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INVESTIGATING THE ROLE OF E-COMMERCE IN THE ITALIAN PHARMACEUTICALS INDUSTRY: AN EXPLORATIVE STUDY

IL RUOLO DELL'E-COMMERCE NELL'INDUSTRIA FARMACEUTICA ITALIANA: UNO STUDIO ESPLORATIVO

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ABSTRACT (italiano)

Nell'ultimo decennio, la rapida globalizzazione è stata accompagnata da grandi innovazioni grazie agli sviluppi che si stanno verificando nel campo delle tecnologie di comunicazione. Gli strumenti utilizzati per creare, archiviare, trasmettere o condividere le informazioni hanno portato alla creazione di Internet che sta trasformando l'economia mondiale.

La Rete sta cambiando radicalmente lo stile di vita delle persone, il modo in cui imparano, lavorano, giocano e, soprattutto, consumano. Internet è un'innovazione che ha avuto impatti importanti su tutti i settori di business, poiché ha cambiato la logica stessa che sta alla base dell'organizzazione delle attività aziendali e della messa sul mercato.

Oggi le aziende sono chiamate ad adottare nuove strategie digitali, integrando il nuovo business digitale a quello tradizionale, o addirittura a rivedere totalmente le proprie strategie di marketing.

Le transazioni commerciali elettroniche via Internet, note come "e-commerce", sono cresciute rapidamente negli ultimi quindici anni e hanno raggiunto anche il settore farmaceutico. La diffusione dell'emergenza Covid-19 e le misure di contenimento messe in atto per prevenire il contagio hanno avuto un forte impatto sugli acquisti di prodotti farmaceutici online. Infatti, anche se durante l'emergenza sanitaria le farmacie erano una delle poche attività autorizzate a rimanere sempre

aperte, molti consumatori hanno preferito fare acquisti sul web e lo stanno ancora facendo.

Questo elaborato ha l'obiettivo principale di analizzare come le farmacie italiane hanno reagito e si sono adattate al Covid-19 sviluppando o migliorando il loro commercio elettronico. Le interviste sono state condotte con tre farmacie situate in diverse regioni italiane che hanno deciso di introdurre un negozio online in affiancamento al proprio negozio fisico.

ABSTRACT (english)

In the last decade, rapid globalization has been accompanied by great innovations thanks to the developments that are taking place in the field of communication technologies. The tools used to create, store, transmit, or share information, brought to the creation of the Internet that it is now transforming the world economy.

The Internet is radically changing people's lifestyle, the way they learn, work, play and consume. It isn’t an innovation only related to few economic fields; because it changes the logic through which the companies should organize their activities and go on the market, the Internet affects the whole economic activity. Nowadays, companies have to adopt new digital strategies, they have to integrate new digital business to the traditional one, or they have to totally review their strategies. Electronic commercial transactions over the Internet, known as “e-commerce,” have grown rapidly over the last fifteen years, and it also reached the pharmaceutical sector. The spread of the Covid-19 emergency and the containment measures put in place to prevent contagion have had a strong impact on purchases of pharmaceutical products on the Internet. In fact, even if during the health emergency the pharmacies were one of the few activities authorized to always remain open, many consumers preferred to shop on the web and they are still doing it.

This paper has the main objective of analysing how the Italian pharmacies reacted and adapted to the Covid-19 by developing or improving their e-commerce. Interviews were conducted with three pharmacies located in different Italian regions which decided to introduce an online shop, after having established themselves firmly.

INTRODUCTION

This study is based on an analysis of the role of e-commerce in the Italian pharmaceutical industry. In particular, it is focused on the several transformations to which this sector has been subjected, placing both the owners of companies and customers, in front of important changes that have not always been easily assimilated.

The aim of this paper is to provide an analysis of how the Italian pharmacies evolved and adapted to the spread of Covid-19 through the introduction or improvement of their e-commerce.

Semi-structured interviews were conducted with the heads of three pharmacies located in three different Italian regions. The questions asked focused mainly on issues and barriers to enter the online market and on the key factors needed to successfully run and manage an e-commerce. The analysis of the information collected was carried out by comparing the answers given by the three interviewees with the results previously reported from the literature.

This paper is articulated in three chapters: in the first chapter the concept of e-commerce has been introduced through a description of its evolution through time, by also having a look at the differences with the traditional commerce and at the advantages and disadvantages that companies and consumers have, when deciding to buy online. This chapter ends with an overview of e-commerce in the world, and then specifically, in Italy.

In the second chapter the focus is on the Pharmaceutical sector; before analyzing the e-commerce itself, and all the changes that it brought, the attention will be on the features that characterize this sector, and on the evolution of the Italian pharmaceutical policy during the last decade, shortly examining the main steps that contributed to the present structure of the pharmaceutical system. Then the attention will also be turned to the pharmaceutical marketing and its tools, to see how it adapted to the online commerce.

In the third chapter the interview of some Italian pharmaceutical industries are reported in order to deeply understand how they dealt with the introduction of their business online, and how they handled the pandemic situation that obviously required an even greater use of their market online.

Thanks to this research work it has been possible to analyze which are and which have been the development trends of this sector, its characteristics and expectations for the future, highlighting risks and opportunities.

CHAPTER 1 - E-COMMERCE: THE ORIGINS AND ITS TRANSFORMATION

1.1 INTERNET AND THE WORLD WIDE WEB

Together with other environmental issues, the company faces three strategic challenges: risk related to demand, risk related to innovation and risk related to inefficiency. The Internet, and especially the web, can be a means of mitigating these risks. Millions of people use the Internet every day, but only a small percentage of them know how it really works: it is a huge system of interconnected computer networks that spans the globe. That part of the Internet called the World Wide Web or simply Web is defined as “a computer system which links documents and pictures into a database that is stored in computers in many different parts of the world and that people everywhere can use” (Collinsdictionary).

Those who didn’t yet know the Internet did not immediately understand the potential offered by a vast set of interconnected networks. Thanks to this vast system, in less than 30 years the growth has been incredible, the Internet has become one of the most surprising technological and social achievements of the century. Every year billions of dollars are exchanged for the purchase of all kinds of goods and services. The opening up of the Internet to commercial exploitation has allowed its incredible growth; however, a central role in this process has been played by the development of the World Wide Web (Schneider and Perry, 2000). Two innovations have mainly made the Internet easy to use and accessible to all: hypertext and graphical user interface. In the 1960s, Ted Nelson described a similar system in which text on one page would be linked to texts on other pages. Nelson called this link between pages, the hypertext. Over the next two years, Berners-Lee developed the code on a hypertext server and made it available on the Internet. A hypertext server is a computer that stores files written in hypertext markup language and allows other computers to connect and read them. These servers that are used today on the web, are called web servers. But in order to understand better how all this system works, it is important also to introduce and define the hypertext markup language (HTML); it is a language that contains a set of codes (or tags) that describe the relationship between text elements, that instructs web browsers how to display a web page's words and images (Investopedia, 2018), and that was defined as a formatting system for displaying material retrieved over the Internet (Hemmendinger, 2000). Each retrieval unit is known as a Web page (from World Wide Web), and such pages frequently contain hypertext links that allow related pages to be retrieved. HTML is the markup language for encoding Web pages (Britannica, 2000), this is why Barners-Lee decided to call World Wide Web, this system of linked HTML documents.

The point was that the web has been a great success in the world scientific community, but only a few, outside of this field, had programs that could read

HTML. In 1993, a group of students headed by Marc Andreessen, wrote Mosaic, the first program that could read HTML and that uses links to navigate from page to page anywhere on the Internet. "MOSAIC was developed by the Software Development Group of the National Center for Supercomputing Applications (NCSA) at the University of Illinois, with financial sponsorship from the National Science Foundation" (The Mosaic Internet Browser Glenn Ricart). Mosaic was the first user-friendly browser to be widely available on personal computers. It is important to underline that, because actually it wasn't the first web browser, in fact the first one was the WorldWideWeb created by Barners-Lee; and it was neither the first graphical web browser since this primacy is held by Erwise and ViolaWWW. Its success was decreed by the fact that it was very easy and intuitive to use, also its installation was simple, and this contributed to Mosaic to be set up by a large number of people, but above all at that time the web browsers available were all quite expensive. It soon became clear how such a system, allowing easy access to information through a better and more articulated graphical interface, could have attracted new users to the Internet.

At the same time, companies understood that a global network and easy-to-use computers could mean substantial profits. It was at the beginning of 1993 that it became available for free download online, and began its rapid spread and ended up to be the headline of the New York times whose article described Mosaic as a tool able to “create a new industry from scratch” (History-computer, 2020). Its success continued to manifest through the won of the multiple technology awards, through its nomination as 1993 Product of the Year and as the 1994 Technology of the Year. In addition, in 1994, Andreessen and other members of the Mosaic project, along with James Clark, founded Netscape communications, a US computer services company. Their first product, the Netscape browser navigator, was immediately successful, making Netscape one of the highest-growth companies ever. Microsoft created Internet Explorer and decided to enter the browser market only when Netscape’s success was apparent. While there are other browsers, these two now enjoy a dominant position in the market.

This historic moment from now on, will come marked as Web 1.0, and it was only the first step towards an evolution that from that moment didn’t stop: we started from Web 1.0, we continued with Web 2.0, and we finally came to Web 3.0. The Web 1.0, was characterized by static pages where advertisers and publishers were the main priority, and where comments and interactions were not expected. The end user could only visit the website and enjoy the content delivered by the organizations.

It is only from 2004 that something started changing with the coming of the social media age. The web 2.0 can be described as a kind of new version of web 1.0 that does something different from the reality of the web until then known, but with some new characteristics, such as the flexibility of the web design, the creativity, the possibility to easily create and modify content. All these characteristics were made available thanks to the new technologies and concepts. Starting from now a lot of blogs and social media started to grow, and this changed a lot the way how people communicate online and how they use the web as users. Web 2.0 combines remarkable structural complexity with high operational simplicity, this is because complexity is shifted, behind the scenes.

The salient aspects of this comparison converge on a pair of adjectives: web 1.0 is static while web 2.0 is dynamic; Web 2.0 are people, users, relationships.

Finally, the present phase is the web 3.0, a phrase coined by John Markoff of the New York Times. The web 3.0 is also called semantic web, with the focus on semantic search and semantic database.

Semantic is here understood as the ability to organize content and knowledge to be aggregated in order to create stable associations of content that can be efficiently used in the big amount of information, not always useful and reliable, that the web collects. It is a new way of using the internet: its purpose is making people's life better with some applications, but it is still in the process of upgrading new features of the WWW. If the Web 1.0 is made of linked hypertext, and the Web 2.0 is made of linked people, the Web 3.0 is made of linked data. It is estimated that nowadays the number of websites is over 1.72 billion. The increase in the diffusion of the Internet stimulates the interest for a commercial exploitation of the Net, just as the non-commercial uses of the same are increasing more and more. It is expected that, while already having experienced significant growth rates, the web will continue to expand at increasing rates in the near future.

1.2 THE ORIGINS OF COMMERCE: FROM TRADITIONAL COMMERCE TO E-COMMERCE

The origins of commerce are as ancient as history itself, in fact the trading of goods has been a major driver of human survival since the beginning of recorded history and beyond. People started with the barter that was subsequently replaced by simplifying transactions by the use of money; in any case, the mechanism of exchange remained unchanged. Trade or doing business, means to negotiate the exchange of goods or services between at least two entities; it includes all the activities that each party undertakes to complete the transaction; and since trade existed, man has always sought to improve the efficiency of the transaction by adopting the tools and technologies that became available.

The mass adoption of the Internet has created a paradigm shift in the way businesses are conducted today. During the past decade a new type of commerce enabled through the use of the Internet was introduced. The companies have used for years electronic systems of communication in order to carry out different types of commercial transactions, this is why a good definition of electronic commerce should include the use of electronic data transmission to implement or improve business processes. Sometimes the term Internet commerce is used to define electronic commerce which takes place specifically through the Internet, intended as a channel for data transmission. Today, e-commerce and the traditional commerce are not so distant anymore, in fact more and more activities are incorporating the Internet and the technologies related to e-commerce into their business processes.

However, e-commerce dates back to about 50 years ago, when CompuServe, the first major e-commerce company, was founded in 1969.

Initially this company offered time for the computer to be rented to other companies, but later it began to offer services directly to consumers: in 1992 it started offering online retail products to its customers, and this gave people the first change to buy things off their computer. In 1994 however, the Netscape navigator web browsing tool was created, becoming the main web browser on the Windows platform that allowed users to surf the Internet and to do safe online transactions through a technology called Secure Sockets Layer. Actually, it all goes back to 1993, when David Chaum created the electronic money, an electronic cash-flow system that is still used as a principle for most of the electronic payment systems. The following year, Amazon.com and eBay.com, two of the biggest names in e-commerce were launched, and in 1996, specific rules and regulations were developed in the market for electronic devices, as well as information security. In 1998 the Digital Subscriber Line provided fast always-on

Internet service to subscribers across California, and this prompted people to spend more time and money online. In 1999, according to Business.com, the spending over the Internet reached 20 billion dollars: it was therefore transforming the way of shopping. Nowadays payment systems can be divided in: off-line payment systems, which refer to a transaction that doesn't involve the participation of the Internet, and which includes Instant payment system and Card payment system; and Online payment systems, that are payment made via the Internet, from which it is possible to choose between card payment system, operators of digital cash or payment gateways.

1.3 WHAT IS E-COMMERCE? A CONTEMPORARY DEFINITION

The new economy has been transformed by digital technology in the post-industrial age. The e-commerce relates to the exchange of goods and services through the use of telecommunications and computer technology (Treccani): such exchanges may take place between organizations, between individuals or between organizations and individuals. When taking into account the e-commerce definition it is important to take into consideration the fact that it is made of transactions that result in buying and selling using digital formats; in fact, starting from the beginning of the 1990s, the evolution of new technologies and software resulted in the transformation of the Internet into the vehicle that changed the way how people do business at a global level. E-commerce became the tool that made each country, state and continent interrelated.

One of the best characteristics of e-commerce is maybe the one related to the fact that it is available everywhere and anytime. The only thing needed is a web-enabled device that should be able to connect to the Internet and conduct commerce electronically. Moreover, thanks to e-commerce billions of consumers and businesses worldwide have the opportunity to be engaged in business activities. Therefore, it is evident that one of the fundamental points is that it is based on technology. Actually, the fact that the use of browsers allows people to surf the network is probably the best known example of customer interfaces based on technology. E-commerce is mediated by technology. Today the transactions carried out in the marketplace are managed or mediated not so much through humans, as from the technology; in this sense also the relations with the customer are. So the success of a company is based more on the one with which monitors and Pcs manage customers and their expectations. Since the birth of e-commerce, hardware and software technologies have undergone many changes, and as a result it has grown exponentially over the time. The notion and conception of electronic commerce has undergone a substantial change over the years; initially, it referred to the possibility to do electronic transactions; but then it came to denote the purchase of services and goods over the Internet. The result is that nowadays there is a considerable spread of the purchase and sale of electronic and virtual exchanges around the world. This is a big difference with the past when transactions made through direct contact between human beings were the rule.

Summarizing, e-commerce can be defined as an economic transaction that is intended to the purchase or sales of goods and services. What distinguishes it from other forms of transactions is that it is carried out by the Internet, in fact it is supported by Internet networks that act as intermediaries between consumers and manufacturers.

This continuous evolution brought to two other waves of commerce (Rayport, 2000):

- m-commerce: mobile devices started to be connected to the Internet: thanks to mobile devices such as smartphones and tablets that allowed people to surf the net in mobility
- IoT (Internet of Things) -commerce: enabled through IoT devices such as voice assistants, as well connected to the Internet.

The 2000 was characterized by the arrival of a lot of mobile devices that lead to the establishment of the m-commerce that can be defined as the opportunity to buy goods everywhere through a wireless Internet-enabled device (Bayer et al., 2020). The latter is related to the development of the so called smart connected devices that are defined as "a multitude of physical objects, equipped with sensors, actuators, and/or computing power connected to the Internet via communication technology, and enabling interaction with and/or among those objects"(Kees et al, 2015).

Furthermore, the use of e-commerce could improve business performance (Watson et al., 2000). Increasing profitability, gaining market share, improving customer service and bringing products to the market more quickly, are some of the benefits of e-commerce. In fact, it is more than just selling on-line catalogs: it involves all aspects of a company's electronic interactions with its stakeholders, those who determine its future. Therefore, e-commerce includes activities such as creating a web page to support relationships with investors, or electronic communication with college students who represent potential contributors. In short, it involves the use of information technology to improve communications and transactions with all stakeholders in a company. These stakeholders include customers, suppliers, government agencies, financial institutions, managers, workers and the general public. Due to the fact that e-commerce is composed of so many activities, it could be difficult for the managers to decide where and how to implement it for their business. A way to identify business processes with the aim of applying e-commerce to them is to break-down the business into a series of sub-value-generating assets that combined, generate profit (Schneider and Perry, 2000). This means analysing its value chain, that is, the understanding of how the business unit is located within the sector; thanks to that, many companies realize the opportunities that e-commerce offers them, allowing them to reduce costs, improve product quality, reach new customers or suppliers and create new sales modes for existing products.

The value chain concept is a useful tool to think about business strategy in general: in fact, it allows to organize in an excellent way the study of business processes in relation to the different strategic areas of business as well as the phases of the life cycle of the product. The value chain model reinforces the idea that e-commerce should be considered a business solution, and not a technology for its own sake.

1.4 HOW DOES E-COMMERCE DIFFER FROM TRADITIONAL COMMERCE?

In the new economy, strategic decisions are closely interrelated with technological decisions. Decisions concern the selection of service providers, common business systems and site design approaches. Unlike traditional companies, digital companies cannot isolate technological choices from strategic decision-making: it doesn't mean that the technology is not important for traditional companies, rather that in the traditional business technological decisions are not as related to strategy.

The virtual shop must remain open 7 days a week, 24 hours a day and 365 days a year. This permanent access has significant implications for both customers and the company: the customer is always in a position to collect information, to search for products, to compare prices on multiple sites and to order the products chosen. Therefore, the 24 x 7 model significantly modified the customer's perception of convenience and availability, while for the companies, the permanent access has imposed to the enterprises a tactical reactivity to the competitive moves, and a strategic reactivity.

In addition, in the traditional company customers carry out face-to-face transactions; instead, for the electronic environment, the interface with the customer is represented by a screen-to-face interaction. In traditional commerce, trade takes place in a physical place where the consumer goes in person, driven by the inputs collected through the classic means of advertising such as television and radio. E-commerce, on the other hand, is characterized by the fact that the consumer can reach the products or services he wants almost anywhere and at any time. From the consumer's point of view, he needs less effort to complete the purchase. This is a factor that should not be underestimated, because it is in human nature to choose for the solution that requires the minimum effort.

In addition, the customer controls the screen-to-face interactions: he manages the search process and the amount of time spent visiting the different sites, he evaluates the intensity of the price-product comparison, he decides who to interact with and finally he makes his purchase decision. In face to face interchange, the seller tries to influence the buying process by directing the potential buyer to other products or store shelves, countering price objections and reacting in real time to competitive offers. The virtual shop may attempt to condition the customer's experience with ad personam promotions, with the reconfiguration of the shops in order to reflect the previous search behaviour of other customers with a similar profile, and with access to exclusive information. Consequently, the seller has much less power in the online environment because the online world is placed in the hands of customers that control the interaction and information flows.

If it is true that the customer controls the interaction, it is also true that the company has the possibility, entirely new, to observe and record the behavior of individual purchase. Companies, through the web analytics, that is the process of analyzing the success of a web site (Phippen, 2004), can record a huge amount of behavior: the sites visited, the duration of the visit made on a given site, the pages examined within a site, the content of the expense lists, the value of purchases made, repetitive purchasing behavior, conversion rates of visitors who have made transactions and other parameters. This level of detection of purchasing behavior is not possible in the world of traditional commerce. With this information available, companies can personalize offers. In addition, they can dynamically adapt their virtual stores, in order to configure offers according to the needs of individual customers.

1.5 DIFFERENT CATEGORIES OF E-COMMERCE

Four separate categories of e-commerce can be identified: business-to-business, business-to-consumer, consumer-to-consumer and consumer-to-business.

The *business to business expression* refers to the entire package of e-commerce that can take place between two organisations in order to exchange in real time updated information on products and lists, to order goods and services and to pay electronically. Among other activities, B2B e-commerce includes purchases, supplier management, management of distribution channels, sales activities, payment management, etc. Some large companies operate exclusively on the net, and they can use the internet to strengthen relationships with important industrial customers. Two examples of the most used platforms for the B2B e-commerce are Shopify and Magento. Shopify is currently hosting more than 500,000 stores, while Magento hosts approximately 250,000 stores worldwide. An example could be an electronic transaction between businesses such as a manufacturer and a wholesaler. The overall Business-to Business e-commerce market in 2019 had a value of 5.7 trillion, with an expected annual growth rate for the next seven years, of 17.5%. (grandviewresearch, 2020)

E-commerce *Business-to-Consumer,* sometimes called Business-to-Customer, instead, refers to trades between the company and the end customer, which is able to choose and compare, through multimedia and interactive sites, catalogues and price lists with more and more detailed and updated information. One of the most successful cases is that of Amazon, born as a virtual library with over two million titles, where the customer can benefit from discounts and the possibility of having it delivered at home even in less than 48 hours. The global B2C e-commerce market in 2019 was sized to have a value of 3.35 trillion, with an expectation of annual growth rate of 7.9% starting from 2020, until 2027 (grandviewresearch, 2020).

Consumer-to-consumer instead, exchanges cover transactions between two or more consumers; it is the latest form of e-commerce and is becoming increasingly popular with the emergence of sites that manage online auctions. These are online exchanges of goods, services and information between end-users. The transaction procedures are managed by the seller and the buyer. Ebay can definitely be defined as a reference point of e-commerce C2C.

As for the *Consumer-to-Business*, this is a particular form of transaction that is still under development: consumers set the price they are willing to pay for a product or service and at the same time businesses can decide whether or not to accept the offer. Common examples are online stores of images, photographs and multimedia design elements.

Moreover, another type of classification can be identified by considering the seller's approach, that is how the actors interact with each other in relation to the commercial transaction. The *direct e-commerce* indicates the way in which the sales process is concluded online, therefore without shipment of objects. It mainly concerns the sale of service; the *indirect e-commerce* on the contrary, it indicates how it is necessary to deliver the product to the buyer so that the sale can be considered properly concluded; finally the *e-commerce on portal* defines the case in which the seller relies on a third party technical infrastructure that allows him to sell inside, but that does not intervene in the transaction phases, as could be the example of eBay.

1.6 WHAT ARE THE IMPACTS OF E-COMMERCE? ADVANTAGES AND DISADVANTAGES

In the last years there has been a high growth in Internet use, the same one accompanied by a high expected growth rate in the business-to-business sector.

The impacts of these changes are diversified and likely to influence prices, the composition of trade, labor markets and taxation revenues (Coppel, 2000), but another significant impact of e-commerce can be seen in the attenuation of the traditional boundaries that delimit the areas of competition. What is happening at the infrastructure level and at the content level, is an attenuation of sector boundaries thanks to the fact that the economy reorganizes around the customer rather than around the supply side. A third big impact of e-commerce is the transformative effect of the new economy on the way children play, on the communication methods of working groups operating in different time zones, on how scientific exchange takes place and more generally on the functioning of our society. It’s hard to run into a poster, read a commercial, visit a store, watch a TV commercial, or listen to the night news without seeing or hearing the reference to an Internet address or to an Internet start-up.

E-commerce is able both to increase sales opportunities for sellers, and buying opportunities for buyers.

One of the reasons why companies decide to adopt e-commerce is that: *it provides time and effort*, *facilitates access to foreign markets*, *helps economic growth* and *improves exports and production*.

Companies are interested in e-commerce, quite simply because it is able to *improve their profit*. For products and services that use the Internet as a distribution channel such as software, music, news, consultancy services, issuance of online tickets and reservations, banking services, among others, they can have not only *reduced delivery costs*, but also *immediate availability of products and services (*Kiang & Chi, 2001).

An advertising campaign on the web, if carried out correctly, can allow even to a relatively small company, to *communicate its message to potential customers all over the world,* by accessing new customers and markets; in fact it can give the possibility to be visible in the world at a very low cost due to the fact that the Internet is a much cheaper means of communication than traditional ones, and with the possibility to *choose to whom to address a particular campaign*. Likewise, *it also allows small and medium-sized companies to become economically competitive*; in fact, thanks to e-commerce it is simpler to arrive at markets and areas that are usually challenging to reach with traditional means: *thanks to e-commerce geographic limitations can't be identified*. The advantage also concerns those who already own a commercial activity; they must keep in mind the *excellent return of images linked to the new sales channel*. Moreover, the *costs related to the management of supply requests, the supply of product prices and the determination of stock availability, can be reduced* by applying e-commerce to the processes of sale and warehouse management, transforming the business management process in an easier procedure; as well as *inventory can be reduced* by using just-in-time policies. However, the economy also involves starting a new project of sales on the net: this in fact requires a smaller investment both for the creation and management of the virtual store and for promotion; but a good company organization allows to *lower the costs both for the warehouse, and for the reduction of intermediaries thanks to the direct sale*. Finally, e-commerce allows a better capacity of *adapting to the changing environment conditions*, and this means that it is possible to offer *customized sales and promotions for each client at a very affordable and competitive price*. Then, "when it comes to B2B transactions, a great advantage electronic commerce provides is decreased processing time, which by consequence online companies get to keep lower levels of storage, thus reducing management cost and overhead maintenance" (Kiang & Chi, 2001).

Another advantage that a company can find in the use of e-commerce is the *reduction of the transactions costs* in a well set up site. Transaction costs are all the expenses incurred when someone decide to buy or sell a good or a service, so, summarizing it can be represented by the costs of the labor necessary to bring a good or service to the market, or the cost that incur in order to generate the whole industry. When offline stores calculate transaction costs, they must take into account countless business expenses along with the actual number of transactions. When there are fewer transactions, the cost of each transaction is higher. On the other hand, transactions that arrive in high quantities can overwhelm the staff and distributors. In an e-Commerce business, *the transaction cost is the same across the board*, if one order or thousands enter: this is the advantage with respect to offline stores, moreover the company saves on the costs of the people needed to interact with the customers, to demonstrate the wares time and again, and to take orders because all this gets automated online

Lastly, e-commerce *can improve the quality of information in an organization*, but this is a topic that will be analyzed later.

However, there are some drawbacks in e-commerce such as *delivery issues, security issues, consumer's trust, international legislation, product description defeats*, and the fact that the costs to implement and maintain an e-commerce are not so different in terms of amount. When it comes to the costs, it is important to consider that in the same way there is some work to do before opening, it is necessary to build the Ecommerce: an Open Source php Based Platform such as Magento or Prestashop has costs ranging from 8 to 12 thousand euro only of setup and personalization. While the related cost respect to the Hosting for offline activities is the cost of rent, but in offline activities it is often not convenient to buy the shop, in fact people are usually renting, while the ecommerce site become a property. Moreover, in the Retail the firm invests in furniture and it is possible to study the point of sale in order to better welcome visitors and display the products appropriately. Similarly in e-commerce it is essential to invest in the usability in a constant way in order to facilitate the purchase routes. Also concerning the retail equipment it is often expensive and it depreciates heavily, and the same for e-commerce where the equipment is equivalent to the software that allows to automate many processes; in addition to these, there are office costs and equipment, such as storage costs. In the retail there are less offline competition -even if it remains the online one- and the marketing is often non existent and the acquisition of customers is limited to the pedonability of the store; in e-commerce there is much more competition and increasingly expensive and targeted investments -that are easily measurable compared to the retail- are needed. Finally, in retail depending on the business it may need qualified staff, but often also someone that is not very competent. In e-commerce instead, there are over 20 tasks that need high competences to be performed, and it is true that it's possible to optimize and save money by automating most operations but anyway, there are human resource costs. What is also useful to take into consideration is the fact that in both cases it is possible to decide to sell the activity, in fact it happens that some e-commerce could be acquired after a few years by larger groups, and the change of management is not visible. To summarize, the costs related to an e-commerce activity are not very distant to those of an offline activity, this is why it is important to carefully consider whether a business is suitable for e-commerce or not.

Another problem is the one related to the security: initially the main concern was that the messages sent by email could be intercepted by a competing company, and thus transformed into a commercial weapon. But today the stakes are much higher. The Internet has matured, as have its uses. The consequences of unauthorized access to digital messages and know-how by competitors are far more serious than in the past. Electronic commerce, in particular, raises serious questions of information security. A typical concern of online shoppers at first purchase is that their credit card numbers are visible to an audience of a few million people while traveling on the net.

Safety is considered as the most critical point for the growth of the electronic commerce in the world. And it has been responsible for billionary losses. That may be seen not only as a restriction, but also as an opportunity for growth (Ferreira et al., 2017). Any organization interested in protecting its own data and investments in electronic commerce should have its own specific security

management policy. An information security management system (ISMS) is "a set of policies and procedures for systematically managing an organization's sensitive data. The goal of an ISMS is to minimize risk and ensure business continuity" (Rouse Margaret, 2011).
The security management policy, which is then written down, is a document describing which behavior is acceptable and which is not. The safety management policy develops and changes over time constantly revised and updated by the company and the safety officer.

From the buyer side the advantages regard the convenience of being able to buy easily from home without having to move and above all without having to plan when to go to the shop: remove the limitation of store-timings is a big advantage for consumers; there are no more opening and closing hours, they can buy 24 hours a day, 7 days a week, 365 days a year. In addition, usually products or services that are sold online have more convenient prices, and can be chosen after having read and reviewed the information and evaluations of other consumers available about the product or service on the Net. Moreover, electronic payments can be more easily controlled than cheques, thus reducing the risk of fraud or theft. The ability offered by e-commerce to work remotely, perhaps directly from home, could lead to a reduction in traffic, and consequently of the pollution generated by commuters.

The Internet makes it possible to reduce distances and bring people from all over the world closer together. Today the predominant language on the web is obviously English, but sites in different languages or multilingual are increasingly spreading: once language barriers are overcome, it is technologically possible for a company to trade with any other company or consumer, wherever they are. Unfortunately, there have been some misalignments between the different laws of the States and the development of the Internet; consequently, the export of products to every corner of the globe, presented and sometimes presents also nowadays, some difficulties or it is charged by a large sum of custom duties. The free movement of goods is hampered by exchange, duties, customs barriers and the laws of the different States. Most of these obstacles are of a legal, tax and privacy nature. For example, the European Union has restrictive legislation on the processing of personal data, while in the United States individual States enjoy certain degrees of autonomy in the taxation of goods and services (Gary, 2000).

One of the main disadvantages that can be identified is the one related to the fact that traditional commerce is perceived as a social relationship and electronic commerce as an individual act. This is, perhaps, the most significant obstacle that needs to be overcame. People want to communicate with other people before making a purchase, but commercial websites are still lacking in this respect. Without thinking about the need to establish a relationship of trust to ensure that customers feel comfortable exchanging personal data. In fact it seems simple, but allowing the balance of power to shift in favor of the customer proves difficult for many businesses, also because it isn't in line with traditional business practices. The solution for companies therefore lies in the commitment to develop an effective strategy regarding interactivity, that is, dialogue. But of course this is very difficult especially if the number of customers is particularly high.

One of the major drawbacks of e-commerce is the security issues: consumers are often choosing physical stores because they are scared about the insecurities associated with the online transactions, and also because they prefer to see the product in person to be sure to buy something that won't deceive them. This could be a consequence of the fact that market culture is averse to electronic commerce. Consequently, another challenge for the e-commerce can be identified on the delivery, because the customer could be reluctant or distrustful regarding the correct arrival of the product ordered with the expected quality; and, if that quality is not met, the buyer may be afraid not to be refund (Ferreira et al., 2017). Obviously the business is now exposed to external risks. What is also important to highlight is the difficulty of changing the way of thinking of the owners and managers: in fact, in case it is decided to introduce an e-commerce, the strategy of the company should be changed, or at least adapted in order not to incur in a reduction of the business efficiency.

Besides, it should also take into account that when adopting an e-commerce, the company will be dependent on the technology, and this could be seen as an indirect drawback as well as the cost of maintenance of the technology that is usually high. The real benefits will arise only in the long term.

1.7 KPI AND FUNDAMENTAL ELEMENTS FOR A GOOD CONVERSION

As in every field, there are parameters, called KPI that stands for key performance indicators, that can be kept under control in order to manage and improve an e-commerce.

In fact, it is possible to constantly monitor *the traffic to our site* -which can be distinguished in "new" and "return"-, *the number of pages visited*, *the bounce rate* that is the percentage of users who leave the site in less than 5 seconds, *the number of traffic orders,* or *the conversion rate*. The conversion rate parameter is fundamental because it is important to know how much the company converts, and what is important to constantly monitor, are the data compared with the months preceding, in order to constantly supervise what is the performance of our business, always keeping in mind that in some cases the conversion rate is subject to seasonality: there are periods for some types of business where people buy more, for example under Christmas. So there is no universal measure, but there are market trends.

Other KPI that could help us are the *number of orders placed per day*, per week, or per month, *the number of products brought to the Cart*, *the average receipt*, or again, *the order value* as it is fundamental to know how much our client is willing to spend. Moreover, the company should look at *the returns* by setting up a system that gives us the opportunity to analyze it, as it is important to know if there were any delays in delivery or if the product did not meet their expectations; and finally *the abandonment rate of the cart* that is said to be 97% on average today, but it is still a very fluctuating parameter as there could be a thousand reasons for abandoning a sale.

One of the KPI on which businesses work more is *the conversion* parameter, that is the number of visitors that concluded a purchase, over the total number of visitors. One of the best ways to increase conversions to the current traffic is by improving the user experience and increasing the confidence in us, and the firm can manage to do it, by paying attention to different aspects: the speed of the site, in fact the site can not be slow, it can not take too many seconds to load. Users don't have the patience to wait. It is therefore important to work on the website and to make changes to make it lighter and faster, and then re-measure the conversion rate to see if there have been any improvements. It's good to look at the navigability. Given the speed, the navigability drives me to a conversion: it can be considered as the sister of the conversion. Customers must be able to easily find the products they want without getting lost.

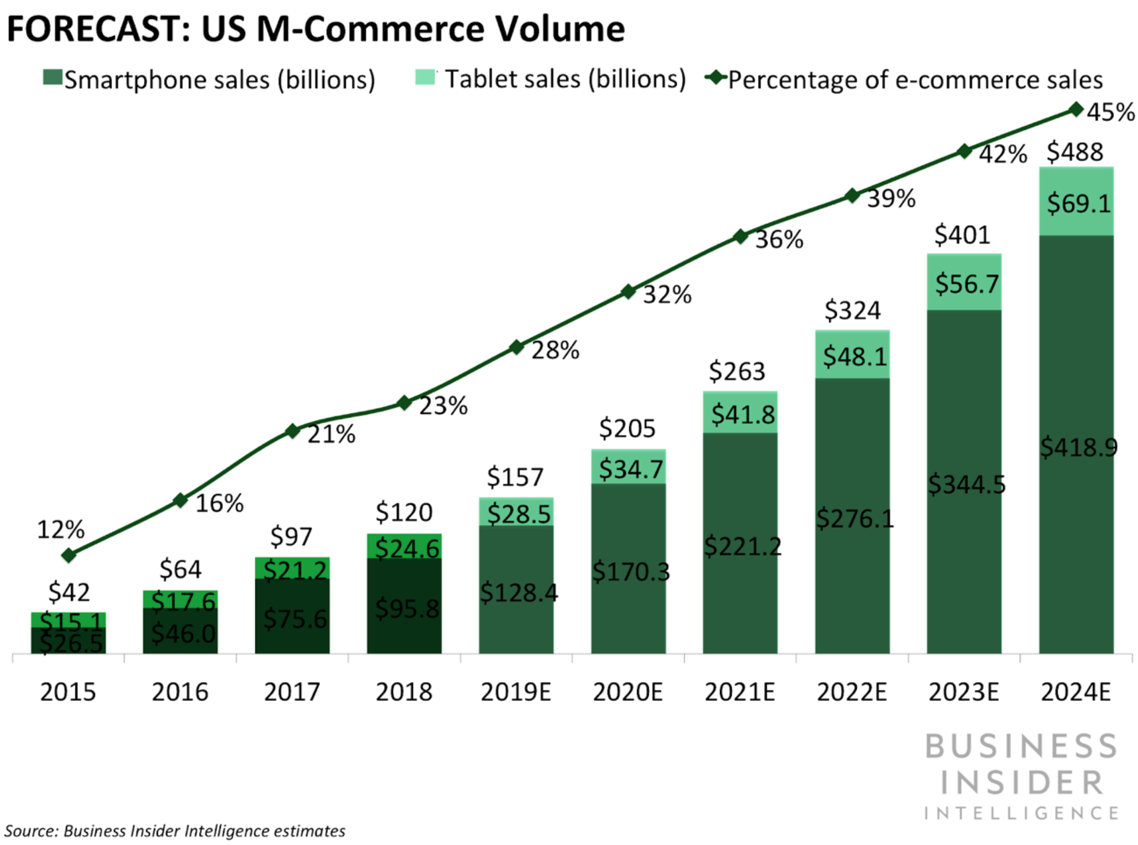
The navigability is also measured through the consistency of the payment page: this is a condition that often does not depend on the company, it could depends on the type of contract the firm has, but at least the interface must be equal to that of the site: the checkout page is crucial, not only because it needs to be streamlined, unique, with proper payment systems, but also because it needs to be consistent.

Then there is the transparency: the more transparent a site is, the more it will convert. Transparency means making people really understand from whom they are buying, giving all the information possible about the product. For example, there are products that cannot be returned after they have been tested but they didn’t satisfy us: this should be noted. This applies for example to certain categories of clothing, or creams; but transparency is also in specifying where the company produces, what are the delivery times and methods, how they can contact us. Moreover there is the presence of live chat, but also in general of customer care: it is one of the most important points to increase the conversion rate. The customer should have the opportunity to be assisted and supported before and after the sale, and the customer care can also be exploited in order to listen to our customers if they incurred in some problems, and to collect data to improve our services. There are hybrid systems behind which there are machines and people: the machine system is not yet very optimized, but it is improving strongly, although is not comparable to a system in which only employees work and which are able to guide the user often also allowing an up-selling.

1.8 FROM E-COMMERCE TO M-COMMERCE AND IOT COMMERCE

As e-commerce continues to evolve, two of the most important trends for online retailers are mobile commerce and personalization, in fact thanks to the incessant increase in the purchase and use of mobile devices, in the 2000s the m-commerce took over.

M-commerce describes the possibility to buy products anywhere through a wireless Internet-enabled device. So, even though they both refer to the online purchase, some differences between those two models can be identified. Mobile devices were defined in the context of m-commerce as portable devices with wireless Internet access that, by nature, are designed to be moved with its users, such as smartphones and tablets (Bayer et al., 2020). A customer-centric approach means being where the customers are, and likely it's on their mobile devices. Putting customers' needs at the heart of every solution is crucial for continued e-commerce prosperity. Many consumers believe the experience a company provides is as important as its products and services. Consumers have endless options for online shopping, so creating an experience that prioritizes convenience, trust, familiarity and efficiency is key to running a successful e-commerce business. One option could be offered by the possibility to develop apps that provide the user with a tool to buy something on the go. Moreover, using a mobile device, allows to localize the user, and consequently, to offer him\her services and advertisements suitable to the local context. It is possible to consider the option of developing an app, but always taking care to be consistent with the original site, keeping a logic and a similar atmosphere, otherwise the user may feel lost and his reaction may be of little reliability and little recognition. The apps that also yield are very few, and not because they are not profitable per se, but because looking at the attitude of the user, from the moment he has to buy something, the app is convenient if the business in question is a giant like Amazon where people find everything; if instead the company sells only a certain product the first thought of the user is usually not going to see the app, but the website. In short, the most popular apps are the generalist ones.



Graph 1: Forecast: US M-Commerce Volume (Business Insider Intelligence estimates, 2019)

As it is shown in this graph, in the United States m-commerce is becoming more and more popular; people are spending hours and hours on our smartphones scrolling our social media and looking for news, new trends, discovering new apps. This new trend has also been promoted by the fact that today it is possible to buy directly through Facebook, Instagram or Pinterest. The buyer journey has become shorter and easier: once the customer have filled his data for the payment once, he just need to click on the "buy button" because they will be saved for his next purchases.

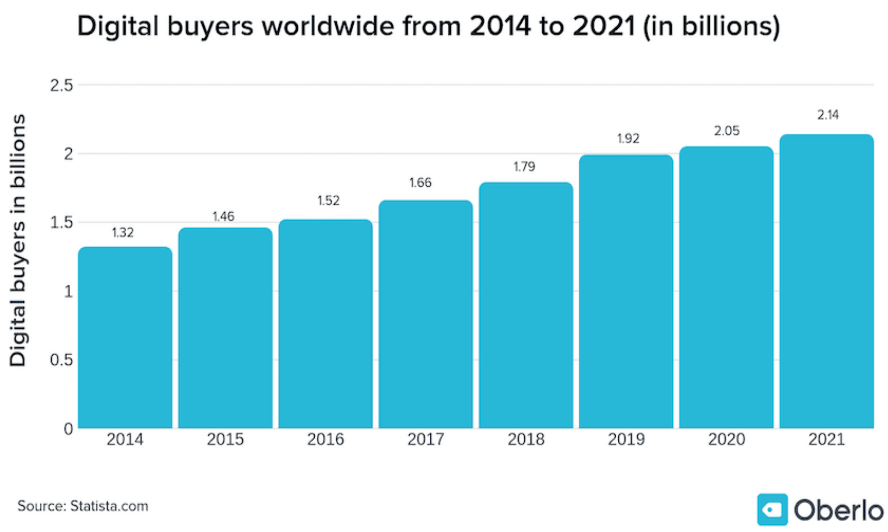
If on the one hand it is true that m-commerce is gaining ground quickly and at a remarkable speed since as it is reported by JP Morgan, even if it accounts for 40 percent of overall commerce, it is expected to grow at a compound annual growth rate of 17 percent to 2023, on the other hand it is also true that when compared to the desktop computer sales data, the numbers are considerably smaller. It is possible to identify the reason for this difficulty in converting to the m-commerce, in a possible hesitation related to safety, difficulty and sometimes inability to see product details, difficulty of navigation linked to a possible network problem, and finally the difficulty of inserting details, if compared to a PC device. In fact, it should be underlined that looking at different age categories there are significant differences in smartphone penetration; the 18-34 years old group records a 98 percent penetration, while it decreases with increasing age (Chaffey, 2020). It's not easy to predict where commerce will go next, but what it is sure is that if a company wants its brand to be innovative, it has to give importance to two things: keeping up with the rapid pace of consumer technology; and using that technology to create new efficiencies in core business processes. To stay competitive and top-of-mind for shoppers, retailers need to be agile and innovative, and be capable of touching consumers at all points within their buying journey, regardless of which channel they prefer. In general, m-commerce is mostly used for mobile ticketing, mobile vouchers, content purchase and delivery, mobile banking, so for all those activities that can be carried out in an easier and faster way through a click, avoiding displacements and waste of time. A survey from the World Advertising Research Center suggests that by 2025, nearly three quarters (72.6 percent) of Internet users, equivalent to nearly 3.7 billion people, will access the Web solely via their smartphones (Handley L., 2019). Mobile commerce, or m-commerce, is expected to represent a vast majority of people who prefer experiencing all the steps of the buyer's journey through smaller devices.

1.9 THE E-COMMERCE IN THE WORLD

It is known that the third industrial revolution is based on the software industry, the Internet, that brought to huge changements and developments of our life, especially the economic and commercial ones. It all started with the ever greater entry of new companies into the world market which led to competition intensifying significantly; and then, with the subsequent introduction of e-commerce, the future of global business has been definitively changed.

Nowadays, the world's largest online retailer in terms of gross sales and market value is the Amazon Market founded by Jess Bezos, followed by eBay, AliExpress, and Rakuten. People that have access to the Internet in the world are the 59% of the entire population (J. Clement, 2020), and this number is increasing year after year, as well as the percentage of digital penetration and the number of websites present in the world.

On average people spend almost three hours online worldwide, and as some interesting data are suggesting, those numbers will increase: for example in the 2019, the 80% of Internet users searched online a product or service and 74% of them have performed at least one purchase for a total of about 3 billion buyers, that is the 39% of the world population (Casaleggio e Associati, 2020). Moreover, in 2019 the worldwide e-commerce produced a turnover of $15.751 billion, and $ 3,535 billion of this amount is the B2C e-commerce around the world: 20% more than the previous year. As it is shown in the following graph, digital buyers are increasing year after year, and according to some statistics, by the year 2040 e-commerce will facilitate up to 95% of purchases (Nasdaq, 2017); for the coming years, in fact, cumulative data predict an increase of 276.9% of worldwide e-commerce sales (Shopify, 2019)



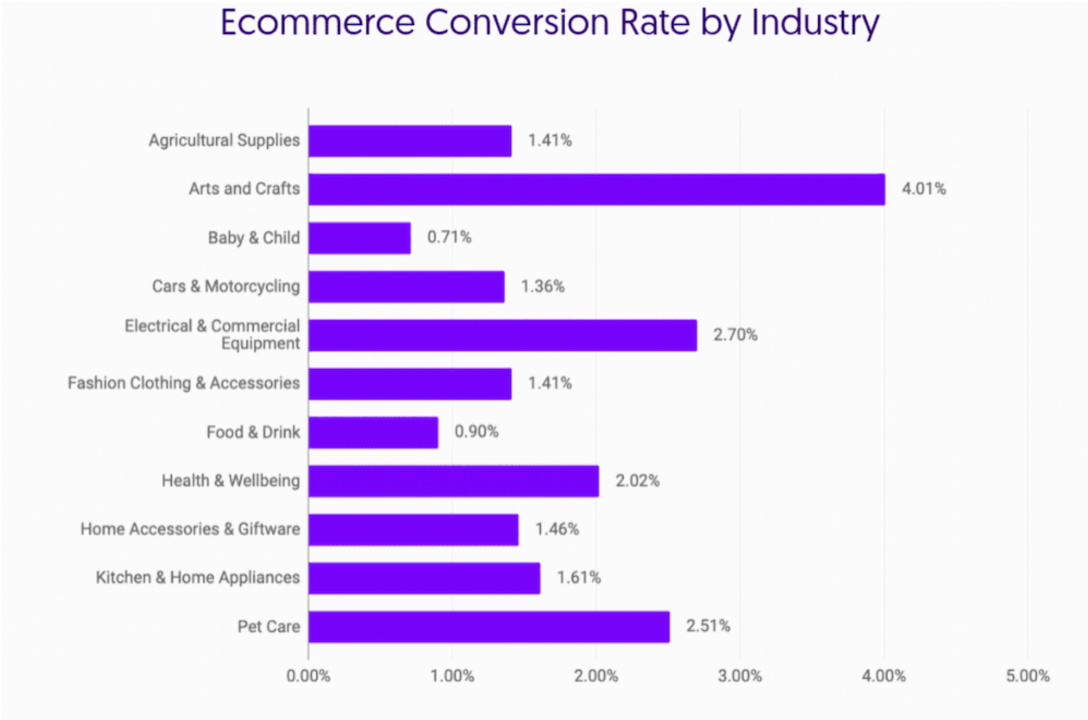
Graph 2: Digital buyers worldwide from 2014 to 2021 (Coppola D., 2020)

Among the countries that grow faster, six out of ten belong to the Asia-Pacific region, led by India and the Philippines with growth of over 30%. China in 2019 was the most important e-commerce market in the world, in fact it corresponds to 54.7% of the market; North America and Europe instead are facing a slower growth, but it is still a double-digit one.

Having a look at the age range, it's evident that worldwide 30.7% of online shoppers are in the 25-34 years age group, followed by the 35-44 years age group and the 18-24 ones. In 2020, the two generations that are more known to the technology, are that of the Millennials and the so-called Generation Z, the one born after 1995, and together will make up more than 60% of the world population, even if the second one seems to prefer in-store purchases when they have time to go to the store. This will probably bring to an even more steep growth in the use of technological devices to shop online.

Concerning the Europe, it is the continent that has the highest penetration of Internet that is equivalent to the 85%, in fact in 2019 the 70.6% of the population bought online, with a percentage of 98%; 97% in Italy, 94% in the United Kingdom and 94% in Spain. Among the sectors that produce the most, the Fashion sector stands out with 89 billion euros (+ 10% compared to 2018), Consumer Electronics and Media with 76 billion euro (+ 10%), Leisure with 60 billion euro (+ 8%), Home and furniture at 44 billion euros (+ 12%) and finally Food and Health and Beauty with 38 billion euro (+ 12%). The United Kingdom in 2019 is still the largest e-commerce market in Europe, with a value of about 130 billion euros, followed by Germany and France (Casaleggio Associati, 2020).

As for the average conversion rate of the e-commerce sector, it is 2.04%. the sector with the highest average conversion rate is that of handicraft to 4.01% (Ogonowski, 2020).



Graph 3: E-Commerce conversion rate by industry (Growcode, 2020)

In analysing these data, however, it must be taken into account the fact that there are considerable disparities in conversion rates between sectors, countries, seasons, arrangements and others.

1.10 THE E-COMMERCE IN ITALY

Italians who have switched to online, reach 70%, with an average expenditure per person, equal to 668 Euro per year. More and more consumers buy online, attracted by vast assortments and affordable prices, and more and more operators, both traditional and innovative, approach eCommerce. The 12% of Italian companies operate in e-commerce and 79% of them do so in the consumer sector.

Looking at the data related to recent years, it can be said that the world of electronic commerce has been characterized by several significant facts: alliances between large operators not necessarily eCommerce, and the affirmation of technological trends such as voice assistance and chat bots (Casaleggio e Associati, 2020).

On the other hand, there have been heated debates about the effects of online commerce on traditional commerce (JP Morgan). The Italian e-commerce market related to the business-to-consumer, is worth 31.6 billion, and it started growing at a double-digit rate since 2017. In 2019, the companies active in online commerce are 6968, or 20% more than those recorded in 2018. Moreover, based on a survey carried out in February 2020, 80% of Italian digital buyers, on average, do at least one online purchase per month, a value more than four percentage points higher than that of a similar survey commissioned by Idealo in 2019; and the average online spend per consumer , according to JP Morgan each year is EUR1,259. In addition, the predominant consumers are those between 35 and 44 years and account for 26.8% of total, followed by 25-34 year olds (23.4%) and by 45-54 years old (21.5%). What is also interesting to highlight are the devices used by Italian consumers to buy online; what emerges is that they are more and more accessing the web through their smartphones.

Considering the e-commerce b2c, this can be examined through two points of view. The first is that of the demand, that is the value of the online purchases of the Italian consumers on national and international sites. In 2019, the value of these purchases was close to 31.6 billion euros, up 15% compared to 2018. Computer and consumer electronics, and clothing, are the most important areas; while forniture, home living, and food and grocery are the most dynamic ones. The services instead, travel at a slower pace; they record +8% and reach 13.5 billion euros; what is important in this case, is the weight of tourism and transport, which alone worth almost 15 billion euros.

As for the second point of view, what is analyzed is the value of online sales by Italian websites to Italian and foreign consumers. If digital import from demand is removed, and digital export is added, it is possible to get the value of sales in 2019 at 28.8 billion euros, up 16% compared to the year before. Digital export grows by 12% driven by extra-white sales of tourism and products made in Italy with clothing in the lead. It is possible to understand why Italians are choosing more and more the online commerce, by first looking at the prices: in fact, the most affordable prices for 63% of respondents are the main motivation for the choice of online shopping channels, followed by the range of choice and by the ability to compare prices and products on the web. Other advantages attributed to the digital channel on the buyer side are the saving of time, the possibility of buying full time without opening hours and according to their own times. Another relevant factor for the choice of the web is the possibility to find more information on products and reviews or recommendations of experts and users. The convenience factor is also at the basis of the digital shopping option for those who do not want to travel long distances by car or public transport to reach the shopping areas and for those who want to try the goods at home.

As for what Italians buy on the Net, electronics, fashion and accessories, with sneakers in particular, are the online product categories most desired by the Italians. Below there are the beauty products, perfumes, video games and toys along with everything else necessary for sports (Casaleggio Associati, 2020). Moreover, what is curious is that even if there is a list of the most searched and bought items in Italy, with the smartphone and the sneakers at the podium, there is a big difference between the various regions that show distinctive features and peculiarities.

In order to understand in which direction eCommerce is moving in Italy, it could be useful to look just at the fields that have had a faster increase, rather than to limit themselves to recording those with the more consistent turnover. Health and beauty, for example, has grown in a single year by +23%, probably also thanks to the recent popularity of online pharmacies.

1.11 COVID-19: NUMBERS AND CHANGES

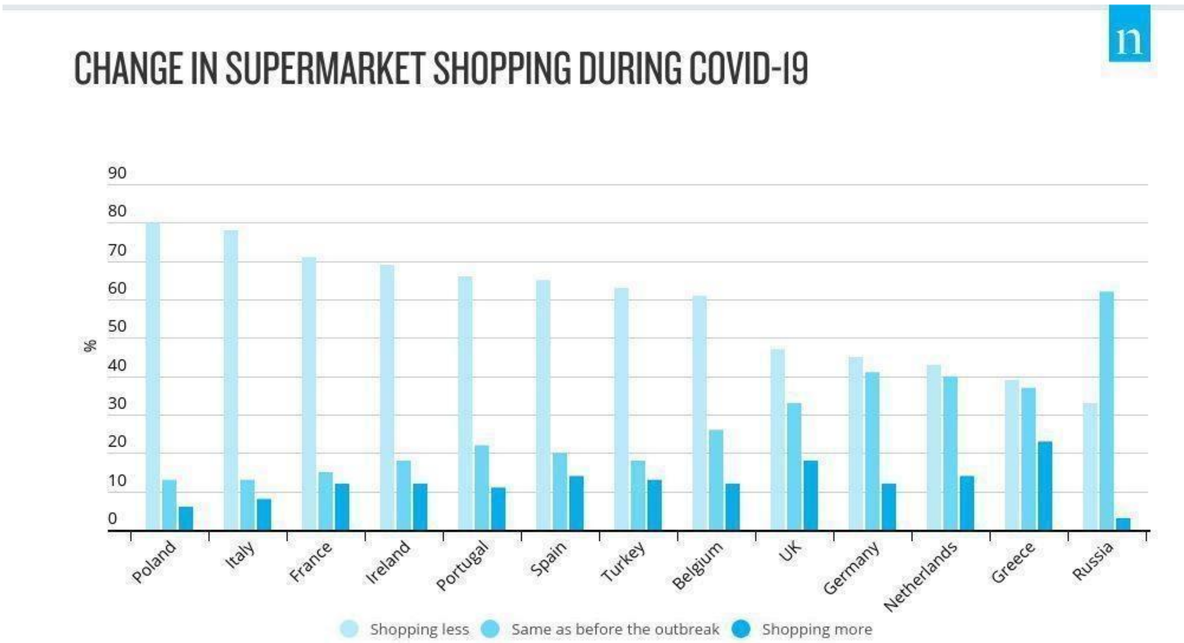
In early 2020 the Coronavirus appeared on the world scene: it started from Wuahn and China at the end of 2019, and then it arrived in Italy, that was the first country touched by the epidemic in Europe at the end of January. The World Health

Organization (WHO) declared the COVID-19 to be a pandemic. The number of positive people increased exponentially, the intensive care bed started running out, the economic situation was becoming alarming, as well as the impact it would have had on daily life by limiting the possibility of contact and traditional purchases in stores. What is interesting here is the impact that there was regarding the propensity to buy online, and what they noticed, is that globally in the first 20 days of the spread of the virus, there has been a slowdown in the number of visits to sites and commerce despite the big amount of buyers immobilized in the houses, and this happened probably because the main need was to acquire information about the disease and to equip themselves with tools related to work (Casaleggio e Associati, 2020). As the consumers understood the seriousness of the situation and the fact that this would have been a very long and dangerous time, they started acting differently, and the trend in the number of website visits and of the use of e-commerce platforms, changed their direction. Consumers started using e-commerce sites for their daily shopping.
In fact, 52% of buyers declare that they have made a greater number of purchases online than in previous years, and will continue to do so despite several stores reopened or will reopen in the future (Shopify, 2019).

The highest peak of the virus was at the beginning of March, and the first reaction was that of closure and blockage of regions through for example the reduction of movements within cities, restrictions of movement on the streets, stopping flights and public transport etc.. All those measures led inevitably to a major decline in production. Fortunately this decline did not lead to a consequent total block of the economy, in fact they tried to preserve the situation with online commerce and smart working. The food and health industries are some of the sectors that tried to exploit this situation, and that actually had to reorganize and develop a plan in order to manage the big amount of orders and home deliveries. The “C.A-E-commerce-2020-report” mentions as an example the Carrefour chain that had to meet a demand that sixfold; or the Alibaba that struggled in meeting the increasing demand; or JD.com that had to deal with an enormous amount in the number of packages that had to be delivered, from 140/150, to a minimum number of 200 per day. With respect to delivery, "contactless delivery" solutions have been immediately applied: orders left on the door, without the need for signature, or in lockers or in dedicated drop-off points. JD.com began using self-driving vehicles to deliver basic necessities to quarantined hospitals in the city of Wuhan, and drones to send parcels to some neighboring villages. The impact has also come for companies that deal with making these technologies available: Neolix, a Beijing company that produces autonomous drive vehicles for deliveries, has seen a peak of orders. Since then, the company has only produced 125 units, but now due to the Covid situation, they received more than 200 orders for their vans, as was also stated by the founder Yu Enyuan.

On the other hand, by considering the products that can be classified as not really necessary or usable during a pandemic, there are the services, tourism and transport sectors, that underwent a major shutdown and an important damage relative to a decline of -56% and a consequent loss of value of Eur 4,8 billion.
Also service compartments aggregated in "Other" reduce their value (-30%) worth 805 million euros. Particularly critical is the situation in Ticketing since government regulations have banned live events for months, such as concerts or exhibitions, and to date there are still significant limitations (Balabio, 2020).
Having a look at the situation in the rest of the world, on 11 March, the Coronavirus spread almost in all the European countries, and those who have not yet been attacked, will be very soon. Europe has planned an emergency plan of 25 billion euros to combat the pandemic and support states to cope with the economic consequences. As in the rest of the world, the sectors affected negatively are tourism, transport, fashion and events, while growth is observed in particular in the pharmaceutical and food sectors. A further problem is the fact that most of the cases in which there was a drop in sales by e-commerce companies, was linked to a lack of stocks. Added to this is the problem of delays in deliveries, or the lack of delivery opportunities, or the increase in costs. To get an idea of the impact on tourism, just think that, with the increase in confirmed cases of Covid-19, there was a “60% decline in international tourism in 2020. This could rise to 80% if recovery is delayed until December” (OECD, 2020).

In France, after the announcement of President Macron regarding the closure of schools on 12 March, supermarkets recorded a +13% more sales than the last year, but the category that encountered the biggest changed compared to the same week of last year, is the home delivery (pure players and mass distribution), with almost 74% sales more (Statista, 2020). What is evident, as it is shown in the following graphs, is that supermarket shopping during covid-19 experienced a big change: all countries dramatically reduced the shopping in store by replacing it with online shopping. More specifically, in Italy the shopping in stores has fallen by 78%, 71% in France, and 65% in Spain; while in countries such as Germany, the percentage of people doing online shopping was consistently lower, with only a 45%. This is significant as before the pandemic different European countries were among the least in shopping online, while now, as a result of all the restrictions and social distancing rules, people changed their attitude. What is sure, is that those stores had to struggle to meet the singular consumer demand, but this phenomenon shows also how ready consumers are when they have to adapt their behavior when the needs and benefits align.



Graph 4: Change in supermarket shopping during Covid 19 (The Nielsen Company, 2020)

But online supermarket are not the only one that recorded an increase in the online shopping. The online pharmacies have recorded a +15.3% of traffic and a +2.1% of transactions, with the example of the French marketplace "Stopcovid19.fr", created in 48 hours, selling protection materials, as masks, gels and medical devices (Casaleggio Associati, 2020). The portal connects the producers of hydroalcoholic gels, masks, gloves and raw materials with health professionals and public institutions engaged in the fight against the Coronavirus. In addition to food and pharmaceuticals, there is also another sector that is gaining ground during this period, namely that of entertainment and streaming platforms. In fact, during the second weekend of March in Austria and Spain there is a 40 percent increase in the time people spent watching video and streaming on TV, and a 32 percent increase in Germany (Statista, 2020).

1.12 THE IMPACT OF COVID-19 IN THE ITALIAN E-COMMERCE

Italy was the first country in Europe involved in the pandemic and the first country with the need to block certain activities for the safety of the population and in an attempt to slow the spread of the virus. Because of home isolation and all the restrictions that became compulsory, the Internet traffic increased considerably. In March, the company Akamai, a company that provides a platform for the distribution of content via Internet, recorded a steady growth in Internet traffic: during the month of February, in fact, there was an increase from 30% which reached its maximum value on March 31 (Ansa, 2020)

According to Nielsen, in Italy, during the first week of march, the sales of the GDO for the second week in a row had a positive trend, with a +11% compared to the same week in 2019. The same happened for the third week of march, when the sales of the GDO went up by +8.34 compared to the same week of 2019. The north had the highest growth with a trend of +11.20% compared to the same period of the last year, while the south and the middle, had respectively a growth of +6.06% and +4.38%. Regarding e-commerce, the trend of the sales of consumer goods online during this week, has been +56.8, a bit less compared to the first week of March when a +82.3% was registered. Nielsen also identifies different categories that saw an increase in sales, by classifying them according to two effects: the stock effects, that concerns long-life foods as pasta, rice, and sauces, and the prevention and health effect that lead to the increase of sales of products related to the personal care, especially those related to the parapharmaceutical sector and the personal hygiene one.

Furthermore, in March 2020 72% of Italian Internet users were using the Internet through their smartphones or mobile phones (Statista, 2020). In other countries like France, Germany, the United Kingdom and the United States, the percentage was lower, but still consistent.

When it comes to the impact of Coronavirus on the Italian e-commerce, among 58 representative operators from all sectors that were interviewed, most said they didn't see any improvement in their business (Casaleggio e Associati, 2020).

54% of e-commerce companies surveyed in fact, saw their turnover drop due to Coronavirus, while only 21% increased it. Among those who are most affected are the clothing, home, furniture, but especially tourism. Also in Italy, who instead didn't' have to deal with a decrease, but rather with an increase of the orders, it faced however difficulty to cope with this new situation since they were unprepared to face such a large number of orders and material to manage: this concerned the food industry, training and online entertainment that have seen a +300%.

CHAPTER 2 - THE PHARMACEUTICAL INDUSTRY: FROM OFFLINE TO ONLINE MARKET

2.1 THE MAIN CHARACTERISTICS OF THE PHARMACEUTICAL SECTOR

Although it is difficult to classify the pharmaceutical industry in the light of its complexity and extreme dynamism, it is nevertheless necessary in order to provide a clearer picture of the subject of the report and to carry out a more detailed analysis of the structure of the pharmaceutical sector. The pharmaceutical industry deals with all activities related to research, production and distribution of pharmacologically active substances, synthetic or extractive, of pharmaceutical formulations for human and veterinary use, of diagnostic products and of vaccines. (Treccani, 1992)

The pharmaceutical industry is a peculiar industrial sector due to the fact that the costs of developing new products are much higher than the production costs, and also because new innovations tend to add an overall and increased availability of medications rather than replacing existing one.

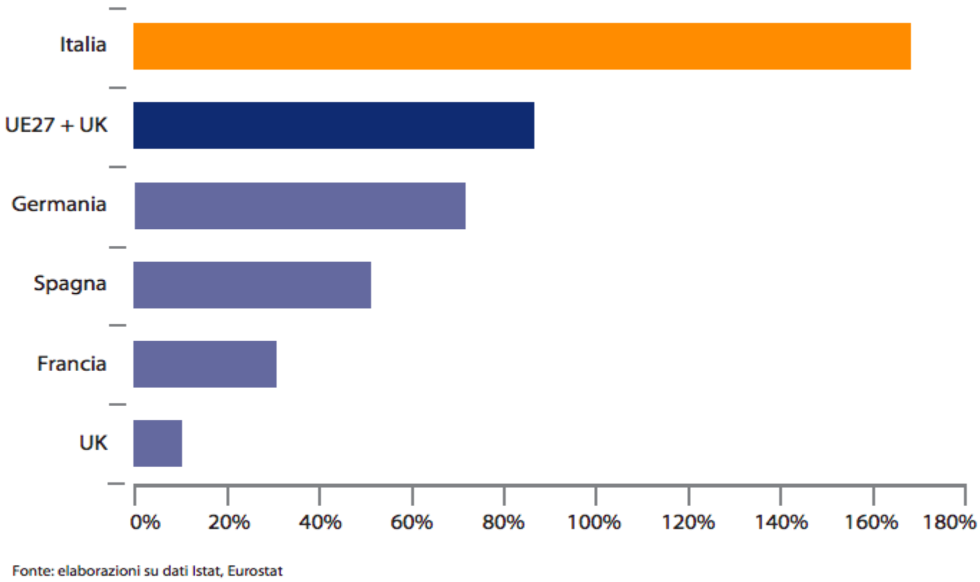
As a result, the industry developed in two different ways. On one side the field turns out to be innovative, dynamic and with a high potential of risk and profit; on the other side instead, it turns out to be a sector of generic supply, to low risk and profit. The vast majority of new drugs are developed by a small number of

pharmaceutical research companies, also known to the general public; on the contrary, most existing medicines are supplied to the market by a wider range of generic manufacturers, whose names are largely unknown to people.
Its high degree of complexity and risks of enterprise derives above all from the activity of Research and Development. The discovery of new drugs is attributable to the major pharmaceutical companies in the world located in the United States, Germany, Switzerland and the United Kingdom, whose budgets research expenditure is very heavy, and that must be covered by the profits obtained on the few drugs that manage to enter the market. To date in fact, the structure of the pharmaceutical sector can be defined as oligopolistic: it means that there is a small number of large firms who dominate the industry by operating in more than one country and underrating direct foreign investment. Those few leaders that are called Big Pharma are accompanied by a higher number of smaller companies that manufactures drugs through the licensing agreements for the use of active ingredients granted by larger competitors.

The main barrier to entry of the pharmaceutical market is precisely the patent. It has the task of protecting the company from the discovery of the active substance, even if, in doing so, the actual duration of the patent is inevitably limited. Many in fact are blocked before, because they do not pass the rigorous tests of government agencies, which authorize the entry into the market of only those actually beneficial. For this reason, the prices of individual medicines protected by patents should not only be calculated in proportion to the costs associated with their implementation, but they should also be able to cover research costs. Indeed, the research and development phases following initial discovery, cover most of the actual time in which the product enjoys exclusivity in the market: out of twenty years of granting the patent, the company has only ten years of marketing to return to its investments. Another barrier to entry consequently, is the high investment capital required to start the business. Precisely for this reason, the pharmaceutical industry is constantly looking for new ways to minimize the time needed to place the product on the market. Moreover, also the economies of scale are a factor to take into account as new entrants may have difficulty in producing a large amount of drugs as an already stabilized and established firm equipped with an advanced production process. The name also certainly plays an important role, a well-known company of world renown in fact, will not have any problem to gain the confidence of consumers, which may be a bit more reticent in buying a drug from an emerging pharmaceutical company. In addition, as reported by Cerm (2004), what differentiates the pharmaceutical market from other traditional markets, is the fact that in traditional markets there are two main players: producers who produce the goods or services and use their costs to cover labour, capital and raw material costs, and consumers who only purchase these goods and services if they are actually more useful than their price. This is not the case of the pharmaceutical market. The price does not have the fundamental function of guiding one or the other in the achievement of its objectives. In fact, consumers are not able to assess how effectively that drug will be useful to them; the patient for this reason addresses the doctor, which often prescribes healthcare and pharmaceuticals which, to varying degrees, are supported by public or private insurance schemes. This explains why the consumer is not able to choose and why most of the time he does not perform that step of comparison between cost and benefit. In an economic context characterized by perfect information, the patient would be able to make independent choices regarding his own health, managing personally the diagnostic-therapeutic process. The presence of imperfect information, on the other hand, forces the doctor to intervene between the patient and the pharmaceutical companies, in order to better protect their state of health. Between patient and doctor, therefore, a trust agreement is established through which the patient delegates to the doctor the protection of his health. In the economic literature, this relationship is known as an "agency contract", that is, a contract in which a person (called "principal") asks another person (called "agent") to choose and act in the name and on their own account for the achievement of a certain result without having the tools to evaluate, step by step, whether every single choice and every single action are actually the best possible in anticipation of obtaining that result. In the absence of appropriate incentive mechanisms, both on the side of the patient and on the side of the doctor, their relationship may end up feeding moral hazard behaviors of the doctor, which can be avoided thanks to the fact that doctors are voted, educated and professionally trained in the treatment and defeat of diseases, inspired by the "Hippocratic Oath". That’s why they’re more focused on the effectiveness of prescriptions, in terms of healing and patient well-being, rather than comparing marginal cost to marginal benefit.

2.2 CHARACTERISTICS OF THE PHARMACEUTICAL PRODUCTION SECTOR IN ITALY

Unlike other sectors, which have gradually seen their manufacturing headquarters move to emerging countries, the pharmaceutical industry can be a strategic asset for our country for its current relevance to the economy, because on the basis of its distinguishing characteristics, it is less subject to competition than low-cost countries of production. The high technological content, representing 44% of the value of production and 53% of the export of sectors with high technological content, is therefore a highly innovative and high added value component. Another factor that characterize the pharmaceutical industry is the strong propensity to export: more than half of the total production in fact, is destined abroad; moreover, it has a lower propensity to relocate to emerging countries with unit production costs lower than Italy.



Graph 5: the evolution of the pharmaceutical export in Europe from 2009 to 2019 (Istat, Eurostat, 2020)

This sector, in fact, is characterized by a high content of knowledge and technology, and by a strong regulation of the system and the consequent need for very high standards of quality and safety (Bain&Company per Farmindustria, 2014).

The Italian pharmaceutical manufacturing activity is largely carried out by very internationalized companies, with also an important presence of SMEs. Pharmaceutical production in Italy in 2019 reached 34 billion euros thanks to export growth (+26%), which represents 85% in the last three years (Indicatori Farmaceutici, 2020). As reported by Farmindustria, in their annual report of 2020, the value of pharmaceutical production made in Italy, was determined entirely by the growth of exports, increased by a quarter compared to 2018: the value of exports per pharmaceutical industry employee is 3.46 times higher than the average for manufacturing (Ambrosetti, 2019). It should also be kept in mind that in Italy last year investments in high-innovation production together with R&D expenditure reached 3 billion euros. All this has brought the industry to an added value of 9.2 billion euros, equal to 0.5% of gross domestic product. The positive trend of the pharmaceutical industry is also confirmed by the data that classify it as a sector with the highest growth from 2008 to 2019 both from the production and export point of view, as well as with regard to the percentage of employment, that sees an increase especially in production and research; the sector has also proven to be resilient to economic fluctuations. An example of this, is the 22% increase in the value of production recorded from 2008 to 2019: those are values higher than the average for manufacturing in the country, considering that the manufacturing sector faced a reduction of 14%. In the same period exports increased by 117% against the 27% that is the average growth of the manufacturing industry. What is also recognized as the first factor of declared competitiveness, is the excellence of Human Resources. And it is also thanks to this super innovative aspect, that it was included among the greenest sectors and among the sectors with a percentage of companies engaged in an Innovation 4.0, particularly high on production (Farmindustria, 2018).

In 2019, total public and private spending on pharmaceuticals amounted to €30.8 billion, of which 76.4% was reimbursed by the SSN. This expenditure represents an important component of health expenditure which accounts for 1.7% of national gross domestic product at competing prices. For the most part, medicines were dispensed to SSN-dependent citizens via the public and private territorial pharmacies channel (32.5%).

The equivalent drugs accounted for 20.3% of expenditure and 30.6% of consumption, confirming the growing trend of equivalent drugs, already highlighted in 2018. The expenditure for the drugs purchased by the citizens was about 7.3 million euro, consisting mainly of class C prescription drugs that represent 9.9% of the total expenditure and 58,6% of sales in pharmacy. In 2019, ethical drugs registered a decrease of 1.3% to 14.2 billion euros, that is a total loss of turnover of about 180 million euros. The decline in the turnover of ethical products in pharmacy has been constant for years because a strong control has been exercised over the pharmaceutical expenditure in agreement, the cost of which is borne by the State. Today, 90% of the most innovative - and therefore more expensive - medicines are dispensed through the hospital or the ASL with the aim of reducing costs through the direct purchase of medicines from the pharmaceutical industry. This has heavily affected the profitability of the pharmacy. The decrease in revenues, however, was offset by the ability of pharmacists to sell new products at high margins such as supplements, over-the-counter drugs, creams and cosmetics.

As for the commercial market, in 2019, the autochthonous products sector recorded sales of 2.3 billion (-0.2%), while supplements continue to grow at values of 3.1% for a turnover of 3.8 billion. This growth has been evident on the Italian market for many years. For 32% of Italian consumers, in fact, the pharmacist is the reference figure for the use of supplements, while for 42% is the doctor. The personal care sector increased slightly in pharmacy in 2019 (+0.8%) to 2 billion euros. In this segment, the pharmacy is particularly appreciated today by the customer who seeks the quality of products, listening ability and professional advice, distinguishing itself from the most commercial channels.

The per capita expenditure of medicines purchased directly from public health establishments amounts to 218.94 euro and there is a negative deviation from the national average for the Northern regions, while for those of the Centre one positive and a much higher value for the south and the islands. (AIFA, 2020). The average profitability of the pharmacy has also affected the opening, in recent years, of about 300 new pharmacies per year. This has led to an average reduction in the catchment area of the single pharmacy of 7% in the last three years. This is a phenomenon in contrast to the rest of Europe, in fact, our country is currently the only one to increase sales outlets, a trend destined to stabilize, as already happened in Spain. In England and Germany, on the contrary, pharmacies are closing.

2.3 THE EVOLUTION OF THE REGULATION OF THE ITALIAN PHARMACY

The pharmaceutical industry was one of those that experienced an increase in online sales numbers during the Covid-19 pandemic, but it is important to understand how the industry evolved before the birth of the online.

The Crispi's Health Care Reform of 1888, aimed at reaffirming the principle of the free exercise of pharmacy, and through which the approach of health care is transformed into public health. The pharmacy becomes a business that it is possible to open and transfer without too many constraints, the only restriction is given by the need to have a pharmacist as director (Provincia Ancona).

Then, in 1913 there was the Giolitti Reform. With the Giolitti-German Law it is possible to talk about a system for which the pharmacies were granted by the State to private individuals who took the ownership through a public competition, for all their lifetime without the ability to sell or transfer it for succession. The concessionaire, while remaining a private individual, was bound by a special subordinate relationship to the Public Health Administration who had the right to impose obligations and limitations on the exercise of the public interest (Villano, 2013). The reform wanted by Giolitti remained in force, although with some modifications made in the fascist era, until 1968, when the third government Moro issued the Law number 475 containing "Regulations concerning the pharmaceutical service". With this new provision, substantial changes are being made such as those concerning the granting of ownership, both net data signals of discontinuity in relation to previous legislation, as in the case of transferability.

Following the Mariotti Reform, the legislation is still being amended first in '74 and then in '84, but without overturning the existing rules, simply modifying some aspects. It is only in 1991, through the law number 362, "Reorganization of the sector pharmaceutical", that the ownership shall also be extended to partnerships, composed of registered pharmacists and suitable for the management of pharmacy, which must be managed by one of the partners. The company could not be the owner of more than one pharmacy and the pharmacy needed to be based in the province where the company had its registered office.

However, it was only in 2006, with the Prodi Government, that there was a new revolution within the sector. The Minister of the Economic Development, Pierluigi Bersani, anticipated a decree law with the scope to liberalize the market in seven numerous fields of the Italian economy, and between these there was also the pharmaceutical one. In 2006 occurred one of the most important regulatory changes that approaches Italy to major countries with a developed economy: the Bersani Decree. It entered into force and became law in 2007; as it is explained by the Minister of Health Turco, thanks to the Decreto Bersani of 2006, was granted the possibility for some types of drugs, to be sold also outside the classical pharmacies where everyone can usually buy. These types of pharmaceuticals are: OTC drugs, those drugs which are commonly exposed even in advertising. They fall into the so-called C2 category, which also comprises prescription drugs, over the counter medicines without prescription and recommended drugs that can cause side effects if taken concomitantly with other substances. OTC pharmaceuticals, if taken properly should not cause significant side effects for the health (they cannot contain substances whose effects are unknown), must not be injectable and they can be safely recommended by a pharmacist. Moreover: products for self-medication, Cosmetics, Homeopathy, Childcare products, Hygiene products and Veterinary. After the entry into force of the Bersani law, in Italy arose two new points of sale where it is possible to sell and buy type of drugs mentioned above: Drugstore or Parafarmacia, as it is called in Italian, and the Corner GDO4 but without forgetting the presence of the existing pharmacies, rooted in the whole territory (Turco, 2006).

And then, there were the “Salva Italia” and “Cresci Italia”, two manoeuvres aimed at repressing the serious economic crisis. With Decree Law No. 201 "Salva Italia" then approved by the Chamber in December 2011 was to open the debate on the liberalization of drugs in the C-range, those who need a prescription. At first it seemed in fact that the opening would be total but then it was retracted when drafting the decree. In essence, a compromise was found whereby prescription drugs could not be sold outside pharmacies, but at the same time, the Government, in agreement with the AIFA, reduced the number of these effectively by increasing the number of medicines for which no prescription is required.

According to the same willingness to align the country with the European decision, Monti's recent Law Decree 01.24.2012, n.1 (Decreto-Legge 24 gennaio 2012, n. 1) aims to enhance pharmaceutical services with a comprehensive regulation which encourages growth, creates efficiency through liberalization, new ideas and a broader space for market's mechanisms. Without going into details, the most important changes are: new demographic parameters which determines the opening of a higher number of pharmacies, other pharmacies will be provided at railway stations, airports, highways , shopping malls etc..; the opening hours of pharmacies are substantially liberalized, the selling price to the public of each product (including ethical drugs) not paid by the NHS6, is entrusted to the discretion of each pharmacy's holder.

Finally, the European Directive 2011/62 UE aimed to underline the Italian alignment with the European Guidelines on the topic of the online sale of pharmaceuticals. Thanks to it, it is possible to buy online some types of pharmaceuticals, that are OTC and SOP, without Prescription Obligation, but with well-defined limits, and with the awareness that behind the website, there must be a real drugstore that is already selling in an appropriate territory; in fact, those who want to establish a pharmaceutical e-commerce must address to the regional administration in order to get the authorization and the official logo that will allow to identify illegal sales channels. By clicking on it, in fact, people are able to verify whether the site they are visiting is part of the online pharmacies registered with the Ministry of Health.

In the last years, in Italy, can be observe a series of legislative changes concerning the Pharmacy's point of sale, in parallel with the changing governments, but still all aimed at achieving the same goal that is, on the one hand to stimulate the competitive pharmaceutical market, and on the other hand to meet the needs of the population, especially for lower income groups.

As for Italy, therefore, it is a country that has rightly directed its efforts in the creation of a Social State, but without caring for the financial sustainability of the same; so, in the pharmaceutical sector, Italy is observing measures whose sole aim is to ensure a welfare service that is as effective and widespread as possible, even at the expense of the creation of a genuine market, until the early 1990s. From the so-called crisis of the Social State onwards, on the other hand, measures of market liberalization can be found, and they increasingly take the form of compromises between the parties rather than of real plans for re-launching and which end up being ineffective.

2.4 THE LEGAL CONSTRAINTS OF AN E-COMMERCE OF PHARMACEUTICAL PRODUCTS

There are a number of rules that it's fundamental to follow in order to open an online drug store in compliance with all laws. As it is explained by Federfarma (2020) the owner of the pharmacy must communicate to the regional authority responsible for granting authorization to sell online, the following information: name, VAT number, the complete address of the logistic site and the unique identification code assigned by the Ministry of Health for the traceability of the drug; the address of the website and any information relevant to identify this site. Once obtained regional authorization, the holder of pharmacy will have to forward to the Ministry of Health, the application for the national identification logo and registration of the pharmacy and its website in the portal of the Ministry where it is traceable to the list of sites authorized to sell online.

This procedure is free of charge and is completed within 30 days of receipt of the request, by the competent office of the Ministry. Together with the transmission of the logo, the Ministry will provide the hyperlink between the logo and the page of the portal of the Ministry where the pharmacy and its authorized site for the online sale of medicines without a prescription was inserted.

The owner of the website must provide on its website several information, such as: the hypertext link to the website of the Ministry of Health, which should provide citizens with all available information on existing legislation and on the risks associated with the illegal purchase of online medicines; the national identification logo on each page of the site that sells drugs without a prescription and that must contain the hypertext link to the list of authorized pharmacies placed on the site of the Ministry of Health referred to in the previous point.

The owners of pharmacies and businesses authorized to sell SOP-OTC that sell ethical drugs for human use online are punished with arrest up to one year and fine from € 2,000 to 10,000.

Anyone, including pharmacy owners, businesses or online sales of falsified medicines is punished with arrest from 1 to 3 years and fine from € 2,600 to 15,600. The start of online sales activities without the regional authorization or the affixing of the logo on the web pages dedicated to the e-commerce of medicines or before registration in the list of subjects authorized to the sale of medicines at a distance, managed by the Ministry of Health, is punished with administrative penalty from € 51.7 to 516.99. The Ministry is responsible for the adoption of administrative measures to combat illegal sites.

As for the use of an app to sell drugs online, considering the success that smartphone and tablet applications have known in recent years, the issue is different. This was the case between 2009-2010, and at that time, when the European institutions drew up the rules for the online sale of medicines, it was not predictable and was not taken into consideration. For this reason, in order to verify the legitimacy of using an app for the e-commerce activity of the pharmacy, including the sale of medicines without a prescription, Federfarma forwarded a question to the Ministry of Health, also in order to verify the requirements, the conditions and limits to be applied in this context. In the Circular of 10 May 2016, the Ministry of Health clarified this and other issues raised by questions from various economic operators. With regard to the use of an app, the Ministry stated that the use of mobile applications for smartphones or tablets is not allowed.

2.5 RISKS AND OPPORTUNITIES IN THE PHARMACEUTICAL INDUSTRY

Due to the trends that are transforming the pharmaceutical industry worldwide, Italy is in a position thanks to which it is able to face important risks that threaten the current leadership position and, at the same time, identify and seize new opportunities. First of all, as for the pharmaceutical sector in general, the risks derive, in particular, from the increased competition on a global scale and from some weaknesses of our Country System, including: an unstable political framework, which has seen the succession of 33 Governments since 1976, with increasing macroeconomic imbalances; limited incentives for Resources and Development compared to major European and international competitors, long and uncertain bureaucratic processes with a duplication of decision-making centers and insufficient digital competitiveness both in terms of infrastructure and skills.

All those factors place Italy at the 24th position among the EU-28 countries in the Digital Economy and Society Index (DESI), that is an index used at European level to measure the level of digitization of the economy and society. In recent years, the incidence of health expenditure on GDP has reached the lowest level of the last decade, amounting to 6.6% of GDP and, among the various expenditure items, pharmaceutical expenditure has suffered the most significant decline linked to the various mechanisms of expenditure ceilings. Also, the real trend of pharmaceutical expenditure confirms a situation of serious underfinancing, counting a -17% in real terms between 2014 and 2018. In spite of this, Italy is in time and still in a leading position for which it can seize important opportunities with respect to the evolution of the sector (Ambrosetti, 2019). In short, the increase in research and development costs was accompanied by the financial and economic crisis which has put and will put at risk the resources available for scientific research; Therefore, since innovation in pharmaceutical companies is a successful strategic lever, this is certainly not one of the best scenarios for the future. It is a scenario of strong transformation in which Italy, on the one hand, is witnessing the consolidation of important industrial realities, on the other hand it is seeing a growing risk of relocations and divestments due to repeated measures to contain expenditure.

Focusing on the online side, other challenges can be identified in the heavy regulation of the sector because it translates in the fact that due to all the regulations, there will be a moderate growth compared to a less regulated industry. In any case the considerable growth the pharmaceutical e-commerce experienced during the last years can’t be ignored. This growth concerns not only the numbers of online sales, but also the online marketing activities.

Pharmaceutical e-commerce has faced numerous challenges which have encouraged collaborations throughout the whole chain. First of all, the *legal restrictions*: the pharmaceutical sector in fact, as well as the pharmaceutical e-commerce has different legal requirements compared to other sectors and this implies that the development of any online pharmacy, depends on the extent at which it manages to integrate itself into the specific legal frameworks of the different EU states. Moreover, the pharmaceutical sector compared to other industries is *highly internationalized*, and it means that for those companies there could be the risk of having *different legal and ethical requirements according to the different countries*. Another point could be identified in the *difficulties to communicate to the patient useful and easy to understand content,* in an adequate way. This last point becomes very important by considering the bad implications people could have due to an inappropriate self-medication. This is important in order to avoid a wrongful use of a medication that could lead to big consequences on the patient's wellness. Despite all these difficulties, the traditional rules of purchasing pharmaceutical products are gradually evolving as a result of the increasing digital transformations and advancing consumer behaviours and expectations. At the same time there are some benefits that push the consumer to buy online. Concerning pharmacy products, the main factor driving consumers to e-commerce is *the price*. On the internet the customer has the opportunity to compare products, offers and discounts and to buy the property at the most competitive price. But there are also other parameters that influence the decision, for example, for some, *confidentiality* is important because online buying allows the consumer to maintain physical anonymity. In addition, it plays an important role, as well as for any type of e-commerce, the convenience of *shopping 24 hours a day, seven days a week* without having to leave the house: this is an advantage especially for those people who are in rural areas, for the elderly, or for those with some disabilities, for whom ordering online and receiving the necessary medicines directly at home is definitely much more convenient. Moreover, it offers the possibility to guarantee its customers a *wider variety of products* than the one available in the store. Some pharmaceutical sites also provide important information about diseases, symptoms, as well as links to universities, health organizations and specialized government agencies that could be of great importance to those who need them. It is also necessary to consider the impact on the market of the measures to contain the contagion from Covid-19, which by imposing to maintain the social distances and to limit the displacements, has favored the growth and the opening of many commercial activities to the world of e-commerce. In this context, without prejudice to the need to respect the strict regulatory constraints for the online sale of pharmaceutical products, even pharmacies that previously only had their own physical store moved to sell online self-medication products and without the need for a prescription (Gurau, 2005).

2.6 A FIRST IMPACT ANALYSIS OF THE COVID-19 EMERGENCY: CONSEQUENCES ON PHARMACEUTICAL PRODUCTION, DOMESTIC DEMAND AND FOREIGN DEMAND

The pharmaceutical industry during the Covid emergency managed to ensure the operational continuity; and as a result of all the measures that have been adopted, it became one of those sectors considered as priorities for the country. This continuity plays a fundamental role for the economic development, but also for the protection of all patients who, in this way, can have access to the therapies they need not only related to Covid-19.

From a sectoral point of view, Farmindustria has organized, together with the Associate Companies, specific Task Force on work organization, production, clinical research, distribution, scientific information, that are useful to share best practices, concrete actions to be carried out together with the other stakeholders and requested from the institutions. In addition, the constant and constructive comparison with AIFA, the Italian Drug Agency, is decisive in order to find shared solutions and to respond promptly to the difficulties that arise in the management of the crisis. Starting from when the pandemic spread in Italy, and even before the regulatory provisions, the companies of the drug have ensured full activity also thanks to the timely adoption of risk prevention measures, both internal, related to production organization or to the management of shifts of common areas, both external, with respect to relations with suppliers and distributors. Indeed, as early as mid-February, companies have put in place initiatives for the control of the risk of infection and for the safety of personnel, predicting for example, more distancing and more reorganization of the work on the basis of small teams so as not to impact the entire production process in the event of positive workers to the Covid-19. Even in Lombardy, the region most affected by the virus and at the same time the first for the number of workers and plants, there was no closure of activities. (Salvio CAPASSO et al, 2020).

When it comes to the analysis of employment, a recent Confindustria survey shows that pharmaceuticals is the sector with the lowest reduction in hours worked, a decline that is now generated mainly by the reduced activity in the external network, decided for obvious reasons of health protection of workers, of doctors and patients from companies, who are already engaged to start again as soon as possible with adequate safety standards.

From the point of view of production activity, in the pharmaceutical sector there wasn't any radical change of direction compared to the previous quarter: the first quarter of 2020, according to ISTAT counted a +1.1%, compared to the last of 2019, when production was increased compared to last year, again thanks to export performance, counting a +24% in the first three months of 2020. So, there were no significant blocks and the continuity plans of the companies proved to be very efficient for the continuity of production.

The “deficiencies” that were reported by the media such as the scarcity of specific products, have been determined from strong increases of the demand related to the hospitalization or to the use of the products against the Covid-19, and not from an interruption of the flows of production. In any case, thanks to the collaboration between Agenzia Italiana del Farmaco (AIFA) and Farmindustria, such cases have been limited and have had prompt responses without turning into a real lack of product (Capasso, 2020).

Concerning the internal and external demand, it is still too early to have a complete picture, however sales have shown an overall first phase of growth between the end of February and the first half of March, and then they started decreasing later. It can be thought, as it has been also remarked several times, that this phenomenon of marked cycles denotes a phenomena of supply accumulation for fear of eventual problems of purchases, that they didn’t even realize. In fact, in the second quarter, the demand has a very different trend depending on the type of disease. On the one hand, the objects of demand are the same as in the pre-crisis period, but there are strong differences in the stages of use of products. Some have experienced increased demand, now in normalisation, for other diseases there has been a lower incidence, in other cases there are still delays in access to benefits, which are likely to be recovered in the next few weeks but have reduced demand in the short term. It is important to remember in any case that the supply has always been guaranteed throughout the national territory, also thanks to the good functioning of logistics. Therefore, any problems that have been highlighted in the media have not been linked to a bad functioning of the supply chain, but to special situations related to "extraordinary" purchases and, in any case, have been overcome thanks to the commitment of all actors.

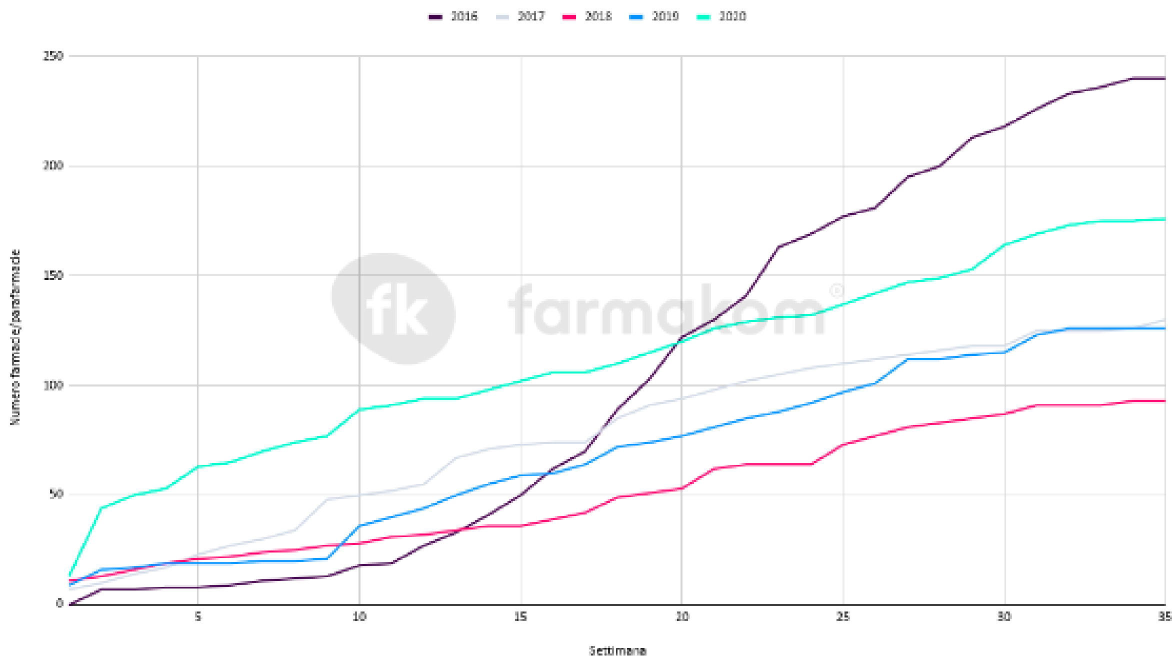
The pandemic highlighted the importance of the entire pharmaceutical supply chain for the protection of health and development throughout the country, inviting us to reflect on the importance of the presence in the country of key parts of the international supply chain. Jim Kilpatrick (Deloitte, 2020) highlights the importance of rethinking and transforming the global supply chain model. At a global level, in fact, value chains are structured in such a way that production is no longer destined only to the national market but there are areas of specialization that produce for all. This work-sharing mechanism highlights the importance of enhancing the strategic activities in the country, consolidating investments and working to attract new ones. Having in Italy the availability of many companies of the drug, in national and international capital, shows how fundamental is the presence in the country of a sector able to ensure the continuity of access to therapies, also in an European perspective and competition between macro-areas, for example with the USA and China.

More generally, not for pharmaceuticals but for all sectors, reflections on reshoring or on the possibility in the future to return to a situation of national self-sufficiency require further study. It is not assured that a different work organization would have given an overall better answer in the availability of all products, especially if managed on a local basis and no longer at European level: these are considerations that take time and a lot of data to come to a conclusion. However, what is evident is that those companies that had supply chains diversified from a geographic perspective and that managed to reduce their reliance on one supplier, were better prepared than others to respond to this event.

On the one hand, the logic of production has changed, on the other hand, not being able to predict the nature of other possible shocks, make it difficult to identify the actions that should be taken to change the current structure. In any case, from the point of view of the pharmaceutical observatory, the specialization in the international division of labour has given an efficient answer to the health question.

2.7 DATA AND INSIGNTS ON THE PHARMACEUTICAL E-COMMERCE IN ITALY

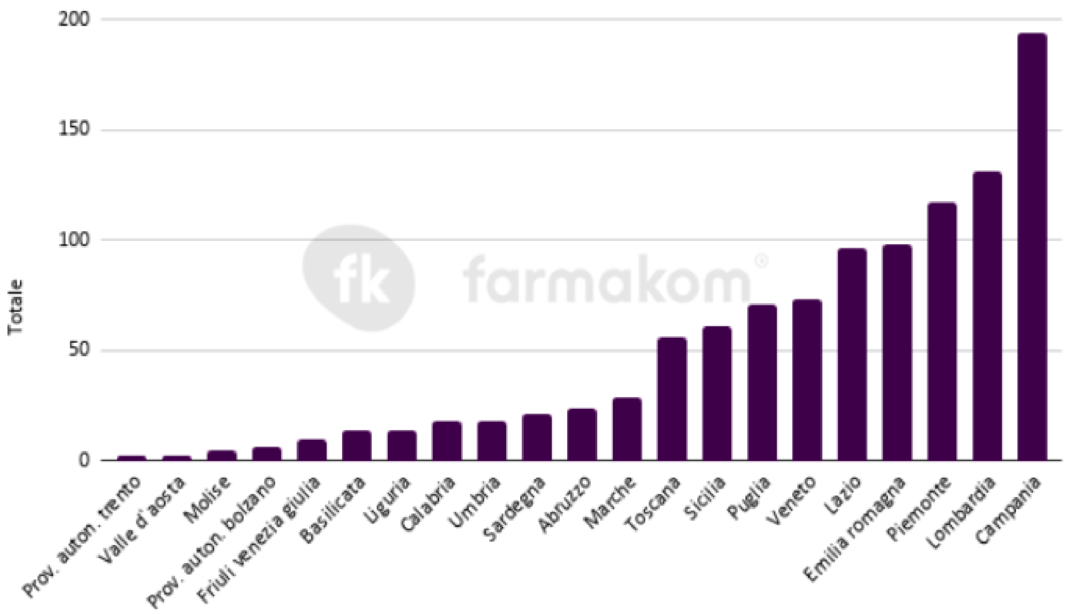
Concerning the number of pharmacies currently present in Italy, according to the data of the Ministry of Health analyzed by Farmakom -a startup born to support the digitization of Italian pharmacies providing technologies, methods and processes to enhance the figure of pharmacist on the national market- the activities authorized in 2016 were 328, in 2017 508, in 2018 664 and in 2019 863.



Graph 6: the evolution of the online pharmacies from 2016 to 2020 (Farmakom, 2020)

In this chart whose aim is to understand the evolution of the online pharmacies looking at the trend year after year, it is evident that the 2016, the first year in which the sale of OTC and SOP drugs was liberalized, was the one with the highest and fastest growth: already from mid-February the curve begins to soar, surpassing the 50 pharmacies and parapharmacies in mid-March, and this number almost quintupled over the next four and a half months. To make a comparison, 2019 reaches 50 in mid-February, 2017 between the end of February and the beginning of March, and 2020 by January.

2018 is a particular year in which the sector is experiencing a significant slowdown: even with a start similar to other years, it exceeded in a few weeks and reached 50 even later than 2016, at the beginning of April; while at the end of the period considered remains the year with the lowest result. 2020 is the most interesting year to analyze, even in relation to Coronavirus. The strong departure in the first weeks can be traced back to the news of the epidemic from China and the first Italian outbreaks (around the tenth week), but during the health emergency in Italy there are no peaks or accelerations, but rather an important but constant growth, consistent with the evolution of the eCommerce pharmaceutical sector.



Graph 7: the analysis of the online pharmaceutical commerce in the different italian regions (Farmakom, 2020)

When it comes to the analysis of the online shopping regarding the different Italian regions, what emerges is that the first five regions for number of online activities cover exactly 60% of the total Italian (Farmakom, 2020): they are Campania, Lombardia, Piemonte, Emilia-Romagna and Lazio. Four other regions exceed 50 pharmacies or parapharmacies per region: Veneto, Puglia, Sicily and Tuscany, while the eleven remaining Italian regions cover a total of about one tenth of the total, with at the bottom of the ranking Friuli-Venezia Giulia, Trentino-Alto Adige, Molise and Valle d'Aosta.

According to several data published by Migliorshop, Farmakom, and other web agencies specialized in the creation and consultancy of e-commerce for pharmacy and parapharmacy, the category of product sold the most on eCommerce pharmacy, is that of food integration. The strength of these products is to be increasingly appreciated by consumers, who turn to supplements to overcome various problems, from vitamin deficiency to weight control, through hair loss and improved circulation.

According to a recent study by Censis, 32 million Italians who habitually consume these products, decide to buy them for the 95%, through pharmacies or parapharmacies, leaving the remaining portion to retail. Many, therefore, choose the convenience of online to obtain these products.

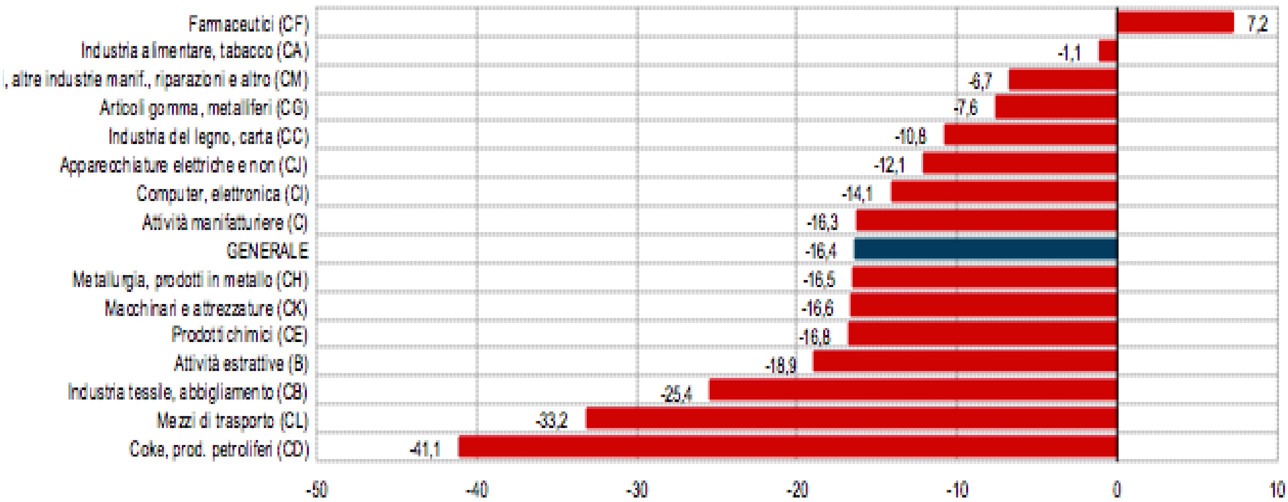
In April Italy had warning signs on the industrial side: sales and orders of the Italian industry virtually halved compared to the same month in 2019 (respectively -46.9% and -49%). This is what Istat says, which speaks of the worst results for both historical series - starting from 2000 - signaling that in the average for the months of march and February the reduction is respectively 23.9% and 27.7%.

As it's explained by the institute, the conjunctural decrease of the turnover is extended both to the internal market, that has been reduced by 27.9%, both to the foreign one, that marks a fall of 32.0%. Concerning orders, the one from the domestic market recorded the worst result compared to those from the foreign market. The fall is general across all main industrial groups: seasonally adjusted turnover indices show a cyclical fall of 23.3% for consumer goods, 30.9% for intermediate goods, 33.4% for energy and 344% in the case of capital goods. On an annual basis, adjusted for calendar effects, total turnover decreased by 48.1% on the domestic market and by 44.6% on the foreign market. With reference to the manufacturing sector, ISTAT shows that all sectors present negative changes. The declines are more slight for the pharmaceutical sector (-0.2%) and for the food sector (-9.5%), much wider in the remaining: from chemistry (-26.6%) to the unprecedented results of means of transport (-73.5%) and the textile and clothing industry (-78.5%).

The positive figure reported by Istat for the pharmaceutical sector is also confirmed by a study carried out by the Research Centre Srm linked to the Intesa San Paolo group. The impact of the pandemic on the first quarter of the year shows a pharmaceutical sector in total contrast with the economy as a whole: exports increased by over 24% on an annual basis for Italy and 14.9% for Southern Italy, compared to some data related to the total economy. According to the latest data, in fact, Italian users have started in the lockdown period to buy more frequently pharmaceutical products and medicines online, but the trend continues at this stage where travel is allowed. These numbers are really impressive considering that compared to the same period of 2019, there has been a growth of about 200% (Redazione la Pressa, 2020).

In order to understand the motivations that allow the turnover of online pharmacies to have these numbers on the rise, it is necessary to shift through the new habits of consumers. Every year, in fact, the number of people who buy in an eCommerce pharmacy grows significantly, both because there is greater familiarity with digital platforms and because there is a greater propensity to protect their health. As a normal consequence of these two situations there is the growth in the purchase of pharmaceutical or parapharmaceutical products and the natural increase in the turnover of online pharmacies.

The growth of eCommerce pharmacy is a reality supported by important aggregated data: it has been estimated that at European level the turnover of online pharmacies has been ranked fourth among the markets with the most revenue ever, in the same way with the food and furniture sectors. The economic amount "moved" from the e-commerce pharmacy and parapharmacy has been of 43 billion euros. A further reality that strengthens these numbers is the fact that, as reported by Migliorshop, the turnover of eCommerce pharmacy has contributed to increase the macro-sector "Health and Beauty" by 23% compared to the previous year.



Graph 8: total turnover, ranking of sectors of economic activity by trend (Istat, 2020)

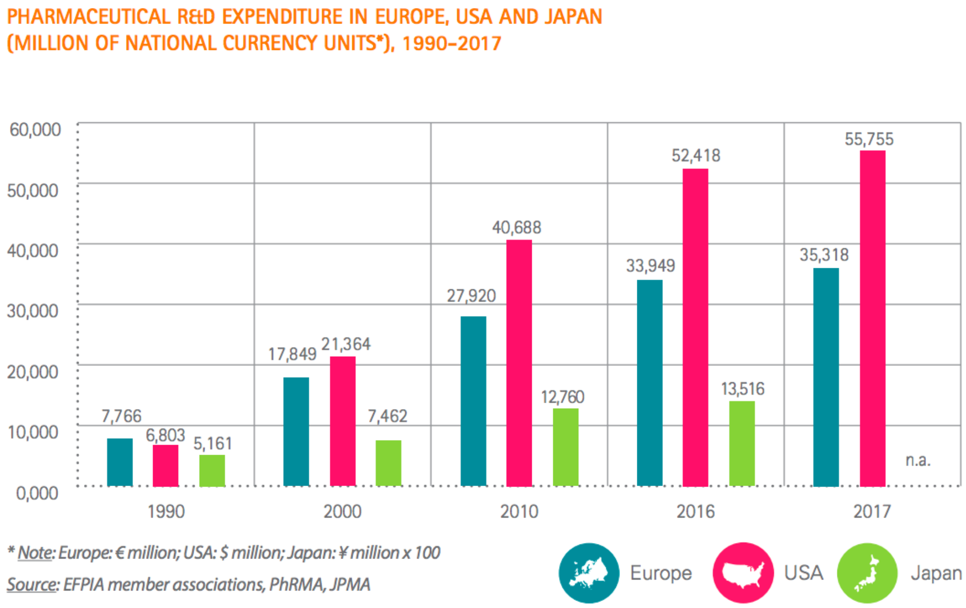
According to some data from the Istat institute, with reference to the manufacturing sector, only the pharmaceutical sector in 2020 recorded a trend of positive growth of +7.2%. For all the other sectors negative results are reported: from the 1.1% drop in the food industry to the much wider declines in the sector of transportation and oil refineries. The only sectors for which positive variations are found, as it is shown in the graph, are the pharmaceutical industry.

The latest Istat surveys date back to September, and instead show a reversal of the trend: in trend terms the raw index of orders increases by 3.2%, reflecting results of the same sign on both markets, but of significant size for domestic and rather modest for foreign. The highest trend growth is recorded in the transport sector (+17.6%) and in the wood and paper sector (+4.7%), while the worst results are found in the pharmaceutical industry (-4.0%) and in the computer and electronics sector (-4.1%) (Istat, 2020).

2.8 THE PHARMACEUTICAL E-COMMERCE IN THE WORLD

The research and development in the pharmaceutical industry is one of the biggest strengths of the European economy. It is one of Europe's top performing high-technology sectors. The representative of the research in Europe is EFPIA, (The European Federation of Pharmaceutical Industries and Associations): it was founded in 1978, and represents the research, the development and the manufacturing. Its focus is on the future prevention and pharmaceutical innovation. It represents more than 1,900 large, medium and small companies including the entire European research-based pharmaceutical sector whose interests also include a significant part of the generics and biosimilars segments. In 2018, as it is reported by Efpia (2019) the R&D invested on average € 36,500 million in Europe; moreover it directly employed around 765.000 people, and it generated about four times more of indirect employees. The pharmaceutical market experienced a considerable increase in recent years: it played, and it is still playing a key role, in fact in 2001 the market was evaluated to be of 390 billion dollars, while at the end of 2019 the total global pharmaceutical market was valued at about 1.25 trillion U.S. dollars.

However, some markets are more appropriate for pharmaceutical companies than others. This growth, that is related to the Research and Development expenses is not homogeneous, in fact, according to EFPIA, “in 2018 North America accounted for 48.9% of world pharmaceutical sales compared with 23.2% for Europe”.



Graph 9: Pharmaceutical Resource and Development expenditure in Europe, USA, and Japan from 1990 to 2017 (EFPIA, member associations, PhRMA, JPMA)

As it is shown from the graph, the investments on Research and Development in Europe in 2017 reached the 35.000 million, but it is far away from the number of the US that took over from 2005 onwards.

Despite, it is possible to identify some countries that can be grouped as emerging markets, that are countries with a low-income, such as Brazil, India or Russia (Statista 2020).

According to MRFR, ePharmacy Market in the world in 2020 will register a CAGR of 12.5% over the forecast period of 2020 to 2027. In 2019 it registered a value of USD 62.58 billion, thus it is likely to surpass the previously-recorded value by 2027 primarily driven by the COVID-19 pandemic. The industry is divided into the marketplace, hospital, and direct, depending on the business model. In 2019, the market segment accounted for the highest market share of USD 33.22 billion owing to the growing number of consumers purchasing and refilling drugs online. In 2019, the market segment accounted for the highest market share of USD 33.22 billion owing to the growing number of consumers purchasing and refilling drugs online.

Global ePharmacy market, based on region, has been divided into the Americas, Europe, Asia-Pacific, and the Middle East & Africa. Because of the involvement of major suppliers, growing visibility and growing product releases by major players in the region, the Americas are likely to have the command on the worldwide ePharmacy industry. In 2019 The Americas represented the highest market share in the global ePharmacy market of 48.9 percent. This huge proportion is largely due to the involvement of the key players in ePharmacy and the general population's use of the online distribution for consumable goods.

In the worldwide ePharmacy market, Europe had a large share. Due to factors such as increasing online orders, the rapid rise in e-commerce, the increasing prevalence of chronic diseases, the rise in the geriatric population and well-developed IT infrastructures, the e-pharmacy market in Europe is expected to improve during the forecast period.

The Asia-Pacific's rapid growth instead, is attributed to the cases of diabetes and growing per capita income, along with government efforts to increase the quality of healthcare. China, India, and Australia have a very profitable demand for ePharmacy as a consequence of the increase of the old population. The Asia-Pacific region would also be home to nearly 66 percent of the older population out of the total global population. Due to the incremental number of the geriatric population there could be an increase in metabolic disorders, which in turn would raise the number of patients demanding for ePharmaceuticals.

2.9 PHARMACETICAL MARKETING

Apps, fidelity cards and promotional campaigns are the most popular marketing tools used by businesses to satisfy customers and increase sales. Each of these tools involves the processing of personal customer data, but when the business considered is a pharmacy, several things change. The Camera, the 24 April 2006, published the article 115 d.lgs. 219/2006 and prohibits the advertising of medical - that is "any action of information, of search of the client or of exhortation, aimed to promote its prescription, the supply, the sale or the consumption" -to the public which may be purchased only on prescription or which contain psychotropic or narcotic substances. Until 2017, the only drugs that could be promoted to the public, subject to an authorization from the Ministry of Health, were the OTC (Over the counter), subcategory of Sop (without prescription) and so-called over-the-counter medicines, that is, self-medication, which do not require a prescription and can be purchased directly from the consumer.

The Council of State with the sentence n. 2217 of 12 May 2017, confirming the sentence of the TAR Lazio Sez. Third Quater n. 7539/2016, has instead extended the list of drugs that can be advertised, including all Sop. It is therefore possible to carry out marketing activities concerning different medical products, but what must be taken into account is that marketing is constantly changing and adapting to new trends that are developing together with new markets which in turn adapt to changes, and the pharmaceutical and health sector is one of those that has found itself facing the new scenarios of marketing and the digital era. Everything changes simultaneously and it is essential to keep up with the times in order to compete in this increasingly complex and difficult sector that is focused on health. This means that pharmaceutical marketing is not only addressed to patients but also, and above all, to people who care about their general health. It is also important to keep in mind that nowadays it is normal to treat everything, even if people don’t suffer from any disease, to prevent it. In this way, while the world of medicine makes huge advances year by year, health has become a commodity to be sold. Until the middle of the last century it was normal to only deal with those who were sick, today instead, the diseases are cured before they appear: the point is to play in advance in order to avoid them all. Those who are healthy turn into sick, that is why the pharmaceutical sector is one of the few, despite the economic crisis, which knows no downturns. In fact, it is improving considerably and it is going towards an increasingly technological and innovative progress: this is one of the reasons why it is important, also in this sector, to stay up to date on digital marketing. Today, in order to understand the impact of digital marketing in the pharmaceutical industry it is fundamental to understand the consumer which is always looking for medical information online. What has also changed is what buyers are paying attention to. Generally from the moment a new drug was launched on the market, it was normal to pay attention to its effectiveness, safety and ease of use, while any dissatisfaction of the customer was identified and treated later. However nowadays, companies want to focus more the attention on the user experience that is one of the most important factors, especially in the moment of the launch of a product (Casarin 2019). The patient needs to be put at the center of the strategy. It is essential to ensure that the performance of a drug is high in its first 6 months after launch, as it will then determine its market share later (Ascher, 2018).

Different strategies can be identified in order to put the patient at the center. It is certainly appropriate to start from transparency: allowing the patient to know the company better by making accurate and up-to-date information on the effectiveness of the products in the markets, allows them to develop the necessary confidence. Accustomed to surf online, people have high expectations regarding the content: the quality of information and the verifiability of sources is essential for a good digital marketing strategy. It is no longer enough to limit ourselves to advertise by relying on the name of the brand, today it is essential to guide the customer towards the choice that best suits his needs. In short: knowing the patient is also the first step to gain his trust. It is also necessary not to neglect *empathy* in order to provide the client with a solution that in addition of being focused on his clinical problem, is also directed to his entire experience taking into account his preferences and needs: it will help him to make informed therapeutic choices, well illustrated in the expected costs and benefits.

2.10 PHARMACEUTICAL MARKETING TOOLS: A MULTI CHANNEL STRATEGY

Content marketing is the main tactic to consider for the execution of a successful multi channel strategy. It is not just a matter of publishing content on the different channels of the ecosystem, but of being able to offer the different target users an experience that can guide them through all the steps of the conversion funnel.

The creation of a content marketing strategy that understands the needs and fears of its target audience is a key lever for the success of a pharmaceutical business. In fact, the realization of educational content helps the client to consolidate the relationship of trust with a specific brand: pharmaceutical companies must therefore develop content marketing strategies that combine every single content in each channel with the goals of the organization and the needs of the customer (Casarin, 2019). The implementation of a multi-channel marketing communication strategy, in order to achieve its objectives, starts by first examining which are the touchpoints between customers and the organization, and then determines how these touchpoints can be incorporated into a marketing plan (Lawson, 2019). This strategy involves both online and offline channels. Multichannel strategies can be determined based on the preferences of the client channels and on the preferences of the organization channels determined by an internal audit. Pharmaceutical organizations need to consider many elements of the strategy, such as customer insight, the experience as well as its internal capability when adopting multi-channel strategies. A common example of a marketing strategy that pharmaceutical organizations can adopt is *search engine optimization (SEO)*. It aims to increase visibility on search engines in order to increase the number of visitors to a particular page or website. This is certainly a very time-consuming strategy, but the results will be almost permanent. Moreover, there are also many pharmaceutical companies which choose to manage their own marketing campaigns via *Google AdWords*. Unlike the use of the SEO, the results from Google Adwords are immediate, and can therefore be defined as a short-term strategy. In fact, it could be used in addition to the search engine optimization, waiting for the latter to give the expected results. The world of digital advertising has always been a bit inconvenient for pharmaceutical marketing because brands must meet strict requirements to advertise their products, but considering that health and well-being queries make up 1 in 20 Google searches, and that there are 3,150 Google searches per second for health and well-being, it makes sense to also use this type of marketing strategy (Doucette, 2019).

In addition to research marketing, *social media* enables health professionals and organizations to effectively reach consumers with relevant health information. For the health sector a solid presence in the most famous social networks such as *Facebook or Instagram* offers the opportunity to communicate with a large number of users, giving them advice, natural remedies and information on new discoveries in the medical field. Thanks to social media above all, the pharmaceutical industry can reach very specific audiences all over the world and provide them with qualified content exactly when and where they need it most.

Additionally, doing *influencer marketing* on Instagram is also possible for the pharmaceutical industry: fitness and health in general is an important trend among those who deal with lifestyle. A positive impact that can be achieved by choosing the influencer marketing, is the consolidation or rebuilding of confidence with consumers. There are a number of events that could cause a loss of confidence in a pharmaceutical industry, and being influencers people who have already established a close relationship with their followers, could help pharmaceutical companies restore that confidence with their target audience.

Another important lever that can be used not only to educate the patient, but also to send ad hoc promotions for the individual patient, is the use of *personalized newsletters and emails*. For the pharmaceutical sector, building a database of profiled contacts is, if possible, even more fundamental than for the other sectors. It is in fact through the periodic sending of personalized information that it can build a solid company/patient relationship: it is therefore essential to customize emails according to the interests and needs of a recipient so that they receive only relevant information (Casarin, 2019).

It must be considered that today the traditional touchpoints of Health and its services have undergone a transformation, increasingly approaching the needs of patient consumers. In fact, the processes of Digital Transformation have accustomed patients to search online for useful information on both treatments, pathologies, disorders, and to understand how to access health facilities and get in touch with health professionals. As with the other sectors, being present online in an effective way also for the pharmaceutical sector allows to reach potential consumers and loyal customers strengthening the reputation of their brand.

Compared to the sample analyzed by Adv Media Lab in Italy, 68% of patients prefer pharmaceutical companies and pharmaceuticals reachable through digital channels, especially by email. In fact, patients in the new millennium are connected for several hours a day and rely on their ability to make decisions about their health by choosing and analyzing the content they search on the web and social networks.

The process of digitisation is changing the way citizens are informed and bought, but the feedback has also turned to the way health professionals approach patient prevention and care. From the data of Farmindustria in fact, it emerges that Italy is the first manufacturer of drugs in the European Union with 32.2 billion euros in production value; the pharmaceutical sector is also one of the sectors most prone to process technology, many companies in fact, they are using new software to support their business. The synergies between the pharmaceutical world and the digital world are proven by the numbers: 2018 data recorded 3 billion euros in investments, of which 1.3 billion for production and 1.7 billion for research and development. Companies invest mainly in new materials and biotechnology, but also in software, big data and analytics: all technologies that allow to increase the quality of production and facilitate the targeting of patients, making the sales process faster and more effective.

In recent months, the online drug sales sector has also shown itself to be able to adhere to one of the new trends in the world of e-commerce: social commerce, ie the evolution 2.0 of online commerce, that allows greater interactivity by customers through the integration of the social world within the shopping process. In this area a research was conducted by Worldz, the startup that has developed an e-commerce software that allows users to get a personalized discount on online purchases, calculated on the basis of the value of their social popularity (Facebook or Instagram). To get the discount immediately, the user must simply post on their profile a post or stories, sharing with friends and followers the product or brand chosen. As noted by Worldz, since November 2019 sales in the pharma sector, which have been stimulated by the social shares of their community of users, amount to 50,000 with a total turnover for e-commerce partners that exceeds 2 million euros. There were over 14,000 posts generated by users interested in receiving the discount, which in turn reached +1.3 million friends and followers on Facebook and Instagram.

Chapter 3 – THREE EXAMPLES OF ITALIAN PHARMACEUTICAL E-COMMERCE

3.1 METHODOLOGY

In order to investigate the role of e-commerce in the Italian pharmaceutical sector, a multiple case study has been realized. In particular, three online pharmacies operating in Italy has been analyzed. The choice to realize a multiple case study has the objective to identify analogies and differences between different realities and to compare them in order to understand in depth their dynamics and the characterizing elements.

The data collection mainly consists in interviews to the three CEOs' of the chosen case about their experience regarding the implementation of their Pharmaceutical e-commerce.

The use of a qualitative research is also linked to the intention of fully understanding the history of the interviewee and to understand his point of view. The qualitative research is carried out in order to collect and interpret information, making the interviewer and the interviewee both protagonists of the research work (Strauss 1998). In order to carry out a qualitative study, it was considered appropriate to use the interview as a research category. There are three interviews categories that are classified according to their degree of structure -structured, semi-structured and unstructured- and in this case the type chosen was that of the semi structured interview.

In order to conduct a semi-structured interview it is important to study and plan with great care, what to ask and how the questions will be asked in order to make the research as successful as possible. The interviewer in fact, needs to be able to guide the interview by touching a series of themes that are the topic and issues about which our research is addressed. The semi-structured interview was chosen because it allows to collect information by bringing out hidden sides of human and organizational behavior (Qu, 2011). It is also a very flexible interview category, which allows the interviewer to change the order of questions, to focus on one aspect rather than another based on the respondent's answers and experience, thus allowing a better understanding of the interviewee's perspective. The choice of the pharmacies to be interviewed fell on "Farmafarma", "Farmacia Bodini" and "Amicafarmacia" after trying to contact and obtain the collaboration of also other pharmacies that however did not want, or sometimes could not collaborate.

Company name	*Number of Interviewed*	*Duration of the interview*	*Name of the Interviewed*	*Role of the Interviewed*
FarmaFarma	One	25 min.	Luca Spagnoli	Partner of the company
Farmacia	One	38 min.	Alessandro	Partner of

Bodini			Berta	the company
Amicafarmacia	One	27 min.	Marco di Filippo	Head of the company

Table 1: Pharmacies interviewed

Thus, three semi-structured interviews were conducted, the interviewees were free to respond freely according to the contents and the modes of expression considered most suitable by him.

3.2 AN INTRODUCTION TO "FarmaFarma", "Farmacia Bodini" AND "Amicafarmacia"

The first company interviewed is *"FarmaFarma"*, a pharmacy that decided to start its online business at the end of 2014, between October and November. The first region that obtained the authorization to sell drugs online was Puglia, and they were among the first to obtain this authorization. From this point of view, therefore, they can be called pioneers.

As reported by the Doctor Luca Spagnolo in fact, when they went online there was still no difference between drugs and supplements, but only between supplements and cosmetics; the drug was not yet considered, it came into force only two years later with the introduction of the ministerial stamp clicking on which it is possible to be sent on the website of the ministry where the customer can find the document that certifies that particular pharmacy as an authorized subject to practice the online commerce of medicines and the date on which this authorisation was released.

Their physical pharmacy is situated in Taranto, and it was opened fifteen years before the Unification of Italy: they are therefore present on the territory for three generations, and after having affirmed solidly their presence on the territory, they decided to develop also their online commerce that today records an average of 250\300 daily shipments serving not only the Italian territory, but also 16 different countries in Europe. Currently they use two different programs to manage the online and offline commerce, but they always communicate internally. They have four people working on the pharmaceutical e-commerce website, dealing with shipments, back office, back end, customer relations, marketing, etc. But they don't have separate facilities, they do everything inside their pharmacy and they manage to run it all inside a single place. They firmly recognize the importance and the value of the human resources, this is why their back office work is just partly automated.

The second pharmacy interviewed, is the *Bodini Pharmacy*, a younger pharmacy born fourteen years ago by Chiara Bodini and her husband Alessandro Berta in Borgosatollo, in the province of Brescia, in a strategic position: the country in fact, is positioned in a particular way since it is at the center of a melting pot of roads that converge in Borgosatollo. The pharmacy has grown significantly from three to fourteen employees, and four years ago, around October 2015, they decided to start a new path by opening their online store. They started their online business from scratch, from the garage of their pharmacy with a single person who was in charge of the call center and a very simple management portal that in a short time began to produce an important volume. To date they have divided their online pharmacy into several specific sectors: health, orthopaedics, the dermocosmetic sector and ethics; over the past five years they changed three managerial systems from a simple, standard management system that could no longer meet their needs to a more complex and structured one, and they now have two warehousemen, but they're thinking of getting a fully online, semi-automated warehouse to reduce costs. It has been emphasized how fundamental they consider a well-formed human resource which could be what really makes the difference: their examples are their warehousemen on which they focus in a particular way.

The third and last pharmacy interviewed is *"Amicafarmacia"*. Their physical shop was founded in 1991 with headquarters in Cuneo, more precisely in Bagnolo, Piemonte, and in 2006 Doctor Carlo di Filippo and his son Marco decided to test themselves in an idea of enterprise by making a qualitative leap for their small but well-established pharmacy. From a small pharmacy they managed to create a large e-commerce that assists customers around the world. At the moment they have 92 employees, 14 of whom are collaborators of their physical pharmacy, while the other 78 are of the e-commerce business unit. The business functions are those of logistics, marketing and sales, purchases, IT, customer service, catalog management and administration. Most of the back office functions are automated and engineered, in particular at the level of the management of their orders from the moment they are received (order management system) but also of the several activities that support the operating management of the physical flows that transit within the warehouse (warehouse management system).

They are therefore three pharmacies that share a long-standing experience in their pharmacy, and thanks to which they have been able to set up an online store capable of coping with the consistent competition and unpredictability of the market.

	Headquarter	*Foundation*	*Size*	*E-commerce introduction*
FarmaFarma	Taranto	15 years before the Unification of Italy	Small enterprise	2014
Farmacia Bodini	Borgosatollo	2006	Small enterprise	2015
Amicafarmacia	Bagnolo	1991	Medium enterprise	2016

Table 2: some features of the pharmacies interviewed

3.3 THE MAIN BARRIERS TO ENTRY, TRENDS AND EVOLUTION IN THE PHARMACEUTICAL E-COMMERCE SECTOR

These pharmacies are three example of businesses that have been able to establish themselves independently, starting from a physical family store or at least from a few people, and they have all become stable and indeed, constantly growing companies. Consequently, they were asked what are the *main aspects to consider in order to start a pharmaceutical e-commerce*, that is what are the *main barriers to entry.* Their answers did not have great differences, in fact they all pointed out, as reported by the European Directive 2011/62 EU, that first, to be able to start an ecommerce of over-the-counter drugs what is required at a regulatory level, is to possess a pharmacy or a physical parapharmacy.

The second aspect to be addressed is that of the necessary know-how on several fundamental areas to start with e-commerce: mainly technological, marketing and regulatory, but also absolutely strategic.

"It is necessary to consider concretely whether from a personal point of view we are inclined to the use of the computer or of the technology more in general, because once entered the world of the online, they will always have to deal with a dynamic segment" said Dr. Spagnoli: the technologies in fact, have evolved quickly and will continue to do so. It is important to have a strong propensity to keep up with the times and to adapt to every new trend.

Moreover, it’s important to consider that there is a substantial difference in the positioning of a pharmaceutical e-commerce now, compared to what it could have been fifteen years ago. Today it is more complicated to have a certain visibility because the number of online pharmacies is particularly high; this is why it could be a good idea to work a lot on the price; but at the same time this could be risky because the pharmacy would see its turnover increase, but in reality going to analyze costs and revenues, the former would exceed the latter and the company could find itself at a loss.

The pharmacy is an activity looking for new opportunities: there are many pharmacies that invest in the opening of an e-commerce hoping to contrast the negative trend of their turnovers thinking erroneously that it is sufficient to increase the sales by decreasing the prices in order to increase their turnover. Working on prices therefore, it could be dangerous or otherwise not possible during the first times, but despite not having skills and strategies, most online pharmacies use this single lever. When someone develops an e-commerce the start is very hard because there is no traffic. Consequently, to create movement within the site, it is necessary to develop a series of marketing strategies.

With the growth of online purchases, and with the increase in the level of consumer information, the risks to which consumers will be subjected will also be reduced. In fact, as pointed out by Amicafarmacia, starting from 2016 in Italy the pharmacies authorized to sell online over the counter medicines are easily identifiable, thanks to the "stamp" they received by the Ministry of Health. *The phenomenon of counterfeiting* concerns prescription drugs which are unfortunately sold online in an illegal manner by unauthorised foreign websites. If Italian consumers buy online only over-the-counter drugs from pharmacies authorized by the Ministry, the protection of their health is absolutely guaranteed. However, Dr. Spagnoli adds that "despite the fact that the sale of medicines online is well regulated and it is easy for the consumer to make sure they are buying on an authorized site, online pharmacies are still paying the price for some scams that occurred several years ago concerning the sale of counterfeit drugs on online sales sites and auctions". As a result, even though the level of online controls is particularly high, consumers could be held back because of what happened in the past.

Coming to the actual sales, it is important to understand which *are the products that go for the most*, or however how online shopping differs from that at the physical store. The statistics of Farmakom, Migliorshop and other web agencies say that among the products sold through the pharmaceutical e-commerce, the category that records a higher sale is that of food supplements that are therefore among the extra-pharmaceutical products. FarmaFarma claims that this obviously depends on how the company is positioned, but basically the extra-pharmaceutical products prevail over the actual drugs. The Bodini pharmacy rightly adds, that it is difficult to give a precise answer considering that at the physical store the basin of products is much more limited than what can be found online, but at the same time at the physical store it is also possible to buy drugs that require a prescription. The type of products sold is also easily influenced: Doctor Berta in fact explains that during the pandemic it was enough that an immunologist mentioned vitamin C as a product to raise the immune system, and therefore as an ally of the Covid-19, and sales were growing disproportionately; another phenomenon related to the pandemic was the sale of the supplement Zzzquil: many people found problems in sleeping, and the sale of natural supplements that reconcile sleep have increased significantly, in particular, the sale of Zzzquil. It means that depending on trends and also on the season, the type of products sold change and the key is being able and being fast to identify and adapt to these new trends. Similarly, Dr. Di Filippo confirms that “over-the-counter drugs do not represent the majority of sales, weighing 15%. The main sales come from food supplements and dermocosmetic products, both of which represent about 30% respectively”.

They were then asked what change they noticed as they had to compare their *turnover before and after the Covid*. Amicafarmacia claims to have embarked on a growth path that has lasted since 2006 and for 14 years are experiencing double or triple digit growth. The effect of Covid-19 and the ensuing lockdown further reinforced what was their growth trend. The element they recorded was an increasing number of users who for the first time turned to the online channel for their purchases. Dr. Berta confirms what Amicafarmacia said, that "the Bodini Pharmacy escalation is to be considered as a constant growth, but the lockdown has certainly given a boost to their market": this is also a confirmation of what was reported by Farmakom, that is that during the health emergency in Italy there were no peaks or accelerations, but rather an important but constant growth consistent with the evolution of the e-Commerce Pharmaceutical sector. However, they could have done more, in fact, despite having recorded about twice as many orders and therefore shipments, the Bodini pharmacy found themselves very restrained in this last aspect. It has happened several times, in fact, that the couriers did not come to withdraw because of continuous strikes. Their experience, however, coincides with the above: the pharmaceutical industry is a sector that from 2008 to 2019 has experienced significant growth both from the production and export point of view; In addition, following a significant growth in 2016 after the sale of OTC and SOP drugs was liberalized, the growth was constant until it accelerated again with the arrival of the pandemic, but without major peaks.

3.4 E-COMMERCE STRATEGY: CRITICAL SUCCESS FACTORS IN THE PHARMACEUTICAL INDUSTRY

Concerning *the price policy*, as Dr Berta said, “price is the first lever in the economy”, and as such it is what they have focused most on as soon as possible; the price is one of the main factors in an e-commerce because on the web the consumer has the opportunity to quickly compare a wide range of products and offers and to address to the lowest price. But Dr Berta adds that “then what we did was not stop at the price level, but we went ahead by focusing on services and finally on customer loyalty” by making targeted advertising campaigns and focusing on after-sales assistance. The prices that they are required to apply online must be the same ones that are applied in the physical pharmacy, and in his opinion this could cause a damage because online there are some costs, while in the physical pharmacy they have all other. Obviously, then, everyone applies different prices depending on the campaign launched, and on the possibility of applying discounts or not. Amicafarmacia in fact, applies prices that are equal to those applied in their physical pharmacy, and that are on average 20% lower than the "list" prices. However, Dr. Di Filippo said “we also have some brands or product lines on which we apply discounts of 40% and other brands on which instead we decide not to apply any discount".

In addition, in several pharmaceutical e-commerce, it is often possible to accompany the user to the purchase of a certain product through an *advice from a professional.* All three pharmacies surveyed confirmed this: on their web pages the user has the opportunity to receive an advice from a professional pharmacist in case he needs clarification regarding a given product, or in case he needs a medical examination. Farmafarma provides this service personally by relying on themselves; the Bodini Pharmacy activated a service called "the online pharmacist" thanks to which if someone wants to receive an advice, he has the opportunity to pay and talk to a professional pharmacist available in some time slots by appointment. Amicafarmacia instead, because of the thousands of contact requests it receives everyday from its customers on different topics, relies on its team of pharmacists who are able to replicate the same experience that the consumer lives in the pharmacy, thus offering qualified advice. Being a young industry for which digital culture has not yet spread, having the opportunity to offer advice from a pharmacist could be the good compromise to make the user experience closer to the experience that he would normally have in a pharmacy, and to help them build trust.

It is then important to understand how *customer service* is managed during the purchase and after the sale. Dr. Spagnoli says “the customer service is managed directly by us: they respond to any need or demand of their customers through emails, or through whatsapp”. In addition, the workload has increased considerably as a result of the Covid-19. As a matter of fact, due to all the restrictions many people have turn to the online platforms to buy pharmaceuticals products, but being the first time for most of them, they took the opportunity to ask for help or clarification through the customer service. Therefore the first barrier of mistrust towards the online pharmacy could have been removed thanks to the help of good professionals able to help them. Moreover, the fact of having received all they needed at home with very little effort and perhaps even at a cheaper price, helped for sure. Those who buy through an online pharmacy in fact, are not boys between the ages of 18 and 30, but usually the age group that goes for the majority is between forty and fifty; Doctor Spagnolo explains: “for us it is not unusual to talk to 80 years old people and to guide them step by step to make an order online”: This is a clear example of how, although it may take extra time, money and resources, good customer service leads to customer satisfaction, and helps to retain customer loyalty, and encourage more business. In the same way, Amicafarmacia also uses customer support as one of its main assets. They have a team of over 12 figures, 5 of which are pharmacists who relate to their customers in the pre-sales and after-sales phase through a toll-free number, email, chat and social channels. The Bodini pharmacy, instead, decided to stop the call-center service due to an unmanageable amount of calls from their customers, and they thought of replacing it with a chat service via Whatsapp, that it's easier to manage. Regardless of the size and possibilities of the business, therefore, if the goal is to grow, the basis of the business model must be a good customer service.

As for *communication and advertising*, it can be said that this depends on the company's objectives, on its size and its possibilities. There are companies that are willing to spend 300,000 euros for a TV pass, others that can not afford it or that prefer to invest that money in other; both cases depend on the structure of the pharmacy, on the possibility that a business has, from the user base and its objectives. Dr. Spagnoli says "we could do more", but in return they are able to manage their business by making it profitable and managing to secure everyone's salary. They take advantage of their Facebook page, Instagram page, and their web page on which they publish promotions, discounts and posts in which they advertise certain products, discount codes and special offers. The Bodini pharmacy instead uses in particular Google Adwords and the newsletter to update its customers on their promotions; but their presence is not lacking even on Facebook and Instagram where they update their pages with the various promotions and news. Their campaigns have an average rate of 15 days: the Bodini pharmacy in fact, has reached a point where they can offer discounts and small gifts to their customers. In order to make their campaigns even more profitable and strategic, the gifts they offer are related to products of their brand. Two years ago, in fact, after having filed the patent to have a copyright, they decided to create their own brand that they are making known and grow. The pharmacy Bodini is trying to distinguish the physical store from the online one by focusing on the private label, that is the sale of products with their brand. Commercial products can sell because there are targeted advertisements for them, says Alessandro, while to advertise the private label the pharmacist has to spend more, the work to be done is greater, it is required to be able to grow the brand yourself, and it's not always easy.

Amicafarmacia, on the other hand, is among those who spend a substantial amount on communication and advertising. The firm believes they are two key tools in order to reach new customers and thus continuing to grow. "Right now our annual budget is a few million euros" says Dr. Di Filippo; they are active on Facebook and Instagram, and there is the possibility to subscribe to their Newsletter to stay up to date on their news and promotions, and in addition, they use Google Adwords. It is therefore evident that they are exploiting a wide range of tools to achieve their goal which is to continue growing.

All three pharmacies then take advantage of their social channels that was said to be a fundamental tool for the realization of educational content to help the client consolidate the relationship of trust with a specific brand, and for the easy reach of a large number of people; but also of the newsletter in order to build a database of profiled contacts.

3.5 THE FUTURE OF THE PHARMACEUTICAL E-COMMERCE

On the basis of their experience, they were asked which *recommendations* would they make to those who are thinking of opening an online pharmacy, and then what are *the mistakes to avoid* for an e-commerce pharmacy. Amicafarmacia confirms that before leaving it is essential to draw a correct strategy by identifying which are the short, medium and long-term objectives: starting from one or more objectives facilitate the way to reach them. Just like when compiling a business plan, it is important to set goals and, at the end of the set time, to draw the sums. Selecting a partner or internalizing the know-how can allow to take the right steps within a competitive scenario and with an important and significantly higher coefficient of difficulty than the classic dynamics of pharmacy. Farmafarma, in addition to these aspects focuses the attention on the leverage of the price, arguing that it is important not to only focus on the price, but rather on their own marketing strategies: to keep high attention on their store in fact, people need to know the brand.

As for the future, they were asked *how they expect things to change*. The numbers showed that users seem to have adapted very easily to online shopping even for those products that they normally buy at physical stores, but it is important to ask ourself how do they expect their online pharmaceutical trends to change when people will be able to return to normal life. Everyone agrees that e-commerce will be increasingly used by consumers regardless of the pandemic, especially for a matter of practicality and a wide range of products available on the web. What Dr. Spagnolo emphasizes, however, that it is not enough to be sure that online will be the future, it is essential to be able to manage and grow the online store. It is not enough to open an e-commerce and expose the products: knowledge, passion, dedication and a lot of patience are indispensable. Of course, those who are not able to do both may find themselves in difficulty, but it doesn't make sense to go online without the proper skills. He also adds that it is good to always follow the trends of the moment: for example, having noticed how much market supplements had especially in recent times, they decided to create their own line of supplements. Amicafarmacia says that their expectations are an increase in the penetration of online sales compared to offline sales, pharmacies will have to be ready to respond to this consumer demand, going to compete in an increasingly competitive scenario and with international players such as Amazon or other European online pharmacies that are gradually entering our country.

As a result of all this it is evident that the needs of the market coincide with this turning point and that people should prefer the purchase of medicines online. Dr. Di Filippo says “more than preferentially it would talk about the fact that the online channel is a complement to the offline one”. The consumer increasingly uses the online channel with different purposes (information, purchase, entertainment, etc.) and obviously the pharmacy, like all other sectors, must deal with this new scenario in order not to be caught unprepared. Dr. Spagnoli in fact affirms that “the need of the market is to go more and more towards the needs of the patient, the customer”. Until the last 15 years, the pharmacy has always been accustomed to see its customers going towards it alone. The market is currently changing, it added the need to attract customers, and this market change leads pharmacists to a difficult evolution that can best be developed only through a generational change. As Dr Berta says, "online is the future, it will make more and more breakthrough, but you have to know how to do it ". To date, therefore, a forecast on the online pharmacy market as a complete substitute of the physical shop is a bit risky, also because at the moment the medical prescription is still necessary for the sale of certain drugs, but the speed at which the world and the digital universe are changing suggests that a complete online transaction is not such a distant and unattainable scenario. The Bodini pharmacy also claims to have made an investment when it decided to link the physical store with the online one in anticipation of what would have been the future for online pharmacies: that is, they decided to invest in chronic patients. It had been said in fact, that in Europe the online pharmacy was experiencing a great growth also because of an important increase in the number of chronic disease patients as well as the rise in the geriatric population. It is a service to help people follow their therapy. The idea is to help the patient to face their therapeutic path in total safety and with greater ease. When taking one or more medications, in fact, there is a high risk of forgetfulness and errors and this can affect the effectiveness of the therapeutic path. Thanks to the service provided by the pharmacy Bodini, the patient is helped to manage day by day the therapeutic path, in a simple and intuitive way. Every month they prepare the therapy directly in the pharmacy, collaborating with their doctor, and then they deliver to the patient the various medicines organized daily with precise information about the various days and time slots in which they must be taken. The medicines can then be collected at the pharmacy, or sent comfortably to the patient's home.

3.6 THE ROLE OF E-COMMERCE IN THE PHARMACEUTICALS INDUSTRY: FINAL IMPLICATIONS

The ultimate goal of this paper is to understand, how the Italian pharmaceutical industry has developed online, which is the current situation, what are the main opportunities, and how it has been handling the pandemic situation that obviously required an even greater use of the online channel.

The three pharmacies surveyed pointed out that, since people are more and more interested in their body health, online drugs' sales are becoming a recent and growing market. Combining this opportunity with a careful analysis of the market, of the various opportunities and risks that it's possible to encounter and to a detailed marketing strategy, the occasion to obtain a place in the online pharmaceutical market is quite high.

Among the issues that had been identified earlier, it should be stressed that if the strong competition and the importance of communicating relevant information are confirmed, the question of legal restrictions does not emerge as one of the main problems, as the rules for having a legit e-commerce of drugs are clear and indeed, they are fundamental to gain the customer confidence.

The mistake that is often made by those who want to add an e-commerce store to their physical store is to presume building up a successful e-commerce will be easy and fast, and that it will be sufficient to show the products on the Internet to make people start buying. What emerged is exactly the opposite, it is not so simple. To sell it is crucial to design an user friendly site able to drive the user in all the stages of purchase, just like it can be done in a physical store. What is needed are experience, dedication and a lot of patience. It is important to study the trends of the moment, understand the customers, satisfy them even before they feel a certain need, being able to reach them when and by any means and above all being able to adapt to the continuous changes. Consumers want the right and most popular products, but also discounts, promotions and a customer loyalty system that will thus be encouraged to buy prescription drugs, as well as supplements, body care products and much more.

The e-commerce will continue to grow and evolve also in the future, the pandemic allowed the online shop to grow, be known and experimented by a large number of people who previously did not use it by choice or preference, and according to the subjects interviewed, this trend will not stop once everything will get back to normal again.

In order to provide management implications and recommendations in the light of the results of the above analysis, it is also necessary to consider the current Italian economic context, the characteristics of the new generations and the expectations for the future. Italy is in a context of economic depression, with a marked contraction of GDP of about -8,9% , where companies are in the middle of a pandemic that has forced them to adopt a series of strategic changes that include the introduction of online shopping as well as online advertising through various marketing channels. Companies can then try to develop or improve the retention by enhancing actions to support customers or by proposing special offers from an economic point of view; and improving communication and advertising by enhancing digital channels. They also need to make professionality and reliability the key to capture the customer's attention, and give them a sense of trust and accuracy.

CONCLUSIONS

This study tried to provide an analysis of how the Italian pharmacies evolved and adapted -also as a result to the spread of Covid-19 -through the development of an e-commerce. For this purpose, a qualitative survey was carried out through semi-structured interviews aimed at analyzing what was the growth trend of three Italian pharmacies located in different regions, what changes they had to adapt to and had to face over time, and what has been the evolution of their strategy as their business grew and established.

The answers to the interviews showed the high importance of the human factor behind a website with regard in particular to the customer service or to the advice that it is possible to receive from a professional, as it is an element that could make the difference by helping the development of the customer trust; the same for the marketing strategy, which is essential in order to achieve great results.

This result is consistent with the literature, according to which one of the key factors of pharmaceuticals e-commerce would be the development of the customer confidence, as well as the importance of developing a consistent marketing strategy through the employment of various channels in order to counter the growing competition. The results of this paper reflect the today's social context that is characterized by an increasingly use of online commerce which is now expanding in the pharmaceutical sector as a follow-up to the continuous and rapid progress that concerned the communication technologies field.

The results of this paper reflect today's social context that is characterized by an increasing use of online commerce which is now expanding in the pharmaceutical sector as a follow-up to the continuous and rapid progress that concerned the communication technologies field. The evolution of this area does not seem to be close to an end point: the interviewees in fact, are all convinced that this is the right path for the future and that there are still pharmaceutical services and areas to which it is possible to adopt e-commerce, such as for example people with chronic disease.

In the intention to provide inspirations for future research, it should be noted that this work shows initial evidence on pharmaceutical e-commerce that then concludes with a qualitative analysis of only three cases of pharmacies that have decided to implement a pharmaceutical e-commerce. These conclusions can be further analyzed and validated with future researches, such as new qualitative analyses for the in-depth study of new cases of online pharmacies developed more recently to highlight any differences in context. Given the central role of customer support and digital consulting found in this research, it is also proposed to carry out new insights on the function of human resources to improve the user experience.

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