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DIGITAL TRANSFORMATION AND RETAIL TECHNOLOGIES: TECHNOLOGIES' ROLE IN RETAIL'S RECOVERY AFTER COVID-19

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CHAPTER 1: DIGITAL TRANSFORMATION AND DIGITAL MARKETING: AN INTRODUCTION

Transformation and evolution are natural and physiological concepts in humans' lives; although nowadays, things change faster and faster thanks to the rapid development of new technologies such as Artificial Intelligence, Internet of Things and smart objects.

Before talking about the phenomenon, it is important to comprehend what is "digital". According to McKinsey (2018)[1] digital can be related to three principal features:

- Creating value at the new frontiers of the business world
- Optimize the course strictly related with the customer journey
- Build solid competences that can support all the initiatives

Therefore, technologies should create advantage for firms, customers and all the other stakeholders; this can be achieved by restructuring customers' value proposition and introducing in organizations' process digital technologies.

1.1 The history of Digital Transformation

Since the First Industrial Revolution (1760-1840), the way the World works has changed categorically fast. At the beginning of the century C. Babbage[2] invented two new types of mechanical computing machines, in 1830s Morse invented the Morse code which enabled to send information in the form of electrical signals, in 1840s was theorized Boolean algebra, based on the values true or false, introducing the binary code and at the end of the century, G. Marconi invented a wireless telegraph able to send signals by radio waves by turning on and off the radio transmitter. At the turn of the XIX and the XX century took place the Second Industrial Revolution, known as the Technological Revolution. During this phase developed the use of electric power and the advance of major technologies such as telephones, phonograph and internal combustion engines. The second half of the XX century, instead, is the birthplace of the Digital Transformation.[3] Digital Transformation bases its roots between the 1930s and the 1940s with the invention of the first computer and Claude Shannon, who in 1948 published a paper, "A Mathematical Theory of Communication" through which he flattens the way for Digital Transformation. Since then more concrete events, led to the automatization of the workforce.

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[1] https://www.mckinsey.de/NotFound.aspx?item=%2ffiles%2fmck-industry-40-report&user=extranet%5cAnonymous&site=office_germany_tld#

[2] Bowker, G. C. (2019). The Time of Computers: From Babbage and the 1830s to the Present. In *Historical Studies in Computing, Information, and Society* (pp. 1-15). Springer, Cham.

[3] https://www.progora.co.uk/Technology/Digital-Transformation/History-of-Digital-Transformation

In 1960s was created ARPANET, which was the groundwork of Internet, and minicomputers was applied to process control. During the same period some companies developed software packages that could be used by other companies in different areas of their operations. In the 70s and the 80s were launched the first home computers and the World Wide Web. [4]

In the last decade of the century CRM (Customer Relationship Management) packages become accessible.

During the last years of the XX century the World Wide Web became accessible to the most of the population, the digital revolution spread through the evolving world and over 1 billion people were connected online. [5]

Moreover, since that period, was consolidating the vision of mass media advertisings as important digital channels of communication for the retail industry.

The first decade of the XXI century was scenario of a major change, the settlement of smart devices and social media platforms in customers' everyday life. This brought an important revolution in the communication between business and consumers. Furthermore, during this last years developed digital payment methods which, combined with digital communication, paved the way for the advance of online commerce.

Thanks to this evolution, firms also became able to receive personalized information by customers' actions and use them to create tailored products, communication or business strategy.[6]

1.2 The evolution of retail

Retailing is in a phase of profound change where customer behaviors and business models are being deranged by innovative technologies; not only the way firms provide consumers with new products or services have changed but also the way consumers approach with organizations and purchase. Many are the challenges that companies have to face to continue create value for their clients, starting form the need of keeping up with the complexity and availability of new technologies.

According to Lewis and Dart (2014), there have been four principal waves of change in retailing sector since the XIX century. The first change happened from the middle of the XIX century until the 1920 approximatively; what led to this change was mainly the move from rural areas to more urban locations, moreover during that period took place the First Industrial Revolution and new technologies development that brought to the first large scale retailers.

The second important change took place form the 1920s to the 1980s when the focus was on marketing and on creation of the demand leading to the elaboration of branding, mass marketing and a consumers' economy.

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[4] Grewal, D., Motyka, S., & Levy, M. (2018). The evolution and future of retailing and retailing education. *Journal of Marketing Education*, *40*(1), 85-93

[5] https://www.technologymagazine.com/big-data/history-digital-transformation

[6] Schallmo, D. R., & Williams, C. A. (2018). History of digital transformation. In *Digital Transformation Now!* (pp. 3-8). Springer, Cham

Globalization drove to the third wave of change; the open to new countries caused the proliferation of brands and medias which was targeted as new competitors.

We are now facing the last of the four aforementioned waves of change, the one featured by technologies embedded in every process and by the Industry 4.0; moreover since 2009, when smartphones became largely adopted by the most, retail techniques radically changed because customers are able to purchase whenever and wherever they want.

The four waves of change resulted reconnected by three common threads:

1. The first is the introduction of new technologies. It all started with the invention of the telegraph followed with the invention of the radio, the telephone and the World Wide Web leading to the development of productivity and distribution and to lower costs, increasing customers' convenience.
2. A second key factor is the development of new forms of competition. Consumers nowadays can purchase whatever they want wherever they want and at the same time companies can connect with consumers through a thousand of different tools, generating more value both for companies and consumers.
3. The last driver is a change in consumers' preferences, mainly caused by demographic and value changes. Consumers' preferences are the main key factors in success or failure of a market, and to establish, a new technology has to be accepted by the society. To explain innovation diffusion among the users, Rogers (1962) introduced the Theory of Innovation Diffusion, which evaluates the level, the vehicles and the reasons of diffusion of a new technology.

Four are the main factors that have been and always have to be digitalized in order to succeed in an innovation process.

First of all, the digitalization of exchanges, based on the shift from multichannel to omnichannel retail; the difference between the two mindsets relays on the separation or not of the channels. To better understand the concept, the channels can be divided into communication, transaction and distribution. For what concerns communication, what has changed the most is not the fact that retailers can now communicate with clients and propose specific offers designed for specific consumers, but the fact that consumers can interact and compare between each other. This means that third party strictly influence the result of a retailer. Transactions have radically changed with the introduction of e-commerce; clients can order online and collect in a physical store or they can order and receive at home their product; even payment methods have changed, indeed cash payments have been substituted by digital payments. Distribution has changed more in the field of services; just think about movies, films where initially distributed in form of videotapes, today there are various platforms in which customers can find any kind of movie.

Afterward, digitalization of actors represents all the changes that have taken place between the two main actors of retail: customers and retailers. Through the years, manners have changed, technologies have changed and even boundaries have been softened. New devices have been included in retail process and in some ways, they have been embedded to humans or have totally substituted human presence. Digitalization have also blurred the boundaries between the role of the retailer and the one of customers, giving to both the ability to create

(cocreate) value for each other, becoming co-producers and co-creators of value. Another figure that have seen its field change due to digitalization is the one of intermediaries who have progressively transformed or disappeared.

A third element is the digitalization of retail settings; the main cause of this type of digitalization is the diffusion of technologies in everyday life. This type of digitalization allows to switch and combine different places or means through which the product or service can be delivered to the final customer and to influence customers' level of satisfaction.

Last but not least, the digitalization of offering, assists in the changing of offer by digitalize many products that in the past were sold by physical retailers. Have also been developed the possibility to combine on-line and off-line and to take advantage of the use of technology in everyday life to define prices according to the information received by customers.

Nowadays are quite a lot the techniques well established in retailing field. Insights play a crucial strategic role for firms since they derive from combinations of data sets fundamental to create customers value; not only organizations spend most of their budget in online promotions but even customers can promote a product leaving their personal review online helping other potential clients making their choices. [7]

The use of Big Data can confer more versatility and flexibility to organizations and meaningfully affect competitive advantage because of their impact on decision-making process and the resulting modifications in the supply chain.[8] Big Data represent a large amount of structured, semi-structured and non-structured in motion data that can be mined to obtain information useful for machine learning. Because of the massive amount of data, it resulted convenient to classify them into three categories: Batch data, Real time data and Streaming data.

Batch processing processes millions of data all at once and stores them in several manners; Real time data are the ones processed with a reaction in the range of milliseconds and Streaming data are data that are instantly processed and streamed through different computers. This last type of data is useful in matter of cybersecurity because it allows to identify and stop a fraudulent transaction before it is completed.

Customers' review is analyzed through the sentiment analysis, which does not only consider positive or negative but also intermediate opinions that better represent customers' view.

The most important technology applied to retail is big data analysis which represents both an opportunity and a challenge for firms. Big data have to match five main attributes:

[7] https://www.emerald.com/insight/content/doi/10.1108/JKM-02-2020-0156/full/html

[8] Côrte-Real, N., Oliveira, T. and Ruivo, P. (2017), "Assessing business value of big data analytics in European firms", Journal of Business Research, Vol. 70 No. 1, pp. 379-390

- Volume: it refers to a huge number of information not collectable through traditional devices. This volume is constantly growing and this is the reason why it is not possible to tackle a minimum size for big data
- Velocity: data spread every day more rapidly; it is enough to think about the number of devices that collect data in real time. The challenge for organizations is not only to collect those data promptly but also to analyze them in real time to be able to take proper marketing and strategic decisions.
- Variety: it refers to the wide range of data available for organizations, not only internal but always more kept from the outside
- Veracity: data have to be reliable; this challenge becomes harder with big data. With the increase of sources and the evolution of the analysis techniques, it became tougher to keep faith in the main pillars of consistent analysis: quality and wholeness.
- Variability: there are many data, form many different sourced and that can change their appearance and meaning; who works with those data has to keep firm in mind this feature.[9]

The new tendency is to consider one more attribute, Value, as long as Big Data achieve more value through insights from superior analysis.[10]

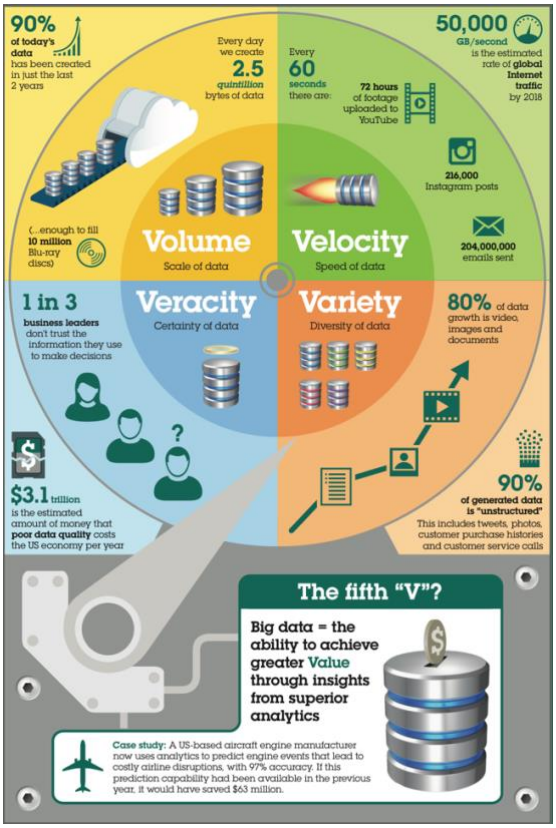

FIGURE 0.1.1: THE FIVE "V" OF BIG DATA, SOURCE: RETAIL LOGISTICS IN THE TRANSITION FROM MULTI-CHANNEL TO OMNI-CHANNEL. INTERNATIONAL JOURNAL OF PHYSICAL DISTRIBUTION & LOGISTICS MANAGEMENT[11]

[9] https://blog.osservatori.net/it_it/le-5v-dei-big-data
[10] https://www.ibmbigdatahub.com/infographic/extracting-business-value-4-vs-big-data

Due to the growth in the amount of data, firms have to play close attention to the security of customers and the ethical use of those data.

1.3 Key areas of digital presence

According to BearingPoint (2018)[12], a Finish research company, there are 6 key areas of digital presence that outline an organization's digital front.

The first one is Digital Marketing, not meant as the 4Ps but only referred to the promotion and communication of the companies' values; taking into account that there is an advertiser, the company and a receiver represented by a targeted group of customers. In a global market characterized by scarcity, demand exceeds supply and competition is controlled. The main aim of marketing communication is to promote the products in order to create awareness in the final demand; the goal can be pursued through indirect methods (advertising) or through direct methods (single-brand stores). Digitalization is the main requirement for the development of a global market and it was made easier by Digital Technologies. Subsequently the application of Digital Technologies, boundaries between certain activities collapsed; nowadays information flows that would interrupt the customers' journey through an analog media become an object of interest, searched for and purchased by the public. Moreover, thanks to Digital Technologies firms are able to manage big quantities of data and replies becoming able to understand them timeously and invest in the relationships, thanks to the earned ability to profile. Thanks to DT applied to Information Communication Technology, firms have the opportunity to control execution and return flows.

Secondly, Digital product or service experience, that is everything that enters in touch with the consumer when he interacts with a product or a service on a digital platform. The first key point for Digital Product Experience is customer experience. In Digital Innovation, measuring the customer experience allows firm to understand aesthetic properties of digital products, to evaluate usability issues and to evoke engagement. In particular, the creation of engagement is particularly important when rising above websites and applications. To cite an example, the app Forsquare, based on users' check in in different locations, reward users basing on what they're doing compared with their friends. Another important factor to be analyzed is the value proposition. Digital Innovation is strictly related to a new configuration of incomes streams. Value proposition is evaluated relaying on 3 pillars: customer segmentation, differentiation and bundling. For what concerns customer segmentation, it consists in dividing customers in different clusters to carry out important strategic decisions. Subsequently they enumerated E-CRM (Electronic Customer Relationship Management) that increases the efficiency of the business process and the interaction with customers by using Internet-based technologies to

[12] Banner, M. (2018). Digital Presence and Transformation: The growing importance of digital presence in today's business marketplace.

maintain and increase their customer base. E-CRM consists in a composite of hardware and software, processes, applications and management commitment aimed at engage and maintain valuable customers while eliminate and avoid economically invaluable ones in order to improve customer service and authentical capabilities. It is worthy to remember that there are many different formats depending on the main intentions of the organization and that E-CRM does not only consist in technology but is about business change in general. E-CRM mainly provides an improvement in customer service and support, more efficiency in marketing, cost reductions and an increase in customer loyalty because it helps identify the actual cost of gaining and maintaining customers, helps prophesy the kind of products that customers like the most and sharing valuable information through operating for common corporate purposes using the same statistics. [13]

E-commerce is one other of the keys of digital presence and consists in a way through which companies provide to customers their products and enables to offer a safe online payment method. . The main advantage of the develop of e-commerce is the reduction of costs for both buyers and sellers. Buyers search costs mainly consists in gain and process information about prices and product characteristics; these costs consist in opportunity cost of time added to associated costs such as calls, driving and various fees. Buyers' costs are reduced thanks to Internet-based technologies, that enable buyers to achieve proper offers and to obtain information about sellers' reputation and thanks to specialized online agents that monitor customers' behaviors and help buyers find the best offers and prices. Also sellers charge fees, but these are reduced allowing sellers to communicate directly with customers becoming able to reach targeted advertising and one-to-one marketing. But it's not all smooth sailing; a reduction in search costs, added to new capabilities of Information Technologies, can cause more complex market dynamics. Digital markets face a total new kind of competition, characterized by a high degree of price competition, mostly for substitute products, that generates lower profits. Though, the sue of IT gives the opportunity to differentiate and customize products, which also allows also buyers to find low cost sellers. To take advantage of the differentiation, retailers should increase the number of products and the information provided for each product, going to increase the variety offered and, subsequently, giving the possibility to customize. Customization is possible especially when e-commerce collaborates with up-to-dated production technologies that allow building-to-orders and can be achieved basing on a set of preferences chosen by the customer or automatically deduced by profiling techniques.

The faculty to collect information and the reduction of menu costs generated an improvement of the ability to act a price discrimination, which, added to market power gained through differentiation, generates in turn the reduction of research costs and an increasement of price competition. Because of e-commerce also the role of intermediates is going through an important reshape. E-commerce retail is slowly erasing the role of intermediation because it became easier to make meet the producer and the ultimate consumer reaching disintermediation. On the other hand, on-line markets promote a new variety of intermediation. Another

[13] Fjermestad, J., & Romano, N. C. (2003). Electronic customer relationship management. *Business Process Management Journal*.

important feature is that, even if e-commerce is spreading extremely fast, a large fraction of customers still prefers physical shops; an up-to-date of the situation is the "click-and-mortar", order on-line and collect at the store, that can be implemented through strategic partnerships between retailers and on-line shops.[14]
In the end there is mobile optimization, which consists in adapt the company's site to be seen from customers' mobile and social media presence.[15] Mobile optimization is even more important than the general design and appearance of the website for several reasons:

- There is no need to respond to everyone at the same time. The functions of a responding website, have to be translated across the device and it is not easy.
- It does not worth to scarify speed or functionality. In order to turn into mobile view a responsive website, images and information need to be downloaded, compressed and adapted to the screen; this process needs a big number of CPU and memory, resulting in a slower loading.
- User experience is maximized. Compressing the files from desktop to mobile view is not the best way to adapt the layout because there is the risk to not make text easy to be read
- There are major SEO (Search Engine Optimization) advantages
- It is easier to engage with users because they can take advantage of everything the website offers and taking advantage of location data allows to better suit customer needs
- Sales are streamlined. Shoppers might be reluctant to experience shopping on a small screen; this problem can be avoided optimizing the website
- Integration between on-line and off-line through instruments such as QR codes.[16]

1.4 Disruptive Technologies

Disruptive technologies are able to create brand new markets or to radically change already existing ones.
The first time references have been made to Disruptive Technologies was through Bower and Christensen's analysis in 1997, who based their study on the introduction of hard disk industry. According to them exist two types of disruptive technologies; new market innovations, that claim for new technologies and, as a consequence, build up customers demand for new products and low-end innovations, that are based on similar characteristics to previously existing technologies but less expensive.

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[14] Bakos, Y. (2001). The emerging landscape for retail e-commerce. *Journal of economic perspectives*, *15*(1), 69-80.
[15] Perry, P., Kent, A., & Bonetti, F. (2019). The use of mobile technologies in physical stores: The case of fashion retailing. In *Exploring omnichannel retailing* (pp. 169-195). Springer, Cham
[16]https://www.semrush.com/blog/7-reasons-why-mobile-optimization-is-more-effective-than-responsive-design/?kw=&cmp=IT_SRCH_DSA_Blog_SEO_EN&label=dsa_pagefeed&Network=g&Device=c&utm_content=438330181565&kwid=dsa-835513078226&cmpid=9874639436&gclid=Cj0KCQjw0YD4BRD2ARIsAHwmKVmMm_PzCWIvS0L4zWVpiaA3QTTSIg4NnNIrY7vPun2ThIkep3NJxJsaAm0sEALw_wcB

Since then, many evolutions such as the introduction of digitalization and, thereafter, of the e-commerce, had been a crucial driver for business transformation.

From a general definition of disruption, it results that this term means creating new products or adapting previous existing ones; when the transformation is generated by new digital technologies takes the name of Digital Disruption. Digital Disruption engenders a new business model impacting the value of existing products and services.

Oxford College of Marketing described Digital Disruption as "the emergence of new digital products/services/business that disrupt the current market status quo and causes the need for a revaluation".[17]

There are three main properties of Disruptive Technologies: radical functionality, that disrupt previous markets by creating new ones, discontinues technical standards, that consist in using new materials or technologies and that disrupt by using less expensive materials and reengineering the efficiency of the production process and innovation ownership. For what concerns innovation ownership, this feature is innate and abstract and deeply affects the use of resources and the development of the innovation restricting and controlling every aspect.

A disruptive technology, to affirm, has to follow several stages. First of all, it is accepted by consumers in a niche market of first adopters who value more than others the new technology; in a second moment, when the technology is established in the niche, its performances are improved but its value remains higher in the secondary market than in the main one. In spite of the inferiority of adoptions, the new technology with the passing of time becomes able to oversupply customers need.[18] Pursuant to the Innovation Diffusion Theory, there are five main features that impact on innovations adoption:

- Relative advance. What is innovative for a certain innovation is not necessarily innovative for all the others
- Combability and complexity. Compatible technologies are the ones outlined by similarities with the ones applied in the past, while complex technologies are based on absolutely new technologies, representing a barrier for new users.
- Trialability and observability. These two attributes are bounded with marketplace awareness and distribution technologies because innovation owners have the right and the power to determinate how an innovation is presented in terms of trialability and observability through the previously named means.

Digital Disruption is not only a matter of big and well-established firms; nowadays, thanks to innovative digital infrastructures, also small group of people or even individuals became able to take part in the business and disrupt. Moreover, Digital Disruption can happen at any level of the organization business. As a

[17] https://blog.oxfordcollegeofmarketing.com/2016/02/22/what-is-digital-disruption/

[18] Adner, R., & Zemsky, P. (2005). Disruptive technologies and the emergence of competition. *RAND Journal of Economics*, 229-254

confirmation of this, according to Christensen, more established firms face more difficulties, named innovators' dilemma, to adapt their organization to the new technologies.

To prevent being disrupted, it is important for firms to understand if an innovation is potentially disruptive; this can be done following a three steps method:

A. Identify innovation and its characteristics trough the above cited characteristics
B. Identify where the innovation is used in an organization's value chain
C. Compare the potentially disruptive innovation with technologies currently used in the organization for that value chain segment.

According to James McQuinvey, in the past People and Infrastructures where the ones that lead to disruption; today, thanks to digital innovation, digital innovators and digital infrastructures form and drive digital disruption.

The effects of disruptive technologies occur in lower prices because increased volumes are counterbalanced by an increase of competition, which consists in the main aim of firms to change and uplift their business model; to do this, managers should be able and willing to experiment and adapt their organization to the new technologies. [19]

In spite of everything, there is still a marketing pillar that drives business success: the customer must a central component of a firm's mindset and today's customers are more powerful than they have ever been, under their power of impacting manufacturing.[20]

1.*5 New consumers*

In this new digital and customer centric scenario, the pillar 4 Ps of marketing still define the marketing process, even if there has been a change it their application:

- Product: involving customers in the co-creation of their product became a crucial move for business success
- Pricing: a new form of dynamic pricing settled, based on flexible prices that change according to the demand
- Distribution: peer-to-peer distribution is a new type of delivery based on uberization and sharing economy

[19] DaSilva, CM & Trkman, Peter & Desouza, Kevin & Lindic, Jaka. (2013). Disruptive technologies: A business model perspective on cloud computing. Technology Analysis and Strategic Management.

[20] Gillpatrick, T., Blunck, E., & Boğa, S. (2019, November). Understanding the role of consumer behavior in forecasting the impact of industry 4.0 and the wave of digital disruption driving innovation in retailing. In *DIEM: Dubrovnik International Economic Meeting* (Vol. 4, No. 1, pp. 165-176). Sveučilište u Dubrovniku.

- Promotion: organizations need to find a new more ingenious way to communicate with communities, usually using social media influencers

Customers today are indeed constantly connected in communities in which firms can not spam irrelevant and unrequested messages but must be authorized by community members. Nowadays the control over customers or potential such, derives from influence, to be influential, a social media participant has to present relevant contents and needs the ability to reach a sufficient number of people.

The relationship between companies and then consumers shifts from vertical and unilateral to horizontal and reciprocal.

Everyday consumers activity is so shaped by power, in fact, customers have the right and the power to change their behavior online if they feel that releasing to many personal information would give to much power to firms, generating a mutual dependence between the two parties. There are four main sources of consumers power: demand, information, network and crowd

- **Demand-based power** arises from an improvement in distribution and warehousing technologies; through the development of advanced technologies and inventions such as modern engines and graphical browsers, consumers gained more power of choice. It derives from customers behavior in purchase and utilization related to Internet and social media technologies. Another source of customers empowerment is the Internet, it removed geographical boundaries and minimized technical times, providing customers of more retail options and new service features.
- **Information-based power** presents two different facets, both relying on the fact that informatization gave customers the power to access both marketers and consumers contents; information-based power through content consumption is based on customers' access to more information reducing information asymmetry, while information-based power based on content production relates to the evidence that user-generated contents creates more power to consumers serving as an outlet for self-expression. In the first case, based on content consumption, customers are more well-informed and difficult to persuade and influence, moreover, access to Internet and more information results in shorter life cycle of products and more pressure within markets. In the second situation, grounded on content production, has emerged that user-generated contents sometimes overperform specifically and professionally created contents, leveraging on the desire of self-expression.
- **Network-based power**, derives from the growing impact of social media on everyday customers' life. This power lays its groundwork on the metamorphosis of contents and actions mainly used to create an online reputation to add value to already existing contents, conferring more power to those consumers able to influence the others and generating a many-to-many communication centered on consumers connections. Even though it seems that social media communication and, as a consequence, network-based power is only characterized by advantages, firms has to take into account the risk that customers feel disturbed by too many influencers and fear for their privacy.

- **Crowd-based power** amplifies all the previous powers thanks to the ability of organizing resources to benefit both individuals and groups. It amplifies demand-based power by understanding collective expression of need and communal buying, information-based power through the installation of reward and acknowledge systems and network-based power increasing reach and use of resources across groups in order to strength individual connections.

Demand-based power	Information-based power	Network-based power	Crowd-based power
▪ Improvement in distribution and warehouse ▪ Advanced technologies and inventions ▪ Power of choice to consumers ▪	▪ Consumers are able to access both marketers and consumers contents ▪ More information and less asymmetry ▪ User generated contents create more power ▪ Desire of self-expression	▪ Based on the impact of social media ▪ Many-to-many communication centered on customer connections	▪ Amplifies previous powers

TABLE 1: SOURCES OF CUSTOMERS' POWER. SOURCE: CONSUMER POWER: EVOLUTION IN THE DIGITAL AGE[21]

The question is, why firms should be characterized by an important digital presence? Because online is where most of their consumers are in the XXI century and digital tools are the ones that they use the most to interact with organizations.

But which are the main changes that emerged in the relationship between customers and companies?

Before the establishment of digital economy, consumers' decision journey was linear and non-influenced by digital technologies nor Internet. Customers used to enter the store, where they could find a certain number of different options of the product they were looking for and made a choice based on packaging, price, details and positioning on the shelf, Procter and Gamble called this phase "First Moment of Truth". When customers came back home with the product and experience it the "Second Moment of Truth" took place.

[21] Labrecque, L. I., vor dem Esche, J., Mathwick, C., Novak, T. P., & Hofacker, C. F. (2013). Consumer power: Evolution in the digital age. *Journal of Interactive Marketing*, *27*(4), 257-269.

FIGURE 1.0.1: LINEAR BUYING DECISION JOURNEY, SOURCE: DIGITAL PRESENCE AND TRANSFORMATION: THE GROWING IMPORTANCE OF DIGITAL PRESENCE IN TODAY'S BUSINESS MARKETPLACE[22]

Nowadays customers' buying decision journey is no more linear; customers visit a store where, through their smartphones are able to compare different products or they might even not be at the store to evaluate the different products. Google called this phenomenon "Zero Moment of Truth".

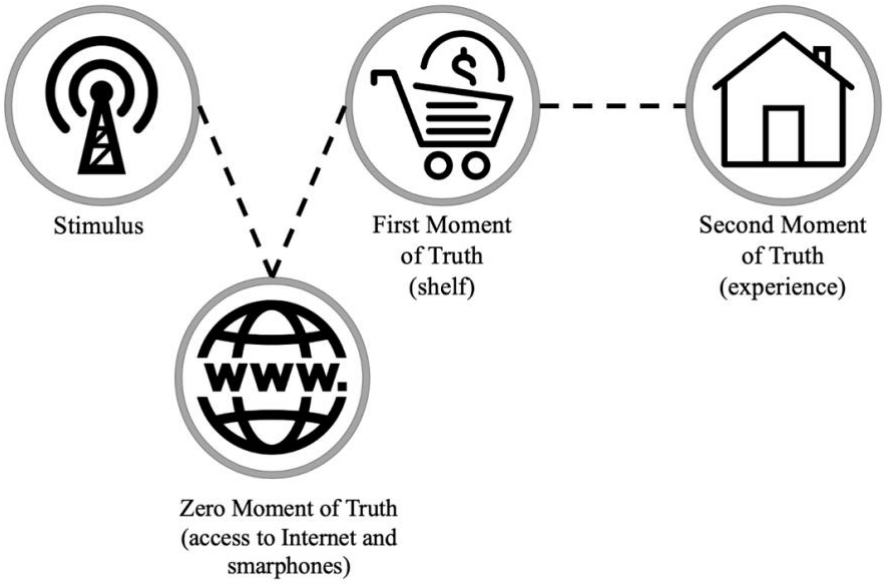

FIGURE 1.0.2: BUYING DECISION MODEL WITH ZERO MOMENT OF TRUTH, SOURCE: DIGITAL PRESENCE AND TRANSFORMATION: THE GROWING IMPORTANCE OF DIGITAL PRESENCE IN TODAY'S BUSINESS MARKETPLACE

Additionally, in the past, customers behaved following a funnel trend which started form the customer becoming aware of the brand or the product, phase followed by a number of steps (Familiarity, Consideration and Purchase) in which, at any of them the customer might drop and it is marketers' job to avoid this to happen. The main aim was to lead customers to become Loyal to the brand or the product.

Today the interaction between customers and firms is no longer linear; because of the massive amount of purchase decision power and information provided by internet, the process became more interactive and customers bounce from a phase to another of the funnel.[23]

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[22] Banner, M. (2018). Digital Presence and Transformation: The growing importance of digital presence in today's business marketplace.

[23] Banner, M. (2018). Digital Presence and Transformation: The growing importance of digital presence in today's business marketplace

1.6 From multichannel to omnichannel retail

From 1994, with the introduction of Internet, was paved the way for omnichannel strategies.
The main purpose of Omnichannel (OCR) is to rationalize Multichannel (MCR) models in order to fit with the needs of the retail market, always more related with technology, creating more value for both customers and organizations through the integration of numerous touchpoints, involving customers in the creation of their own value and taking decisions for their brand journey.
While multichannel refers to disjointed and singular channels, only-channel proposes a holistic offering to generate a more profound relationship with customers.
Omnichannel retail is a more complex and evolved of Multichannel retail; the two approaches difference the most on the level of integration of channels. [24]

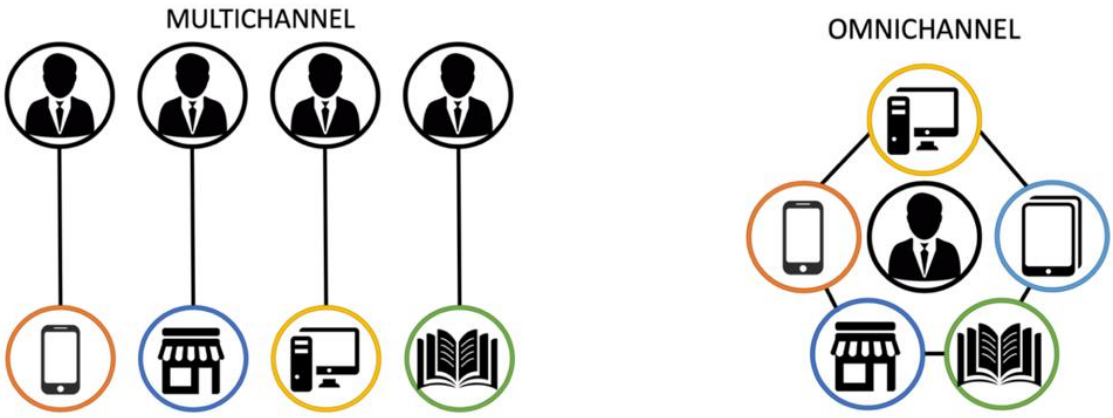

FIGURE 1..0.1: MULTICHANNEL AND OMNICHANNEL MODEL. SOURCE: PERSONAL ELABORATION

Combining online and offline solutions in retail can lead to scale economies through different ways. For physical retailers, scale economies are reached through the creation of new stores; it is a simple process and allows replication through chain operations. Online retailers can obtain scale economies increasing the distribution and, by consequence, establishing larger or new distribution centers.
Online and offline channels tend to enrich each other; showrooms increase online purchasing, and at the same time traditional retailers intensify their presence online. Even consumers can participate to the process by creating their own communication channels.

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[24] Mena, C., Bourlakis, M., Hübner, A., Wollenburg, J., & Holzapfel, A. (2016). Retail logistics in the transition from multi-channel to omni-channel. *International Journal of Physical Distribution & Logistics Management*.

Despite an evolution of e-commerce and online stores, customers still feel the need to experience the purchasing experience, and even if physical shops are the only ones able to stimulate all the five senses, online retailers are evolving their ability to create virtual experiences to create more value for their customers.
In order to create customer value, firms need to translate into practical actions data they earned about customers. Retailers are trialing new technologies such as virtual fitting rooms and virtual reality and are strengthening the previous applied ones. To stay current with the spread of online shopping retailers also introduced two innovative procedure of purchasing:

- Buy Online, Pick-up in Store (BOPS)
- Research Online, Purchase Offline (ROPO)[25]

Empirically was demonstrated that BOPS techniques reduce online sales but, on the other hand, compensate with an increase of store sales and a channel shift effect.
The shift to Omnichannel retail, driven by the outgrowth of online stores and e-commerce, needs a process of adjustment and integration of the touchpoints and the previous organization to guarantee a smooth customer experience based on the enhancement of interactions.
When facing the decision of shifting from MCR to OCR, firms' executives should have clear in mind why and to reach what they are changing. This revolution leads to face different features: business units might get in conflict due to structural problems, there will be needed new digital technologies, the customer experience will change and insights, and IT by consequence, will become crucial.
Thanks to omnichannel retail the organization might face some savings thanks to an increase of the volume and a higher efficiency but at the same time can face some costs and risks; anything that increases costs can be considered a risk, especially if it changes customers behavior.
In order to minimize the risk, executives have to prioritize, that means that they have to focus on what is really important for the firm and on what will lead to competitive advantage and value creation avoiding complexity and must reflect upon how OCR initiatives change customers approach to the firm and how improve their shopping experience[26]. Omnichannel initiatives should not be seen as isolated actions but cooperate within them. [27]

1.7 Digital marketing today

As can be imagined, digital marketing underwent many transformations and evolutions thanks to the development of new technologies. The first phase was the Marketing 1.0 which was mainly market centered

[25] Yrjölä, M., Spence, M. T., & Saarijärvi, H. (2018). Omni-channel retailing: propositions, examples and solutions. *The International Review of Retail, Distribution and Consumer Research*, *28*(3), 259-276.
[26] Silva, S. C., Duarte, P., & Sundetova, A. (2020). Multichannel versus omnichannel: a price-segmented comparison from the fashion industry. *International Journal of Retail & Distribution Management*
[27] Larke, R., Kilgour, M., & O'Connor, H. (2018). Build touchpoints and they will come: transitioning to omnichannel retailing. *International Journal of Physical Distribution & Logistics Management*

and focused on the core abilities of a product and its marketing, subsequently, around 1970s, occurred Marketing 2.0 and began a customer centric approach of marketing because customers became more self-conscious. Around 1980s the Marketing 3.0 centers on people, meant as a group united by values and their environment. Today we are experiencing the Marketing 4.0, based on digitalization and integration of on-line and off-line technologies, without leaving behind the previous principles. This type of marketing is based on digitalization and on marketing intelligence which helps taking marketing decision through the development of insights obtained from data mining.

Nowadays there are many digital marketing technologies. First of all, there is data driven marketing, which consists in the measurement and the employment of big data. Social media marketing might be considered the most popular channel, because it is considered a self-seeding means since users provide data just posting, sharing or commenting. By ceding all these data, customers make firms capable to target them and personalize their products in order to fit their needs, acting a practice called mass customization.

Again, thanks to data provided by customers when surfing the Internet, organizations are able to understand which products are customers more likely to purchase and recommend those products to customers when they are on the web-shop; this kind of marketing is called recommendation marketing. Marketing intelligence is also applied to price discrimination, creating pricing intelligence, through which price is optimized in real time and adapted to each type of customer.

Currently proximity marketing, thanks to the GPS connection of the smartphones, is able to register users' location and send them specifically created advertisements and promotions.

Last but not least touchpoint marketing and automation marketing, which also leads to programmed and ad hoc created advertisements thanks to data left form customers at all the different touchpoints.[28]

[28] Lies, J. (2019). Marketing Intelligence and Big Data: Digital Marketing Techniques on their Way to Becoming Social Engineering Techniques in Marketing. *International Journal of Interactive Multimedia & Artificial Intelligence*, *5*(5).

CHAPTER 2: LITERATURE REVIEW

2.1 Digital Transformation

Digital transformation is a term that refers to the necessity to use new technologies to keep up with the needs of clients and with the Internet age through the application of technologies into all regions of business. Digital Transformation does not only include the integration of new technologies but also the creation of a new organization and the penetration of the new technologies in the everyday life.

Because DT is a fairly new concept, there is not an official definition of the phenomenon. In 2013, Fitzgerald et al. defined Digital Innovation as "the use of new digital technologies to enable major business improvements"[29] but this definition presents an important controversy; in fact, technologies that are new for some firms might be already affirmed for others. This plight has been partially solved by Nambisan et al. in 2017 defining as Digital Innovations all the technologies that are innovative for an organization even if they are already known by others.

The basement of DT are Digitization and Digitalization, but the two are both different and related.

For Digitalization is meant the use of new technologies to revolution or improve a business model and afford new value-producing prospects causing a change in people's way of working, nowadays digital skills are in fact a prerequisite that every person and firm must have and are at the basis of applied marketing[30].

Digitization can be defined in different ways according to the context to which it is referred. It can be defined as translating analog information in binary code, based on the numbers 0 and 1, so that they can be read and transmitted by computers, giving a more transformation-oriented definition; otherwise, following Bernnan and Kreiss (2016) definition, is considered digitized everything composed by two differentiated states. Digitization is significant as long as it is related with digitization capability. With that term is meant an amount of skills needed to reach a certain goal. From a research lead by the Department of Strategy Innovation of Copenhagen Business School, emerged that there are three pillars of Digitization capability: data, permission and analytics. Organizations' work is strongly based on data, the access to them and their elaboration. In the second place, organizations need permission to access to data. The permission has to be assigned both by legislation and by partners. Another important challenge for firms is to overcome the consent from the society that can feel threatened by disclosing personal information and upset by too invasive application of the data. Digital transformation is, in fact, based on trust. People must be sure that the higher and higher amount of data that

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[29] Riasanow, T., Setzke, D. S., Böhm, M., & Krcmar, H. (2019). Clarifying the notion of digital transformation: A Transdisciplinary review of literature. *Journal of Competences, Strategy & Management, 10,* 5-31**.**

[30] Lies, J. (2019). Marketing Intelligence and Big Data: Digital Marketing Techniques on their Way to Becoming Social Engineering Techniques in Marketing. *International Journal of Interactive Multimedia & Artificial Intelligence*, *5*(5).

they are providing will be used correctly, for them and not against them. This is mainly why digital security becomes day by day a more important priority.[31]

In example, is a quite current topic the fact that home assistants like Alexa and Google Home record what heard even if not activated by the "wake word". In 2019 Bloombreg discovered that Amazon employees listen to the device recordings; this has led the companies to face legal consequences during last year, Amazon was accused to violate people's privacy in eight different states of America. ([32],[33])

Once the firms have the access to data and the permission to elaborate them, organizations work on these data to examine and evaluate them to achieve analytics which are necessary to produce valuable information.

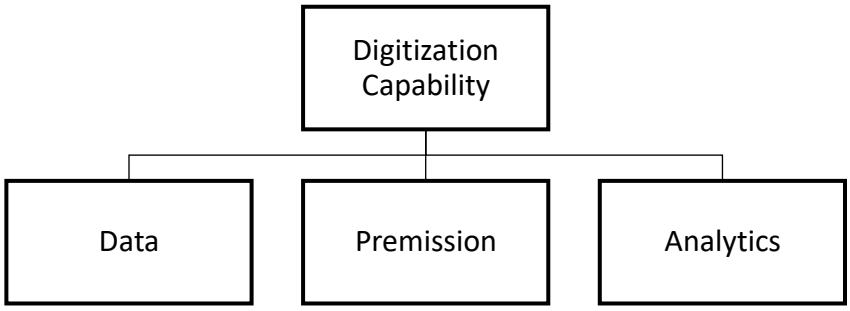

FIGURE 2.1 ELEMENTS OF DIGITIZATION CAPABILITY. SOURCE: RITTER, T., & PEDERSEN, C. L. (2020). [34]

If digitization is not related with digitization capabilities it remains just an outflow that does not generate any improvement for the firm.

Digitization and Digitalization are strictly connected because what is digitized is the data, while digitalization comes to digitize the process and leads to the creation of a new business strategy. [35]

When talking about digital programs and technologies platforms deserve to be designated; they allow firms to become more competitive in sectors far away from their native one. Platforms are a system that can be programmed and customized by outside developers, being adaptable to countless needs and that the platform's original developers could not have possibly contemplated. They can manage a huge amount of data that websites would not be able to handle, giving to organizations the possibility to generate feedbacks, obtain

[31] Abolhassan, F. (2017). The drivers of digital transformation. *Why There's No Way Around the Cloud (Cham, Switzerland: Springer, 2017)*, 1-10.

[32] https://www.washingtonpost.com/technology/2019/05/06/alexa-has-been-eavesdropping-you-this-whole-time/

[33] https://www.businessinsider.com/amazon-accused-of-violating-child-privacy-laws-alexa-recordings-lawsuit-2019-6?IR=T

[34] Ritter, T., & Pedersen, C. L. (2020). Digitization capability and the digitalization of business models in business-to-business firms: Past, present, and future. *Industrial Marketing Management*, *86*, 180-190.

[35] Pedersen, C. (2020). Digitization capability and the digitalization of business models in business-to-business firms: Past, present, and future. *Industrial Marketing Management*, *86*

reviews and generate new skills; they allow to create a more solid customer experience around the simple meaning of the brand because they build an integrated system that passes through different stages of experience. Platforms allow organizations to be flexible and activate partnerships, collaborations, investments and implement new business models.

A digital platform model is a model of innovation designing and integrated digital ecosystem is essential to embrace and share new principles, concepts, architectures and organizational models.

At the basis of digital platforms there is a cloud and data generated by users generating a circular process in which the platform interacts with the community and the community feeds the planform generating a network effect.

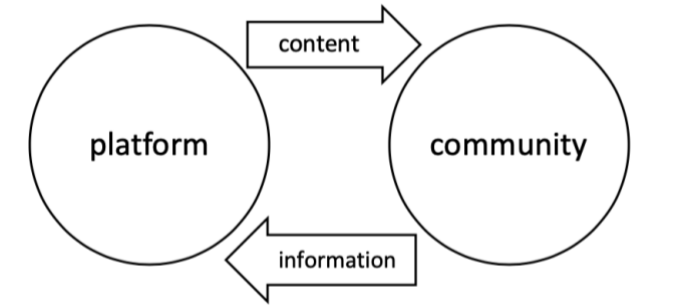

FIGURE 2.2: CIRCULAR PROCESS OF A DIGITAL PLATFORM. SOURCE: PERSONAL ELABORATION

Even if it seems not, there is a difference between Digital Transformation and Business Process Reengineering (BPR). BPR consists in rethinking and reengineering business-related processes focusing on making autonomous thanks to technology some rule-based processes while DT is aimed to obtain new data and leverage them to redraw the rule-based processes

2.2 Key themes of Digital Transformation

Digital technologies involved in the process of Digital Transformation often adapt with the acronym SMACIT[36] which assumes that technologies have to be social, mobile, analytics, cloud and the Internet of Things.

The IoT (Internet of Things) is surely among the most relevant; it is the network of physical objects that contain embedded technology to communicate and sense or interact with their internal states or external environment.[37] IoT is applied in many sectors providing advantages for both parties through data analytics

[36] Mitroulis, D., & Kitsios, F. (2019). Digital Transformation Strategy: a literature review'. In *Proceedings of the 6th National Student Conference of HELORS, Xanthi, Greece* (pp. 59-61).

[37] Gartner- Internet of things, available at https://www.gartner.com/en/information-technology/glossary/internet-of-things

especially in the Industry 4.0 where are combined and analyzed data that comes from raw material to predict issues. [38]

Another important technology related to Digital Transformation is Big Data. Big Data represent a large amount of structured, semi-structured and non-structured in motion data that can be mined to obtain information useful for machine learning. Because of the massive amount of data, it resulted convenient to classify them into three categories: Batch data, Real time data and Streaming data.

Batch processing processes millions of data all at once and stores them in several manners; Real time data are the ones processed with a reaction in the range of milliseconds and Streaming data are data that are instantly processed and streamed through different computers. This last type of data is useful in matter of cybersecurity because it allows to identify and stop a fraudulent transaction before it is completed.

Noteworthy is also Machine Learning. This term refers to the ability of computers to learn without being explicitly programmed. Over the years Machine Learning has evolved from a process in which humans used a machine to create the model, to one in which was the machine that find the model, reaching modern Machine Learning in which machines themselves write the model. [39]

A subset of Machine Learning is Deep Learning, which is a type of Machine Learning inspired by the structure of human brain called artificial neuronal network. Even though Deep Learning results more reactive than Machine Learning it presents some important limitations. DL needs a huge amount of data to train and "learn", it also needs more time and more powerful computers.

Deep learning has a wide range of applications, such as customer support trough chatbots and medical care.

Both Machine Learning and Deep Learning are subcategories of Artificial Intelligence. AI is a kind of intelligence that enables machines to emulate human behaviors learning from experience (i.e. chess-playing computers). Artificial Intelligence's first evidence is Artificial Narrow Intelligence (ANI) which enables AI to be applied only in specific areas and equals humans in those areas in which is applied. The second generation of Artificial Intelligence is AGI, Artificial General Intelligence, which applies AI to several areas, equaling humans in those areas but as opposed to ANI, is able to autonomously solve problems in other areas different form her native one. In the future we might be able to see the last generation of AI, Artificial Super Intelligence (ASI) that will apply AI to any area, outperforming human capacities and will be able to solve problems in any area instantly.

A study published by Business Horizons in 2019, affirms that AI can be classified into three main categories: Analytical, Human-Inspired and Humanized Artificial Intelligence.

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[38] How it works: Internet of Things, IMB Think Accademy

[39] https://www.youtube.com/watch?v=6M5VXKLf4D4

Analytical AI is based on a cognitive intelligence that is formed based on past experiences, for what concerns Human-Inspired AI, it is able to add emotional elements to its cognitive skill, developing the ability to recognize emotions in real time. Humanized Artificial Intelligence is still ongoing; this type of technology will be able to experience the world like a human being however it is not accessible yet. [40]

In all the cases enumerated below the common theme is the ability to learn from past data. In order to do so, there are three different forms of learning. Supervised learning methods, connects a certain number of inputs with a given number of outputs, this is the easiest learning process and its application is known by the most. More complicated is the unsupervised learning system; through this process the machine is able to divide into clusters elements belonging to similar categories. Because the output is entirely generated by the computer, without the possibility to know if it is right or wrong, users must relay a lot of trust in Artificial Intelligence. At last, reinforcement learning consists in the system receiving an output with the aim of maximizing it and is proposed a number of decisions that can variate the result of the output.

2.3 Digital Transformation: the drivers

The rapid change of today environmental conditions leads to think that digital transformation and the spread of new technologies happens almost naturally; this is partially true but there are some leading phenomena that settle the basis for digital transformation.

There are some activities that organizations should do before and during their process of transformation, carried out by specialized teams. First of all, they should improve their digital channels generally switching from a multi-channel strategy to an omni-channel strategy, subsequently firms should adapt processes and infrastructures to the transformation and, in the end, develop new digital strategies.

Herthal and Hess (2017) developed a study in which they analyzed what an organization need in order to transform digitally. From this study resulted that a change in organizational culture is what leads to digital transformation, more in the specific a more open to change and customer centric mind set.

According to Bilgeri (2017), firms also need to integrate internal and external complementary knowledge in order to make it easier to undergo the transformation, even if, due to internal conflicts, this might become difficult in some contexts.

Another important article to take under consideration when facing digital transformation is to involve the human capital. Involving people who work around the transformation, they are supposed to feel more conscious and less reluctant to change.

Firms also should develop IS (Information System) capabilities and dynamic capabilities, which respectively refers to the organization ability to collect and implement IS-based resources in combination with other

[40] Kaplan, A., & Haenlein, M. (2019). Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. *Business Horizons*, *62*(1), 15-25.

resources giving the ability to reshape already existing business process and the ability to react to prospects by renovating the organization. IS strategies should be aligned to business strategies to create digital business strategies, which consists in "organizational strategy formulated and executed by leveraging digital resources to create differential value" (Bharadwaj et al., 2013, pg 472).

But why organizations feel the need to digitally transform?

New digital technologies not only changed the way firms compete with each other but also changed the way customers behave and their expectations generating an instable environment. Firms need to be able to predict today what customers will want tomorrow; this has been made easier thanks to Big Data that provides a huge amount of data about customers in order to better understand their needs aiming to reach hyper-personalization. With the growth of customization, also prices tend to increase because mass personalization at low costs is only possible in firms with a high tax of automation, despite this personalization remains one of the main aims and challenges of nowadays organizations because it plays an important role in customer experience. In a world where customers share on social media everything they do, provide a good customer experience is crucial to maintain a firm's position within the market. A bad customer experience will be immediately shared by customers and will sorely damage brand perception and sales.

According to Berghaus and Back (2017), there are some main drivers that lead to digital transformation. First of all, firms want to keep the pace with the digital shift in organizations and in customers' behavior, secondly want to follow the change in the competitive landscape and to the pressure of the new competitors.

The main objectives that lead to digital transformation are that organizations want to make sure that they are ready to any kind of change, to explore and develop new potential disruptive technologies and improve new digital channels[41]. It is also true that in a medium-long term, firms will no longer be able to withstand the growing competition and market pressure; firms are starting to understand that they need to cooperate with other stakeholders from different sectors to share data and information in order to survive, generating a totally new digital ecosystem.

It is also important to take into account that customers nowadays are able to access a higher number of information, thanks to a growing number of digital and non-digital tools, that generates more transparency within the market. Thanks to these tools potential customers might also purchase the product or service. Nowadays purchase decisions are mainly based on additional services, which play a more important role day by day. In fact, services allow firms to add more value to the final product by connecting products with applications via IoT technologies. Moreover, services today can totally substitute products due to sharing economy that allows to benefit of a product as it was a service.[42]

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[41] Osmundsen, K., Iden, J., & Bygstad, B. (2018, September). Digital Transformation: Drivers, Success Factors, and Implications. In *MCIS* (p. 37).

[42] Abolhassan, F. (2017). The drivers of digital transformation. *Why There's No Way Around the Cloud (Cham, Switzerland: Springer, 2017)*, 1-10.

2.4 Application of Digital Transformation to retail

Since the Digital approach to marketing developed, competitive advantage of traditional marketing models gradually lost its efficiency. Due to this evolution, the way people perceived the shopping and consumption experience changed, becoming more personalized and diversified. On the other hand, due to the acceleration in the decision process of the main consumer, people's demand become more impermanent and volatile forcing firms to keep up with the times and the evolutions.

In recent years many have been the applications of technology to the retail field.

Some of them are the before cited big data, obtained thanks to the information provided by customers in the online or offline stores that organizations can proactively use to take better managerial and strategical decisions. Big data are fundamental to practice precision marketing, a strategy directed to existing customers, in order to loyalize and maintain them not through advs but more through specific offers and deals. The information received thanks to Big Data, are at the basis of precision marketing representing a crucial constituent for persistence and progress of a firm. Big Data also allows to target customers, process that have been simplified by the access to new technologies and that lead to the ability to personalize customers' requests so to meet customers' needs as well as possible. Another capability obtained thanks to Big Data is to push advertisements to customers who previously had purchased something related to those advertisements;[43] in example, if someone buys a book about flowers he or she will be sent advertisements about gardening products, so that it will be easier for him or she to find products he or she may need.

Customers targeting importance have been perceived by Vilfredo Pareto in 1896 who theorized that the 20% of the causes provokes the 80% of the consequences, which in marketing terms means that the 80% of the income derives from the 20% of the clients.

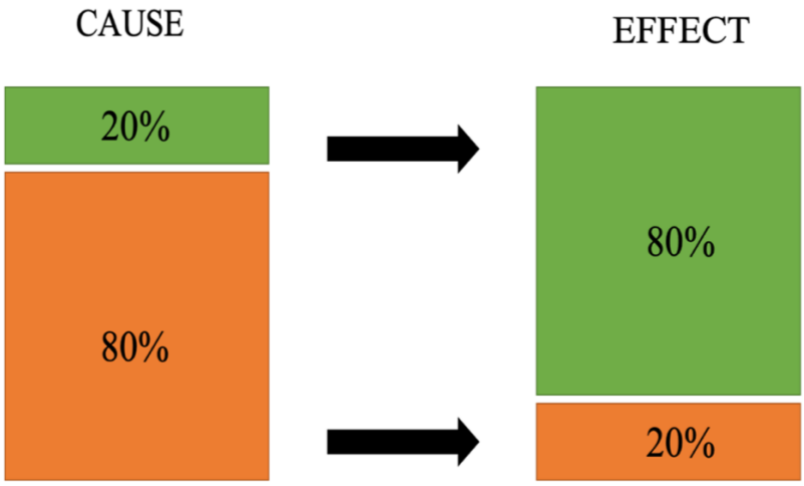

FIGURE 2.3: PARETO'S 80/20 MODEL, SOURCE: PERSONAL ELABORATION

[43] Guoan, Z. H. U., & Xue, G. A. O. (2019). The digital sales transformation featured by precise retail marketing strategy. *Expert Journal of Marketing*, *7*(1).

According to this theory, customers can be segmented into four main categories:

- Value customers, who represent the 20% that generates the 80% of the income. They are obviously the most important for the organization
- Sub-value customers, who show a low loyalty to the organization and are easy to be attracted by the competitors; to these customers organizations should pay the most attention in order to avoid them to embrace the competitors.
- Potential value customers; most of the customers belong to this group. The organization should pay attention also to them, not only because they represent the big majority but also because if their purchase power is stimulated, they can easily become value consumers.
- Low value consumers. Firms generally do not care about them because they are too difficult to reach through marketing strategies.

One of the most known are e-commerce, online shops that nowadays are becoming day by day more popular and that are considerably impacting traditional offline retail shops. However, also this new frontier of commerce presents its dark sides; enterprises need in fact to balance and integrate online and offline channels in order to provide a better shopping experience to their customers.

Another application of technologies to the retail sector are recommendation engines, that, based on Machine Learning, memorize the customer's previous purchase or searches and creates ad hoc advertisements helping the customer find the product that better fits his needs.

Also, robotic store assistants and chatbots are becoming always more popular in the retail field; they are artificial intelligent bots able to simulate human behaviors and speech in order to help customers during the shopping experience.
The new frontier is the extended reality, which allows to virtually try on clothes and achieve more detailed information about the product customer is interested on. [44]

2.5 Touchpoints, human or digital?

Due to the rising number of Internet users, was registered an increase in the number of digital channels which changed the way people behave during their customer journey. In the past, customers were used to only use one channel during the entire customer journey. Nowadays it is common to switch from a channel to others

[44] https://www.forbes.com/sites/bernardmarr/2019/11/25/the-top-10-technology-trends-in-retail-how-tech-will-transform-shopping-in-2020/#7219dc724e03

several times before the purchasing phase. This phenomenon presents two sides of the coin; on one side, customers expect organizations to interact with them all the time but, on the other side, organizations are provided of a huge number of data from customers that can be used to take appropriate strategic decisions.

A touchpoint is the point of direct or indirect contact between the customer and the brand or the firm. Touchpoints become digital when sided by digital technologies. Some examples of digital touchpoints are the website, social media accounts, e-mail and mobile apps.

In general, there is a difference, even if not often is taken under consideration, between digital touchpoints and channels, which are one a part of the other but not the same thing.

Digital touchpoints have to follow specific characteristics: interactivity, comparative information and entertainment.

For what concerns interactivity, it refers to how much users can modify the content or the form of a mediated environment in real time through a bidirectional, timeless and reactive communication.

Comparative information involves customers in the decision-making process representing the number of information provided by the retailer.

A digital touch point has to be entertaining; this concept indicates the impact of the technology on the customer journey through a feeling of immersion characterized by depth, quantity of information and breadth, number of touch points.

In 2015, De Haan et al. classified four different types of touch points basing on their dependence on someone or not:

- **Brand owned touchpoints**, are directly managed by the firm
- **Partner owned touchpoints,** are controlled by the firm who relays on a partner to manage them
- **Customer owned touchpoints**, these are controlled by customers, without the influence of the brand, in example forums or blogs
- **Independent touch points,** referring to all the other sources of information.

Furthermore, digital touchpoints have been classified in three other categories; static touchpoints, such as advertising on magazines, tv or shopping windows, that do not involve direct interactions with customers; interactive touchpoints, in example mobile apps or interactive displays, which thanks to digital technologies generates a relationship with users and encourages their participation to the service developing a co-creation process. In the end human touchpoints involve direct contact between humans sided by ad hoc created technologies in order to establish a relationship with customers.

Another classification that have been made for digital touchpoints is based on the main purpose and characteristics of each type:

- Functional touchpoints, managed by users or by the company. This type generally involves a medium-low level of interaction as long as customers are able to chat or post comments. The main example of this type of touchpoint is the website, in which customers can obtain information about the brand and

can purchase through the e-commerce. Another example of this type of touchpoint is the e-mail, that can be linked to the website and that leads to a process of subscription.

- Social touchpoints; this type of touchpoints is managed by an administrator who is able to filter the users. Social touchpoints generate a high level of interaction between customers and the brand thanks to the ability to post and respond in real time giving the opportunity for a two-way conversation and for an immediate feedback.
- Community touchpoints, rely on a group of users able to modify the contents of the channel, in example a YouTube channel or a forum. This type of touchpoint gives the customer the ability to participate actively to the creation of the activities and allow to connect with small digital communities composed by people who share the same interests even if geographically distant.
- Corporate touchpoints, such as FAQs and digital feedback, generate a low-medium interaction with customers but generally work as a support for all the other touchpoints.

Functional touchpoints	Social touchpoints	Community touchpoints	Corporate touchpoints
▪ Managed by users or company ▪ Medium-low interaction	▪ Managed by administrator ▪ High level of interaction ▪ Two-way conversation	▪ Managed by groups ▪ Co-creation with consumer ▪ Connect with small distance communities	▪ Low interaction ▪ Support for the other touchpoints

TABLE 2: TOUCHPOINTS CLASSIFICATION, SOURCE: STRAKER, K., WRIGLEY, C., & ROSEMANN, M. (2015).

In conclusion there is the evidence that day by day digital touchpoint will become more and more popular and more present than human touchpoints, but people still feel the need of human presence within their customer journey. This leads to the need to find a break-even point to this lack of balance in which retailers want to make time spent for shopping longer in order to convince customers to make a bigger purchase, but on the other hand customers expect their shopping experience to be smarter thanks to new technologies but they also feel the need of human presence during their customer experience because virtual touchpoints are not able to give proper advice. On the other hand, other customers prefer purchase through technological means because employees are not able to advice properly.[45],[46]

[45] Vannucci, V., & Pantano, E. (2019). Digital or human touchpoints? Insights from consumer-facing in-store services. *Information Technology & People*.
[46] Straker, K., Wrigley, C., & Rosemann, M. (2015). Typologies and touchpoints: designing multi-channel digital strategies. *Journal of Research in Interactive Marketing*.

A point of touch between physical touchpoints and digital touchpoints can be the application of digital technologies to traditional storefront windows. The main role of storefront windows is to persuade a potential customer to enter the store through a first visual impact, to differentiate a store from another and to anticipate what customers should expect from the shopping experience. Innovating the storefront window sends to the potential customers an implicit message saying that the organization is able to fulfill customers' need and expectations; furthermore, more technologies tend to influence more customers' behavior and tend to be more efficient than marketing innovations.[47]

2.6 New frontiers: influencer marketing and gamification

Nowadays everyone is present on a social media, this made grow the importance of the role of influencers. Influencers are people who built a large network of followers and are regarded as trusted tastemakers in one or several niches (De Veirman et al., 2016, p.1). These people became famous thanks to their social media presence strong enough to generate a stronger connection with customers than the one generated through the use of common celebrities because perceived as more trustworthy and genuine.

Influencers can be considered as micro-celebrities because they are characterized by relatively high recognizability by a large number of followers, relatively high engagement and requests of promotions by brands or products. Firms should opt for influencer marketing in order to reach the desired target acting specific campaigns and improve brand awareness and image.

A quite big slice of influencers should actually be called micro-influencers. Micro-influencers are those influencers who have a number of followers ranging from 1.000 to 10.000 who work or are expert of a determinate field and, relying on this, built a community. Micro-influencers can be considered better than influencers in terms of engagement-rate, in fact while an influencer has on an average an engagement-rate of 1,7%, a micro-influencer's engagement-rate fluctuates around 4% and 8%.

Influencers, compared with common and traditional celebrities, generate a higher purchase intention in customers because they set up in their minds a series of psychological processes that stimulate customers to imitate them.

Social media influencers are perceived as more spontaneous and trustworthy because their lives look similar, or at least reachable, at customers' sight and this decreases customers' prejudice about the message. Furthermore, the more similar is the influencer's lifestyle to the one preached by the brand, the more the influencer generates value for the brand and more positive attitude form the customers.

[47] Pantano, E., Priporas, C. V., & Foroudi, P. (2019). Innovation starts at the storefront: modelling consumer behaviour towards storefront windows enriched with innovative technologies. *International Journal of Retail & Distribution Management*, *47*(2), 202-219.

Another important source of trust and enjoyment is social presence which represents the level at which people feel that behind the social media there is a real and intelligible person; this generates trust because customers appreciate more feeling that they are relating to aa human presence.

Besides encouraging potential customers to purchase, what influencer marketing does is to stimulate a sense of envy towards the influencers and a feeling of self-discrepancy in the customer.

The sense of envy is purposely created to be a benign envy which puts the consumer in the condition of wanting what the influencer has and leads him to the act of purchase. This phenomenon only happens when the customer can compare himself with the influencer, so it can't happen using traditional celebrities who are perceived to be unreachable.

For what concerns self-discrepancy, the idealization of media figures generates in the consumer a sense of body dissatisfaction, other than the aforementioned benign envy. Body dissatisfaction causes depressing feelings in the customer who is spurred to purchase. According to this theory self-esteem reduction leads to be more positive to advertising messages. [48]

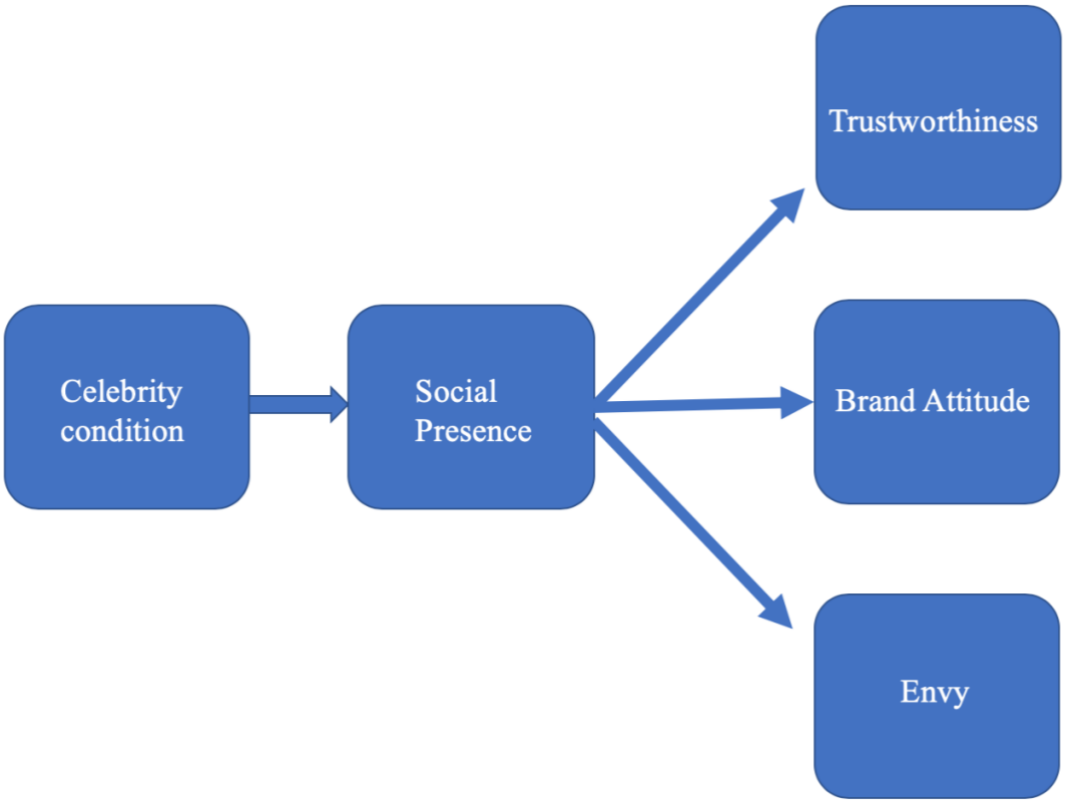

FIGURE 2.4: INFLUENCER MARKETING PROCESS, SOURCE: JIN, S. V., MUQADDAM, A., & RYU, E. (2019)

With the development of online shops, retailers felt the growing need to intensify customers' interest in the brand; this was made through the gamification. For gamification is meant the union of programs or platforms with technologies that originally do not come together. Gamification can also be considered a form of loyalty

[48] Jin, S. V., Muqaddam, A., & Ryu, E. (2019). Instafamous and social media influencer marketing. *Marketing Intelligence & Planning*

that gets users to make incremental choices in favor when all things are mostly equal (Zichermann and Cunningam, .2011).

In 1970 the first typology of gamification was introduced under the name of serious games. Serious games are games that played a role in enabling individuals to navigate the increasing abstraction of everyday life. The name serious comes from the fact that those were educational games.

In recent times gamification was applied to the retail field. The games are mainly of four types: status, reward, competition and achievement.

Two are the main themes when talking about gamification.

First of all, should be analyzed how online shopping is seen as a replacement for other entrainment activities because, an average customer nowadays purchases in a moment in which in the past would have done any other entertainment activity thanks to online shops.

Secondly might be interesting to understand how shopping experience provides a number of emotional benefits associated with entertainment, in example the feeling of excitement when the delivery arrives.

The role of gamification in the shopping experience can be synthetized in three main areas:

1. Competition against other shoppers. People apply their knowledge to get better items than other shoppers and might feel disappointed if do not get what they want
2. Compete against other retail policies; in example buying at a lower price to resell at a higher price later
3. Pricing games, consist in search for the best item at the best price.

Also gamification presents it criticism; gamification is considered as a psychological manipulation and a way to obtain more customer data.

Companies to apply gamification to their strategy without the risk of running into controversies, can see gamification as an optional, that is able to reduce undesirable consumers behavior and that is an important source of data.[49]

[49] Insley, V., & Nunan, D. (2014). Gamification and the online retail experience. *International Journal of Retail & Distribution Management*.

CHAPTER 3: CASE REPORT: CHINA AND EUROPE POST-COVID-19, HOW TECHNOLOGIES PLAYED A ROLE IN RETAIL RECOVERY

Covid-19 is a respiratory disease observed for the first time at the end of December 2019 in China and rapidly expanded all over the world, acquiring the connotation of pandemic in May the 11.
To face the epidemic the Governments all around the world imposed a period of lockdown which, not only helped defeating the virus, but also threatened the economic system of many States.

3.1 Retail and financial situation after Covid-19 in China

In China, the epicenter of the virus, the effects were mostly noticeable in difficulties within industries within the country but also multinationals which operated outside the country but used to make business with China were affected by Covid-19. Another important point to take into account is that Chinese population represented a big slice of income for tourism and retail market, inside and outside the country but, due to the reduction or elimination of domestic and international flights, it came to an alteration of the business.
The main changes encountered in Chinese population shopping and everyday habits mostly have been a shift from traditional offline retail to online retail. Since cities were placed under lockdown many retailers had faced difficulties in managing the lack of foot traffic and the decrease of customers' numbers. Shopping malls are the ones who mostly suffered because of the virus, since, due to social distancing, people choose to spend most of their time at home. People still need to acquire food and so they continued going to supermarkets and convenience stores, in fact this category did not suffered excessively for the situation. The ones who less suffered for the Covid-19 economic downturn were online malls or the ones who were able toapidly develop an online service.[50]

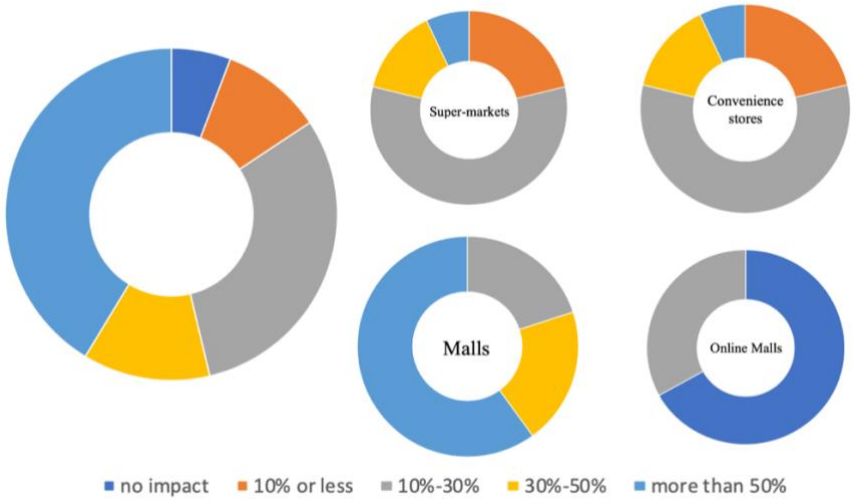

FIGURE 3.1: IMPACT OF COVID-19 ON DIFFERENT CATEGORIES OF RETAIL. SOURCE: DELOITTE (2020)

[50] https://www2.deloitte.com/global/en/pages/about-deloitte/articles/covid-19/covid-19-impact-on-china-consumer-products-retail-industries.html

The factors that lead to the decline in offline retail field were mainly related to transport and logistic issues owed to difficulties in the supply chain.

Another information that emerged from the analysis of customers' behavior is that a significant number of consumers during the lockdown period tried new stores or brand and now are favorable to maintain their new choices, those brands who took advantage during the period of crisis are the ones who implemented their online activities. The reasons why customers decided to leave their principal and previous vendors are mainly logistics or quality reasons.

The main alteration within the business caused by Covid-19 have been:

- Challenge between traditional retail and e-commerce: the first difficulty that traditional retailers had to face was that cities were placed under lockdown and a consistent number of retailers decided to shutter. The ones who have been able to switch or improve their digital area have been able to take advantage of the crisis.
- Online grocery stores and food delivery apps innovated and multiplied sales: food shopping continued to be necessary and never stopped producing income. The only concern about delivery is the risk of food contamination; delivery system innovated and developed a contactless pick-up and delivery system limiting human-to-human contact; in addition, food is enveloped in order to avoid food contamination.
- It was registered an increase of the time spent online and watching tv: consumers were forced to spend most of their time at home when palaces of entertainment have been closed in order to face the lockdown. According to QuestMobile (2020) the time spent using electronical devices increased from 6.1 to 7.3 hours during the quarantine after the Lunar New Year.
- Smartphone sales are bound to stay because there are able to face difficulties in the supply chain and the lack of foot traffic in stores.
- Robot or humanoids to avoid human-to-human contact: end-to-end contactless solutions were applied both by delivery services and hospitals to avoid contact within people. [51]

It is worthy to underline that even if was registered almost a stop in the purchase habits in brick-and-mortar stores during the lockdown period, Chinese population continued purchasing online and continued being aware of new launches especially in the tech field and the typical sales flows still happened but just switched online; this means that the population was not in a state of psychological panic.

3.2 How China Reacted to Covid-19

[51] https://www.emarketer.com/content/coronavirus-china-us-covid-19-impact-retail-travel

China today lives in a “new normality” that developpes both challenges and opportunities for marketers and retailers.

Consumers’ purchase behavior drastically rerouted toward online shopping when the lock down was declared and also the cluster of people who preferred physical shops have been forced to adopt technological devices to purchase online.

Furthermore, Chinese consumption of foreign products drastically decreased, generating an increase in consumption of high-end products inside the Country.

China adopted particular strategies in order to face the crisis.

First of all, Chinese retailers opted to a simplification and digitalization of the procedures, obtained through a coordination within the different departments. In example, franchising retailers developed the ability to make faster decisions and are planning to start holding conferences to expand their business online exploiting Artificial Intelligence and technologies.

Retailers also realized that even if offline physical retail is slowly recovering, online shops have now achieved an important role in customers’ mind mostly thanks to live broadcasting and delivery and it would only generate negative results to try to go back to the origins, and so decided to opt for an integration of online and offline channels. Using technologies and AI, retailers can also achieve important data about consumers, very useful to develop diversity strategies and control costs. Those data might also become useful to build a good relationship with customers so that they believe to what the firm tells them.

One more thing Chinese retailers did was to readapt commodities to new habits in order to engage and maintain CRM. The main way they cover that street was to use the online to guide offline services. In example Supin, a Chinese fashion retailer, upgraded the entire brand to the online platform to lead customer to shop instore and uses the offline store as an outlet.

Moreover, in China, established some mindsets that are going to change retail in the future:

- Home economy: during the period of the lock down people were forced to use more electronic devices, in addition people developed an interest for the importance of health and started appreciating more time spent with their families. This trend continued after the lockdown and retailers started putting more attention in satisfy these customers needs.
- Shopping environment: shopping environment spaces changed when Chinese customers understood the dimension of space needed to prevent infection and shop in total safeness. To meet these needs, new project will be developed following these new guidelines, while the elder ones will be modified to correspond to the standards. These modifications will be firstly applied by big shopping malls that, subsequently, will be cooperating with smaller individual brand shops. The need of modifications leads to deduce that both for consumers and firms physical shops are still remarkably important.
- Customer Relationship Management: customers shifted they purchase behavior from impulsive purchase to more pragmatic consumption. The attachment to consumers and the need to understand their mentality is becoming more and more necessary in order to generate new business opportunities

and strengthen customer engagement. The attention to customers' needs have become more important in the period during and immediately after the lockdown.[52]

3.3 Retail and finance situation after Covid-19 in Europe

Since January 2020, when the first cases of Covid-19 were reported in Europe, different containment measures were applied in all the Members States. Each country, depending on the age of the population, the quality of the healthcare system and the levels of civil obedience, established different sets of rules. In example Sweden just settled some restrictions but never closed, Denmark, Norway and Finland immediately closed schools and offices, UK and Ireland established a lockdown but with an hour per day of outing permitted and Italy and Spain, the most affected countries, declared nationwide lockdown leaving open just supermarkets, pharmacies and banks and stopping all non-essential production.

Since then retail restriction lasted until May, two months.

In Europe, retail is one of the most important sectors for the economics, and the restriction measures not only directly impacted retailers, but also all the supply chain.

The importance of the sector can be understood analyzing the numbers; 1 in 12 workers is employed in retail without taking into account all the workers involved in the complementary activities and retailers that work on low-wage or on-call that are not taken into account and that are not covered by traditional social protection measures; furthermore retail serves the final demand, gaining an central position in the value chain.[53]

Covid-19 impact on the sector depended on three main features:

1. The essentiality of the activity; all the activities not deemed essential were shut down
2. Retailers who already owned an online outlet were less affected than brick-and-mortar traditional stores, accelerating the shift from traditional to online retailing
3. Different activities had and developed different abilities to face the difficulties of the crisis.

Retail sector volumes had fell of a 4.2% comparing with last year but some signs of a recovery are seen in a growth of the volume from April to May of 16.4%.

During the period that goes from March to April, in the sector was encountered an increase in the sale of pharmaceutical products and a loss in the automotive field (both cars and fuel), for what concerns food, drinks and tobacco.

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[52] https://worldfinancialreview.com/retail-strategies-in-response-to-consumption-changes-in-the-post-covid-19-china/

[53] http://www.oecd.org/coronavirus/policy-responses/covid-19-and-the-retail-sector-impact-and-policy-responses-371d7599/

In May was registered a pick that declined immediately later making assume that it deals with panic buying. The deepest decline was registered in the textile, clothes and footwear field[54]. (See figure 3.2)

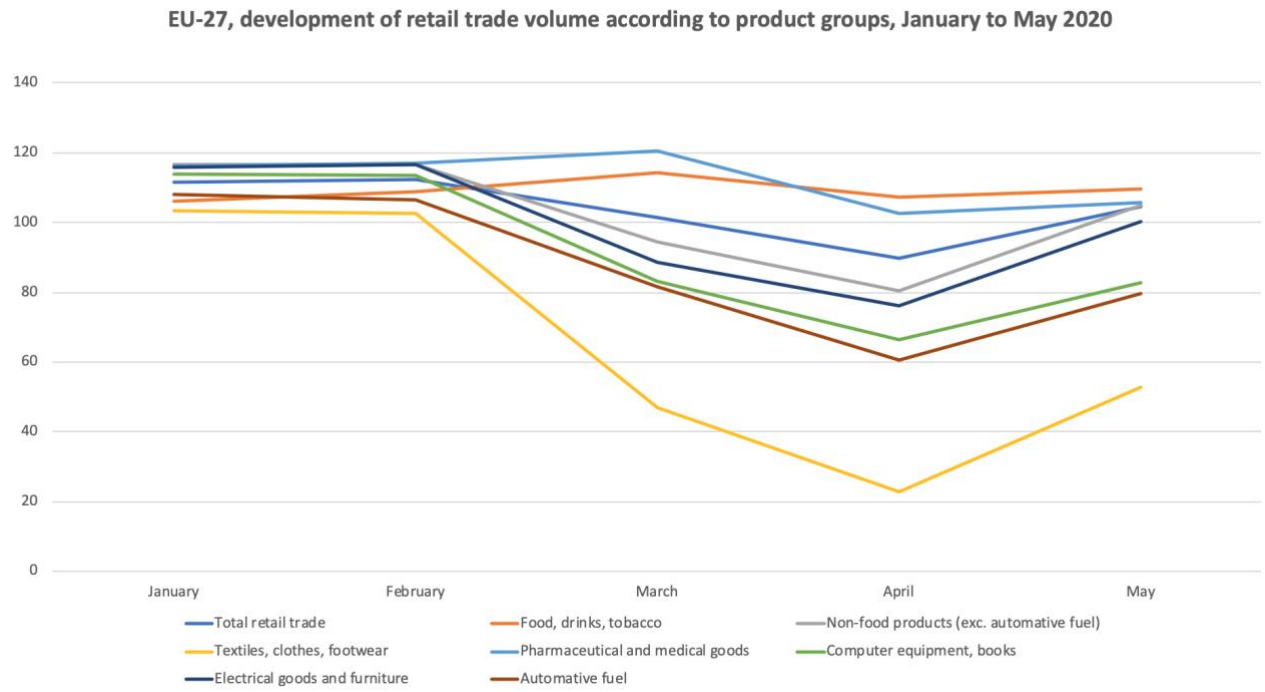

FIGURE 3.2: EU-27, DEVELOPEMENT OF RETAIL TRADE VOLUME ACCORDING TO PRODUCT GROUPS, JANUARY TO MAY 2020. SOURCE: EUROSTAT (JULY 2020)

This effect on the retail sector was anything but accidental. It was the result of different stages that took place in relation with customers' purchase behavior:

FIGURE 3.3: STAGES OF CUSTOMER'S PURCHASE BEHAVIOUR. SOURCE: EUROPEAN FIELD MARKETING PARTNERS (2020)

1. Pro-active health-minded buying: people started having perception of something wrong and start hearing about the virus. They start buying health related products that they think will prevent them to contract the virus, such as vitamins and probiotics.
2. Reactive health management: since the Governments start broadcasting health and safety campaigns, people start being worried and stats buying big quantities of Fast-Moving Consumer Goods (FMCG), such as face masks, hand sanitizer and soap, that they believe will protect them from the virus. The

[54] https://ec.europa.eu/eurostat/statistics-explained/index.php/Impact_of_Covid-19_crisis_on_retail_trade

peak in the sale of these products will be certainly followed by a swamp because citizens over-bought ad needs to dispose of all the products.

3. Pantry preparation: first quarantines are settled and citizens start to panic; they buy items that are supposed to last for long periods. This generates a leap in the demand for some products but at the same time increases the level of stress on some retailers.
4. Quarantine living preparation: during this phase most of the countries are under lockdown and the retail sector mainly relays on e-commerce and online shopping, so much that 1 out of 4 people shop online and that even the countries in which there was not a very developed tech mentality was in some way forced to move and evolve in the digital direction in order to satisfy customers and avoid as much as possible human-to-human contact. The sector that most suffered for this evolution and crisis was Fashion, people don't go out and don't need to dress up and most of the consumers are reluctant to purchase clothes online.
5. New normal: quarantine starts to be less strict and people start to go out but e-commerce will keep the gained success, especially if integrated with brick-and-mortar traditional shops.[55]

Due to Covid-19 some retail trends underwent a strong acceleration.

First of all, being forced at home, customers had to adapt to the new condition and shift from offline shopping to online purchase. The longer this period lasts the more people get used to this kind of habits and start appreciating more purchasing online. Although for the retail sector this switch is not meant to last, for FDM products customers appreciated so much the new technologies that the only way brick-and-mortar stores can survive is to offer unique in-store experiences or to integrate online and offline channels, adopting an omnichannel strategy.

Furthermore, now more than ever, customers and stakeholders are worried about health. Retailers had to improve and discover new ways to protect both employees and customers, making safety an important source of competitive advantage.

To face the peak of increase of demand in some sectors and the slump in others, retailers had to accelerate the development of a flexible-labor mentality setting new models of collaboration between retailers, employees and stakeholders.

Last but not least, customers' loyalty started to falter even before Covid-19 due to easier access to many different sources of products, but, during the crisis, when customers couldn't find a needed product it was the easiest for them to switch to another retailer or brand. [56]

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[55] https://www.efmp.com/articles/the-impact-of-covid19-on-consumers-purchasing-in-europe/

[56] https://www.mckinsey.com/business-functions/m-and-a/our-insights/the-next-normal-retail-m-and-a-and-partnerships-after-covid-19

3.4 How Europe reacted to Covid-19

As mentioned before, retail is one of the most important sectors in Europe, so Governments decided to act some policies to support and strengthen the field in three main areas that underwent a profound crisis: demand, supply and productivity.

In a moment of lack of foot traffic in stores, retailers need liquidity assistance immediately available to deal with various expenses apart from the crisis. In example in France was applied a tax-and social security free wage bonus to compensate employees whose working position was endangered during the emergency.

Some specific sectors of retail, during the hardest period, faced a peak in demand but at the same time a lack in labor supply due to social distancing measures and general fear of human contact. Government established some policies to guarantee households proper means to face this emergency such as financial incentives, regulation for essential activities, smooth demand-supply matching and a guidance for safety and health in stores.

In addition, Government temporary eased regulations on essential retail activities to facilitate the supply of essential goods. In example in Germany was released a legislative amendment to augment working hours and drivers without a professional driving qualification were allowed to deliver essential goods and in Belgium opening hours were made more flexible and was given the possibility to find a second part-time job while continuing receiving the unemployment benefits.[57]

To deal with the general fear of human contact were also established some measures that implied flexible opening hours and safety technologies and devices to avoid human-to-human contact.

All these processes impacted on productivity costs, in example through costs for protecting equipment or for the adoption of new technologies but the Government proposed to help by providing or refunding, when possible part of those costs.

Because of all these costs is very important also to ensure that competition remains stable and sufficient. This has not to be taken for granted because due to the crisis many small brick-and-mortar realities might face so big difficulties that can decide to shut their doors leaving the territory to already established big firms.

Retailer sector will learn how to survive integrating online technologies with offline shops.

3.5 The Italian case

Italian business restarted in March of 2020 but, unlikely one-third of the retailers were not able to reopen.

[57] http://www.oecd.org/coronavirus/policy-responses/covid-19-and-the-retail-sector-impact-and-policy-responses-371d7599/

Being one of the first European countries to experiment the lockdown, Italy's insights can anticipate many situations all over the world.

Before the outbreak of Covid-19, in Italy, just 1% of the income came from online shopping; while brick-and-mortar supermarkets represented more than one half of all consumers spending.

The business that suffered the most for the crisis were small family-business, which actually represent a big percentage of Italian retailers and which were already suffering a change before Covid-19 due to an in-progress transaction to e-commerce and omnichannel embracing what Philip Kottler (2018) calls the Retail 4.0.

When the first restrictions were established in February, citizens and retailers entered a new era. During this period, that lasted for a few weeks, people rushed to grab as much grocery as they could. when they realized that there was no danger of food scarcity customers started consuming what they had stored and the sales dropped for some more weeks. In this new era customers are less loyal because they can't travel to their usual shops and if they do not find a certain product, they search somewhere else if they believe it is essential, in addition loyalty is not only to a brand that represents customers' style but also their values in matter of Covid-19 and health; moreover, due to financial difficulties they prefer discounts. Because citizens were suggested to limit their outings, people preferred increasing basket sizes to make their shopping last, this implies that composition of their baskets was also meant to last.

Looking at the numbers, what can be noticed is that online sales of traditional brick-and-mortar stores followed an upward trend during the entire period, while, more surprisingly online native retailers registered a fluctuating trend during the entire period, without any particular sign of growth. (Figures 3.4 and 3.5)[58]

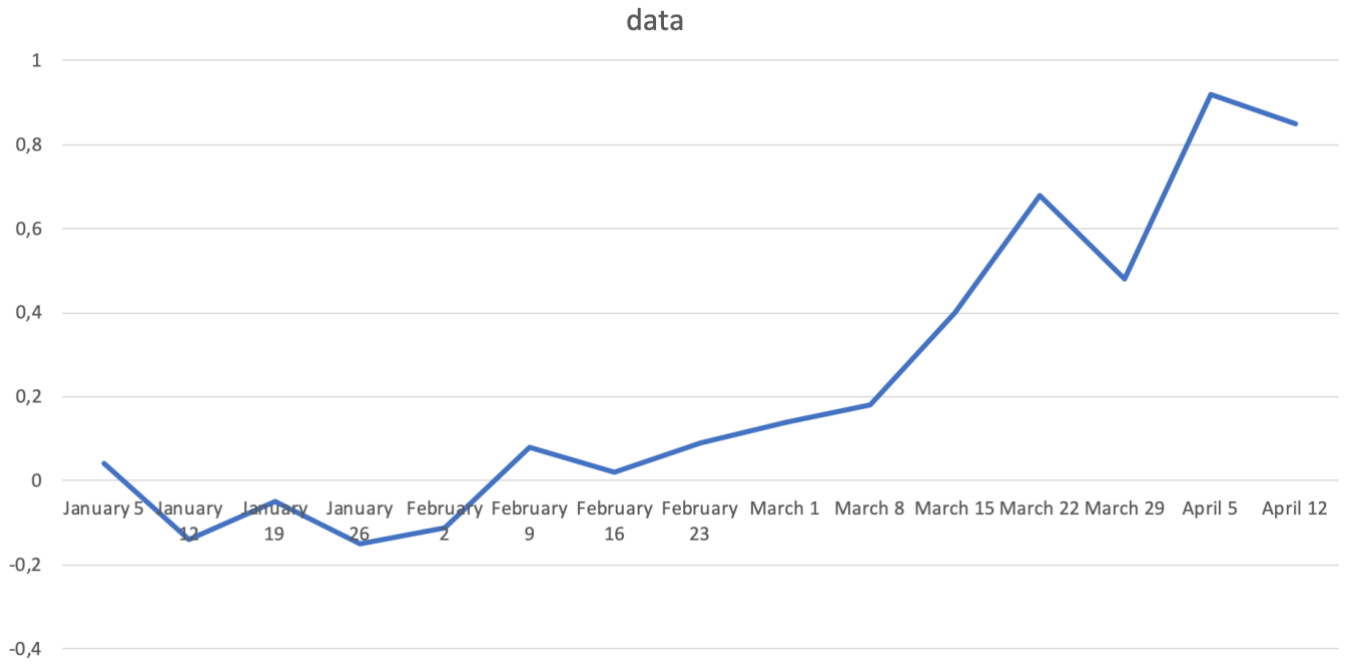

FIGURE 3.4: WEEKLY YEAR-ON-YEAR GROWTH TREND IN ONLINE RETAIL REVENUE OF MAINLY PHYSICAL RETAILERS IN ITALY FROM JANUARY TO APRIL 2020. SOURCE: STATISTA.COM (2020)

[58] https://www.statista.com/study/72126/economic-impact-of-the-coronavirus-covid-19-in-italy/

FIGURE 3.5: WEEKLY YEAR-ON-YEAR GROWTH TREND IN THE REVENUE OF ONLINE-ONLY RETAILERS IN ITALY FROM JANUARY TO APRIL 2020. SOURCE: STATISTA.COM (2020)

Now the question is, what will happen in the future?

What is undoubtedly happening is a change in the level of emotional relation due to the maintenance of social distancing measures, that will cut to the bone social and physical interaction[59], and the maintenance of the habits taken during the quarantine.[60]

For sure what is going to happen is a rush towards Digital Transformation to reach a recovery process that is going to last for about one or two years, according to different variables such as a second wave or the discovery of a vax.

The main change that this crisis made occur is the fastened development of e-commerce; 2 million new consumers started buying online during Covid-19 pandemic, especially in the grocery and tech field, and the forecast is of a continuing growth. What happened is that 21 days are enough to get used to a new habit and during the lockdown people had all the time to get used to this new kind of shopping.

This fast development of e-commerce settles a challenge for firms that need to find a balance between being pricing competitive and minimize the impact of the costs of application of these new technologies, both in the supply chain and in the logistics.

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[59] https://www.businessinsider.com/italy-retail-industry-faces-out-of-fashion-stock-uncertain-tourism-2020-5?IR=T

[60] https://www.iriworldwide.com/en-gb/blog/retail-lessons-from-italy-what-is-the-new-normal-in-the-covid-19-era

Even if it can be difficult to imagine, Luxury Brands are within the ones that are facing more difficulties in the adoption of e-commerce, it might be enough to think that until now only the 5% of the income came from e-commerce. For them low-touch economy, retail practices that does not involve human-to-human contact, is one of the biggest challenges. In luxury retail is practiced high-touch economy, in which experience marketing is one of the most important parts.

The challenge for Luxury Brands is to retrieve the emotional, sensorial and emphatical aspect through new technologies.

Chatbots can be one of the most used and more actual examples, one of the best is the one just launched by Patrizia Pepe[61] who can speak six languages and is able to show the new collection on-demand. They, thanks to artificial intelligence and machine learning, collects data about the customer that lately processes and uses to interact with him as if it was a real person; knowing every time better the customer, chatbots became every day more able to suggest new things, without any apparent connection to previous purchases, based on what the customer previously searched for. Obviously, this must be carefully analyzed under the legal and privacy aspect because firms can go in against important troubles but usually customers are more proactive in providing personal data if it is in order to receive a better service, giving an important sign of customer's maturity.

Another important innovation in retail sector is the home delivery system or the click-and-collect; both designed to avoid assemblage and long queues. People, in fact, are no longer willing to wait hours to try on a piece of clothing and retailers must evolve and develop some new way to apply omnichannel, finding some new and innovative ways to apply already existing instruments such as apps; moreover all the data that we provide to computers allow us to eliminate wasted time because the computer already shows us what we need, probably that we even didn't know.

It might not seem so but physical retail is not dead, it is just changed the way of perceiving it. Physical stores probably will not die in the immediate future because they have some features that customers still need, what is probably going to happen in the next future is the complete integration of physical and digital stores.

Customers nowadays require proximity maximization, which means that they want retailers to be present where, when and how customers want. This can be actuated by focusing on the development of new forms of store such as drive through ore new types of store digitalization, in example videocalls to show customers new collections.

Also drive-to-stores are a new way of collaboration between stores that brings advantages to both the parties in terms of notoriety and intake.

Being more caring about health during Covid-19 epidemic, customers became more aware of sanitary risks of cash, shifting to a cashless attitude. This phenomenon, integrated with modern technologies that allow

[61] https://www.ilsole24ore.com/art/patrizia-pepe-punta-rilancio-il-nuovo-servizio-on-demand-ADVSjFX

contactless payment, will set conditions to eliminate cashier, eliminating queues for paying, like Amazon Go does.

The developed attention for hygiene also stimulates the application of new technologies such as smart mirrors that in sectors like cosmetics of apparel allow to virtually try on products.[62]

4. CONCLUSIONS

So, what Italy is facing in this period, is a rush to Digitalization; the problem is that the majority of firms adopted new technologies, especially e-commerce, in a situation of emergency without the proper background knowledge.

What is assumable is that this kind of e-commerce are just experiments that will be adjusted as soon as this situation ends and that are extremely useful to understand strength and weaknesses. Undoubtedly firms need to reeducate workers and personnel and need to understand new business models in order to take advantage of already existing assets and improve them.

Retailers are doing their best to attract customers back to shops, building a connection within online and offline in order to compensate the customer shopping experience.

For the ones that already excelled in Digital Innovation the advice might be to understand what they have to strengthen and become more competitive acting those strategies that already have been experimented.

For the ones that are just starting looking at the digital world might be important to accelerate both tactically and strategically because this evolution is going to last and who doesn't keep up with it will probably remain apart.

From the abovementioned analysis it emerged that the elements on which retailers should work are mainly service, partnerships, advertising, security and, last but not least, data.

Service is a key element in the strategy of any kind of firm since it became the yardstick according to which a customer decides to purchase from a brand or another. To the product must be enhanced an added value awarded by the transformation of the product, that can both be personalized consultancy or product customization.

In order to establish a win-win game, is convenient for every retailer set partnerships with other members of the field. These partnerships can be used as advertising or in order to integrate different players CRM. No matter what is the main purpose of the partnerships, it is important that they generate gratification in customers' mind and a "wow effect".

Advertising leverage is a very useful tool in order to attract customers in store, as long as it is properly integrated with digitalization. In this particularly situation, after Covid-19, a very important role is covered by

[62] https://www.economyup.it/retail/il-futuro-del-retail-4-concetti-da-cui-ripartire-per-salvare-i-negozi-nel-dopo-coronavirus/

Digital Out-of-Home (DOOH); with this term is meant the digital advertising based on digital back-lit billboard. In advertisement filed, digitalization is in continuous evolution thanks to new technologies and creativity. One of the most interesting aspects is the integration of online and offline advertisement, made through the application of those means that allow personalized advertisement online to offline billboards.

Not surprisingly safety became one of the main values of our culture; customers will go to physical stores only if they are sure that they can occur a safe and fluid shopping experience. Sanification will become the pillar of modern retail, relaying on different innovations such as smart-mirrors and UV rays for sanification during closure hours.

As said, last but not least, data. Thanks to data, it will be possible for retailers to totally reach omnichannel strategies. The possibility to exploit data has to be integrated with protection of customers' privacy and will be able to enhance customers' instore experience.

From the customers' side, the scenery is split in half, 49% of consumers are willing to come back to physical stores, seeking for human interaction, while the other 51% is more confident in new technologies including virtual assistants and artificial intelligence systems to guarantee the proper level of security.

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