costs.
- The product must be returned with all its packaging and any certificates attesting to its authenticity, qualification and value. They do not accept a product if it is returned without the original documentation. They do not accept returned items that have been resized, or damaged after delivery.
- Returns of goods must be made with a traceable delivery method. The customer's location specifically affects returns. For these return options, the customer should visit the online Returns Centre.
- After receiving the returned products, Amazon handles your return and issues a full refund without deducting the return shipping. They do not refund initial shipping costs, if the return is not the result of an Amazon error, unless you request a refund within 14 days of receiving the item.

But what happens to the returns once they are returned or to the products that don't sell? Because within Amazon, the goal with returns and unsold products is to reduce the number of discarded products to zero.

According to 'Equipo About Amazon' (2021a), their idea when they receive returns is to resell it, if this is not possible, they prefer to donate it to charities, and if this is not possible either, the next option is to recycle it. After having recycled all the materials that could be recycled, the last option is to use methods such as energy recovery in specialised plants to dispose of additional materials.

Amazon's strategy is to create a circular economy programme with the aim of reducing returns, reusing and reselling products that customers have returned, giving them back to their business partners or donating them to non-profit organisations. First, they help customers find what they are looking for immediately and make informed purchasing decisions. They do this, for example, by providing product pages with detailed information, user reviews and other useful data (Equipo About Amazon, 2021a).

To help customers maintain and use their purchases, they have also made investments in services, such as technical support and customer service. In addition, Amazon offers several ways to make the aforementioned returns. Once a return has been made, every item returned to Amazon undergoes a thorough inspection procedure. This rule applies both to items that Amazon sells on behalf of the company, as well as to items that they ship on behalf of their business partners. The item is put back on sale and marked as "new" if it is new and meets strict quality standards. In fact, this is how most returned products can be sold (Equipo About Amazon, 2021a).

If Amazon or one of its business partners owns a product that cannot be resold as new, then the further treatment of that product depends on who owns it. If the ownership is Amazon's, and the returned items do not qualify for resale as new, they undergo further inspection to label the product and determine its best use, which may be return to the supplier, resale as a used product through 'Amazon Warehouse' or donation to charities, such as the Red Cross (Equipo About Amazon, 2021a).

Once they have recycled everything that is recyclable, they only dispose of leftover materials using techniques such as energy recovery in specialised plants if there is no other option, such as in situations where it is not possible to do otherwise due to hygiene issues, legal

requirements, or if the product is damaged and cannot be recycled (Equipo About Amazon, 2021a).

If owned by independent business partners, more than half of the products sold on Amazon worldwide are produced by independent business partners who control inventory and make inventory decisions. They often choose to use an Amazon service called "Amazon Logistics", through which Amazon warehouses and ships these partners' products on their behalf, handles customer service issues, and processes returns. The trading partners will determine what to do with the returned products, as they are not owned by Amazon. Amazon intends to provide trading partners with access to mechanisms like the ones they use for Amazon-owned products, so that they can make sustainable decisions. The "FBA liquidations" and "FBA grade and resell" programmes aim to enable trading partners to give a second life to returned or unsold goods and thereby support the development of a circular economy (Equipo About Amazon, 2021a).

With the launch of the "FBA liquidations" programme in Spain, trading partners can now benefit from Amazon's technology and wholesale liquidation channel to resell returned or unsold products. By liquidating their inventory through a trusted supplier, businesses selling on Amazon will now have a new and simple method to recover some of the value of their products (Equipo About Amazon, 2021a).

But on the other hand, the "FBA grade and resell" programme, available to business partners who wish to resell returned products in Spain from 2022, can send returned items to the "grade and resell" programme. These will be assessed by Amazon, which categorises them as; used - like new, used - very good, used - good and used - acceptable. The programme allows trading partners to manage pricing, advertising and sales using current services as they do with their new products and price items based on condition (Equipo About Amazon, 2021a).

In an effort to minimise waste, Amazon is dedicated to helping customers reuse, repair and recycle their used products and reduce the amount of packaging materials used through the 'Amazon Second Chance' website, and, through the 'Amazon Recycling' website, the company offers customers the option to recycle their electronics with a home collection service (Team About Amazon, 2021a). Manufacturers are supported by programmes, such as the 'Easy Open Package' programme, to be able to package their products in fully recyclable, easy-to-open packages, eliminating the need for additional packaging from Amazon (Equipo About Amazon, 2021a).

7. PURCHASING DECISIONS ON AMAZON

The main objective of this research is to find out the attitude of Amazon shoppers towards the sustainability of online shopping at Amazon in particular. If we want to propose changes in Amazon's activities to improve its sustainability, the starting point is the shopping behaviour of its customers:

Table 5: Research Fact Sheet

RESEARCH	SUSTAINABLE ONLINE SHOPPING
QUESTIONNAIRE	Structured, anonymous Google Form
DATE	April 2023
SAMPLE	135 answers, of which 124 are Amazon customers.
QUESTIONS	4 sections, 21 questions
DURATION	5 minutes

Source: Own elaboration

The classification of the questions is as follows:

Table 6: Ranking of questions section 1

Section 1. Demographic profile	
1. **Sex**	Quantitative, closed-ended, dichotomous question
2. **Age**	Quantitative, closed-ended, multiple-choice question
3. **Employment situation**	Quantitative, closed-ended, multiple-choice question
4. **Do you shop online or have you ever shopped online?**	Quantitative, closed-ended, dichotomous question Filter question. - If the answer is yes, go to section 2. - If the answer is no, go to section 4.

Source: Own elaboration

Table 7: Ranking of questions section 2

Section 2. Online consumer shopping habits	
5. How often do you shop online?	Quantitative, closed-ended, multiple-choice question
6. What is your average expenditure per purchase (Estimate)?	Quantitative, closed-ended, multiple-choice question
7. What payment methods do you use for online purchases?	Quantitative, closed-ended, multiple-choice question
8. What are your reasons for buying online?	Quantitative, closed-ended, multiple-choice question
9. Do you shop on Amazon or have you ever shopped on Amazon?	Quantitative, closed-ended, dichotomous question Filter question - If the answer is yes, go to section 3. - If the answer is no, go to section 4.

Source: Own elaboration

Section 3. Amazon shopping habits and impact on sustainability	
10. What products do you usually buy on Amazon?	Quantitative, closed-ended, multiple-choice question
11. What do you value most when shopping on Amazon?	Quantitative, closed-ended, multiple-choice question
12. Do you usually buy imported products from other countries on Amazon?	Quantitative, closed-ended, dichotomous question
13. Have you made any purchases due to marketing campaigns such as Black Friday, or Amazon sales campaigns?	Quantitative, closed-ended, dichotomous question
14. Which of your purchases on Amazon are impulse purchases, without being a real need?	Quantitative, closed-ended, multiple-choice question
15. Do you usually return your Amazon purchases?	Quantitative, closed-ended, multiple-choice question
16. Have you ever had any problems when shopping on Amazon?	Quantitative, closed-ended, multiple-choice question
17. Do you consider Amazon's online commerce to be sustainable?	Quantitative, closed-ended, multiple-choice question
18. Of the following impacts related to shopping on Amazon, which do you consider most important to reduce?	Quantitative, closed-ended, multiple-choice question
19. I choose a sustainable option... - **Provided that the product is not more expensive** - **Even if delivery takes longer**	- Quantitative, closed-ended, dichotomous question - Quantitative, closed-ended, dichotomous question
20. Do you consider penalising unsustainable behaviour?	Quantitative, closed-ended, multiple-choice question

Source: Own elaboration

Table 9: Ranking of questions section 4

Section 4. End of the questionnaire	
21. Additional information from respondents	Qualitative, open-ended, optional question

Source: Own elaboration

A section with the same questions as in section 3 was asked for online shoppers who do not buy from Amazon, but there were only seven answers, which were not very useful in the research, so this section has been deleted.

The responses are then analysed to draw conclusions about the impact of e-commerce on sustainability, and in particular the impact of Amazon, from the perspective of the online consumer, looking at their decisions and preferences when shopping online.

Finally, the total number of respondents is 135, and the results are as follows:

Section 1. Demographic profile.
Of the 135 respondents, 57% are women (77), and 43% are men (58).

Graph 13: Gender of respondents
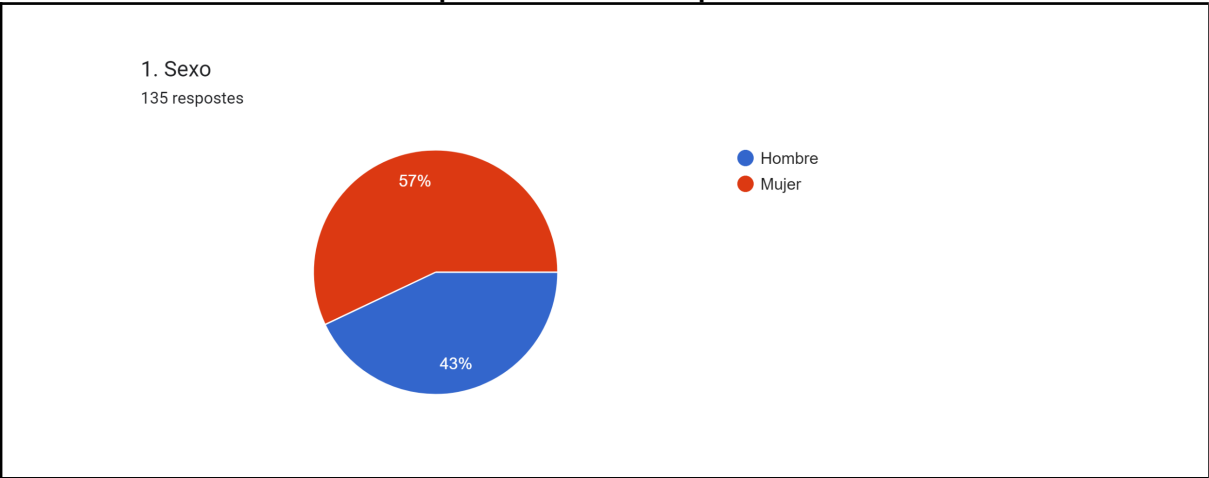
Source: own elaboration

In terms of age, the largest age range of respondents is 25-34 years, with 34.8% (47), followed by very few respondents aged 18-24 years, with 34.1% (46), and the lowest age range of respondents is over 54 years, with 3% (4).

Graph 14: Age of respondents

2. Edad
135 respostes

- ● 18 años a 24 años
- ● 25 años a 34 años
- ● 35 años a 44 años
- ● 45 años a 54 años
- ● Mas de 54

10,4%
17,8%
34,8%
34,1%
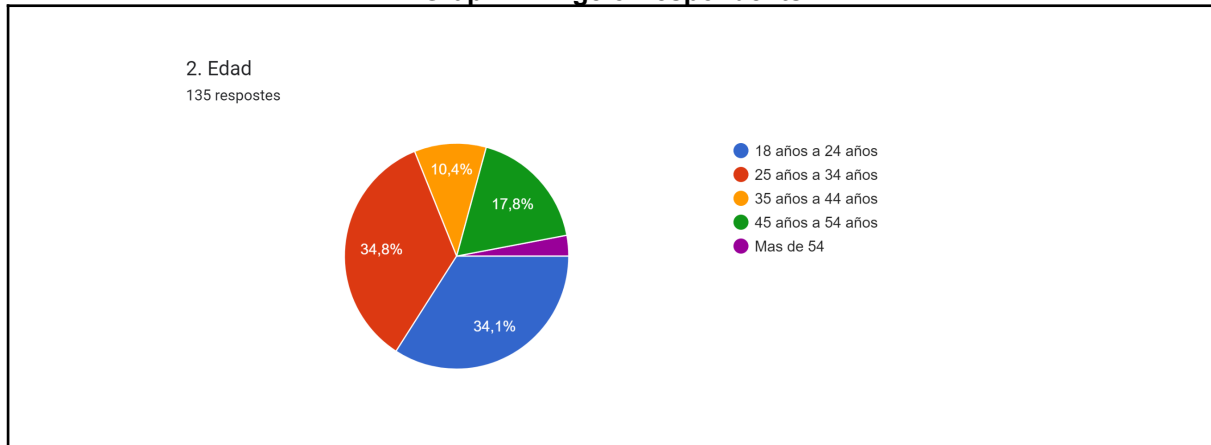
Source: own elaboration

In terms of employment situation, the predominant category is active employed, with 66.7% (90), followed by students, with 29.6% (40), the rest are active unemployed with 2.2%, and pensioners/retired with 1.5%.

Graph 15: Employment situation

3. Situación laboral
135 respostes

- ● Activo ocupado
- ● Activo parado
- ● Estudiante
- ● Pensionista/Jubilado

29,6%
66,7%
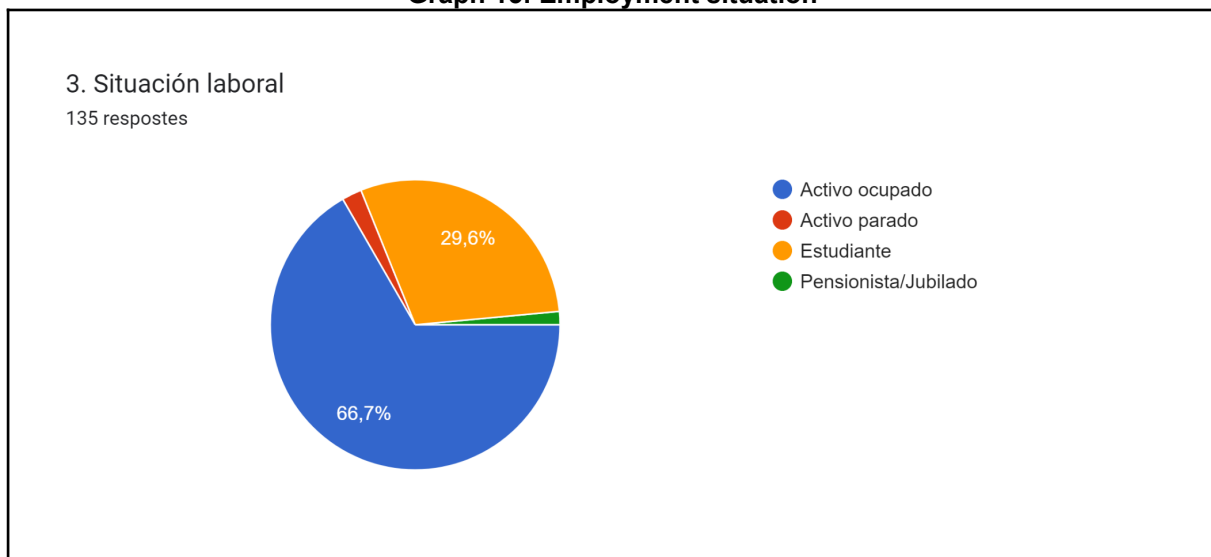
Source: own elaboration

As for the filter question, which asks if they buy online, the vast majority of respondents answered yes, with 96.3% (130), and the remaining five respondents answered no, so these five respondents do not influence the study of this research, they go directly to section 5 (End of the questionnaire).

Graph 16: Do you shop online or have you ever shopped online?

4. ¿Compra por internet o ha comprado alguna vez?

135 respostes

- Sí
- No

96,3%

Source: own elaboration

Section 2. Online consumer shopping habits.

For this section, the research collected a total of 130 responses.

The purchase frequency most frequently chosen by respondents is to shop at least once a month, with 35.4% (46), followed by once every three months, with 20.8% (27), and the least voted purchase frequency is to shop daily, which none of the respondents shop online daily, and followed by the frequency of shopping two to three times a week with 3.8% (5).

Graph 17: Frequency of online shopping

5. ¿Con qué frecuencia compra online?

130 respostes

- A diario
- Dos o tres veces por semana
- Una vez a la semana
- Una vez cada 15 días
- Una vez al mes
- Cada tres meses
- Cada seis meses
- Al menos una vez al año

20,8%
35,4%
10,8%
19,2%
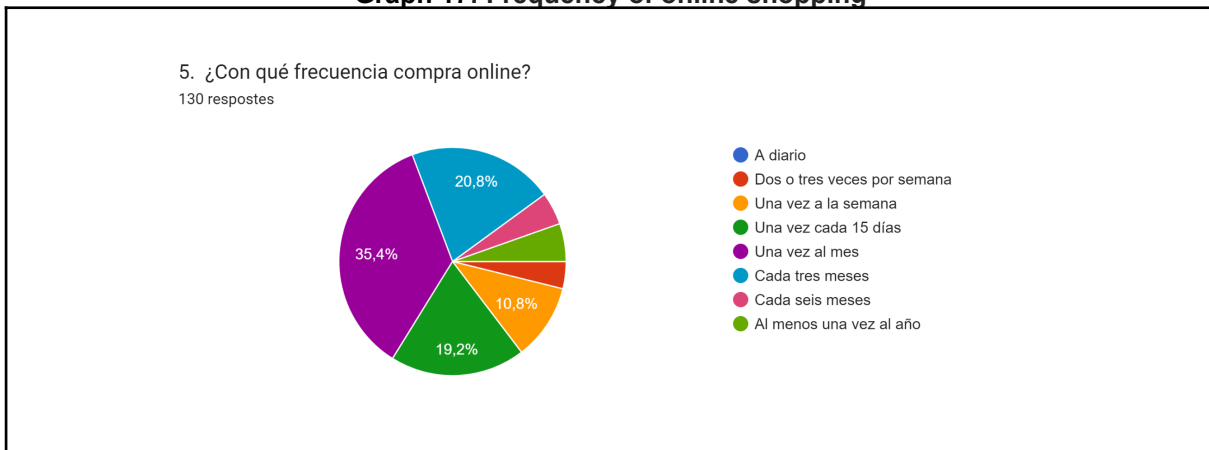
Source: own elaboration

In terms of the average amount spent by respondents, the predominant expenditure is between 25 and 50 euros, with 56.9% (74), followed by the range between 51 and 100 euros, with 28.5% (37), and the least selected range was over 150 euros, with 1.5% (2).

6. ¿Cuál es su gasto promedio por compra? (Estimación)
130 respostes

- Menos de 25 euros
- Entre 25 y 50 euros
- Entre 51 y 100 euros
- Entre 101 y 150 euros
- Más de 150 euros

28,5%
10,8%
56,9%
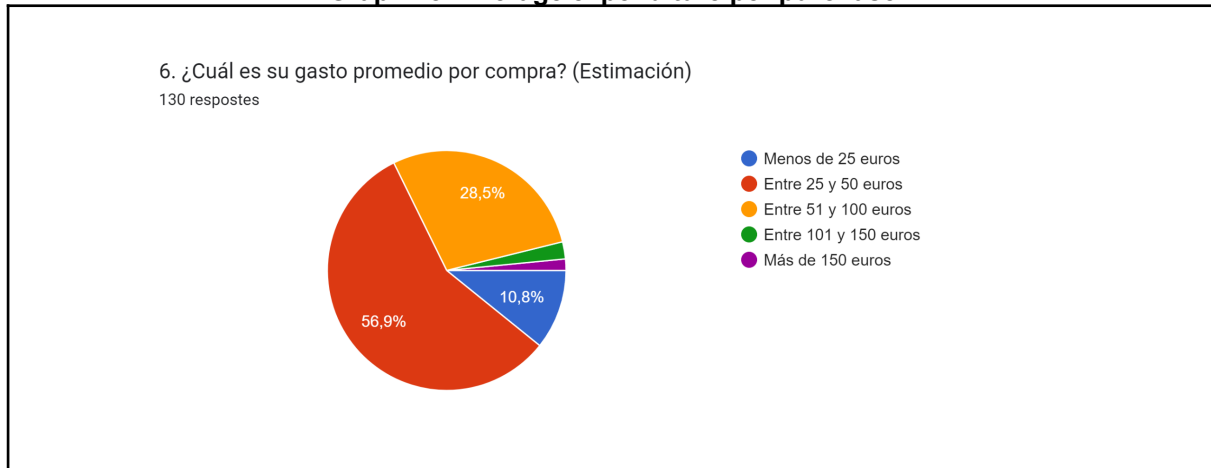
Source: own elaboration

Still on the payment method, the most voted method of payment and the one with which almost all respondents pay for their online purchases is the credit card, with 92.3% (120), followed by Paypal, with 22.3% (29).

Graph 19: Payment method

7. ¿Qué formas de pago utiliza para las compras online? (puede marcar varias respuestas)
130 respostes

- Tarjeta de crédito o débito — 120 (92,3 %)
- Paypal — 29 (22,3 %)
- Transferencia bancaria — 1 (0,8 %)
- contra reembolso — 9 (6,9 %)
- Bizum — 20 (15,4 %)
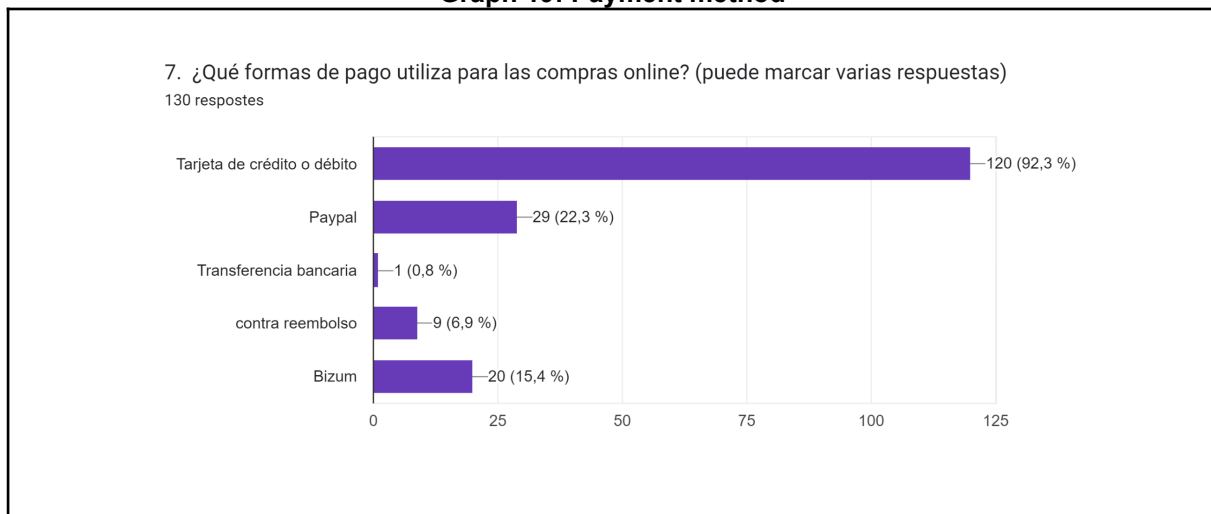
Source: own elaboration

As for the reasons for shopping online, the most predominant was convenience and ease, with 81.5% (106 votes), followed by offers and promotions, with 43.8% (57), and a greater variety of products, with 42.3% (55). These three advantages are the most valued by respondents, and the ones that have the greatest influence when choosing between online and physical shopping.

Graph 20: Reasons for buying online

8. ¿Cuáles son sus motivos para comprar online? (puede marcar varias respuestas)
130 respostes

Motivo	
Evitar ir a tiendas físicas	36 (27,7 %)
Comodidad y facilidad	106 (81,5 %)
Precios más bajos	39 (30 %)
Ofertas y promociones	57 (43,8 %)
Confianza y seguridad	5 (3,8 %)
Mayor variedad de productos	55 (42,3 %)
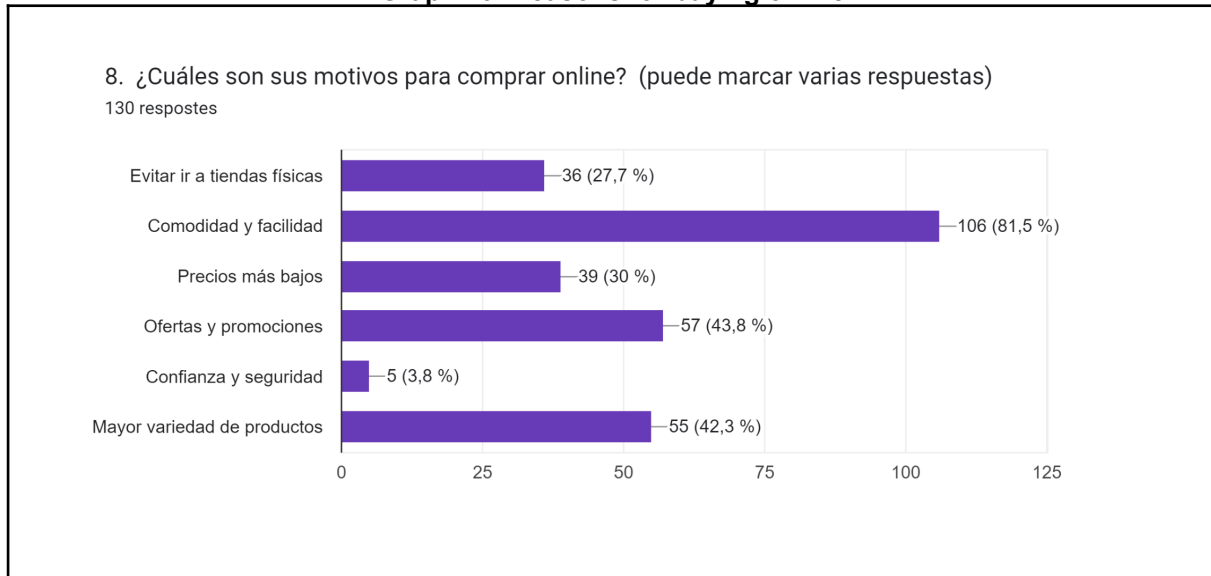
Source: own elaboration

The last question in section 2, a filter question asking whether respondents shop on Amazon or not, 94.6% (124) answered yes, then moved on to section 3, Amazon shopping habits and impact on sustainability, focusing on which shopping habits that affect sustainability are followed by respondents who shop on Amazon, and the respondents who answered no, 5.4% (7), moved on to the section that has been deleted, online shopping habits and their impact on sustainability.

Graph 21: Do you shop on Amazon or have you ever shopped on Amazon?

9. ¿Compra en Amazon o ha comprado alguna vez?
130 respostes

- Sí
- No

94,6%
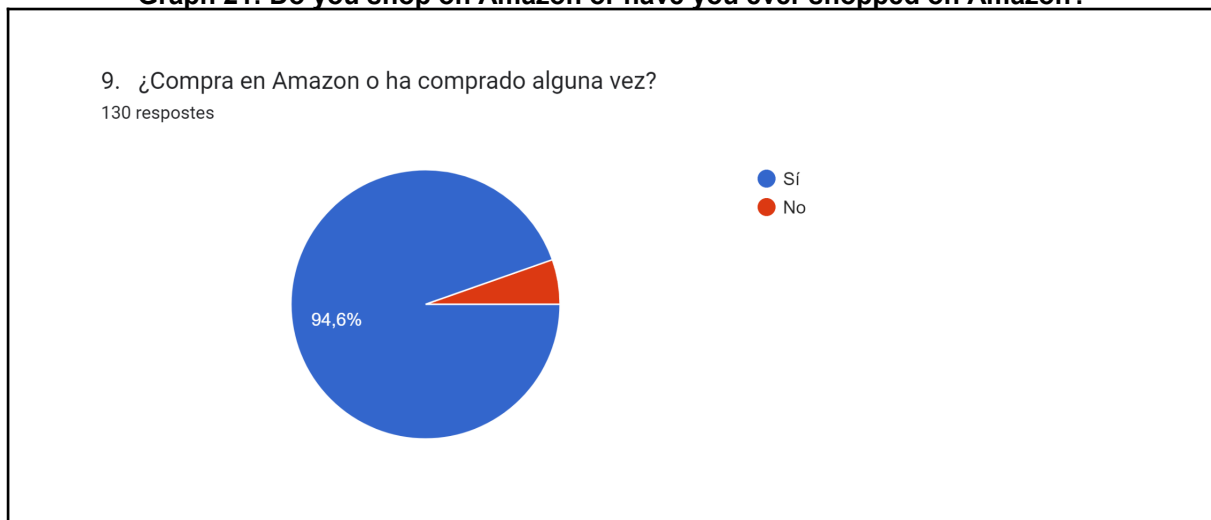
Source: own elaboration

Section 3. Shopping habits on Amazon and impact on sustainability

Section 3, in which the majority of respondents took part, with 124 participations, refers to the online shopping habits of Amazon customers, and how the commerce of this most used marketplace for shopping in Spain impacts sustainability.

Looking at graph 22, which are the products most purchased by respondents on Amazon, the most voted option is telephony, computers and video games, with 46% (57), followed by clothing and footwear, with 43.5% (54), household products (41.1%), and books (37.9%).

Graph 22: Products purchased on Amazon

10. ¿Qué productos suele comprar en Amazon? (puede marcar varias respuestas)
124 respostes

- Ropa y calzado — 54 (43,5 %)
- Telefonía, informática y videoju… — 57 (46 %)
- Productos de alimentación — 6 (4,8 %)
- Productos de higiene personal… — 31 (25 %)
- Libros — 47 (37,9 %)
- Juguetes — 25 (20,2 %)
- Productos del hogar — 51 (41,1 %)
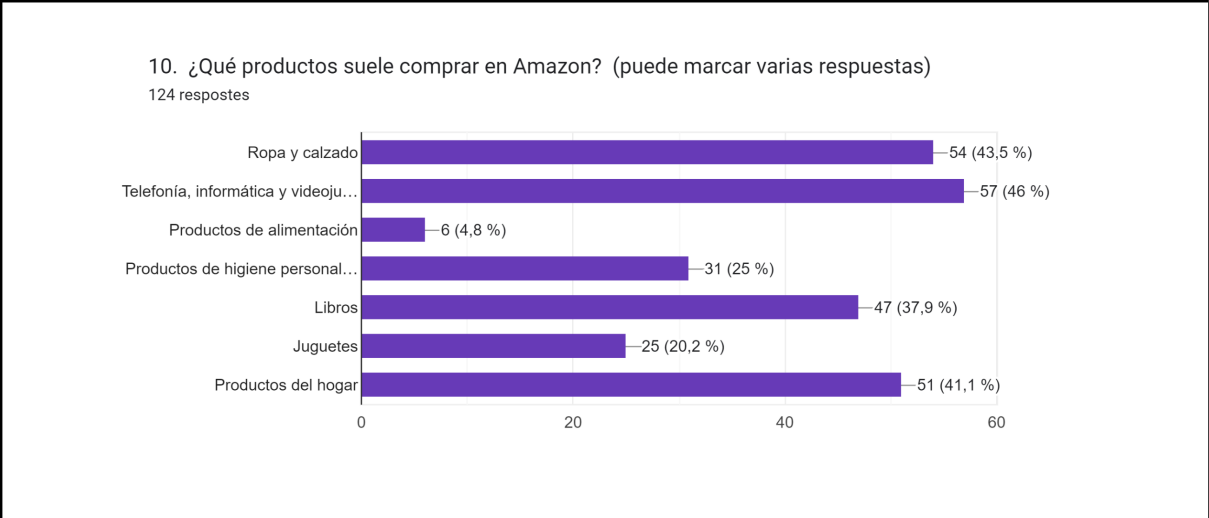
Source: own elaboration

In terms of what customers value most highly on Amazon's marketplace, the most highly valued option by far was Prime shipping, with 98 votes (79%), followed by relatively cheaper prices than other retailers, with 56 votes (45.2%). Other highly valued options were offers and promotions (29.8%), shopping security (36.3%), and return facilities (35.5%).

Graph 23: Top rated Amazon trading features

11. ¿Qué es lo que más valora a la hora de comprar en Amazon? (puede marcar varias respuestas)
124 respostes

Precios relativamente más económicos que otros comerci…	56 (45,2 %)
Ofertas y promociones	37 (29,8 %)
Envío prime (envíos 24 horas)	98 (79 %)
Seguridad en la compra	45 (36,3 %)
Facilidades en la devolución	44 (35,5 %)
Compra sostenible (se utilizan materiales reciclables, se redu…	4 (3,2 %)

Source: own elaboration

Regarding the purchase of imported products on Amazon, 66.9% of respondents (83) do buy imported products through this marketplace, while 33.1% (41) do not buy imported products.

Graph 24: Purchases of imported products on Amazon

12. ¿Suele comprar productos importados de otros países en Amazon?
124 respostes

- Sí
- No

33,1%

66,9%

Source: own elaboration

Regarding Amazon customers who shop during marketing campaigns, or Amazon sales campaigns such as Prime Day, 71% of respondents (88) claim to have shopped during these campaigns, while 29% (36) do not shop on these dates.

Graph 25: Amazon marketing campaign purchases

13. ¿Ha realizado alguna compra debido a campañas de marketing como el Black Friday, o campañas de rebajas en Amazon?

124 respostes

● Sí
● No

29%

71%

Source: own elaboration

In graph 26, 39.5% of respondents (49) say that between 0 and 20% of their online purchases are made without a real need, while the second most voted option, with 17.7% of the votes (22), is that they do not make any impulse purchases. The next most voted options are between 21% and 40%, and between 41% and 60%, with 14.5% of the votes for each option (18).

Graph 26: Impulse purchases on Amazon

14. De sus compras en Amazon, ¿Cuáles son por impulso, sin ser una necesidad real?

124 respostes

● 0%
● Entre 0% y 20%
● Entre 21% y 40%
● Entre 41% y 60%
● Entre 61% y 80%
● Entre 81% y 100%

14,5%
14,5%
9,7%
39,5%
17,7%
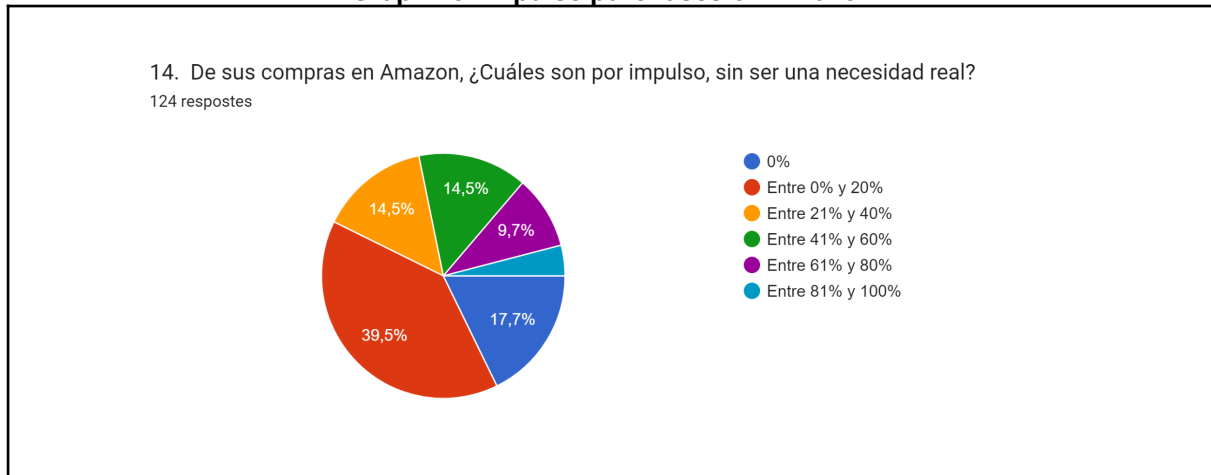
Source: own elaboration

Regarding the number of returns on Amazon, the option most voted by the 124 respondents is that they do not make returns, with 42.7% (53). The remaining respondents (71) do make returns on Amazon, of which 53 (42.7%) make one return for every 20 purchases, 12 (9.7%)

make one return for every 10 purchases, and 6 (4.8) make one return for every five purchases.

Graph 27: Number of returns on Amazon

15. ¿Suele devolver sus compras de Amazon?
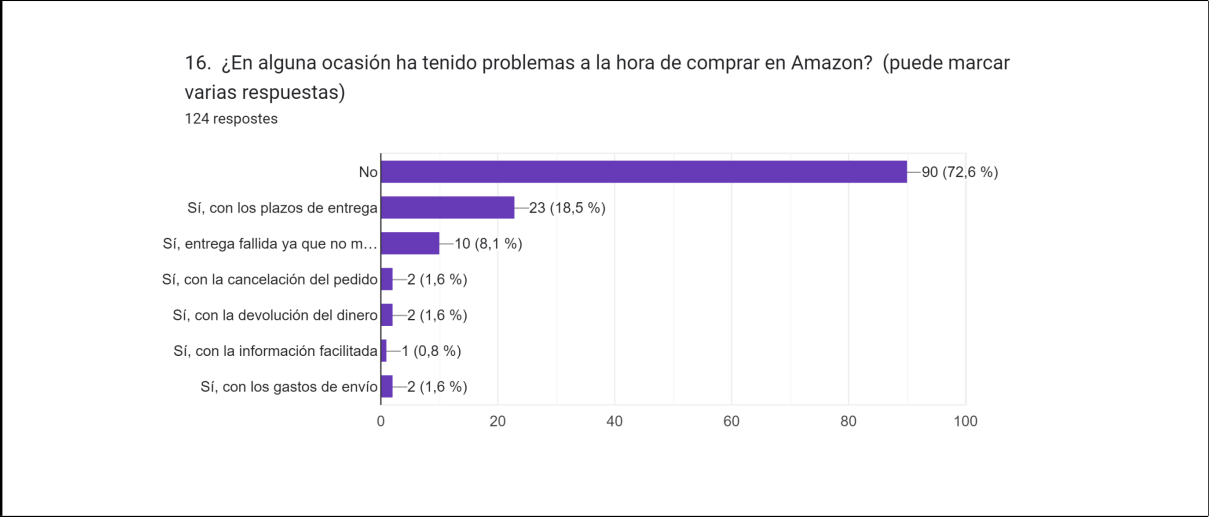124 respostes

- Nunca devuelvo
- Suelo devolver 1 de cada 20 compras
- Suelo devolver 1 de cada 10 compras
- Suelo devolver 1 de cada 5 compras
- Suelo devolver 1 de cada 2 compras

42,7%
9,7%
42,7%

Source: own elaboration

Next, if we look at graph 28, on problems that may have arisen for respondents when buying on Amazon, 72.6% (90) say they have not had any problems buying through this online retailer, which reflects the great security of this company. The most voted problems were problems with delivery times (18.5%), and failed deliveries because the buyer was not at the place of delivery (8.1%).

Graph 28: Problems when shopping on Amazon

16. ¿En alguna ocasión ha tenido problemas a la hora de comprar en Amazon? (puede marcar varias respuestas)
124 respostes

No	90 (72,6 %)
Sí, con los plazos de entrega	23 (18,5 %)
Sí, entrega fallida ya que no m…	10 (8,1 %)
Sí, con la cancelación del pedido	2 (1,6 %)
Sí, con la devolución del dinero	2 (1,6 %)
Sí, con la información facilitada	1 (0,8 %)
Sí, con los gastos de envío	2 (1,6 %)

Source: own elaboration

When asked whether they considered Amazon's online commerce to be sustainable, 46.8% (58) voted yes, while 46% (57) voted that they did not know, and 7.3% (9) voted no.
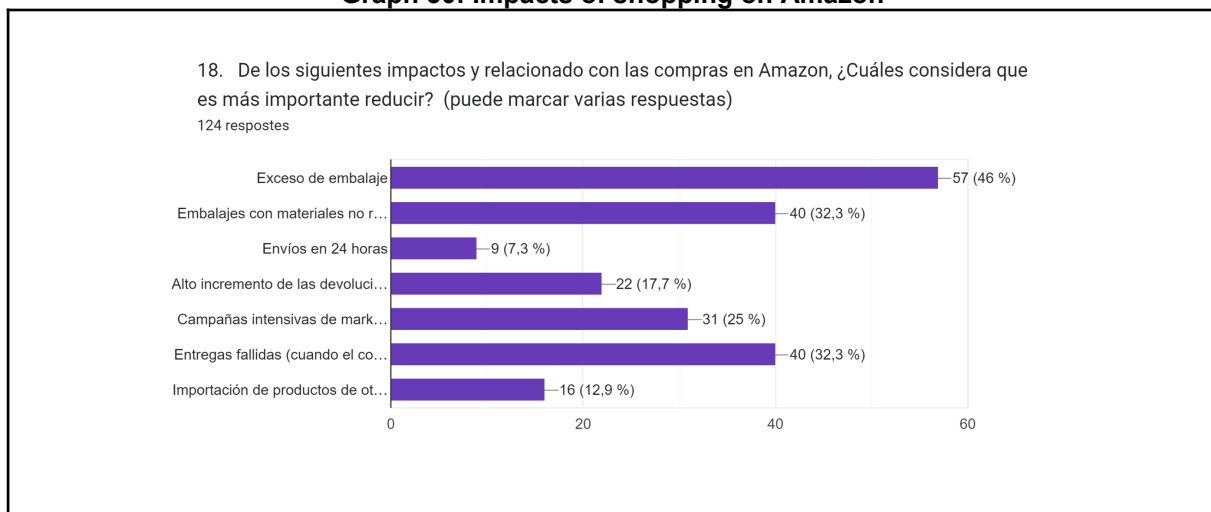
Graph 29: Question on whether you consider Amazon's online commerce to be sustainable

17. ¿Considera que el comercio online de Amazon es sostenible?

124 respostes

- 🔵 Sí
- 🔴 No
- 🟠 No sé

46%

7,3%

46,8%
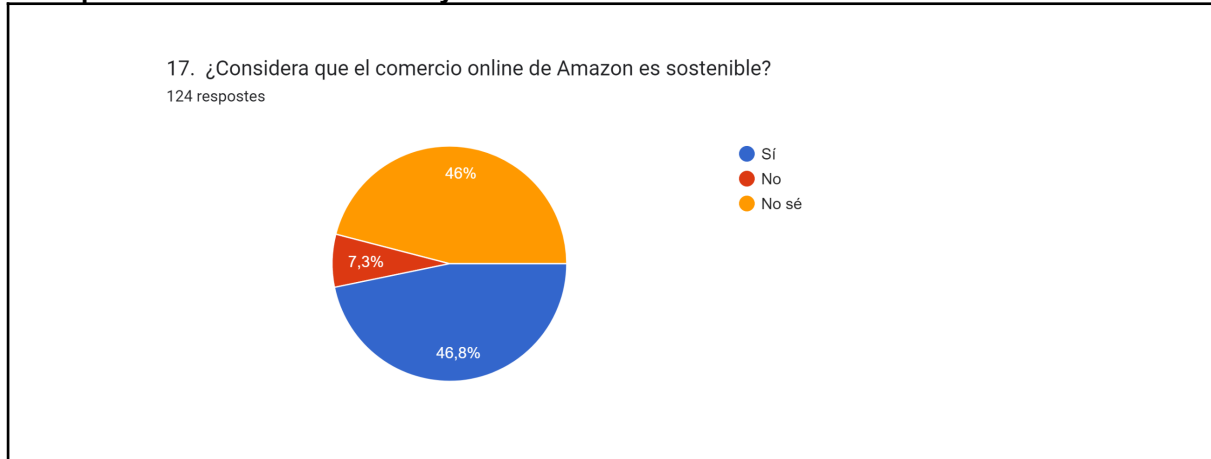
Source: own elaboration

For Amazon users, the impacts they consider most important to reduce are excess packaging, with 46% of the votes (57), followed by packaging with non-recyclable materials with 40 votes (32.3%), and missed deliveries, with the same votes as above.

Graph 30: Impacts of shopping on Amazon

18. De los siguientes impactos y relacionado con las compras en Amazon, ¿Cuáles considera que es más importante reducir? (puede marcar varias respuestas)

124 respostes

Exceso de embalaje	57 (46 %)
Embalajes con materiales no r…	40 (32,3 %)
Envíos en 24 horas	9 (7,3 %)
Alto incremento de las devoluci…	22 (17,7 %)
Campañas intensivas de mark…	31 (25 %)
Entregas fallidas (cuando el co…	40 (32,3 %)
Importación de productos de ot…	16 (12,9 %)

Source: own elaboration

When it comes to choosing a sustainable option, 90 respondents choose a sustainable option as long as the product is not more expensive, and when it comes to choosing a sustainable option even if the delivery takes longer, there is a tie, with 62 respondents preferring a sustainable option even if they receive the order later, while the other 62 respondents prefer a non-sustainable option that arrives earlier.

Graph 31: Choice of sustainable options in Amazon purchases

19. Elijo una opción sostenible...
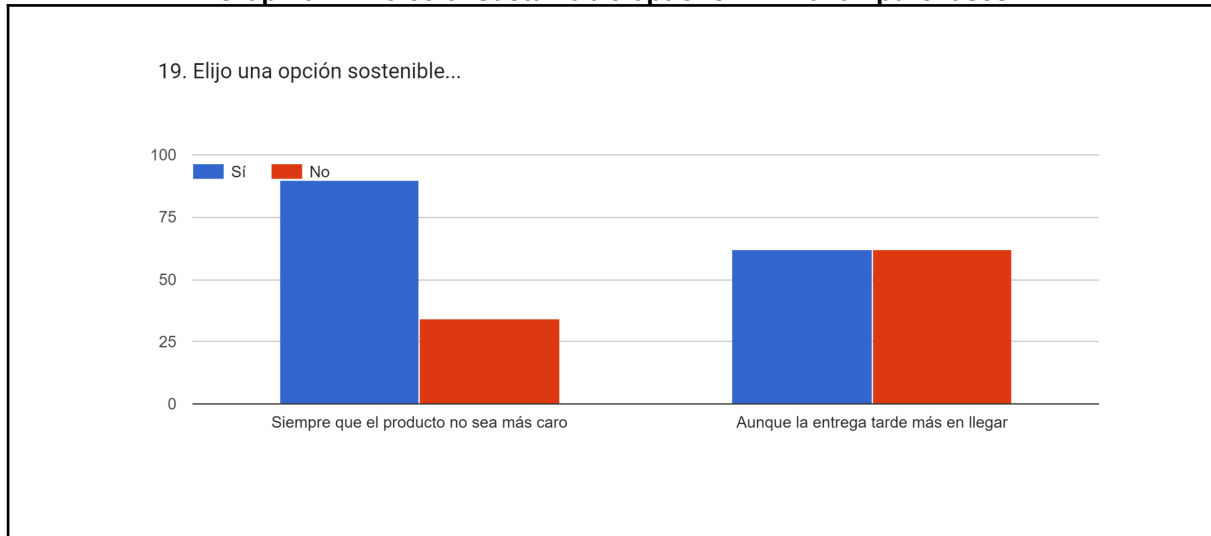
Source: own elaboration

Regarding the last question in section 3, which asks respondents whether they consider penalising unsustainable behaviour on Amazon, the predominant answer with 42.7% of the votes (53), is that in the future it is possible that these behaviours will be penalised, while the second most voted option is 'yes, I am willing' with 25.8% of the votes (32).

Graph 32: Penalising unsustainable behaviour on Amazon

20. ¿Considera penalizar comportamientos no sostenibles?
124 respostes
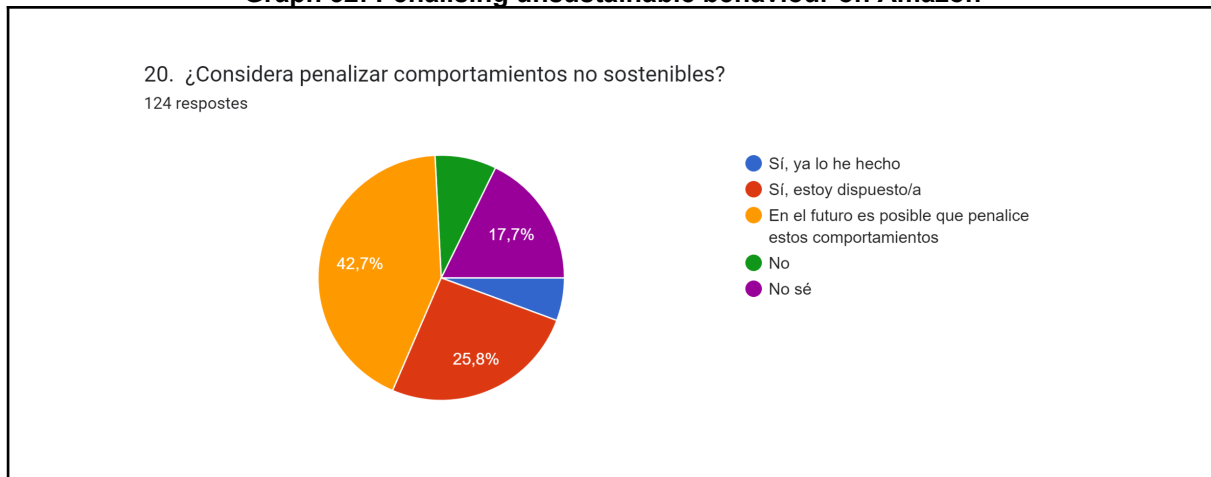
Source: own elaboration

Section 4. End of the questionnaire

To conclude the questionnaire, section 4 included an optional open-ended response in case respondents wanted to comment on the object of the study, in which two respondents provided valuable comments on the research, stating that:

● It would be interesting for delivery drivers to use non-polluting vehicles.

- Small retailers cannot compete on cost structure and opportunities against Amazon and the big online retailers.

In conclusion, only 3.2% consider that Amazon makes efforts to be sustainable, but this is clearly not its most valued quality. 67% buy imported products, 71% buy from marketing campaigns that increase overconsumption, 84% buy without a real need and 57.3% make returns. Finally, 92.8% are not critical of online shopping on Amazon, as they consider it to be sustainable or are unaware of it. Therefore, it will be difficult to promote, from the demand side, that Amazon is more sustainable.

Of the proposals made in the questionnaire, the most acceptable were to reduce packaging (46%), to use recycled materials (32%) and to improve on missed deliveries (32%). 90% would choose a more sustainable proposal as long as it is not more expensive and 50% even if it is delivered later. It does not seem that the attitude of Amazon's shoppers can change the activities that Amazon undertakes.

8. IMPACT OF AMAZON TRADING ON SUSTAINABILITY

Having analysed Amazon's online commerce and observed how it manages it to deliver value to its customers, how it manages its supply chain, and how it manages returns, and having obtained answers about the shopping habits of Amazon customers in particular, it is time to analyse what impact Amazon has on sustainability, and to see which of the problems mentioned above within the theoretical framework are real in Amazon's commerce, and how they could be solved.

Table 10 shows the sustainability problems and the solutions proposed by Amazon.

Table 10: Problems arising from the impact of Amazon's e-commerce on sustainability

Problems	Amazon Solutions	Proposal
1. Outdated transport fleet	5. Transition to electric vehicles	
2. Individualised delivery	2. Amazon hub and Amazon Locker	P2: Offers for picking up orders at collection points.
3. Failed deliveries	2. Amazon hub and Amazon locker	P1: Amazon Prime Air P2: Offers for picking up orders at collection

		points.
4. Express deliveries	No solution from Amazon	P1: Amazon Prime Air P2: Offers for picking up orders at collection points.
5. Overconsumption and sales campaigns	No solution from Amazon	
6. Returns	3. Decrease returns with reviews and any additional information. They also resell, donate to non-profit organisations, or recycle, and if they can't, they destroy them.	Q3: Changes to the return policy.
7. Home-delivered food	5. Transition to electric vehicles.	
8. Waste management 8.1 Packaging management 8.2 Management of electrical equipment. 8.3 Destruction of returns.	6. Design of environmentally friendly and recyclable packaging (Abrefácil Programme). Solution to problem 8.1 7. Collection programme. Solution to problem 8.2 8. Return policy, not effective in the case of Amazon. Solution to problem 8.3	Q3: Changes to the return policy. (proposal at 8.3)
9. Origin of the product online (imported products)	7. Solution in the hands of online shoppers (opt for sustainable or local businesses).	
10. Digital impact	7. Solution in the hands of online shoppers (opt for sustainable or local businesses).	
11. Taxation in online commerce.	9. Digital Services Tax - Google Tax - Amazon tax (in Barcelona)	
12. Job insecurity	12. Regularise precarious employment, in the hands of the Labour and Social Security Inspectorate and the Trade Unions.	P1: Drone delivery training

Source: Own elaboration

Problem 1. Outdated transport fleet. As analysed above, 87% of the transport fleet at a general level, in e-commerce, is outdated and polluting. In the case of Amazon, the vehicles used for transporting goods and making deliveries in Spain today are still vehicles that run on traditional fossil fuels, although the company is in the process of electrifying its entire transport fleet in Europe.

In October 2022, Amazon announced that it will invest more than €1 billion in Europe to electrify and decarbonise its entire transport network. Amazon has more than 3,000 electric vans to deliver orders to customers in Europe. The company expects to have more than 10,000 vehicles in its fleet by 2025 thanks to this investment (About Amazon Team, April 2022). Apart from that, the company has made it clear that it intends to implement electric heavy-duty vehicles (eHGVs), which enable the use of electric long-haul trucks and trailers. With this new investment, Amazon will purchase more than 1,500 electric trucks and deploy them across its European fleet. The company also plans to build hundreds of fast chargers, to charge its fleet, at its logistics facilities in Europe, which will allow vehicles to be charged in about two hours. For now, Amazon has already deployed five of these trucks in the UK fleet, which are capable of covering 160,000 kilometres per year, and manage to avoid up to 170 tonnes of CO_2 (Equipo About Amazon, 2022).

This solution supports the 'Shipment zero' commitment, which aims for 100% of Amazon's shipments by 2040 to be zero-emission, and 50% of Amazon's shipments by 2030 to be zero-emission (Equipo About Amazon, 2022). The solution to Amazon's problem 1 is therefore Solution 5, Transition to electric vehicles.

Figure 7: Amazon 100% electric trucks

Source: Equipo About Amazon (2022)

Problem 2. Individualised delivery. This is a big problem for Amazon, as this company could be considered as B2C, because Amazon, apart from selling a large amount of products through its brand, also establishes a marketplace where several companies have access to Amazon's network of end-customers to sell their products. This means that when selling to end customers, orders are in small quantities, and the number of deliveries is much higher than when selling to companies, which order in large quantities.

As a solution to individualised deliveries, Amazon offers Amazon Hub or Amazon Locker.

-   "Amazon Hub is a global network of package pick-up points" (Amazon.es, n.d).

-   "Amazon Locker are lockers placed in different locations by the company itself. This service offers convenience to people who usually work throughout the day and are not at home" (de Dios, n.d).
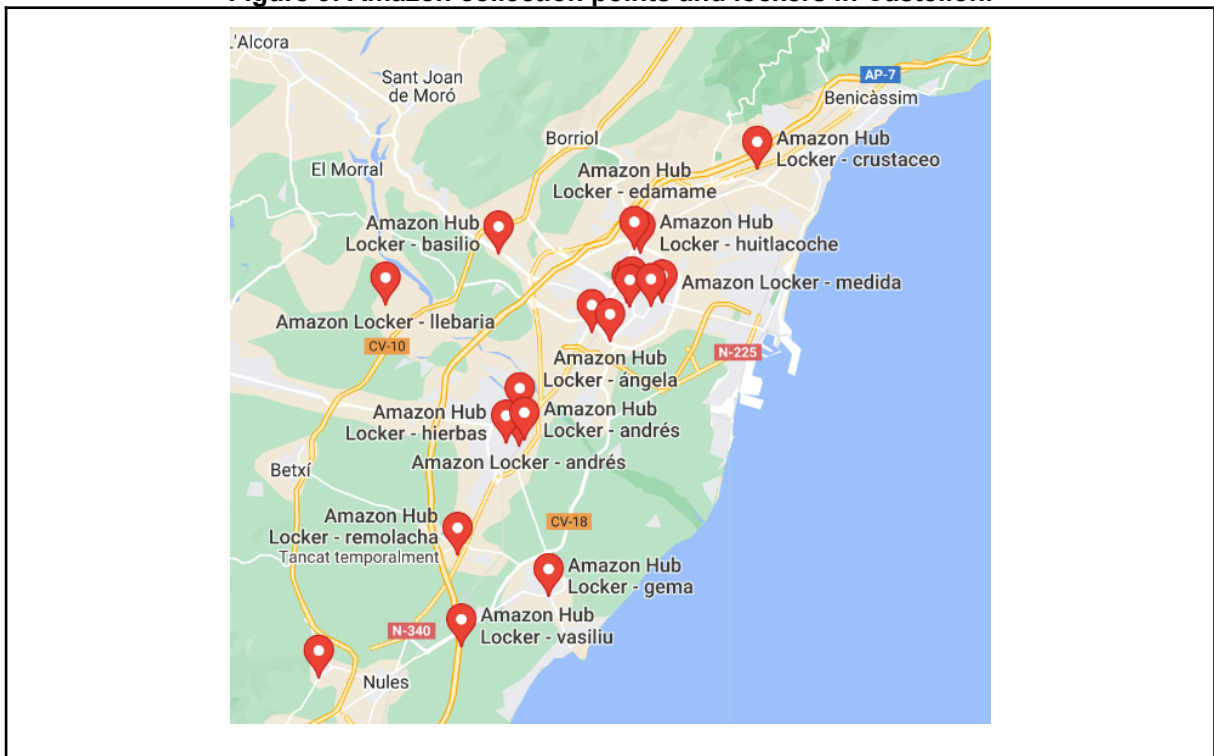
Source: Amazon.es (n.d)

Amazon has parcel collection points and Locker lockers all over Spain. As an example, below are the locations of both pick-up points and lockers in the Castellón area.

Figure 9: Amazon collection points and lockers in Castellón.

Source: Google maps (n.d)

Therefore, to problem 2, individualised delivery, Amazon offers solution 2, the option of in-store delivery or pick-up point.

Problem 3. Failed deliveries. This problem arises from private deliveries, which are generally located in an urban area, with greater restrictions on access, parking and delivery.

In the theoretical framework, the solution to this problem is the same as the solution to the previous problem, opt for collection points.

But the survey on online shopping habits shows that 10 respondents say they had problems receiving their orders because they were not at the delivery location, and 40 respondents (second most voted) choose to establish missed deliveries as a feature of Amazon's online commerce to be reduced.

Therefore, solution 2, offering collection points, is not an entirely reliable option to reduce missed deliveries. This may be because collection points are concentrated in large urban areas, while small towns still lack such structures.

Problem 4. Express shipping. This is a difficult problem for Amazon to solve, as Prime shipping is part of the value proposition that Amazon offers to its customers, and this is reflected in the survey on shopping habits, as the most valued feature with 98 votes (out of 124) was Prime shipping, and also 24 hour delivery was the least voted option (with 9 votes out of 124) by respondents on the impacts of Amazon's online commerce. Contradictorily, 62 respondents (out of 124) voted that they would choose a sustainable option even if delivery takes longer.

As a solution to this problem, in the theoretical framework it is proposed to make shipments with several orders and avoid urgent shipments, so the only possible option for this solution is to optimise the loads of the vans and optimise shipments as much as possible, and as has been observed in several videos on the Youtube platform, and as one of the delivery drivers, Erik Voe, states, there are days in which the loads are different, as some days the vans are fully loaded, and other days, they are half loaded.

Problem 5. Overconsumption and sales campaigns. This problem has a direct influence on the income of companies that take advantage of these campaigns to increase their income in short periods of time. This is why it is very difficult to find a solution to this problem from the point of view of sustainability.

In fact, Amazon has its own sales day for Prime users, called Prime Day. This campaign, in 2022, was held on two different dates, the first on 12 and 13 July, and the second on 11 and 12 October. It has been held since 2015, and this campaign, apart from directly influencing sustainability, encouraging overconsumption and the import of products, also has an indirect influence, as competitors, such as PCcomponents, or Aliexpress, following the success of Prime Day, have decided to create their own sales campaigns, such as PCcomponents' 'PcDays', or Aliexpress' 'June Promotion' (Guirado, 2023).

"The frequency of purchases on Prime Day worldwide was more than 100,000 items purchased per minute". The best-selling products in Spain during Prime Day, apart from Amazon devices such as the 'Fire TV Stick', were Finish Powerball Power All in 1 dishwasher tablets, Dodot Aqua Pure baby wipes, Dodot Sensitive baby nappies, Scottex Original toilet paper, and the COSORI oil-free deep fryer. (Bastero, 2022)

As can be seen in graph 45, and although the data is worldwide, it serves to appreciate the increase in turnover generated by Prime Day. The change since its emergence has been drastic, with a turnover of 0.9 billion dollars in its first year (2015), reaching a turnover of 12 billion dollars in 2022 (Statista, 2022h).

Graph 33: Revenue from Amazon Prime Day sales globally between 2015 and 2022
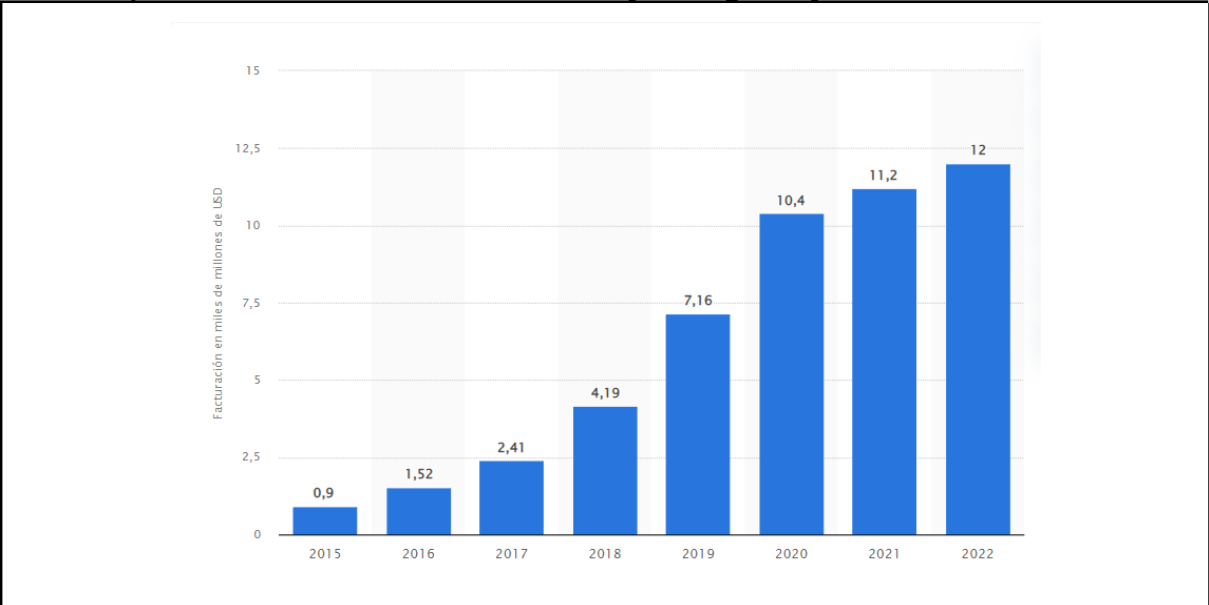
Source: Statista (2022h)

Furthermore, as the survey on shopping habits showed, 71% of Amazon customers (88 out of 124) say that they make purchases during this type of campaign on Amazon, and in

addition, 42.8% of those surveyed say that more than 21% of their purchases are impulse purchases, and 39.5% say that they also make impulse purchases, but in a proportion of less than 21%. In total, 82.3% of respondents (102 out of 124) make impulse purchases per year.

Therefore, the solution to this problem lies in the hands of consumers, through a change of attitude, but it has already been proven in research on shopping habits that online consumers are not willing to reduce their consumption in this type of campaign.

Social impact generated by problems 4 and 5 (Problem 12, Labour Precarity). As mentioned in the theoretical framework, urgent deliveries and intense marketing campaigns concentrated in short periods of time lead to inefficiency, due to labour precarity.

In addition to this, in 2020, it emerged that Amazon was tracking unions, strikes and protests in its European warehouses, according to Vice magazine. From the documents obtained, it was learned that Amazon analysts closely monitored employees to avoid delays in order processing (Kaori, 2020).

Also in 2020, the Labour Inspectorate registered 4,066 self-employed Amazon delivery workers in Spain under the general Social Security regime, following a complaint from UGT. The administration demanded 6.2 million euros from the company for unpaid employee contributions. The workers used their personal cars to deliver packages through Amazon Flex, acting as false self-employed (De la Fuente, 2021).

On the other hand, worker turnover and temporary work is very common in Spain. Ana Isabel Berceruelo, Comisiones Obreras' advisor for Amazon workers, says: "There is a lot of temporary work, there must be around 40% of temporary work supported by ETTs. In some agreements, such as the one in Madrid, there is a 25% cap on temporary work and the unions oblige the company not to exceed this percentage, but this is not the case in all provinces. On the other hand, shift work is also a problem. Amazon is open 365 days a year and its workers do not have special weekend shifts, so people rotate constantly, which makes it very difficult to reconcile work and family life". (De la Fuente, 2021)

It is up to the labour inspectorate, social security and trade unions to regulate precarious employment, as Amazon seems to be doing nothing to prevent it.

Problem 6. Returns. As we have learned from the study carried out in the theoretical framework, having free returns can be a decisive purchasing factor. According to the primary

research carried out, 42.7% of Amazon respondents do not return their products, but 57.3% (71) do return at least 1 out of 20 products, and 18 of them return at least 1 out of 10 products.

As we have observed in the 'complaints and returns management' section on Amazon, as a solution to returns, Amazon resells the products that customers have returned, donates them to non-profit organisations, or recycles them, and as a solution offered in the theoretical framework, solution 3, Amazon also has reviews of each product, sometimes thousands of reviews of the same product, providing detailed information about them, as well as other useful data such as manufacturer information.

Another way out of Amazon returns is to go to websites that purchase these lots, such as Subastalotes.com, a company that works directly with Amazon to source and resell return lots, without manipulating them, so that it is not a scam, as has happened on other occasions (subastalotes.com, n.d).

Figure 10: Subastalotes Warehouse

Source: Subastalotes.com (n.d)

Although Amazon has made it difficult to reduce returns to zero, since now, with 'Prime try first, pay later', you can buy up to six textile products without paying for them, and once you have tried them, in the 'My order' section of Amazon, you select the products that the customer wants to keep at the end, and return the rest, at no additional cost. This is one of the reasons why, in the survey carried out, in the question "What products do you usually buy on Amazon?", the 'clothing and footwear' category was the second most voted category, with 54 votes out of 124.

Problem 7. Food at home. In the case of Amazon, the sale of food products at home is carried out by its Amazon Fresh service in collaboration with Día, for Prime users, which has two problems: express deliveries (in less than 2 hours), and the fact that the delivery fleet is polluting. For this problem, the same solution arises as in problem 1, which is to electrify the delivery fleet.

Moreover, according to the survey, only 6 out of 124 respondents in the section on Amazon shopping habits buy food products from Amazon, so that the purchase of these products on Amazon is only rooted in large cities.

Problem 8. Waste management. In the following, we will analyse how Amazon tries to solve the three sub-problems of waste management studied in the theoretical framework.

Sub-problem 1. Packaging management. According to the research carried out, customers consider it most important to reduce are excessive packaging, with 57 votes, and the use of packaging with non-recyclable materials, with 40 votes, these being the two most voted options, in addition to failed deliveries.

In terms of packaging management, Amazon is committed to reinventing the way products are shipped. Amazon says it is working and doing everything possible to reduce excess packaging. Deep learning, along with scalable big data, language processing and machine vision are helping Amazon improve its packaging. In the last six years, Amazon has reduced the size of its packages by 36% and eliminated more than one million tonnes of packaging, which equates to more than 2 billion boxes. They also claim to have invested in reducing the amount of paper used per package, thus avoiding the use of 60,000 tonnes of cardboard in Europe (Equipo About Amazon, 2022).

In addition, they have the Easy Open Package programme, which aims to reduce the amount of packaging they use while offering customers recyclable, easy-to-open packaging.

This type of packaging can be used to package more than 2 million products, and more than 8% of their 2021 shipments were completed without the use of additional packaging from Amazon. They also collaborate with their trade partners to ship products in packaging provided by the original manufacturer, eliminating the need for additional packaging from Amazon. (Equipo About Amazon, 2022)

For orders being shipped from logistics centres in Europe, they have replaced single-use plastic bags with paper bags and recyclable cardboard envelopes. To further protect products during shipping, they have also replaced single-use air pads with recyclable paper (Equipo About Amazon, 2022).

In an effort to combat plastic pollution through innovation and material recycling, Amazon joined the Department of Energy's BOTTLE Consortium initiative in 2021 (Equipo About Amazon, 2022).

Sub-problem 2. Management of electrical equipment. If you are an Amazon customer, you can use their collection programme to recycle any obsolete electrical and electronic equipment. All you have to do is go to Amazon.es/recycling and ask one of Amazon's recycling partners to send a delivery person to pick it up. Alternatively, items can be dropped off at one of the thousands of UPS collection sites across Europe, or sent to Amazon's recycling partners in countries where this is possible. (Equipo About Amazon, 2021b)

Sub-problem 3. Destruction of returns. This sub-problem is the most important one for Amazon. According to research by España Plaza (2021), every day Amazon destroys thousands of products in Spain. These are items that were returned, because they have a minor defect or it is better to discard them than to return them to the original supplier. Most are electronic items, but there are also clothes, liquids, cosmetics and even food in the boxes that are sent directly to the destruction facility. The company does not report on the amount of products it discards, but sources involved in the returns destruction process confirm that in the Madrid region alone, up to five trailers a day are discarded. The destruction of Amazon returns is handled by Saica, a company subcontracted by Amazon, although not all types of materials can be destroyed by Saica Natur. Special handling is required for hazardous and electronic waste. So Saica subcontracts to other companies.

Spain Plaza (2021) ensures that it is fully standardised to send products with minor defects, such as mobiles without chargers, damaged boxes, or electrical appliances with missing parts, to the 'destroy' section. Amazon makes available the costs associated with returning

items to its sellers and reselling them. Resale costs more than returning items to the seller. No information is available on destruction fees. Although sources close to Amazon claim that the destroy option is the most expensive, Carlos Fernández, creator of a software that manages internet sales on different platforms, of which Amazon is one, and as a former director of a company that sells through Amazon, claims that the destroy option is much more profitable in economic terms, as it is almost free for Amazon.

Figure 11: Destruction of Amazon returns

Source: Spain Plaza (2021)

Figure 12: Amazon returns warehouse for destruction

Source: Spain Plaza (2021)

Problem 9. Online product sourcing. Amazon is a marketplace with billions of products for sale, shipped from practically all over the world. On top of that, Amazon tends to prioritise international shipping by air, as it is the fastest form of transport and Amazon prioritises

speed, but on the downside, it is also the most polluting. Moreover, China-based sellers accounted for 75% of new sellers on Amazon in January 2021 (Galeano, 2021), and furthermore, 51% of Amazon's sales volume in Spain comes from Chinese sellers, followed by domestic sellers, with 22% (Galeano, 2020).

According to the research carried out, 66.9% of respondents (83) buy imported products on Amazon, opting for these preferences rather than domestic, less polluting options.

Amazon provides information about making imports through its website. According to Amazon.es (n.d), additional taxes and an estimated import duty deposit may be charged on purchases made for shipment to a country covered by Amazon Global, Amazon Global Store or items sold by a third-party seller and shipped by Amazon from the UK. When an order is placed, Amazon calculates the import duties, also known as customs duties, taxes and fees, that will be imposed for customs clearance on the customer's behalf. This situation applies to purchases made with customs on Amazon Spain.

For this problem, Amazon cannot offer an effective solution for its type of commerce, and domestic customers must be made aware that this type of shopping is not sustainable for the planet, and opt for other solutions, such as local commerce. The government or environmental NGOs can launch campaigns to raise awareness of the benefits of shopping locally.

Problem 10. Digital Impact. In terms of the digital impact of entering the website to make purchases, Amazon cannot control this impact, and it is up to the online consumer to reduce it, in the same way as the previous problem, by opting for companies that sell online, that are committed to sustainability and that place the product on the market in a sustainable way, or that opt for local trade.

Problem 11. Taxation in online commerce. Regarding this problem, in Spain, in 2018, Amazon had revenues of 490.8 million euros, but its taxation was 4.4% (Fernández, 2019). Faced with this problem, in the theoretical framework, the Google tax was offered as a solution by the government.

In addition, another tax has come into force in March 2023 in Barcelona, called the 'Amazon tax', which charges postal operators for parking vehicles used to deliver online orders in public areas. The companies affected by the tax are those with an annual turnover of more than 1 million euros in Barcelona for these deliveries. This tax has two objectives, the first is

to level the playing field between local commerce and e-commerce, and the second is to promote delivery to collection points, to prevent delivery vehicles from moving and causing traffic jams and pollution (Blanchar, 2023).

III. PROPOSALS AND CONCLUSIONS

9. PROPOSALS FOR AMAZON

The proposals proposed for Amazon focus on the most contentious issues arising from Amazon, express delivery, over-consumption generated from marketing campaigns, and returns management, and although they are not intended as definitive solutions, these proposals will seek to reduce the magnitude of these problems.

Proposition 1. Amazon Prime Air

Of the problems identified to be addressed, this proposal would focus on reducing the impact of Prime shipments, the over-consumption of products generated by marketing campaigns, and the precariousness of employment generated by these two problems acting together.

Amazon's ongoing fleet electrification in Europe would help to solve these problems, but it is still insufficient to achieve Amazon's target of 50% carbon neutral shipments by 2030, and net zero carbon emissions by 2040. That is why the following proposals are put forward.

Amazon Prime Air. Amazon Prime Air uses drones to deliver packages to customers. As this proposal is in the early stages of testing in the United States, the safety and security of this type of delivery for society is still being studied before it becomes available (Frąckiewicz, 2023).

The purpose of Amazon Prime Air is to protect both customers and residents living near drone flight paths. The drones have many safety features, including a sophisticated collision avoidance system. To avoid obstacles and ensure that the drone follows its intended flight path, this system combines sensors, GPS and machine learning. A remote pilot tracks the route, while a sophisticated navigation system tracks the altitude, speed and direction of the drone (Frąckiewicz, 2023).

Another major concern is the security of the drone delivery process. Amazon Prime Air has implemented a multi-layered security system to protect customer information. This system

has secure data storage for customer information, as well as encrypted communications between the drones and the control centre. To protect against malicious actors, the drones also have technology to prevent hacking (Frąckiewicz, 2023).

With the help of geo-fencing technology, Amazon Prime Air is also working to protect people and animals on the ground. The drone cannot fly through restricted airspace or near densely populated areas thanks to this technology, which limits the drone's flight path to specific locations (Frąckiewicz, 2023).

The logistics sector can become more efficient with the help of drone technology. Drones have the ability to fly for long periods of time, allowing them to quickly cover large areas. Waiting times could be reduced and, as a result, customer satisfaction could increase. Drones can also track the delivery process in real time, facilitating faster responses and more accurate delivery estimates (Frąckiewicz, 2023). By being able to track the delivery process in real time, this would facilitate the delivery of the order, thus also helping to solve the problem of failed deliveries.

In the United States, more specifically in Lockeford (California) and College Station (Texas), drone deliveries are already being made, with a limit of 50 aerial deliveries per day in each location. Customers who choose this delivery service, which is guaranteed to arrive within an hour of clicking, can track the drone if they want to wait for it in the yard. Once there, the drone drops the package from a height of 12 feet (3.6 metres) above the ground. It then rises again and leaves the delivery area (Ruiz, 2022).

The drone used by Amazon, the MK27-2 model, is programmed to stay away from things like telephone poles, chimneys, animals and people. In addition, it can fly at 80 kilometres per hour, and travel 12 kilometres round trip autonomously, carrying packages weighing a maximum of 2 kilograms, with 85% of the orders delivered by Amazon being of this weight or less (Ruiz, 2022).

Amazon continues to make progress in creating more efficient drones, such as the MK30x drone, which is lighter, can land in tighter spaces, and will be able to fly in light rain (Ruiz, 2022).

With the Amazon Prime Air service, it would be possible to cover localities close to large cities, where population density is lower, thus decongesting the circulation of delivery vehicles on the roads, and as one of Amazon's sustainability objectives is to be the best

employer on earth, the implementation of this delivery model could be carried out with an investment in training delivery drivers with drones, to reduce the need for delivery drivers with land vehicles, since, as has been observed in the theoretical framework, within problem 4 and 5 (express deliveries and temporary sales campaigns), there is a lack of delivery drivers in Spain, which is generating job insecurity and increasing the number of accidents.

Proposal 2. Offers to collect orders at pick-up points, and increase the number of HUBs.

This proposal would also focus on reducing the impact of Prime shipments, as well as being a solution to reduce missed deliveries.

To decongest delivery traffic within cities, Amazon could offer discounts to customers for picking up a certain number of orders through delivery points such as Amazon Hub or Amazon Locker, so that the company would encourage the use of these establishments to reduce the number of individual deliveries, so that, by reducing the number of deliveries and optimising the journey, the deposit of orders at delivery points would be faster, as no time is lost in delivering door to door and the delivery person does not take time to receive the customer.

The offers would be received once the customer has received a certain number of orders through Amazon Hub or Amazon Locker (delivery points), and these offers would be focused mainly on Amazon services, such as Amazon Prime Video, which with the Prime subscription this service is already free, but there is still paid content even if the customer is a Prime user (such as renting or buying films), and the same happens with other Amazon Prime services, such as its music or gaming service. These offers would try to be as personalised as possible so that they provide value to customers, and they would consider receiving the products through the Hub or Locker.

Focusing offers on these Amazon services will help to ensure that the discounts obtained with this proposal are not spent on marketplace purchases that generate more overconsumption of products, and therefore more deliveries. On the other hand, this proposal would also help to reduce failed deliveries, as it would promote the use of Amazon's delivery points.

On the other hand, for smaller towns, Amazon could form alliances with small rural businesses, increasing the distribution network. It could set up a hub in at least all towns with

more than 2,500 inhabitants, and as the network grows, expand the network to towns with fewer inhabitants. This would help to reduce missed deliveries in these towns, and if possible, avoid second deliveries of the same order.

Proposal 3. Changes to the returns policy.

The aim of this proposal would be to reduce the number of returns, and therefore, as far as possible, prevent Amazon from destroying so many tons of returned products.

As observed in the Amazon case study, it is very easy to return a product. Customers only need to choose the justification for wanting their money back, omit the product and have it picked up by a worker. For this reason, it is imperative to establish changes in returns, and in the information provided about products, with the intention of being able to reduce returns.

- Labelling products that are frequently returned. Amazon is considering applying 'frequently returned product' labels in its US marketplace. With this, the online retailer hopes to reduce the number of returns without putting customers at risk or making them pay extra. This is an idea that could be established internationally and also applied on Amazon.es, with the aim of reducing Amazon returns in Spain.

Figure 13: Amazon's 'frequently returned product' label
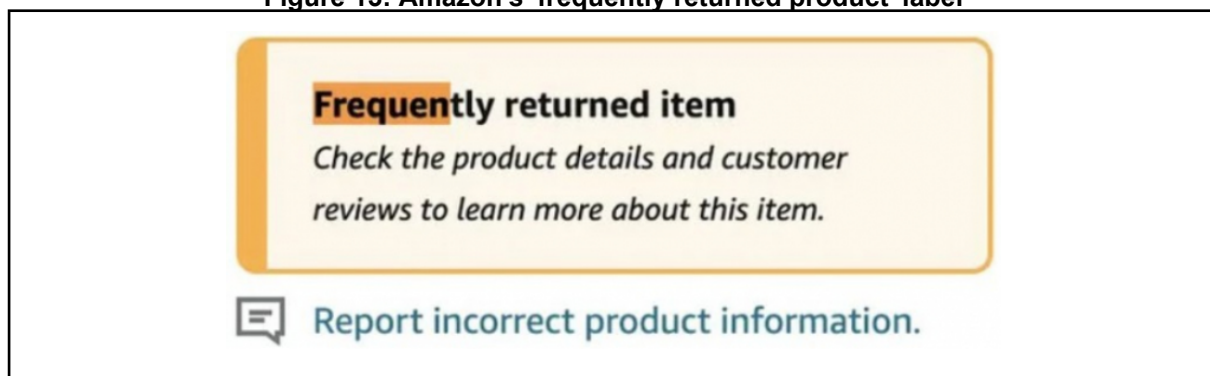
Source: Amazon (n.d)

Customers can return new and unused items purchased on Amazon up to 30 days after the date of purchase, free of charge, unless the item cannot be returned. With warning labels, none of this will change, but customers will be able to see that it is a frequently returned product.

The new label will try to show customers in a more direct and visual way that they may need to keep looking to avoid having to return the item later.

- Charge fees for returning items if there are Amazon locations nearby, such as hub locations or lockers. In the United States, Amazon is starting to charge customers who return their orders via UPS pick-ups a dollar per package if there are nearby locations for the return. In Spain, this change in return policy could also happen, since as observed in the case study above, Amazon has Hub and Locker shops throughout cities and large urban areas, leaving free returns to residents of small towns who do not have access to these shops.

This option is more drastic, and would probably affect sales in national territory, reducing them, but it would reduce returns, as they would have to pay, even if it is a minimal amount to do so, or have to travel to an establishment to make the return.

10. CONCLUSIONS

Having done all the analysis concerning the theoretical framework and the case study on Amazon, we can conclude that both online commerce and Amazon's commerce specifically, is a non-sustainable commerce, which is in development to achieve it, but as of today it is not.

Respondents who answered the part of the questionnaire with the questions on Amazon's e-commerce shopping habits, to the question of whether they consider Amazon's e-commerce to be sustainable, 58 respondents answered yes, 57 respondents answered that they do not know, and only 9 respondents answered that they do not know. In this part of the survey, 53 respondents, with a majority of votes, considered penalising unsustainable behaviours in the future, and 32 respondents (second most voted) are willing to penalise these behaviours.

It can also be seen from the survey that the majority of respondents would opt for a sustainable option only if that option is cheaper or of the same price, but if this option requires a higher outlay, respondents would prefer not to buy that product or service. When it comes to choosing a sustainable option even if it takes longer to arrive, there is a tie in this decision, which is confusing, as in question 11, What do you value most when shopping on Amazon, the most voted answer, with 98 votes, is prime shipping (within 24 hours).

This shows that online consumers are not yet aware of the terrible negative effects that e-commerce has on sustainability, both on an environmental level, which is the most

prominent, but also on a social and economic level, and therefore do not know that online commerce is not sustainable.

In reference to Amazon, its fiscal year 2021 ended with a net profit of 33,364 million dollars, 56% more than the 21,331 million of the previous year. The pandemic and its measures to reduce contagion were ideal for this company, boosting online shopping. According to Amazon's sustainability report (2021), the expansion of Amazon's operations to meet the increased e-commerce demand caused by the coronavirus resulted in emissions equivalent to 71.54 million metric tons of carbon dioxide. By 2021, the amount of carbon dioxide emissions increased by 18% from 2020, and by almost 40% from 2019. In addition, the logistics network it had created over the previous 25 years more than doubled in size in 2021 alone (Núñez-Torrón Stock, 2022). This expansion in Amazon's logistics network is due to the fact that e-commerce, due to the pandemic, experienced great growth, with this form of commerce gaining importance among society, so since then, Amazon has continued to build new warehouses and logistics centres all over the world.

But on the other hand, Amazon decreased its carbon intensity, which measures emissions per dollar of sales, by 1.9% in 2021 compared to a 16% reduction in 2020 (Amazon Sustainability Report, 2021) in its own online sales, while it has no control over its partners' emissions, as CNBC (2022) exposed that according to an Amazon spokeswoman, third-party sellers keep track of their own carbon emissions.

This data shows that Amazon, in recent years, has increased its environmental impact, but also its social impact, such as the job insecurity that is generated when it needs to expand its delivery staff for marketing campaigns, and in order to maintain Amazon's value proposition, such as Prime deliveries, which are an indispensable factor for the company's customers, the company has sometimes opted to use self-employed delivery drivers, or in Europe it supervised employees in logistics centres to avoid creating delays in deliveries, so that orders could be processed as quickly as possible.

Amazon must address all the issues arising from the impact of e-commerce on sustainability. The company has already implemented measures to reduce its impact, such as the transition to electric vehicles in Europe, the expansion of the network of collection points (Hub and Locker), it is transforming packaging into more ecological and recyclable ones, and to reduce the level of returns, it offers all kinds of information about the products sold on its marketplace. On the other hand, there are problems in which the solution lies in the hands of the consumers themselves, as is the case of overconsumption, in which Amazon will never

decide to eliminate sales campaigns, because it would reduce its sales and profits, and it is the consumers who have to understand that these campaigns seriously damage the environmental and social sustainability of the country, and that sometimes they can become scams. Consumers also need to understand the benefits of local shopping, what it means to buy imported products, and under what conditions they will have been manufactured and transported. Finally, there are problems in which the different public administration organisations have to intervene, to regulate problems such as the taxation of these online businesses, through taxes and other measures, or in the case of labour precariousness, which would be in the hands of Amazon, but as the company does not offer a solution, the public administrations intervene to defend the rights of workers. Express deliveries, overconsumption, and the management of returns are the problems observed with the most significant impact and the most difficult to solve, which is why proposals have been developed, Amazon Prime Air, offers for picking up orders at collection points, and increasing the number of HUBs, and changes in the returns policy, in order to reduce these problems as far as possible.

To finish with the final degree project, the subjects on which I have relied the most to carry out this work have been the subject AE1033 "Management of distribution channels" and the subject AE1027 "Market research". The work is based on concepts acquired in the subject "Management of distribution channels", such as the concept of electronic commerce, types of commerce, purchasing habits and their phases, as well as the supply chain and its components, and all the decisions included in this, such as decisions on supply, storage, transport, inventories, and control of information systems. This subject also provides knowledge related to sustainability and the meaning of a sustainable supply chain and its functions, concepts that have been applied to determine that Amazon does not maintain a sustainable business. On the other hand, the subject "Market research" has helped me to understand the types of questionnaires and types of questions that exist in a research, and that the type of closed questions was the most appropriate to obtain more homogeneous and subjective results, facilitating the processing of data.

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