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Fashion trends of the future and implications on business models

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Contents

Introduction

Companies are nowadays facing the contemporary challenges of a world spinning faster and faster: just think of how Covid pandemic is heavily affecting all sectors – leading to long term effects which are far from being fully predictable. The importance for companies to explore the present in all facets and anticipate the labyrinth of future is then expressed in their capability to understand the pattern of complex forces underlying changes.

Since the 1980s, the literature has stressed the importance of anticipation of trends – economic, technological, cultural and sociological as well as political ones – as pointed out by several authors (Porter among the others). By looking for opportunities, in fact, companies oriented to innovation do not have only the need to analyze mistakes of the past or understand the current market, but also to identify possible scenarios of the market of tomorrow (Battistella & De Toni, 2011). In order to anticipate the future, advanced approaches, able to go beyond the traditional models of prediction (forecast) based on the forward projection of past experiences, are needed. These advanced methods, the so-called approaches of anticipation (foresight), build possible scenario on the basis of complexities of the present, weak signals, emerging trends and credible paths of evolution.

Given the importance of future anticipation, the activities of foresight have been widely applied in the business field, taking the name of corporate foresight. The goal of CF changes in response to factors of external environment and elements of internal development. Being the company a complex adaptive system, it works in relation to what it is expected, and it adapts its processes in relation to the level of learning from the environment, actions of competitors, evolution of the sector, etc. The corporate foresight is then crucial to the organizational ability to change and adapt to the context. In particular, the literature on foresight has constantly highlighted the necessity to take into consideration all possible evolutions of environment, activity which take the name of scenario planning. If on the one hand, then, the foresight is aimed at investigating the driver of change, which are emerging trends, on the other, the scenario planning focuses its efforts in defining the possible consequences of these phenomena.

However, the corporate activities of environmental scanning and foresight are not sufficient to prevent the company from being faced with any future obstacles; especially this year, the social and economic uncertainty due to the pandemic outbreak puts the emphasis on the importance of a search for an efficient organizational structure which is able to deal with the external environment and its changes. In this sense, two main factors have to be borne in mind: first, a firm has a very complex organizational system, as it is made of different and interconnected elements; at the same time, however, it opens towards the external environment, with which it interacts and communicates. The basic idea, indeed, is that the firm needs to be consistent both internally and externally – in relation to the reference context.

In order to identify how change is conceived by a company, it is important to define how the business is structured to acquire competitive advantage and adapt to the external environment: this, in short, introduces the definition of business model. Interest towards the concept of business model has spread from the 1990s onwards and the academic world has tried to give it a proper definition, among which the following can be mentioned: statement or description (Stewart & Zhao, 2000), representation or model (Fielt, 2013), conceptual tool (Osterwalder et al., 2005), organizational design or structure (George & Bock, 2011; Saebi & Foss, 2015). The interaction of different factors such as the use of innovative technologies, the growth of emerging markets and the constant evolution of processes of digitalization is determining the fascination towards the study of business model. And if on the one hand, the subject has attracted the interest of academics and researchers, on the other, companies which are experiencing changes in competitive market and the current struggle for survival are more and more concerned with the definition of a strategic business model able to innovate.

In the current scenario, the necessity to change the way in which a business is managed is emerging as an initial step to adapt to environmental changes; the starting point coincides, indeed, with the redefinition of business model with the aim of making sense to a complex and ever-changing context. A correct structure is likely to bring a successful business, while on the contrary, obsolete and inadequate business components will result in inappropriate responses to the external environment. In this sense, a recent study (Battistella, 2007) demonstrates how corporate foresight and the study of the future influence several business activities, such as: corporate ability of anticipation and

sensemaking, support of decision-making process, innovation and change, as well as effects on long-term view and new business model development.

In the last year, the attention towards new and innovative business model has grown in relation to the unprecedent, disruptive change deriving from Covid pandemic, whose impact may have been negative for companies unable to adapt their activities to the current situation. In this sense, the correlation between business model and innovation has become more crucial than ever, although its importance has been already highlighted when investigating the recent phenomena, for instance, of born-digital startups and e-business (Jin & Shin, 2020). According to Osterwalder, in fact, "*business model innovation is about creating value for companies, customers and societies. It is about replacing outdated models*" (Osterwalder & Pigneur, 2010).

A business model can be analyzed with the use of different methodologies and tools. For example, the methods of visualization are normally used to have tangible elements to reflect upon. This approach provides visual means to examine and improve managerial decisions, activating the renovation of current points of view, promoting changes of outlook and facilitating the systematic and global evaluation of different alternatives (Eppler & Platts, 2009). The idea of visual representation was already in use in the field of strategy and management.

At this point, a distinction should be drawn between business model and strategy that, despite being connected to each other, are distinguished concepts (Teece, 2010). A business model introduces the logic of value creation for customers, by defining the way in which the company can better response to their needs, generate revenues and therefore gain profit. On the other hand, strategy defines the corporate goals by taking into consideration environmental characteristics and available resources, while at the same time outlining actions that need to be implemented in order to acquire a sustainable competitive position (Vedovato, 2016).

Despite being different concepts, many tools for strategy and business model definition are based on graphs and visual scheme. Maps are usually used as graphical representation of strategy and its correlated problems, while a business model canvas is used to define the business model and its components (Osterwalder & Pigneur, 2010). The different business model frameworks proposed in the academic world are all aimed at graphically

representing how the business captures and delivers value to its customers, taking into consideration important pillars such as value proposition, customer segments, value network, the economic model as well as organizational processes and competencies (Morris et al., 2005). In this dissertation, the framework used for representing the business models is the one theorized by Biloslavo et al. (2018) termed Value Triangle, which is based on the idea that the firm "*co-creates and co-delivers value with its stakeholders within a circular value system and capture some economic value from it*" (Biloslavo et al., 2018). This framework differs from other BM representations, including the famous business model canvas of Osterwalder and Pigneur (2010), in relation to four main features: firstly, the value creation is a process including the wider viewpoint of customers, society, partners and the company itself; secondly, it considers the overall costs and benefits incurred during company's business; thirdly, resources are broadly defined as everything able to create benefits – and in this definition also natural environment is included; lastly, the visual design of this framework convey the idea of a systemic relationships among the elements by representing the nine elements as triangles. The Value Triangle can be then "opened" to generate a canvas, which is a simple and immediate visual and strategic tool functional to map in a lean but exhaustive way the business model of an organization (Bagnoli et al., 2018).

The introduction to concepts of futurizing, which involves theory about scenario planning and corporate foresight, and business model - including its relationship with future studies, strategy and its visual representation – lays the theoretical foundation for an investigation of future trends impacting the business models of companies operating in the fashion industry, a sector that in 2020 has experienced a period in which everything changed. In fact, despite being apparently based on artistic, intangible foundations, whose access is allowed only to insiders, the fashion sector has revealed its societal and business nature, made up of individuals – from the Bangladeshi garment worker sewing Zara's t-shirt to Giorgio Armani, founder of the famous fashion brand of the same name – that are part of the same well-oiled machine, aimed at making profit by turning what it is superficial into something necessary.

In the new millennium, the fashion environment is no longer considered a closed and independent universe: it is an integrated system which lets itself be hybridized and contaminated by more dimensions.

Knowing the fashion context means getting in touch with different lifestyles of the everyday, dealing with a continuous evolution, an increasing fervent globalization, an even more interactive customer and a fierce competition. In fact, although fashion can be studied in sociological and cultural terms, the world revolving around it has to deal with emerging challenges pertaining to the business sphere, and like any other industry it is faced daily with changes threatening the survival of companies in the sector.

Furthermore, more than any other production sector, fashion builds and exploits a network of connections and synergies between the value of product and the way to deliver it that are very wide with respect to the item sold (Iacobelli, 2018). The management consequences resulting from this assumption are disruptive, because, in order to be successful, the business organization is forced to extend its competences outside its usual scope and dominate widened and heterogeneous, if not extra-sector, systems. Thus, a strong implication emerges from this consideration: the winner is the one that is able to manage the complexity non only from a market point of view, but also from a consumer relation perspective.

To compound the general framework in which fashion companies operate, the Covid pandemic, that has been spreading worldwide from the beginning of 2020, is causing lockdown and global economic recession. As consequence, this phenomenon is shaking the roots of the business world so far known, and fashion industry, due to its discretionary nature, is particularly vulnerable (Business of Fashion & McKinsey&Company, 2020a). According to McKinsey's latest estimates (Business of Fashion & McKinsey&Company, 2020b), the global fashion industry will endure a contraction of fashion sales from which it is expected to recover no earlier than the third quarter of 2022. Moreover, due to lockdown, 84 percent of workers have switched to smart working: the domino effect on shops closure has caused the loss of jobs in retail stores and consequent deletion of clothing orders in supply markets as Bangladesh, India and Cambodia.

The recovery from pandemic is going to face a recessive market, that will drive players in acceleration of resilience planning and adaptation of operating models. The surviving companies will be the ones able to carry out brave and quick interventions – focused on stabilizing the core business before looking for new markets. The report of McKinsey mentions a "Darwinian shakeout", intended as an emerging context in which adaptation is the key to survival. The pandemic crisis shakes the weakest, encourages the strong and

accelerates the decline of those realities which were already fighting for survival before Covid, leading to massive waves of consolidation, merger and acquisition activities and insolvencies.

It is then increasingly important for fashion firms to understand which direction the market is going to take, in order to maintain the competitive advantage in a world that is moving faster than before and where anxiety and uncertainty have been instilled in the minds of almost everyone. Now more than ever, anticipating the future is an art that apparel firms must master in order to survive.

Taking all this into account, the aim of this dissertation is to identify the main market trends of fashion industry and their impact on business models of apparel companies, with a focus on the ones operating in the fast-fashion sector. In order to do that, the research is conducted through the method of content analysis which enables the investigation of texts to find answers to research questions. To facilitate the process of coding and identification of relevant insights, a crucial role is played by some technology developed tools such as text mining software or computer-assisted qualitative data analysis software (CAQDAS); such tools provide an essential support to conduct a content analysis by assisting the researcher in all stages of research, from data collection to presentation of results.

This dissertation is structured as follows: the theory about futurizing and corporate foresight will be discussed in the first chapter, while the second chapter will be dedicated to the introduction of the concept of business model and its relationship with future studies as well as its graphical representation in the form of a Value Triangle. Once theoretical background has been introduced, the methodology will be described and discussed. Lastly, the final chapter will be dedicated to the presentation of results, expressed in terms of main market trends for fashion industry and their impact on business models.

Chapter 1. Theoretical focus on Corporate Foresight

The first chapter is dedicated to the study of the future and its implication for management studies and organizations. Being the business environment highly mobile and subject to discontinuous changes, both academic and management world have tried to develop techniques and procedures aimed at predicting or anticipating the future in order to successfully survive even in the hardest times. Now more than ever, this purpose is widely recognized and attained by companies.

In this chapter, then, a literature review about how futurizing has evolved over time is presented by analyzing the concepts of forecasting and foresight. Moreover, the technique of scenario planning, famous for having saved Shell company from failure during the oil crisis of the '70s, is introduced and expressed also from the point of view of its disadvantages. Finally, the art of futurizing is applied in the organizational context, taking the name of corporate foresight. In this regard, implications for company's strategy and ability to innovate are taken into consideration and further developed.

1.1 An uncertain, complex and discontinuous environment

We live in times of considerable changes and the acceleration of such changes has become so high that we are not able to give answers in good time. In 1970, more than 3,5 billion of people were living on Earth; today, the world's population has passed the 7 billion mark. The first SMS was sent on December 1992, while nowadays the number of sent and received text messages is higher than the total number of inhabitants of the planet. In order to reach an audience of 50 million people, the radio took 38 years, the television 13, Internet 4, the I-pod 3, Facebook 2 (De Toni et al., 2015). In recent years, the speed of change has become clear for all to see, just consider how the explosive growth of internet use has profoundly and asymmetrically changed the entire world. Such asymmetries are not entirely obvious: in just one year, Instagram in Italy enjoyed an exponential growth of accounts, from 9 million in February 2016 to 14 million in June 2017, with an increment of +55% (We Are Social & Hootsuite, 2017).

These few examples highlight the concept of acceleration, considered as one of the elements which best summarize the transformation of contemporary digital society. The

world is moving, communicating, learning and thinking faster than before; consequently, this speed is reflected in the circulation of information, knowledge and exchange of ideas.

Reflecting the environment in which it is imbedded in, a firm is constantly facing challenges related to the increased speed of change of the outside world. From a business point of view, the high level of change may be referred to:

- shortened product life cycles (Kessler & Chakrabarti, 1996)
- increased technological change (Sood & Tellis, 2005)
- increased speed of innovation (Zhu et al., 2019)
- increased rate of diffusion of innovations (Vargo et al., 2020)

Another fundamental point is the one referred to uncertainty. Brillinger (2019) identifies five uncertainty factor groups that companies are called upon to face, related to some internal and external categories: (1) customer, (2) offer, (3) infrastructure, (4) financial viability and (5) environment. The uncertainty is due to a difficulty in information collection or overload. Indeed, important signals may remain unidentified because are located outside the reception area of the firm; this deficiency is to be attributed to the nature of company's sensors, whose aim is to focus on a narrowed search area, and, as consequence, some important insights at the periphery may be left unexamined (Pina e Cunha & Chia, 2007). Moreover, due to information overload, the top management ability of assessing the potential impact of information collected may be inadequate (Edmunds & Morris, 2000; Eppler & Platts, 2009).

In addition, it is not just a question of exponentiality of times and changes and uncertainty, but of influence: the faster the change, the stronger the impact. Besides continuous and unpredictable alterations, in fact, it is necessary to consider several elements, different from each other, that occur at various levels and with heterogeneous interests, as well as their non-linear and multiple interconnections: the world is an organism whose exploration needs a systematic approach. How "one thing" can change everything is something the entire world population is knowing firsthand: the year 2020 will be remembered as the turning point in the course of world history. The impact of Coronavirus has undermined the society to its very foundations, and although the current and potential future economic data are disclosed by the press and divulged in scientific and academic contexts, the consequences of Covid-19 are going to be, in the long term, the

basis of a new normality. The world economy has entered a recession, with a contraction of 3% for the current year 2020, followed by an uncertain rebound of 5,8% predicted in 2021. Back in January, before the pandemic outbreak, the International Monetary Found estimated for the 2020 a growth of 3,3% (Il Sole 24 ORE, 2020).

Now more than ever, the word crisis recalls the adjective "critical": men, women and organizations live in a complex world, a network characterized by the number and diversification of actors, the system's dynamism, the uncertainty of decisions and the rate of acceleration, indeed. In order to navigate in the present network and in the labyrinth of future, the understanding of the complex forces leading to changes must be developed; such drivers of changes include new technologies, competitive dynamics, emerging trends of convergence, potential relocation processes and alternative scenarios.

Nowadays the globalization of competition and the rapidity of technology change and evolution are concepts widely recognized, as well as the implications on the uncertainty of the future derived from the rising complexity of the present. Moreover, several authors claim that the success and survival of firms in these challenging and discontinuous markets depend to a very large extent on the capacity to innovate (Bagnoli et al., 2018) and the ability to anticipate (Rohrbeck & Gemünden, 2011; Schwarz et al., 2019).

On the other hand, many researches highlighted many difficulties for companies in surviving in dynamic and turbulent environments, difficulties that can be summarized in another category of issues, besides the ones derived from acceleration and uncertainty: inertia. If a company has perceived a change in the environment with a great potential impact, it needs to define and plan appropriate actions and implement them. However, several studies pointed out that in some cases firms failed in taking proper and on-time decisions, identifying different reasons for inertia in big companies:

- the actual and domestically available technological capabilities of firms lead to a knowledge inertia which inhibits the perception of external radical innovations (Narula, 2002; Vanhaverbeke & Peeters, 2005)
- the obstacles to the implementation of an organizational change (Li et al., 2016)

1.2 From prediction to anticipation

The path is full of obstacles: the world of humans and businesses, in fact, changes how the drawings of a kaleidoscope change. Trends are expanding, contracting, dissecting, melting, disintegrating and disappearing, while others are forming. Nothing remains constant. The complexity is the space of possibilities, the future is a combination of changing situations, and therefore it is necessary to learn how to coexist with environmental, organizational and decisional uncertainty. The majority of phenomena, in their own complexity, is not foreseeable: it is impossible to predict with certainty the future of a complex system, as far as its possible future conditions can be predicted; in other words, its structure. The impossibility of prediction leads to the necessity of acquiring tools to catch weak signals, build scenario and be flexible.

Here is then, the importance, difficulty and fascination of paths of organizations – which actively monitoring and exploring the emerging trends and taking into consideration alternative scenarios representing business opportunities for the next 5-10 years – facing the challenge of the future. Firms should try to be more and more "liquid", aware of an actual open ecosystem, capable of cultivating knowledge, act also on invisible networks and be able to re-orientate in new directions. This entails the firms in question facing the change only if strategically flexible, ready to seize the moment: their benefit is brought by varying the competitive priorities, maintaining a comprehensive set of possible strategic options, moving quickly from a business to another and keeping a broad conquerable potential.

Increasingly accelerated change and growing turbulences reinforce the need for a 360-degree scanning capability of what is around us, and the necessity to prepare for an uncertain future, seeking forms and methods to anticipate it. Like in meteorology, where the continuous monitoring of an ensemble of complex and interrelated forces allow us to develop a viewpoint of how these forces could collide and impact in our world in atmospheric terms, at the same way visionary organizations establish monitoring processes of key trends that could potentially impact their businesses.

The art of prediction is risky, we must therefore pay attention to weak signals and move forward by attempts. For some times now, the traditional models of prediction (so called of "forecasting") – based on the forward projection of past experiences, in a linear and

deterministic way – have been overtaken by new ways of predicting the future. More advanced approaches are using anticipation logics (as known as "foresight"), built on the detection of weak signals and emerging trends from external sources.

In particular, the most important trends know no boundaries and affect every aspect of the society: global trends have the potential to radically change the way in which the world will go tomorrow, and they can impact, as we are currently experiencing, in a faster way than we expect. Thus, in order to innovate, it is necessary to have the ability to imagine different scenario from reality. How do we imagine our technological, economic and social future? How can organizations decline the built scenarios in new products or services?

From an organizational point of view, processes and methodologies have been discussed and implemented in order to trigger attention to the future, while maintaining a continuous focus on trends and weak signals. In the complex environment of the present, a firm has different elements to consider, and especially to sync one another such as the importance of weak signals, creativity, mutual knowledge and new business models based on open innovation, strategic vision and consistency.

Therefore, in the next chapters we will define the emerging approach of foresight and its application in the business sector, starting from the discrepancy with the traditional models of forecasting.

1.3 The concept of foresight

When dealing with a change, we can decide whether to resist (in vain), adapt every time (reacting) or play in advance (in a proactive way). And over the course of time, the complex and discontinuous environment in which the firms have been embedded in required a new approach to future anticipation, to be in line with possible scenario changes and navigate safely through the depths of a sea of possibilities and threats. Researchers and scholars therefore started, in parallel, to develop a theoretical reference which organizations could rely on while facing the challenges of the future.

In this regard, concepts such as *forecasting* and *foresight* have emerged starting from the second half of last century, when the oil crisis of 1973 greatly shook the "way of doing business" so far known. The terminological precision related to these approaches is

fundamental for two reasons connected with each other: first of all, the literature on the subject is still young and vague; secondly, and more importantly, it is necessary to avoid the risk of confusing forecasting with foresight (with which there are different similarities and analogies, though). The latter will be in fact declined in business field throughout the next chapters, taking the name of corporate foresight.

1.3.1 Forecasting and foresight

The word "foresight" is defined by Cambridge Dictionary as "*the ability to judge correctly what is going to happen in the future and plan your actions based on this knowledge*"; the term "future studies" refers to the research conducted with the aim of assisting organizations in exploring, preparing and reacting to changes. Its origin as a scientific approach can be referred to national level, when United States started a systemic examination of trends and indicators of change with the objective of anticipating the events (Masini, 2006). The studies on the future appeared towards the end of Second World War but they spread in a decisive manner in business field only in the last thirty-twenty years. Initially as forecasting approaches, these studies make heavy use of quantitative and econometric techniques, centered on specific topics and based on past data. Nevertheless, these techniques appear to be too narrowly focused since they are aimed at defining a precise and univocal prediction of the future. This approach soon reveals to be, therefore, erroneous as it does not allow to take alternative future scenarios into consideration. The future, as mentioned above, is clearly unpredictable and facing it on the base of one single alternative appears to be quite limiting and could expose to emerging and unexpected events and phenomena.

In the '70 the Royal Dutch Shell was one of the first companies that successfully implemented the method of scenario planning to support the process of corporate planning and deal with the uncertainty of business environment (Cornelius et al., 2005). The oil crisis in the early 1970s and the ability of Shell to turn an unforeseen situation in its favor were just a prelude of a change in the way of studying the future, that would have led governments and companies to embrace a new approach: the "foresight". This represented an important turning point in academic and management researches on future. The element of novelty of foresight is the use of qualitative and participatory techniques, essentially consisting of meetings, discussions and brainstorming among

experts aimed at creating a shared vision of the future. Moreover, this new approach allows the development of different future scenarios and requires the valuation of these scenarios in order to ensue correct decisional implications from the present.

The concept of forecasting is then different from the one of foresight. As anticipated above, the term forecasting means a combination of predictive and programming techniques to support strategic planning. In this sense, predictions are made on the basis of accuracy principle, and in this context, the future is a result of statistical and probabilistic calculations that accept relatively high margins of error (B. Martin & Irvine, 1989). As consequence, the element of uncertainty is constitutive of every forecasting analysis: due to their inherent nature, each of these studies provide indicators that could reliably assess risks and then orientate effectively the process of strategic planning.

In business field, forecasting techniques consist of an ensemble of statistical and non-statistical methods, among whom cannot be ignored the extrapolative methods (less used, like the Holt-Winters model and the Box Jenkins method), the explanatory variable methods (more popular, such as the model of linear regression and the econometrics theory), the simulation modeling methods, Delphi model, time series analysis and numerous other methods.

On the other hand, the definition of foresight is far more articulated. According to Slaughter (1995), foresight is defined as a cognitive ability of human beings to "*…think ahead, consider, model, create and respond to future eventualities*" In this sense, the art of foresight is inherent in all humans who are faced with daily choices that necessitate a rational evaluation of pros and cons, and possible resulting courses of action. This opening to the future is then a result of alternative scenario development, followed by a choice of the best option.

In addition to this definition, B.R. Martin (1995) highlights a technical-procedural nature, defining foresight as "*the process involved in systematically attempting to look into the longer-term future of science, technology, the economy and society with the aim of identifying the area of strategic research and the emerging generic technologies likely to yield the greatest economic and social benefits*". A. Horton (1999) is of the same thought when he says that foresight could be describable as "*the process of developing a range of views of possible ways in which the future could develop, and understanding these*

sufficiently well to be able to decide what decisions can be taken today to create the best possible tomorrow".

To summarize then, while according to some authors (especially Martin and Horton) the foresight would have a technical-procedural nature, some others (Slaughter among the others) consider it an attribute or a cognitive competence proper to the human being. In both cases, but especially in the latter, the concept of foresight clearly distance itself from the concept of forecasting.

However, as already mentioned above, there are also examples of erroneous and inaccurate use of the term, notably in more recent literature. In this respect, some researchers claimed that "*There are, actually, very few uses of the term "Foresight" – even in a casual way – in the "futures" literature up until the 1990s. Since then there has been an explosion of use of the term – such that many activities that went by the name of forecasting, scanning, strategy analysis, or prospective are now rebelled Foresight*" (Georghiou et al., 2008).

The difference between these two approaches to future study has been highlighted by Cuhls (2003), who compared foresight and forecasting, pointing out the main differences (Table 1).

The first emerging point involves the definition of objectives: while in forecasting the research questions should be clear and accurate from the beginning, foresight enables the study of future in a wider way, without having necessarily to focus on a single subject.

Another important difference lies in the nature of the techniques used. Forecasting is based on numerical and quantitative parameters, namely modelling and econometric techniques relying on past data to linearly derive a behavior in the future; on the other hand, foresight makes use of more qualitative techniques, considering signs of ongoing change in science and technology, as well as in political-economic, socio-cultural and competitive environment.

Lastly, foresight is not limited to result definition, as in the case of forecasting, but it also aims at creating participation and communication in order to obtain shared goals. These goals will be helpful in taking current decisions because they contain implications for the present.

Table 1. Comparison on main characteristics of foresight and forecasting proposed by Cuhls (2003).

Foresight	**Forecasting**
Research questions are always open and searched as part of the foresight process	Research questions must be clarified in advance
More qualitative than quantitative	More quantitative than qualitative
Investigates on information about the future to define current priorities	Addresses questions regarding what the future is going to be in a certain selected area
Implies participation and discussion about the future	Result-oriented, may be carried out also individually
Communications about the future as an objective	Results are more important than communication
Long, medium and short-term oriented with implications for the present	Long, medium and short-term oriented
Determines if there is consensus on the topic	No information on consensus
Experts and other participants depend on multiple opinions	Experts and restricted methodologies point to one single option

1.3.2 Key concepts of foresight

Trends

The art of futurizing is not just about identify hidden signals, but it also requires the ability to select and evaluate the evolution of phenomena already clear and present at the current moment which could take different directions, affecting the environment of the business. Thanks to the contribution of minds like P. Schwartz and P. Wack (both members of Royal Dutch Shell scenario planning team), from the second half of the twentieth century, the word "trend" has begun to be associated (in sociological and business fields) to complex aspects of our culture: changes in behavior, psychology, lifestyle, along with deep mutations in the way in which products/services are designed and surrounding reality is observed.

What, then, is a trend? According to Saritas and Smith (2011), trends are defined as "*change factors that arise from broadly generalizable change and innovation*", while Vejlgaard (2008) describes a trend as a "*a prediction of something that is going to happen in a certain way – specifically, something that will be accepted by the average person*". Consequently, by aggregating contents collected in these two definitions, we can interpret the concept of trend as a change, an anomaly, a deviation from the norm of some significance, over a given period of time. These deviations, by nature, tend to involve people, affecting their ideas and behaviors, and to evolve differently according to the context in which they occur.

The real value in trend analysis derives from the identification of implications for business as well as interrelation between trends. An isolated trend, in fact, is not a great predictor alone, because it may be affected by other trends (and vice versa). Thus, the hardest aspect is connecting the dots so as to allow the detection of changing paths and emerging opportunities. For example, the trend related to increasing consumers' demand for safe and nutritious food does not in itself guarantee future opportunities; however, if change in consumers' demand is combined with the trend of sustainability awareness related to nonbiodegradable waste, it is assumed that in the future the innovation in packaging technologies, offering biodegradable alternatives, will be an opportunity to transform food industry (Adesegun Kehinde et al., 2020).

Weak signals

Companies often face demographical changes, technological progress, new competitors and regulations and other environmental changes that seem to appear mysteriously (Day & Schoemaker, 2005). Weak signals are warnings that could appear in different context (technological, social, political, etc.) and have the potential to strongly impact the business environment. A recent claim of Ansoff, pioneer of weak signals, highlights the imprecise nature of such indicators which, at high speed of change, may be ignored by the firm until it is too late to respond efficiently (Ansoff et al., 2018).

The perception of weak signals is, then, necessary in order to minimize the response time to emerging threats or opportunities. In an ever-changing world, the time of reaction tend to be shorter and shorter, and simultaneously, the outside environment and the organization itself are becoming increasingly complex. As consequence, the firm needs to

respond continuously and prematurely to a new state of awareness (Schoemaker et al., 2013).

Moreover, some scholars contested the main accepted characteristic of weak signals: they are defined as a hidden issue whose emergence is linear (from a rudimentary stage to a recognized widespread); however, such linear progression is not always real. For this reason, the challenge of the observer is to changing position from which the signal is analyzed, in order to avoid a bounded perspective affected by the context of the observer himself (Ahlqvist & Uotila, 2020).

1.4. The evolution of scenario planning

Once identified a trend, the work of a forecaster is not finished. While the analysis of emerging trends is aimed at identifying the developments and changes which influence the social, economic and technological tissue, the scenario planning is defined as the activity through which it is attempted to assess the extent and especially the future manifestations of such impact (Lindgren & Bandhold, 2009). Therefore, if for instance an analyst identifies the emerging demand for national products, the person who deals with scenario planning (and often the two roles coincide) will investigate on the effects of such demand shift on reality, the implications that it will have on consumer behaviors, on how the world of retail will be affected and so on.

The activities of anticipation (i.e. forecasting and foresight) and scenario planning have, actually, lot in common, such as being comparable to social sciences, given the rate of uncertainty that characterize them and their field of research; moreover, they both rely heavily on intuition, even if some quantitative practices are used in an attempt to legitimize the results obtained (Cook et al., 2014). On the other hand, the big difference that distinguishes them is the object of their analysis: while foresight investigates on the driver of change, namely the emerging trends, the scenario planning is focused on the study of possible consequences caused by such phenomena. From this assumption derives a fundamental consequence, which is that, if foresight is characterized by a significant degree of randomness, the scenario planning (based on the results obtained by trend analysis) is entirely structured on uncertainty and awareness that it is impossible to predict, with mathematical certainty, what will happen in the future, but it is only possible to make assumptions or simulations of context evolution.

As already mentioned in the previous chapters, the scenario planning is an approach that has been applied for the first time in private sector at the Royal Dutch Shell company by the French manager Pierre Wack. With the support of his strategic planning team (which P. Schwartz was also part of), he managed to anticipate both the first and the second oil shock in '70, bringing the company from the eighth to the second place in the ranking of oil giant companies.

Wack's modus operandi was completely groundbreaking for those years: he promoted a thorough analysis of the three groups of crucial players in the oil sector (the OPEC, producing companies and political leaders of importing states), making an identikit from the point of view both of interests and emotions, also including an intellectual perspective (Kleiner, 2008).

Wack himself, in an article of 1985 published in Harvard Business Review, stated: "Scenarios deal with two worlds; the world of facts and the world of perceptions. They explore for facts but they aim at perceptions inside the heads of decision-makers. Their purpose is to gather and transform information of strategic significance into fresh perceptions." (Wack, 1985).

Another important contribution to the theory of scenario planning was the one of abovementioned Peter Schwartz, writer and American futurist. In his paper "The Art of the Long View" (1991) he first described the process of scenario planning through nine fundamental points. In 2005 then, P. Cornelius, A. Van de Putte and M. Romani, all former analysts of Shell, published an academic paper describing all procedures and theories consolidated over thirty years of experience at Shell and, among other things, the paper contains guidelines that every analysis of scenario should follow (Cornelius et al., 2005). It consists of a collection of precepts which could be summarized in six different points that are given below.

The first step for a proper scenario analysis is the isolation of emerging trends, called in this context "drivers of change". On this subject much has already been said in the previous chapter devoted to trends; in this phase, the enormous amount of collected data needs to be reduced to a few, clear and critical insights, outlining emerging trends that are more likely to be significant to the analysis under question, without running the risk of being misguided by unnecessary information.

Secondly, the previously collected drivers of change and other important information identified in the first step are put together in order to create a coherent and contradiction-free working framework. This is necessary because collected information and isolated trends not always suggest the same change pattern, and they may lack of a common structure allowing a consistency between each other. For instance, it could happen that a technological trend seems to result in a market change, but at the same time there are other drivers of change, maybe of political or legislative kind, that are opposing such change.

Therefore, the method proposed by Shell's analysts consists in subdividing the set of all trends and information in small groups (usually from six to eight) - named micro scenarios – on the basis of criteria of coherence and pertinence of each element with the others: by doing so, subsets of information, coherent and without contradictions, will be isolated. For this purpose, the skilled analyst must be able to determine the level of correlation between drivers of change, in order to place them in their corresponding micro scenarios.

The third step consists in the development of micro scenarios. In order to do that, connections between drivers of change and information collected within each subset need to be further studied, hypothesizing a systematic future vision. Hypothesis must be carried with regard to behaviors and reactions of parties involved in the evolution of diverse subsets. Finally, differences and analogies among micro scenarios are analyzed, questioning about the critical determining factors.

In the fourth step the selection of micro scenarios is conducted, leading to a reduction of scenarios from six/eight to two/three. This operation is put in place both by discarding, through the intuition criteria, scenarios appearing more unlikely or uncoherent, and gathering then the more similar in more complex scenarios (called macro scenarios). The reason why this selection is made has more practical than theorical justifications, in fact, according to the majority of scholars, three is the maximum number of scenarios managers and CEOs would be able to cope with. From the point of view of forecasters, the same number is considered to be plausible because it allows to consider a wide range of options, without running the risk of excluding what is really important.

Moreover, an increasing number of academics, among them the authors of "Three Decades of Scenario Planning in Shell", argue that macro scenarios should complement one another, which means they should jointly cover almost all drivers. The situation in which macro scenarios are opposites (for instance, the simplistic view where there is only a good scenario opposed to a bad scenario) should be avoided as well, in order to exclude the risk of single-track forecasting, i.e. the excessive focus on a single possible evolution, whether good or bad. To be clearer, for instance, in the mid '90s, the scenarios proposed by Shell's forecasters were titled "Just do it!" – where the individual creativity is the key for success – and "Da Wo – (Big Me)", proposing a world in which the value of individual is strictly linked to the welfare of community as a whole (Shell Global, 1996).

The fifth step consists in the adaptation and writing of scenarios. The former occurs in accordance with the business logic of the client (if there is one), or according to planners' a priori objectives of analysis; whereas the latter should be characterized by clarity and comprehensibility for final user, who is usually a manager or a top executive. In this respect, the literature agrees on the fact that the active participation of final user in the writing phase should be encouraged.

And finally, the sixth and last step concerns the study of effects which would arise in the event that scenarios built in the previous steps came actually true. For this purpose, in the first place, crucial consequences implied by each scenario – according to a cause-effect logic - should be identified. Then, on the basis of obtained results, the person who commissioned the scenario analysis should elaborate a strategic response which is consistent to each of the possible situations. In this way, the organizational reaction to change is going to be rapid and unique, avoiding, or at least minimizing, the risk of being taken by surprise.

The method, consolidated over years of work at Shell, can be better understood through the words of P. Schwartz (1991): "*Stories that can help us recognise and adapt to changing aspects of our present environment. They form a method for articulating the different pathways that might exist for you tomorrow, and finding your appropriate movements down each of those possible paths".*

1.4.1. The downside of scenarios

Scenario planning had been then widely recognized in the business world over the last thirty years: in '99, less than 40 percent of listed companies used scenario planning techniques; and only ten years after, the rate had already risen to about 70 percent (Rigby & Bilodeau, 2009). Moreover, as a result of the pandemic outbreak characterizing 2020, consulting firms, institutions and big and small enterprises has experienced the necessity to look at the future – which is in these times dark and confusing - by speculating on possible scenarios, in an labored attempt to give meaning to the last events and their consequences for business and society.

Despite the popularity that scenario planning techniques have gained especially over the last decade, it must be said that they may suffer from some structural limits that should not be underestimated (Roxburgh, 2009).

First of all, it should be mentioned that, in a business environment, taking into consideration a wide range of possible scenarios could undermine the leadership, creating confusion and lack of confidence in relation to an uncertain future. This is partly due to the fact that presuming to know what the future will bring gives more confidence about the choices made in the present, as a sort of survival strategy. For this reason, the presence of various possible scenarios could discourage companies from having a clear plan.

Secondly, the scenario planning process consists of, as described above, determining and identifying two or three more possible scenarios; however, the optimism bias, defined as the human tendency of overestimating the likelihood of positive events (while, on the contrary, odds of negative events remain underestimated) (Sharot, 2011), may affect also the process of scenario identification, leading to a reliance on an excessively narrow (and optimistic) set of outcomes. In this sense, the trustworthiness of a scenario set can be proved by identifying some extreme events, characterized by low-probability but with high-impact outcomes (like, for instance, a pandemic), from the last 30 or 40 years and detecting whether the scenario set includes something similar. If it is true that firms should not act in accordance of low-probability events, they still must be sure of their survival even in high-severity cases, thus such possibilities should be acknowledged and constantly monitored.

Lastly, scenario planning techniques and results are hardly compatible with other planning procedures, especially the ones related to financial aspects (i.e. budget), that, besides being structured on a collection of quantitative data, provide for one and only future. In this respect, the flexibility of scenario planning techniques is far from being suitable for financial planning ones, which, though relatively ductile, do not include the existence of multiple scenarios.

1.5 The corporate foresight

Anticipating the trends of the future is an important key point for organizations aiming at keeping a competitive advantage, especially in an uncertain and unsafe context. Nowadays, the business environment and the market change in unpredictable manner, involving numerous actors and variables that are complex and interrelated one another. Moreover, socio-cultural, political and economic trends evolve quickly, generating repercussions in all field: changes in consumers' lifestyle and needs not only lead to adaptation and development of products and services (Postma et al., 2012), but influence other spheres of business. Many companies, for instance, find themselves investing in green energy in order to satisfy consumers' need for sustainability, others view their market share decrease due to revelations about condition of their workers, small and medium enterprises invest in digitalization to meet online potential customers.

The beginning of 21st century saw the necessity of providing tools to assist companies in managing the change, facing complexity and reducing uncertainty. In this sense, emerging studies of the future allow, in corporate field, to identify and analyze weak signals, trends, element of change and disruptive events. The objective of such studies does not regard only the prediction of potential competitive threats, but it also involves the recognition of new opportunities of growth and development.

When foresight is applied in business field, it takes the name of Corporate Foresight. It could be defined as an organizational skill that looks at the future by adopting a long-term view (Rohrbeck et al., 2015) identifying threats and opportunities, coming into contact with the political, socio-cultural and technological context in order to support the strategic-decisional process and innovation (De Toni et al., 2015; Von der Gracht & Stillings, 2013), investigating new business models and generating future scenarios (Peter & Jarratt, 2015); the corporate foresight, then, looks at the business environment

and evaluates technological progress, analyzes future developments of behavior of both competitors and consumers, all this while keeping an eye on changes on politics and legislative elements. Through obtained predictive results, it is intended to reduce decisional uncertainty and allow an efficient management of complexity.

Many scholars of future studies tried, in the past, to detect a clear definition of foresight in business (Gordon et al., 2020). One of the most famous definition has to be attributed to Schwartz (1991), already cited as one of the main contributors of scenario planning, who defined foresight as "the art of the long view". Other authors put the emphasis on the strategic nature of CF, considering the corporate foresight an enriching component of strategy planning, not an alternative to it (Conway, 2004): for instance, the application of strategic foresight techniques could assist in the exploration of new business fields (Heger & Rohrbeck, 2012). Moreover, the important role of corporate foresight could be expressed in competitive terms, since the ability of companies to anticipate trend results in outperformance in the industry, superior profitability and market capitalization growth (Rohrbeck & Kum, 2018). All in all, the key concepts of corporate foresight, namely strategic support and prediction ability, are accompanied by goals such as innovation creation and continual learning (Boe-Lillegraven & Monterde, 2015).

Following these definitions, it is possible to highlight some important point. First of all, many authors consider the corporate foresight as a process, not a mere ensemble of tools and techniques. This processual nature allows foresight practice to get rooted on organizational ground, acquiring managerial consideration. Secondly, many researches are based on the idea of different future scenarios: the direction in which a company is developing depends on decisions that are taken today. This causal effect stems from the acknowledged role of foresight in supporting organizational decision-making process.

Last but not least, the emerging correlation between trend identification, innovation and business environment is the focal point around which this research is conducted. In the light of this evidence, it seems clear that the main objectives of corporate foresight implementation include strategic support, push towards innovation and consequent adaptation of business model.

1.5.1 The point of view of strategy

A firm's strategy is supposed to be up to date with changes in business environment or internal knowledge and progress. For this reason, when speaking about strategic management, we consider the ensemble of analyses conducted, decisions taken and actions implemented by the firm to attain its overall scope and create value (Johnson et al., 2008). Strategies are then assumed to be adaptive and not permanent, since their scope is to collect feedbacks on the ongoing progress and create a subsequent action plan to it. For this purpose, a deep understanding of change occurring in both external and internal environment is necessary to strategy and its management (Pröllochs & Feuerriegel, 2020).

In the business literature, an enduring topic of interest has been dedicated to the process of adaptation of business to external environment change. The topic has been gained prominence since examples of established firms that failed to adapt effectively can be easily found in the present day (Nokia, Abercrombie&Fitch, BlackBerry among the others). In this sense, some researches claim that such failures occur when facing a discontinuous change in external environment (rather than an incremental one); the discontinuous nature needs a reconfiguration of existing ways of working combined with an adjustment of the value creation process required to gain competitive advantage in the chosen industry (Birkinshaw et al., 2016). As consequence, factors of long-term success include strategic flexibility and dynamic skills aimed at defining and tackling discontinuous change in the environment.

Change awareness is clearly a prerequisite for a successful response, and, in this sense, the corporate foresight may be seen as a useful tool to anticipate a discontinuous change. Moreover, it could be a mechanism to counterbalance firm's inertia (Harper, 2017): by questioning outdated and redundant systems, it shows alternative paths to development and stimulate trend recognition (Pröllochs & Feuerriegel, 2020).

At the end of last century, a new model of strategic management is conceived in relation to the emerging trend of exploring uncertain and possible futures (Ansoff, 1980), undermining the obsolete definition of strategic management as a mere planning of firm's transition towards a new desired state. Following the Royal Dutch Shell case discussed in

the previous chapter, the introduction of scenario planning approach introduced a new idea of future as that could not be planned because of its uncertain nature.

Consequently, Shell replaced its strategic planning with scenario planning; this approach enables the identification of possible future scenarios and the subsequent evaluation of current action in relation with them (Shell International BV, 2008). This shift coincided with the substitution of prediction with the exploration of possible changes (Schwarz et al., 2019).

Considered a key input into scenario planning and strategic change (Ben-Menahem et al., 2013; Sharma & Yang, 2015), the environmental scanning is defined as the process of information collection implemented by a firm when dealing with the external environment. This practice is being used to create knowledge about both direction and significance of an external emerging change; in order to cope with uncertainties and improve the competitive position, the management is assumed to scan the context in which the business is supposed to survive and proliferate (Du Toit, 2016). The most attentive firms frequently scan the environment, using a wide range of information sources and customizing their scanning system for specific contexts application (Robinson & Simmons, 2018). As consequence, the environment is taken as source of information for future orientation, and in this sense, some already mentioned concepts such as “trends” and “weak signals” come to light. The integration of information coming from the environment is positively correlated with company’s performance, defined in terms of competitive advantage (Lewin & Volberda, 1999); it is then applied to alternative-exploration and decision-making processes.

As mentioned above, managing the business in discontinuous change is a hard challenge, considering that the life of company may be characterized by long periods of slow and incremental change and short time of rapid and discontinuous changes; only these last ones are assumed to lead to the majority of organizational transformations over most or all domains of company’s activities (Romanelli & Tushman, 1994).

In relation to the concept of discontinuous change, the notion of ambidexterity has become quite popular and it is defined as the organizational ability to handle mutually conflicting demands in an effective way (Birkinshaw et al., 2016): this approach could

provide insight into the trade-off which arises from the need to explore new opportunities and the need to continue to exploit existing markets and resources.

Moreover, a concept linked to ambidexterity is the one of resilience, factor that enables organizations to avoid failures in high risk environment; some characteristics of resilience are described as failure concern, reluctance to simplify interpretations, information sensibility and reliance on knowledge derived from experience (Annarelli & Nonino, 2016).

There is, therefore, a *fil rouge* that joins ambidexterity and resilience: the ability to collect information from the external environment and anticipate change. In this sense, corporate foresight may be seen as a prerequisite for these two approaches, or as a practice to develop these skills.

The concept of assigning meanings to events and actions of organization that create discontinuities in experience acquisition was defined by management studies of Weick (1995) with the notion of sensemaking, which involves "*the ongoing retrospective development of plausible images that rationalize what people are doing*" (Weick et al., 2005). In the context of strategy, the activity of sensemaking is combined with the interpretation of business dynamics and discontinuous events to whom the manager tries to give new meanings, in order to implement them in organizational knowledge and activities. This concept, indeed, is obviously bounded to the one of corporate foresight, as both refer to environment perception and information collection, useful to organizational courses of action.

As last level of analysis, the decision-making process is clearly connected to corporate foresight in highlighting the importance of anticipation for strategic management. Decisions tend to be a result of a complex and multilevel process, instead of a linear, conscious and rational information processing; needless to say, in organizational context, many factors, both external and internal, may affect the rationality of decision making process (Shepherd & Rudd, 2014; Vargas Hernandez & Ortega, 2019). Early studies have already investigated the trade-offs arising for companies in high-velocity environments, highlighting the following three main paradoxes: firstly, the need for caution in taking main decisions, but, at the same time, necessity for a quick choice; secondly, a right combination of power between CEO and top-management board; and finally, a difficult

balance between risk and innovation exploration and implementation of an incremental and safe course of action (Eisenhardt & Bourgeois, 1988).

Moreover, the corporate foresight considers participation as a crucial point in the implementation of objectives resulting from foresight activities: their success is indeed ensured by the integration of experts and decision makers in the strategic process (Öner & Göl, 2007). In addition to this, some mechanisms of foresight research should be used to meet the growing expectations of stakeholders and be aligned with corporate context (Schweitzer et al., 2019; Silva et al., 2019)

1.5.2 The point of view of innovation

The perspective of innovation management refers to how companies can build structures and take actions in order to create new products, change internal process and open up new markets with the aim of long-term competitiveness (De Toni et al., 2015). In particular, some researches explored and suggested ways in which firms may attain and sustain competitive advantage through innovation:

- investment in new technologies (Dong & Netten, 2017; Yu et al., 2020);
- processing of a market potential need in new product and services (Cloughton, 2020);
- implementation of both internal and external R&D projects to benefit from new opportunities (Audretsch & Belitski, 2020);
- creation of conditions for adequate management of knowledge (Donate & Sánchez de Pablo, 2015; Ode & Ayavoo, 2019);
- motivation and engagement of creative individuals in knowledge sharing (Mazzucchelli et al., 2019);

In the context of change, important concepts that need to be defined are the ones of radical and disruptive innovation. Studies on radical innovation seek to understand what abilities and practices are needed to be put in action in order to develop a new product or service which beat the competition (McDermott & O'Connor, 2002), as well as processes aimed at dynamically manage both external and internal capabilities from which the firm could benefit; by definition, in fact, an innovation is defined radical if it represent a

revolutionary change from what is the existing practice, as a consequence of high degree of new knowledge embedded in the process (Dewar & Dutton, 1986).

The disruptive innovation was defined by Christensen (1997) starting from a technological point of view: it is firstly introduced by a niche market and it brings new benefits for consumers. Moreover, its performance, initially, is not adequate to the emerging technology itself; this performance, however, is increased gradually until it overtakes existing technology and reaches the principal market: at this point, the new entrant has substituted the incumbent company.

The first relevant aspect deriving from literature is the role of companies' openness in innovation management: in later studies, the focus is on the importance of execution of radical innovation processes in a multidimensional, multi-stakeholder context (Van Lancker et al., 2016). Therefore, the dominant corporate mentality is a key factor of success: if it is aimed at opening outside the boundaries of the firm, it could develop inbound processes of knowledge sourcing and acquisition aimed at triggering innovation; in this sense, inter-organizational collaboration has become an increasingly important way for firms to improve their radical innovation (Xie et al., 2018).

This perspective of collaborative innovation, combined with the one related to network, has given rise to the concept of open innovation; in particular, it is identified as the organization's ability to perceive and feel the change and, as consequence, acquire resources needed to achieve value creation by promoting, for instance, high product innovation (Xie & Wang, 2020).

Moreover, the concept of absorptive capacity has been stressed since the end of last century (Cohen & Levinthal, 1990) in order to demonstrate how companies could develop their ability to acquire new skills and use them to create a competitive advantage. Recent studies demonstrated the positive correlation between absorptive capacity, organizational learning and ability to innovate (Gao et al., 2017; Song et al., 2018); this relationship may be increased, in turn, by environmental scanning (Kim & Skaggs, 2017), simultaneous cooperation and competition between firms, named coopetition (Fredrich et al., 2019) and by formation of foreign collaborative agreements (D'Angelo et al., 2020).

Another important aspect is related to the company's willingness to cannibalized (WTCA) combined with the willingness to combine existing knowledge: even if considered

traditionally opposite, they both influence the firm's ability to generate radical innovations (Harmancioglu et al., 2020). In particular, the WTCA existing products may help in providing motivation to invest in R&D, thus achieving radical new product development (Chandy & Tellis, 1998).

Lastly, some studies claimed that while incremental innovation can be implemented with a top-down approach, radical innovation is generated from individuals; only after having decided where the project development is to be made, the innovation can reach the organizational level (Reid & de Brentani, 2004). In this sense, the success of radical innovation can be achieved by efficiently motivate key individuals; an high level of individual commitment of team members, indeed, results in rising engagement in innovation process (Farnese & Livi, 2016) .

Another individual key role for radical innovation has been identified in boundary spanners and gatekeepers (Reid & de Brentani, 2004; Le Gallo & Plunket, 2020), both involved in the process of collection of external information which is then translated in corporate language. Key individuals should also be able to participate in activities of scenario planning (Rohrbeck et al., 2015) and, in this sense, later studies introduced a new concept named collaborative foresight, a process in which different companies join a common foresight project related to a specific research field. In this way, know-how about the future is generated together and then used on a single company level (Gattringer et al., 2017). At company level, foresighters are in charge of pursuing foresight activities and facilitate the transition from weak signals to trends and finally spur to action (Rohrbeck, 2010).

Thus, in order to manage successfully the discontinuous change, the most evident skill is the ability of anticipation (namely foresight), as known as the ability to collect information on impact and direction of emerging discontinuities. In this sense, to gain a profound awareness of invisible future issues, it is crucial to companies to identify trends, investigate the external environment and promote a collaboration between actors (Cagnin et al., 2013). In particular, later studies (Gattringer et al., 2017; Wiener et al., 2020) claim that collaborative open foresight is helpful in promoting an out-of-the-box thinking - that collide with static path dependence - resulting in increased innovative potential.

The basic assumption of corporate foresight is, not surprisingly, that an early detection of external change may allow the firm to benefit from an advantage in terms of time (Von der Gracht & Stillings, 2013) and to increase the competitiveness in general (Heger & Rohrbeck, 2012).

In this chapter the concept of corporate foresight and its implications for companies' strategy and innovation has been analyzed and highlighted. However, in order to have a clear vision of the element composing the organization that may be affected by the corporate foresight, the focus is shifted to business model definition and analysis.

Chapter 2. Theoretical focus on Business Model

Despite lacking a unique definition, the concept of business model is a real point of reference for anyone who operates in or investigates on the process of value creation put in place by companies. In a context of a global pandemic, the cards on the table has changed dramatically, and a new emerging era cannot be ignored by organizations: in this sense, the business model helps in identifying the activities that should be implemented and others discarded to successfully navigates through discontinuous paths. For this purpose, the study of the future, that has taken the name of corporate foresight in the previous chapter, is combined with business model; the latter can be further developed by analyzing the elements that compose it, through the study of Business Model Canvas.

In this chapter then, the concept of Business Model is introduced and subsequently compared to the concept of strategy. Moreover, by considering the last report of McKinsey&Company (2020) on the impact of Coronavirus on business environment, the challenges of the future are presented; in this sense, effects of corporate foresight in organizational activities are considered and discussed in detail. The last chapter analyzes the concept of Value Triangle and Business Model Canvas proposed by Biloslavo et al. (2018) and how business elements are combined to create value.

2.1 Introduction to Business Model

In order to understand the notion of business model, we can start by considering how the success or failure of any business can be measured by the company's ability to create value to its customers; that is, being able to satisfy an unmet need or solve a problem. In this sense, the first step to be taken to improve firm's strength, launch a new product/service or to run a startup, is the one aimed at determining exactly what need to be done, how it should be done and the target the company is creating value for: to make it simple, it is necessary, for a firm, to create its own model of business (Osterwalder & Pigneur, 2010).

The business model (BM) is the set of organizational and strategic solutions through which a company acquire competitive advantage; moreover, in a context of continuous business transformations and complex environment, a model may help the company as a

whole with the implementation of change, necessary to survival (Bridgeland & Zahavi, 2009). In particular, it supports the determination and disclosure of company's target customers, unique competencies, resources and key stakeholders, as well as its distribution channels and costs structure. With the words of Alexander Osterwalder, creator of the Business Model Canvas: "*A business model describes the rationale of how an organization creates, delivers, and captures value*" (Osterwalder & Pigneur, 2010). Therefore, it is important to stress that the abovementioned value refers to the one perceived by the consumer, given by the difference between benefits and costs, and that the consumer-oriented approach is to be constantly applied in the realization of business model in every context. For instance, in recent years, due to technological progress resulting in easy access to enormous data amount, costumer data analysis has been proven to be an important key of competitive advantage, attained through the development of a cohesive and consumer-oriented value proposition at the basis of innovative business model (Michalik et al., 2018).

In addition to the contribution of Osterwalder, many other studies were conducted with regard to BM, and as many are the definitions and classifications included, such as:

- a statement or description of how company makes profit (Stewart & Zhao, 2000)
- a representation of value creation process inside the firm (Fielt, 2013)
- a conceptual tool reflecting the business logic of a specific firm (Osterwalder et al., 2005)
- an organizational design aiming at seizing commercial opportunities (George & Bock, 2011)
- a structure governing transactions between external and internal environment (Saebi & Foss, 2015)

The first emerging consideration is therefore the lack of a singular and universally-recognized definition of business model, that in times assumed different shades and meanings; secondly, the distinction between business model and strategy is widely acknowledged (Shafer et al., 2005), even if in some cases the two concepts may be considered as synonyms, due to their close interrelation.

2.1.1. The link between strategy and business model

In a value creation perspective, what has been said so far highlights a very important aspect of business model, the starting point of its composition: the connection with corporate strategy. Following the abovementioned definitions, a BM should be designed to combine the most delicate aspects of strategic planning and implementation, such as available key resources and core activities that these resources are called upon to perform, the organizational structure and its relationship with external factors. Thus, a business model is nothing but a reflection of strategic choices made by the organization, and, in itself, it allows the analysis, test, validation and implementation of such choices. In other words, while the strategy tells you what to do, the BM focuses on how to do it; it enables, in fact, the discussion shift from the abstract to the concrete, by promoting the dialogue between business actors and the creation of a shared language (George & Bock, 2011).

The success of a strategy rests on a high consistency which is expressed in each constitutive element and the respective relationship between one element to another, shaping a single system. In this sense, the BM is the ideal tool to verify the presence of such alignment that, in most of cases, leads to positive economic outcomes. First of all, the ability of anticipate and meet market's needs through an efficient value proposition may result in an expansion of market potential and a reduction of excessive market concentration (Yun et al., 2016), laying the foundation for technology variety (thus, innovation) and competitive advantage. In particular, the punctual identification, through a long term view approach, of resources and competencies in which to invest allows to take a differentiation advantage from competitors, thanks to innovation-oriented interventions which give rise to emerging outcomes in terms of performance and value (Cosenz & Bivona, 2020). Secondly, an accurate management and continuous monitoring of key processes, combined with the ability to build a network with external actors (crucial for the implementation of value proposition) can be translated into a reduction of operating costs along the entire value chain.

Hence the majority of studies in this field, while stating that concepts such as strategy and business model are distinct, support a close connection between them. A recent empirical research demonstrates that the alignment between BM and strategy could help in

promoting a better organizational performance, particularly in turbulent environment. In the same vein, the BM has been defined as the reflection of corporate strategy (Mazzarol & Reboud, 2020); similar definition was proposed by Bagnoli in his recent work "Business Model 4.0" that points out: "*the business model reflects what the management believes customers want, how they desire it and how the organization can be arranged to better meet their needs and make profit*" (Bagnoli et al., 2018). In the final analysis, the BM allows to analyze, test, validate and, where necessary, redefine the strategic choices of organizations, sharpening the capacity of corporate players to dominate the present and anticipate the future, characteristic that, in the middle of a pandemic, is necessary to face the challenges of a more and more uncertain near future.

2.2. The "Next Normal" in business

In a context of an economic and social revival that still seems difficult to achieve at the time of writing, resulting from the Covid-19 pandemic, the business environment is experiencing the development of an evolution that - while in some aspects it is taking completely unexpected paths and not-yet-defined implications – has only confirmed some of the trends already predicted in previous years. The last report of McKinsey&Company (2020) acknowledges that companies are faced with important challenges that results from the following trends:

1. the metamorphosis of demand, especially the one which refers to the universe of online sales that, although not new, has experienced an increase of users' number as well as a new pattern of consumer behavior, that is easier switching among brands;

2. the world of work is rapidly adapting to the new context, and in order to do this, new skills and competencies are required (i.e. remote working models, physical stores moving online), while at the same time social distancing measures are threatening traditional jobs;

3. the exacerbating decline of confidence in free markets' ability to distribute wealth may cause many governments to promote local economies and to create new regulations affecting global supply chain and manufacturing sector;

4. last but not least, the evolving understanding of virus that could affect in different ways the recovery of normal life conditions, in particular in providing adaptable responses on

safety measures that need to be implemented (i.e. lockdown measures reinstitution, vaccine candidate's reception…)

Such emerging trends, combined with the high level of uncertainty of the business and social context of the present time, are now more than ever highlighting the importance for the companies to be up-to-date and continuously ready to react to change in the shortest possible time. The concept of corporate foresight and, in general, the ability of companies to efficiently anticipate the future which has been widely discussed in the previous chapter, should necessarily be reflected in the companies' value chain processes and "way of doing things". This assumption lays the foundations for a change in business model, that, in combination with strategy, allows the firm to create value and make profit even in context of discontinuous change.

2.3. How the study of the future affects business model

It can without any doubt claimed that emerging megatrends identified by McKinsey&Company (2020) are going to influence in different ways and at diverse extent the organizational structure and activities as well as its business strategy. This kind of large impacts are thought to offer several opportunities that the manager or entrepreneur should be able to grasp and exploit in order to gain additional market share or, in some cases, ensure organizational survival. However, the trends may also pose threats, which need to be faced in order to maintain competitive advantage and reduce risk of failure.

For this reason, the opportunities offered by emerging trends must be completely and accurately investigated. As discussed above, the literature has identified several analysis tools; all insightful information is collected and analyzed by different methods, that may be quantitative (i.e. past report and papers analysis, collection of statistical data) or qualitative (i.e. organization of meeting groups, meeting with experts…).

The diamond of Popper (Popper, 2008a) is a tool identifying 33 methods, and their respective attributes, to practice the activity of foresight, from information collection to delineation of possible scenarios. The procedures of scenario planning, as already discussed in the dedicated chapter, consist of identifying different scenarios, resulting from a process of definition and analysis of trends, or drivers of change, which are then appropriately based on the company's needs and possibilities. In this phase, the question

is the following: “what could happen to my organization?”. The possible impacts on business organization, business model (and its composition) as well as the whole sector functioning are therefore studied and plotted. This implies that, starting from this stage of foresight process, the company defines how to face the changes that lie ahead: for the more farsighted companies, this is translated in the introduction and development of a new innovation (Von der Gracht & Stillings, 2013).

The introduction of an innovation or a change involves the largest part of business organization, and depending on the trend or scenario considered, the change could affect different aspect of the firm. It is undoubtedly reflected on business model, causing a change in the logic of creation and deliver of company value (Osterwalder & Pigneur, 2010): trends, in fact, mainly impacting on the sector and market environment in which the company operates, have consequent repercussions on offered product, production process and business model. Recent empirical researches investigated how and in which area the corporate foresight creates added value inside the business (Battistella, 2014). In particular, corporate foresight supports different organizational activities, which are described in the following sub-chapters.

2.3.1 Anticipating and sensemaking

The activities of anticipation and sensemaking are referred as the monitoring process of surrounding environment and the prevision of its possible evolutions. With the purpose of pursuing these objectives, the company acts on three main fronts: the search and identification of weak signals, the development of a peripherical vision and a clear trend analysis. The effects are mainly uncertainty reduction and information collection – whose appropriate insights are made available inside the organization. In this sense, the concepts of early warning, sensing, peripherical vision and trend identification play a crucial role in promoting foresight inside the business organization:

- the early warning refers to the ability to obtain information about potential disruptive changes in advance. In this regard, some companies produce reports that identify and discuss emerging technologies, socio-cultural trends and new business models with disruptive potential. This is made with the aim of information sharing: the reports are distributed throughout the company, and they can be succeeded by a process of follow-up.

- the environment sensing stands for signals perception and interpretation.
- the peripherical vision is the firm's ability to look further than the end of its own nose and perceive changes also in contexts that are not purely relating to the company and its sector - changes which may still be relevant for the belonging business. The activity of foresight increases the attention toward external and peripherical environment, therefore increasing these capacities.
- finally, the identification and interpretation of trends are used to extend the view of the world and, more importantly, to push the generation of ideas for new product development.

2.3.2 Supporting the decision-making process

The strategy is composed by a set of decisions which are often relevant and irreversible, taken with the aim of managing the growth and development of a company in the medium to long term. For this purpose, the strategy's formulation lies in deciding the company's objectives, meaning in which sector it should compete (i.e. corporate strategy), and its position within the sector, meaning which kind of competitive advantage it should purse and by what means (i.e. business strategy). The strategic plans link the present with the future, namely a plan extrapolates the future in the present. As decisions cannot be taken without a future perspective, the decision-making process is mainly future-oriented. At the same time, the strategy is strictly related and bounded to the analysis of future evolution of sector and environment. Exploring the latter to foresee future potential opportunities and threats becomes then a challenging and fundamental task supporting the strategic decision making process, and mastering such practices has been demonstrated to increase firm's ability to react to change in a faster way (Schoemaker & Day, 2019).

The corporate foresight was founded historically with the aim of providing important insights for the definition of strategic choices, and nowadays it is increasingly used in this sense (Schwarz et al., 2020). The use of foresight techniques such as scenario creation, in fact, enable decision-makers to try to evaluate the future and create trust; this makes possible to reduce the uncertainty in making certain decisions and facilitate the launch of new processes of change (Hillmann et al., 2018). Such claims are supported by the fact

that the scenario technique, nowadays, is used as a support to strategic planning (Vecchiato, 2019).

However, despite the high degree of importance attributed by the literature to the bond between strategy and foresight, not all companies adopting the CF actually establish a strong link between the two processes. In a research conducted on a European basis (Becker, 2002) it is highlighted, indeed, that the final aim of decision support given by foresight is manifested in the organization on three levels:

- direction setting. In this case the foresight has the purpose of determining organizational guidelines on a very general context and the results are then disclosed as guidelines to those in charge of defining corporate strategy;
- priorities determination. In such a case the foresight is more specific, and it is carried out when specifically concerning certain issues on which the company must take decisions;
- strategy formulation and implementation. It is the higher degree of correlation between foresight and strategic-decisional activities because of the clear and constant link; every decision is taken on a valuation resulting from foresight studies, the attitude is more proactive, the activities of foresight are more specific and the output becomes direct input of decision-making process.

The corporate foresight helps then to improve the decision-making; since it provides additional information to decision makers, the quality of decision can be increased, expanding the time horizon of decision's impact.

Lastly, the final effect is about decision prioritization: given that managers have a limited available time for thoughts about future and impact of decisions, the foresight allows the recognition of changes with disruptive potential and enables a scenario thinking approach, thus opening the mind and widening the range of possibilities.

2.3.3 Fostering innovation

The functions of innovation, as well as the ones of research and development, can be seen as internal beneficiaries of a CF process; to be clearer, the activities of foresight are not just aimed at anticipating events, supporting strategy and creating a feedback of strategic re-planning, but they also provide useful and significant insights relevant to innovation.

It is often assumed in literature (Adegbile et al., 2017; Von der Gracht & Stillings, 2013), in fact, that scanning activities and studies on weak signals, emerging phenomena and trends inevitably lead to a detection of insights mainly technological, but not only, which are able to stimulate the innovative process of already existing products and services and provide ideas and possibilities to develop new ones: the CF is therefore a trigger of R&D's projects.

For instance, the innovation management could use the projects of future exploration to identify the necessary skills and market opportunities. Alternatively, gap identification could lead to promotion of new R&D projects. The scenario planning can be used to identify the future of a trend, and then, more specifically, a series of products, followed by the detection of needed technological capacities and resources to implement the change.

The second element refers to the change in the actual product portfolio, areas of competence of the department of marketing or innovation management unit, depending on organizational structure and definition of functions of company in question. With the help of foresight results, the firm can detect the need for a change in costumer segmentation and, as consequence, realize that the current product portfolio is not in line with customers' needs.

Moreover, it is claimed that the process of foresight, if carried out properly, allows, thanks to its activities of external search, to connect the firm with other institutions (research centers, universities, other companies) and individuals (consultants) able to strengthen and continually fuel the engine of innovation (Wiener et al., 2020; Zeng et al., 2019).

2.3.4 Supporting change

One of the most challenging tasks for organizational managers, both of large and small companies, is the one referred to the translation of future developments in activities and decisions that need to be taken in the present to support change. Companies that experienced a discontinuous change in their sector are interested in increasing their ability to push to early answers, avoiding threats and size the opportunities.

It is expected that the identification of possible future with the help of scenario analysis can improve the ability of a firm to prepare for the change (Jahn & Koller, 2019). Such

projects of building scenario are not necessarily related to decision-making processes, but they are thought to be helpful in making the future uncertainty controllable.

Moreover, the activities of CF defy somehow the assumptions and basic business logic by showing to the organization its own limited robustness against the upcoming challenges. Foresight projects make possible to challenge the point of view of top management, contrasting them with the results and alternatives of future. Especially for projects aimed at the enlargement in new areas of business and activities of development of new product, it is important to frequently determine if the basic assumptions on which the success of development work depends are still valid.

2.3.5 Aligning the organizational knowledge

One of the basic assumptions of learning organization is that companies learn through the actions and experiences of their members. The organizations that acquire knowledge are the one who become aware of the link between adaptation, learning and change; they are indeed companies which are constantly adapting (Serrat, 2017).

The projects and reports of foresight contribute to organizational learning because they are able to channel the company's knowledge and promote common visions and terminologies. In this sense, foresight reports are used as glossaries and make possible a consolidation of organizational language. For instance, in turbulent sectors and inside big companies, there may be the risk of using a different vocabulary to describe the same emerging phenomenon, resulting in a deceleration of processes and an increase of the possibility of redundant activities. Therefore, the promotion of common terminologies could be seen as an added value. In the context of future anticipation, foresight reports are used by employees to be updated on emerging themes, especially the ones related to technology foresight (Battistella, 2014).

In order to support organizational ability to adapt, it is necessary for companies to increase decisional flexibility. Such flexibility, however, shall be only ensured through constant feedbacks that are regularly able to refresh the strategic planning. Considering the strict relation between strategic-decisional process and foresight, it appears clear that the latter could play a key role in determining the feedbacks necessary to re-planning. The role of foresight becomes then important in so far as it is a tool to gain knowledge also

through ongoing feedbacks, making it possible to strengthen the dynamic capabilities of each individual in the organization (Rhisiart et al., 2015). Moreover, it should be stressed that the corporate foresight results to be by definition a reflexive and self-learning process; this means that the errors are possible but they need to be acknowledged – that is, learning is an integral part of future (Cuhls, 2003). This makes the CF learning objective, related to strategy, to be clearer and natural (Bootz, 2010). Several authors claim that a very common-used foresight tool like the one dealing with scenarios is a process of communication and continuous learning that allows continued revisions of corporate strategy in the light of actual business environment (Schwarz et al., 2019; Walsh, 2005).

2.3.6 Establishing unusual networks

Another important impact of CF is that it supports the creation of networks and collaborations oriented to foresight; it allows the connection between individuals with different backgrounds, increasing the access to cultural and cognitive diversity (Wiener et al., 2018). Moreover, by establishing collaborations on long-term issues, it could favor trust increase in those same relations.

2.3.7 Promoting and communicating long-term view

Another important role that foresight is increasingly assuming is the one concerning firm promotion through a connection and identification of the brand with the future. In this sense, a value added is given by helping and supporting both public relations and investor relations teams: over the last years, in fact, the CF has acquired popularity as a tool to draw the figure of a "futuristic" company, able to shape the future and not only react to trends; in an era of dramatic changes, communicating to stakeholders that the company is prepared to change, or even able to drive it, may emerge as a winning factor. As consequence, the promotion of such message - by making public the foresight activities - then becomes a very efficient way to develop this idea (Daheim & Uerz, 2008). The CF can be thus applied with the aim of promoting and strengthening external brand image: for this reason, foresight reports are often used for communication purposes, and contribute to value creation for sales and marketing departments (Battistella, 2014).

Moreover, even if less commonly, the foresight may be also used in marketing field to enhance the firm reputation from the point of view of social commitment and

environmental concern, subjects which are particularly felt by post-Covid demand (McKinsey&Company, 2020). All in all, the organizational interest in foresight techniques and reports, the latter being properly put at the service of the public – it is the case, for instance, of companies like Siemens AG and its report "Siemens Vision 2020+" (2018) – are proved to be fundamental elements constituting "future preparedness", which allows the company to have the 44% odds to be an outperformer in its sector (Rohrbeck et al., 2018).

2.3.8 Creating new business models

The objectives of corporate foresight are then not only limited to strategic planning and innovation field (De Toni et al., 2015). Many times, foresight tools are, in fact, used in a broad sense inside strategy, in order to develop businesses investigating on future consumer needs, to look at the potential of new technologies and to stimulate accordingly new ideas of business. In this regard, the foresight process is responsible for delivering added value through the identification of new models of business, such as:

- redefinition of existing business model: foresight approach helps to understand whether the actual business model is in line or not with future trends and to identify areas of improvement;
- detection of new business areas to be implemented: foresight techniques support the search for business areas relevant for the future;
- stimulation of new business development (a.k.a. corporate development): the activities of foresight help to identify new business areas and foster exploration and growth, such as mergers and acquisition.

The new opportunities for business can be created by managers working together in a creative, future-oriented environment, with the support of top management. Bate and Johnston (2005) called this kind of activity exploration of "strategic frontiers" and they claimed that this can be done by ad hoc team or a development section but, in any case, the process should start with the sharing and commitment of CEO in creating a new future. Accordingly to authors, a strategic frontier may be a new market, a new technology or a new model of business; the study of future developments of technology, needs and lifestyle of consumer, as well as the identification of political-economic and legislative implications allows to reshape already-existing model of business by revitalizing them or

sustaining their growth, but above all it enables the individuation of new business spaces. These latter are defined "white space" (Rohrbeck, 2008) and they may be developed not only in sectors where the firm is already operating in, but also in environments that are adjacent or completely outside the actual businesses.

The study and application of foresight techniques in business field have indeed the inevitable consequence of a change of business models or, more drastically, the search and discover of new frontiers in still-unexplored business areas. In order to better understand the mechanisms inside an organization that could be affected by foresight approach – namely, the elements which constitute the business model – are presented through the introduction of the business model canvas as a visual representation of how a business model is composed.

2.4 The Value Triangle and the Business Model Canvas

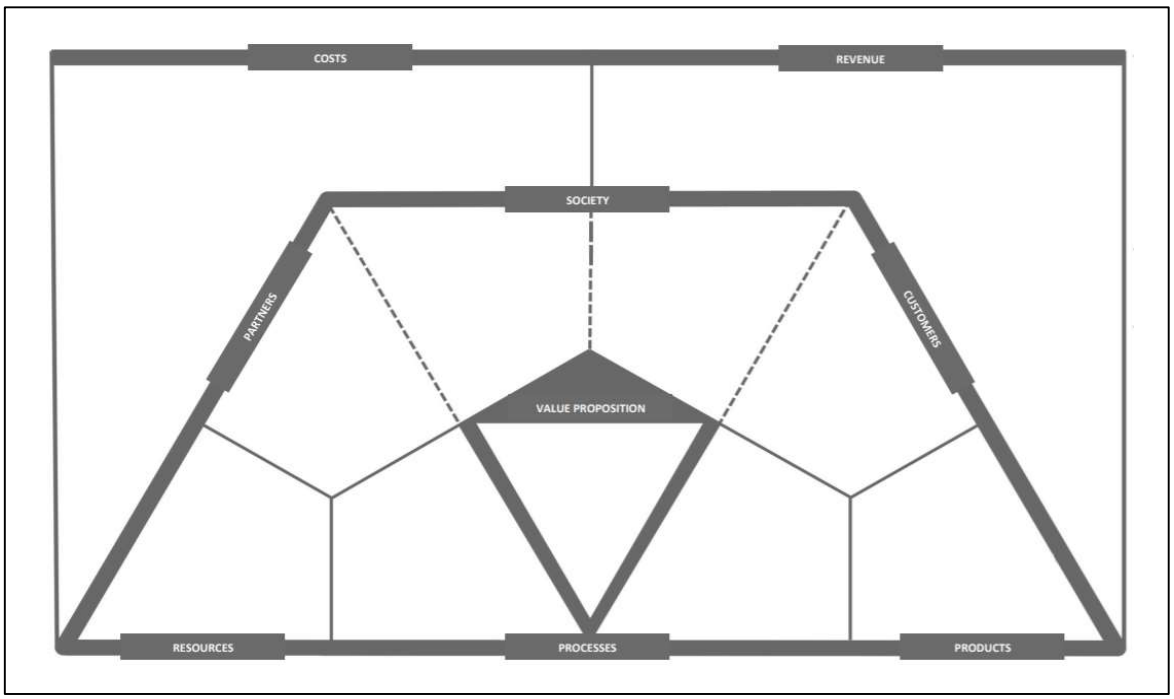
The BMC, introduced by Osterwalder and Pigneur (2010) is defined as a strategic tool which use the visual language to represent the way in which a company creates, delivers and captures value, as well as it helps in mapping, planning and creating new model of business. Thanks to its graphical representation, it provides the immediate views of the whole business model in one single image. Moreover, one of its point of strength is being a neutral model, meaning that it can be used both by startups entrepreneurs and CEOs of big companies: the contents make the difference.

The Business Model Canvas is similar to a printed paper, large enough to facilitate teamwork; it is structured in nine blocks, one for each basic element of business model. Accompanying the Canvas, at the moment of use, there are always post-it and colored markers; the tools used are then as simple as appealing, with the aim of promoting comprehension, discussion and analysis of business, but at the same time creativity and sharing. The speed with which the BMC has gained importance demonstrates the amount of benefits attached to its usage.

In this dissertation, the framework developed by Biloslavo et al. (2018) was preferred to the abovementioned Business Model Canvas firstly introduced by Osterwalder and Pigneur (2010) for the following reasons:

- the value creation is a process which includes the wider viewpoint of customers, society, partners and the company itself;
- overall costs and benefits, incurred during company's business, are considered;
- resources are defined as everything able to create benefits – even natural environment;
- as pictured below, the framework consists of nine building blocks, designed as triangles, to convey the idea of a systemic relationships among the elements (Biloslavo et al., 2018).

Figure 1. The Business model canvas proposed by Bagnoli et al. (2018).



The framework of the business model adopted by Biloslavo et al., can be "opened" to generate a canvas (Fig. 1), namely a strategic and visual tool that is simple and clear, thus functional to map in a full but concise way the business model of a company – the first step for its redesign (Bagnoli et al., 2018).

The following subchapters deal with the description of the nine constituent building blocks.

Value proposition

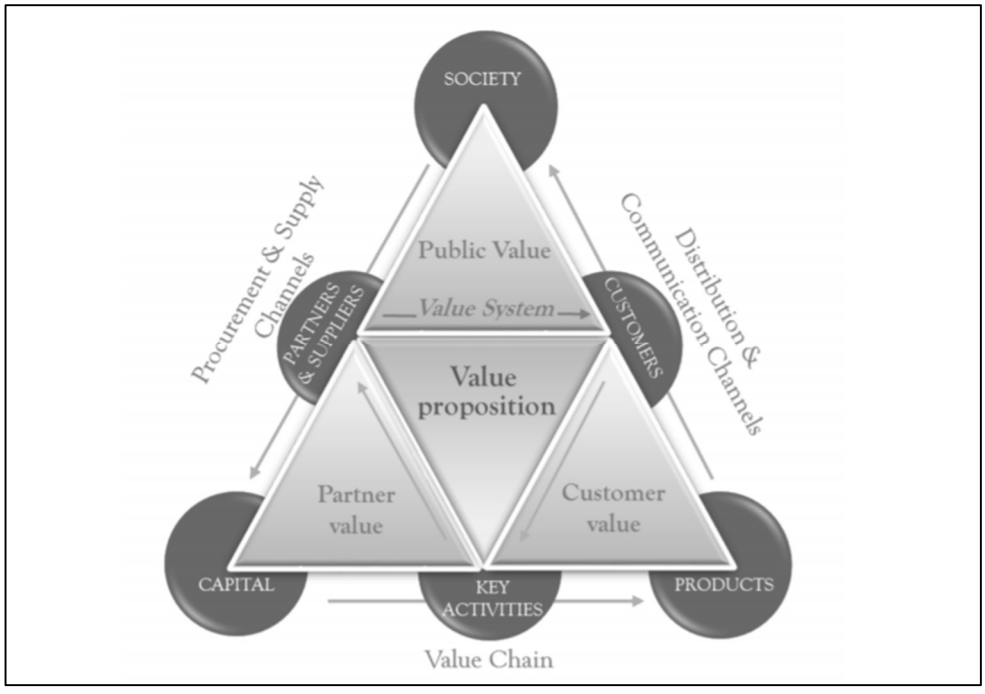
By definition, the most important and mentioned component of a business model is its value proposition. In order to fully understand Biloslavo et al.'s BMC, it necessary to start

with the description of this building block since it represents the backbone of the whole framework. One of the most cited definition of value proposition has been quoted by Osterwalder and Pigneur, who stated: "*The Value Proposition Building Block describes the bundle of products and services that create value for a specific Customer Segment*" (Osterwalder & Pigneur, 2010). This definition relegates value creation process almost exclusively to meet customers' needs; moreover, elements playing a crucial role in a sustainable business – i.e. people, environment and society – are not included in value proposition process and actually treated as resources, on par with other organizational expenditures.

On the contrary, the considered framework defines value proposition from a broader perspective which involves a wider range of stakeholders. The final aim is to identify a new Business Model concept by putting forward a framework able to enhance human, social and natural capital, thus increasing business value. The visual representation based on these assumptions is called Value Triangle, represented in the Fig.2 below.

"The VT represents how a firm co-creates and co-delivers value with its stakeholders within a circular value system and capture some economic value from it" (Biloslavo et al., 2018). In VT framework, value assumes different meanings based on the four fields on which it is applied; these domains, in turns, correspond to the four main groups of stakeholders.

Figure 2. The Value Triangle by Biloslavo et al. (2018).



First of all, value is generated for customers, and in this sense the concept of value proposition is similar to that of Osterwalder. In particular, "*customer value represents the customers' perception of value as a trade-off between the relevant benefits and sacrifices that they incur in a specific-use situation*" (Biloslavo et al., 2018).

Secondly, the value is considered from the point of view of partners and suppliers, and defined as "an economic value that is perceived by the firm's partners in form of return-on-investment, market growth, access to information, and knowledge development" (Biloslavo et al., 2018).

Moreover, the value assumes a public meaning, that is, it takes into consideration both social actors and environment. By including public value inside the value proposition, human beings and environment are no longer defined as elements to not to harm when running business; they assume a role of primary importance, directly affecting organizational process of value creation. In this sense, economic elements are not the only determinants of value, since the company is encouraged to consider social aspects like employees' well-being, commercial loyalty, ethical commitment and environmental concerns (e.g. land pollution, waste management, ecological footprint and so on).

Finally, the value is for the company itself, namely the value acquired by the firm, deriving from its activities. The co-creation value process is developed along the sides of the defined model; the left side is dedicated to resources: in this case, value derives from external actors, suppliers, competencies or abilities through which new products or services are improved or developed. On the other hand, the right side belongs to opportunities, and the value is therefore created by company's ability to size market opportunities.

The Business Model Canvas (Fig.1) is nothing other than the visual representation of concepts expressed in the Value Triangle, conceived for practical use.

Society

Society may be understood in two ways: first, by "society" may be meant the whole ensemble of subjects with which the company establishes and maintains mutually beneficial relationships; secondly, it may mean the set of environmental, cultural,

economic, technological and political factors characterizing the organizational ecosystem. The management of relations with the society includes ethical, legal and economic aspects.

Considering what has been said before about value proposition and public value, in this building block the following subjects can be identified:

- employees and their level of satisfaction and engagement, as well as their remuneration, work conditions and job stability;
- socio-cultural actors maintaining relationships with the company in terms of how it produces culture in its industry and other fields;
- technological actors, research centers, universities with which the company keeps in contact to develop and exploit skills;
- political actors, administrations, governments and their impact on business activities;
- society as a whole intended as surrounding collectivity and community, opinion groups, consumers' and trade associations.

Suppliers

Suppliers are the network of individuals and organizations that sustain business processes through the relationships established by the firm to obtain external resources (Bagnoli et al., 2018). These relationships with suppliers might be of different intensity and duration, based on needed resource's characteristics and features. If a resource is critical to acquire and developed specifically for firm's activities, it may create competitive advantage: in this case, there is the need to establish close and long-term relationships with suppliers. On the other hand, if the resource lacks differentiation and specificity, it can be offered by numerous suppliers: the supplier-firm relationship is less close, in order to benefit from a lower price deriving from market competition.

Moreover, a high resource's availability increases bargaining power of the company, but it does not imply a low supplier power, whereas low resource's availability increases the bargaining power of supplier.

For the above reasons, supplier relationships can take the form of:

- *occasional* contracts, when resources have low criticality and high availability, or low criticality and low availability;
- *long-term* contracts, in case of high criticality and high availability;
- *partnerships*, in case of high criticality and low availability.

Resources

In order to run business and create profit, the company requires resources of different types:

- *financial* resources include all financial assets like credit facilities, cash or stock option, allowing the company to carry out its activities;
- *physical* resources consist of material assets like point of sales, plants, technologies, infrastructures, machineries, finished goods and whatever is necessary to produce and sell a specific product or service;
- *intellectual* resources correspond to organizational know-how, patents, trademarks, copyrights, developed projects, partnerships and mutual knowledge;
- *human* resources are fundamental especially for creative and highly specialized companies, and they include workforce, competencies and employees' motivation;
- *social* and *relational* resources derive from shared norms, corporate culture and brand loyalty;
- *natural* resource are the ones deriving from the external environment.

Processes

Processes are defined as the set of activities developed by the company to transform input (resources) into output (products) (Bagnoli et al., 2018), and they are divided into internal and external processes. Internal processes consist of all the interconnected activities in which resources are used to create value and produce goods and services for customers. These processes are of managerial and operational nature, such as incoming logistics, resource transformation, R&D processes and so on. The rate of internalization of processes depends on how much the company relies on partners through outsourcing.

On the other hand, external processes are the set of interconnected activities exploiting resources with the aim of creating value and delivering goods and services in the most efficient way. Such processes are related to the selection and management of appropriate

channels of distribution and communication to reach defined targets. Thus, it is fundamental to identify the right mix of used channels: each channel should be managed in relation to the others and to customers. Lastly, channels can be company-owned or propriety of the partners, and they can be directly or indirectly managed.

Customers

The customers are "receivers of products" and they certify or not the validity of organizational value proposition (Bagnoli et al., 2018). Customers could significantly contribute to margins and revenues; others are loyal over time and still others are source of information for the company. The firm can decide to address its offer to heterogeneous or homogeneous customer segments.

In particular, customer segments can be classified as follows:

- *mass* market, in which the focus is on a single large group of customers;
- *niche* market, according to which the company deliver a specific offer to a specific group of costumers sharing the same unsatisfied need;
- *segmented* market, that the company joins with different offers formulated to meet each identified customer segments, the latter being correlated to each other;
- *diversified* market, that is similar to the segmented market, with the exception of a lack of correlation between customer segments;
- *multi-sided* market, in which two or more interdependent customer segments are served.

Products

Products are defined as the set of goods and/or services resulting from organizational activities that are aimed at satisfying customers' needs and desires. Functional and aesthetic product features, as well as its ability to generate positive experiences, create value for customers. And needless to say, the company's ability to make profit depends on whether it is able to transform customer value in economic value.

Revenues

Revenues can be classified in benefits delivered to society and the environment – that is, public and partner value – and the sources of revenues that the company necessitates to

be profitable (Biloslavo et al., 2018). While the former depends on company's voluntary codes of conduct, creating opportunities of growth and development for the social and natural environment in which it operates, the latter derives from the company's ability to offer a product/service that the customer is willing to pay a price for.

Generally, in order to affect revenues, it is necessary to act on the left side of the business model.

Costs

Like revenues, also costs can be divided into environmental and social costs and economic and financial costs. In the first case, costs are measured on the basis of the negative impact that the company has on the environment and society as a whole. On the other hand, economic costs reflect all costs necessary to sustain a business model (Bagnoli et al., 2020).

As depicted in the fig.1, costs depend mainly on the right side of business model, involving resources, processes and suppliers.

Chapter 3. Research questions, context and methodology

The third chapter is dedicated to the introduction of research questions and methodology used to find the answers. In particular, this dissertation is focused on identifying the main future trends of fashion industry, with a particular attention to the impact of Covid outbreak in the emergence of some issues. Moreover, the research work will not end there: once trends are identified, the following step will be dedicated to the analysis of trends impact on business models. In this chapter, a brief introduction on context of fashion is needed to explain how the impacts of pandemic is affecting an environment that already by nature is constantly evolving and fast-changing, making the research work challenging and compelling at the same time.

Due to the final aim of this dissertation, which seeks to examine the trends of the future for a specific business industry, a brief description of main foresight methods is introduced, inspired by the recent work of Popper (2008). Moreover, the introduction to the Structured Literature Review as methodology of research is presented as well as its fundamental steps that need to be taken in order to conduct an analysis of scholarly literature.

Being the SLR a methodology of content analysis, this chapter is then focused to the presentation of this research method. In this regard, the origin, developments and evolutions that content analysis had in the course of time are introduced, as well as the framework proposed by Krippendorff which contains the fundamental elements characterizing this approach. Moreover, the comparison between qualitative and quantitative content analysis is further developed, with particular attention to point of strengths and weakness of the two methodologies; the obsolescence of this dichotomy between quantitative and qualitative methodology is discussed and gives origin to a mixed method of research. In the final part of this chapter, the most used technology in the field of content analysis are explored, with a focus on CAQDAS and their influence in determining a mixed methodology.

3.1 Identification of research questions

As the Greek philosopher Heraclitus stated, “the only thing that is constant is change”: in the next decade, turbulences of global markets of consumption, distribution and raw

material threaten to subvert consolidated business models and marketing approaches, promising huge rewards to those who will demonstrate a greater ability to seize new opportunities. How should companies proceed with the identification of forces and prioritize the ones that, in all probability, are going to guarantee them a competitive advantage? The importance of foresight process in trend analysis allow the individuation of main impacts in a business model.

Given the importance of corporate foresight, widely discussed in the first chapter, the problem lies in its integration in the organizational choices and decisions. Every company is forced to face the challenge of adapting to the surrounding context and then to survive or fail. An organization is a complex, adaptive system that works in relation to what is expected and modifies its behavior as consequence of learning from its environment, performances of its competitors, evolution of its industry, etc. Aligning the business with the context is necessary for companies to be successful, especially in darker times. Therefore, the main challenges are related to the understanding of the influences of emerging trends in the company, in order to update and revise strategies to face uncertainty and find new ways to be as prepared and ready as possible to future changes and opportunities.

Since the concepts of corporate foresight and business model have been widely introduced in the previous chapter, the definition of research question can be finally formulated. The final aim of this thesis is the identification of emerging trends through a process of foresight, whose main methods will be discussed in the following chapters, and their respective impacts on each building block constituting the business model.

3.2 The context of fashion industry

The Covid-19 pandemic has turned the entire business world upside down from one day to another, and the art of anticipate the future seems to be the only solution to prevent companies from being totally overwhelmed by future discontinuous changes. Although the identification of emerging trends could be interesting to observe in different business sector, this thesis concentrated its research efforts on the fashion industry, being one of the most exposed to the effects of pandemic crisis – second only to the hospitality and tourism sector (Cdp, 2020).

The fashion industry has been hit by the crisis in a significant measure: the rise in online shopping has proved to be insufficient to cover the damages caused by store closing and general economic concerns which led to a considerable decrease of individual spending on goods considered nonessential, including clothes and accessories.

More precisely, the last report of the State of Fashion (2020), in collaboration with McKinsey & Company, tried to quantify the loss of fashion sales by identifying two different scenarios: the more optimistic "Earlier Recovery" scenario anticipates for the year of 2021 a decline in sales by between 0 and 5% (compared to 2019), with a full recovery, intended as the reach of 2019 levels of activity, by the third quarter of 2022. On the other hand, the second, "Later Recovery" scenario predicts the decrease in growth sales by 10 to 15%: at this rate, the full recovery is postponed to the fourth quarter of 2023.

Despite the slow reopening of national economies and gradual return to work of companies, the fashion industry is going to be deeply changed at its roots; in particular, emerging behaviors and preferences are accelerating the trend of customer-centricity which necessitates companies to constantly monitor its public to be better prepared in delivering goods and services that match their expectations in terms of value: with store closures, national lockdowns and travel ban, the only solution for fashion brands to connect with consumers is promoting engaging and social experiences. At the same time, due to decrease in touristic flow, brands should focus on attracting more local customers (Business of Fashion & McKinsey&Company, 2020b). Last but not least, fashion consumers, becoming more concerned about social impact of factory closures and negative effect of apparel industry on the natural environment, require companies to take significant action in terms of ethical business practices that could be beneficial both for the planet and people living on it.

Moreover, consumers, showing unpredictability, disloyalty and more caution in choices, have also realized an actual powershift, since they are creators of contents thought to be reliable by other potential market users. The pandemic outbreak and its consequent, dramatic drop in sales has encouraged brands to find alternative solutions to face the huge issue of retail overcapacity (Bianchi et al., 2020). In this context, the implementation of technological tools - which allow for instance online commerce, omnichannel store, and analysis of big data collected online to shape production and meet customers' needs

(Business of Fashion & McKinsey&Company, 2020b) - is emerging as a top priority in any to-do-list of a fashion brand, no matter how big or small in size.

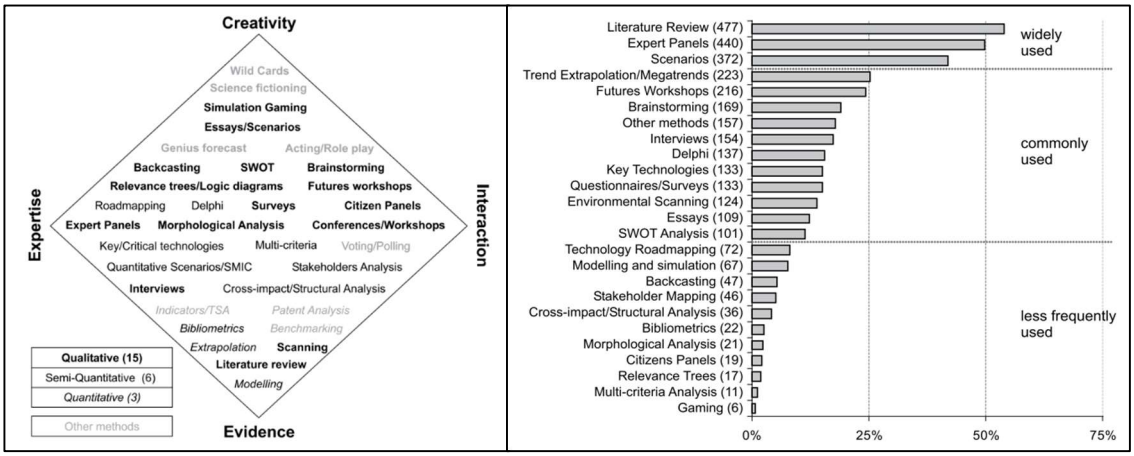
All in all, this short chapter tries to give a short snapshot of the current situation of fashion industry, that, being significantly affected by the pandemic outbreak, may serve as a research case on the importance of corporate foresight and trend identification for businesses. Being the research question and context sufficiently discussed and introduced above, the second part of this chapter will be dedicated to the introduction of methodology used to find the results.

3.3 Main foresight research methods

In the literature, different papers have been focused on the review of methods developed to approach to future studies, as well as foresight and forecasting activities and their connection with corporate strategy. Such methods, despite lacking a standard classification, are generally based on four trade-offs: explorative or normative, quantitative or qualitative, expert-based or assumption-based (Battistella & De Toni, 2011).

One of the most famous classification has been suggested by Popper (2008b), who developed a "foresight diamond" (Fig.3); in his framework, the techniques of analysis and prediction are classified on the basis of four characteristics: evidence, expertise, interaction and creativity. While evidence belongs to methods which rely strongly on codified information, data and indicators, the element of expertise is peculiar to techniques which focused on people tacit knowledge. Thirdly, interactive methods are interested on analyzing shared point of views of experts and non-experts. Finally, creative methods depend on originality of truly qualified individuals.

Figure 3 and 4. The foresight diamond of Popper and the classification of foresight methods for level of use. Popper (2008).



Moreover, Popper (2008b) identifies the level of use of foresights methods (Fig.4): in this chapter, the most used approaches are briefly described.

- The *Literature review* is achieved in the analysis and review of literature of interest (e.g. books, articles, essays, magazines, websites), in order to understand the context of reflection: for this reason, it is often used in the planning phases.
- *Expert panels* stand for a group of 12/15 "expert" individuals aimed at analyzing and combining their competencies in a specific interest field. It provides conclusions and policy options in accordance with a replicable and precise work plan.
- *Quantitative scenarios* involve a quantification of contingencies determining the scenario: sometimes, the probabilistic analysis is done via experts' evaluation for the purpose of building a system that assesses the likelihood of occurring of specific events.
- The *Trend Extrapolation* or *Impact analysis* is a prevision technique using statistical approaches to design the future model of a temporal series of data. It provides a vague view of how past and current trends will impact the future, considering the assumption that the future can be depicted as a continuation of the past.
- *Brainstorming* is a method used in groups, with the aim of developing creative problem-solving processes, generation of new ideas and broad consensus for solutions to a specific problem.

- *Interviews* are often described as structured/semi-structured/open conversations between an interviewer and a respondent, who provides competencies and insights.
- The *Delphi method* is useful for obtaining convergence of experts' opinions via questionnaires and opinion feedbacks. This feedback process, influenced by other's people opinions, ends when participants reach an opinion as common as possible. This technique can be used to predict if and when specific events will occur, as well as the valuation of subject in discussion. Results are presented on the basis of sample characteristics – not on single individuals opinions – and often the distribution of answers is represented in graphic or numerical form.
- *Key or Critical technologies* refers to a method analyzing the importance or criticality of certain technologies in the competitive landscape. It is based, in most of cases, on discussions between experts of the specific research field or technological sector. After having identified the common criteria, priorities are assigned to determine the most relevant technologies for the context of analysis.
- The *Questionnaires surveys* are a fundamental tool in social and market researches and are widely used in foresight processes. A questionnaire is distributed, and respondents are asked to answer to different typologies of questions. Results can be used, for example, to examine the distribution of opinions of respondent population.
- The *Environmental scanning* is a technique involving the observation, exam, monitoring and a systematic description of the technological, socio-cultural, political, environmental and economic context under consideration. A real investigation of the environment: factors that need to be considered are the event, trends, issues and expectations of different groups of interest.
- The *Essays* or *Scenario Writing* involves the production of an illustration of possible future events, based on a creative combination of data, facts and hypotheses. Such activity requires in-depth analysis and insights on possible future based on a systematic investigation of the current situation.
- The *SWOT analysis* is a method analyzing both organizational internal factors (classified in point of weaknesses and strengths) and external factors (namely opportunities and threats). This four-section matrix is then used to explore alternative strategies, focus on points of strengths and face threats and so on,

providing useful insights on resources and competencies needed to face changes. For this reason, it is a tool widely used in the context of strategic management.

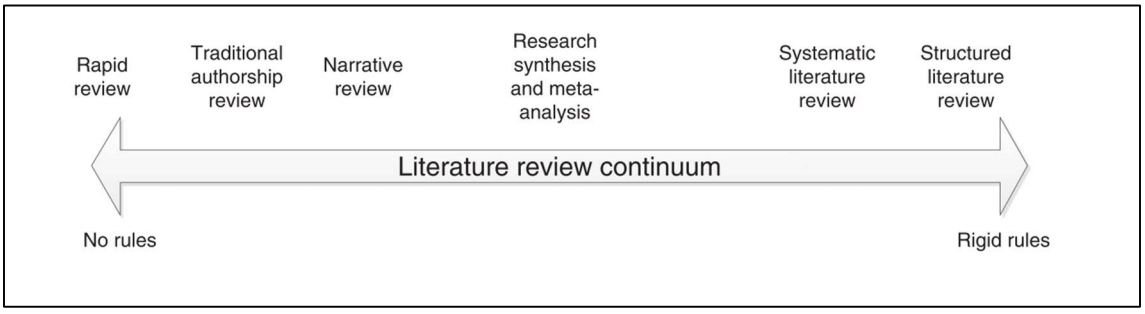
Having then defined the most commonly employed for the study of the future, the following subchapter is dedicated to the introduction of the concept of Structured Literature Review, which despite having a lot in common with the abovementioned literature review, is aimed at conducting a rigid analysis of texts from which to derive research paths and answers.

3.4 The Structured Literature Review

The Structured Literature Review (SLR) is a methodology of research developed by Massaro et al. (2016) that is formulated to help the researcher in acquiring insights, critical reflections, future research paths and research questions (Massaro et al., 2016).

Due to different purposes and rates of complexity, literature reviews are developed following several diverse approaches, which, however, have some essential characteristics in common, e.g. the collection, valuation and presentation of available research elements. The main feature that is crucial in differentiating the existing types of reviews is related to rules applied to develop such approaches; in this sense, it is possible to imagine a continuum where on one side no rules are provided, and in the other a rigid set of procedures are required. The SLR, in particular, is among the most rigidly structured approaches (Fig.5). The presence of rigid rules is aimed at developing a rigorous and verifiable research process where the subjectivity of the author is reduced.

Figure 5. The literature review continuum. Massaro et al. (2016).



Moreover, the SLR is based on ten different steps, that the authors clarify to be not necessarily developed following a chronological order; their applications, however, are

important to improve research process's information and relevance. The ten steps introduced by Massaro et al. (2016) are discussed in detail in the following sub-chapters.

Define a literature review protocol

The literature review protocol is the first step that differentiates the SLR from the traditional literature reviews and is the basis of the reliability of its findings. It is aimed at documenting the procedure followed and ensuring that the research can be reproduced not only by others, but also by the same author or group of researchers that have contributed to the work. The focus on replicability allows the research to be reliable (Massaro et al., 2016).

Moreover, the protocol consists of different elements: first of all, it should define the description and the logical foundation of review question, as well as methods used in the research. Secondly, details about how studies have been located, appraised and synthetized should be given (Petticrew & Roberts, 2008). Also these features contribute to reliability of research, especially in many fields of qualitative research, by making possible the verification of applied processes.

Define research questions

SLRs are used by researchers for two main purposes: mapping and valuing literature and existing knowledge and identifying future research developments. For this reason, when developing a SLR it is necessary to formulate at least three research questions, aimed at developing further researches in a specific field and criticisms about current knowledge in that field; as consequence, criticisms are made constructive, opening a path for future researches. The three research questions are the following:

1. *how is the current research developing?* In order to answer this question, it is necessary to investigate on the history of the field of research under consideration and the contribution of previous literature on the current position of the research. The examination of the past (and what has been done so far) is then needed before, for now, a specific research question: in fact, the purpose is to lay the foundation for a critical analysis of the literature.
   In this first phase, the analysis of citation metrics could provide interesting insights: it gives information about the impact of authors or articles over time, as

well as the importance of some specific journals or institutions in the research field.

2. *what is the focus and critique of the literature?* The second question helps in developing a consistent framework for literature analysis. Literature reviews, in fact, are often limited to a synthesis of the research paths, findings and available conclusions in a descriptive way, resulting tedious and irrelevant. On the contrary, the SLRs is designed to develop in-depth and critical reviews, in an attempt to contrast predominant objectives and ideologies that are taken for granted. Only a critical analysis then, highlighting strengths and weaknesses of previous literature, is able to provide basis for future researches.
3. *what is the future for the literature?* In this phase arguments, hypothesis and proposal about future research paths and questions are formulated and assumed in practical, educational and regulatory contexts. This third question is a fundamental stage of a SLR because it joins the three questions together: the first one helps in understanding the developments of literature, providing a general overview of the field of analysis, whereas the second one shifts the focus on a specific area of interest and promotes critical abilities. The last question helps to prevent hyper-criticism and negativity, offering a positive path to identify constructive proposals.

Determine the types of studies and carry out a comprehensive literature search

The SLRs approach requires a careful selection of relevant material, because not all research evidence has the same level of validity and relevance. In this subchapter, four different alternatives approaches used in literature search are presented.

Firstly, researchers can use a *keyword search* in order to find articles that are relevant to the specific field under examination and helpful in extending existing topics. Despite being a powerful tool, this type of approach requires a careful use of keywords – and in turn, of selection criteria. In particular, the researcher is responsible for the selection of a specific set of sources, in which keywords are identified. Such sources may range from peer-review and journal articles to conference papers and widely cited academic papers.

The selection of keyword to search requires a careful consideration in selecting the words generating research data. Once words are identified, the search can be developed inside a

title, abstract, keywords or the entire text through the use of appropriate databases – for example Google Scholar, Scopus and Business Source Complete. Moreover, the use of software for source management is recommended (e.g. EndNote, RefWorks and Mendeley).

A second methodology is represented by the selection of the most important articles in a filed, taking the name of *citation classics*. This is usually done on the basis of number of total or received citation of a specific paper in a year, expressing a positive relationship with its quality. The focus on the most cited papers enables the comprehension of developments of a specific research field and the identification of articles driving knowledge and research. Moreover, the number of papers that the researcher needs to focus on should be limited, to avoid an overly broad time of valuation, but at the same time sufficiently high to give value and validity to SLR.

Thirdly, a researcher may focus on a *single journal*: in this case, the analysis is developed on articles published within one specific journal. This approach tries to understand the contribute made by the journal in question and identify specific research topics which may be of interest to a future article.

Finally, the research may be conducted on an *emerging research field*, lacking literature references. In this case, one of the problems to face is precisely the scarcity of literature on the topic, or the obsolescence of published articles, due to long times of publication of academic papers. A possible solution to this problem is the integration in the set of sources of conference papers, which have the advantage to offer information on emerging literature and more recent academic debates.

Measure article impact

Not all articles have the same scholarly impact, and for this reason it is necessary to identify the most relevant ones. The impact can be measured through citations: understanding the most cited articles can be considered a fair approximation for valuing the quality of the article itself and its impact on academic debate. It is therefore possible to identify – and eventually not consider – the articles which are irrelevant or of little importance.

Citations can be measured on the basis of total received citations of the article or the number of citations per year, with a particular attention to most recent papers that, due to the short time for them to be cited, need to be excluded from the analysis. The citations count is provided by some specific software like Publish, Perish, Scopus and Google Scholar.

Define an analytical framework

Due to SRL empirical nature and its final aim of answering specific research questions through the analysis of literature, researchers have to establish what need to be observed from analyzed sources and how data contained in them are collected and considered. In this sense, defining an analytical framework consists of developing an analysis scheme helping researchers to organize current literature and identify and classify useful information contained in it.

Establish literature review reliability

In a SLRs, articles are examined through a coding based on the unit of analysis described in the analytical framework defined above. In this phase, the intervention of human being, asked to formulate different subjective judgements, should be considered, since it could devalue the entire analysis. For this reason, it is necessary to develop some forms of control and triangulation aimed at supporting this process.

The triangulation process is a form of control which provides for bias reduction through the integration of "*theories, methods, data sources and researchers*" (Modell, 2009) in such a way that weak points of some of them are compensated by points of strength of others. Once biases are reduced, coding and analytical framework proposed by researchers can be considered reliable.

Moreover, other reliability measures have been developed to support the reliability of data, that are collected while keeping safety precautions against intentional or accidental biases, distortions and pollutants; in addition, data meaning is equal for anyone who uses them. Although different methods to test reliability have been developed over time, the α of Krippendorff is considered the most robust one, since "*it can be used regardless of the number of observers, level of measurement, sample sizes and presence or absence of missing data*" (Hayes & Krippendorff, 2007). This method provides a statistical measure of

content analysis reliability and it can be calculated using specific statistical software programs.

Test literature review reliability

The goal of a SLR is to answer specific research question through the mapping and assessment of literature. Therefore, it is important for researchers to focus on the relationships between claims they make and evidence supporting them. In this sense, a researcher should not jump to easy conclusions due to presence of some evidence that suggests an interesting direction; on the contrary, it is necessary to carry out all the possible tests and verifications on evidences under consideration. In literature, validity tests are aimed at verifying internal, external and construct validity.

Internal validity is based on the cause-effect relationship between evidence and claims, and different modalities to strengthen internal validity are available. It is possible to use a correspondence logic, according to which a small set of articles is analyzed by researchers to develop first conclusions and then proceed with the identification of elements useful for a more in-depth analysis.

Secondly, alternative theories and conclusions are proposed: beside being relevant for theme exploration, they give the added benefits of offering different point of views.

A third possibility is represented by the analysis of time series and chronological sequence. According to this methodology, publications are considered only if belonging to a limited time span that is predetermined and motivated.

External validity relates to the possibility of generalizing the findings of a specific research. In this context, two different approaches can be used to test external validity: researchers can refer to existing theory and demonstrate that previous researches obtained the same results; alternatively, they can prove authority and comprehensiveness of used sources by pointing out, for instance, the recognized reliability and completeness of the journal from which they are drawn.

Finally, since construct validity refers to the quality of the measure used, several techniques can be applied to verify it. Construct validity can be assessed by measuring the success of the single journals from which articles are taken – and the authority of their

authors. The most widely used method is the analysis of citations, but others exist (e.g. Australian ERA2010 A rating, various ranking studies).

Code data using the developed framework

Once identified sources that have a relevant empirical estimate or finding for the study under consideration, it is necessary to determine the characteristics and important elements of these studies and code them on the basis of the analytical framework previously established. If it is true that the coding procedure can be done manually, it must be recognized that the assistance of computer and dedicated software seems crucial to increase efficiency and effectiveness of such process.

Therefore, it is essential the usage of at least a spreadsheet useful to register articles' codes and develop tables and graphs of their findings. Moreover, the use of qualitative analysis software (QDAS), like NVivo or Dedoose, is expected to offer additional features, not covered by use of spreadsheet - such as "*aggregating codes, auto-coding based on set criteria and developing common word count*" (Massaro et al., 2016) - that may facilitate coding procedure.

Develop insights and critiques

Developing a SLR does not simply mean an analysis of the literature and a presentation of a set of facts, but on the contrary insights and critiques need to be developed to contribute to the advancement of the literature itself.

In a SLR, quantitative measures, regardless of manual or QDAS use for data coding, are necessary to develop results: descriptive statistics, bar graphs and tables are indeed useful tools to acquire insights. In this sense, researchers have to sort the findings, and, through their tabulation, insights could emerge more easily, laying the foundations for a new contribution in existing literature. Therefore, the use of quantitative measures does not imply that researchers' role is limited to a simple statistical description of their findings; in this sense, more detailed statistical analysis – e.g. frequency distribution, regression, as well as pivot tables and graphs – may help to have a look at deeper insights and significant relationships between data.

Moreover, researchers whose aim is to develop a SLR must take into consideration earlier research while, at the same time, being concentrated and critical in analysis development,

in order to improve and progress the knowledge in that specific field. A critical research therefore means an attitude to upheaval rather than confirmation of what is already established, expressed in a quest for disruption of cultural traditions and conventions (instead of preservation). It is clear that a critical approach is not easy to acquire, since it requires specific skills such as skepticism, open-mindedness and ability to be persuasive. Several tools are helpful in developing such skills: metaphors, models, different perspectives are a few examples.

Develop future research paths and questions

Last but not least, the broad analysis of literature done by SLR allows the identification of areas of general interest or neglected fields which are worth looking into. It is also true that it could identify, conversely, areas under which research is not worth continuing due to the low level of academic interest. Moreover, in identifying future research paths, the researcher not only highlight gaps in literature or interesting insights, but he/she also gives evidence to support the use of specific research methods, as well as theories or analytical frameworks that can be used in the future.

The Structured Literature Review is then crucial for the analysis of a corpus of scholarly literature. The methodology on which the SLR bases its approach is called content analysis which allows the identification of interesting and meaningful pieces of content through the study and examination of a text or other artifacts. The remainder of this chapter will be dedicated to the illustration of content analysis methodology.

3.5 The origin of content analysis

The content analysis has its roots in the study of mass communication, which had its beginning in the 1950s. Since it was used for a limited purpose, initially psychologists tended to apply its use in only four, specific fields: starting from the analysis of verbal records, it was aimed at deducing personalities as well as motivational and mental qualities; analyzing insights from interviews, focus groups and verbal answers to various tests; interpreting communication processes between individuals; and finally, generalizing meanings for different situations and cultures (Krippendorff, 2004).

Since the 80s, the content analysis has become a more and more important tool to measure success in public relations. For this reason, its purpose has been widened and

then applied to different areas of study – as in the case of management, psychology, political science and so on – which use this methodology to answer specific research questions. Consequently, if such extended use of this instrument has allowed, from one side, the development of new sets of techniques and approaches to text analysis (White & Marsh, 2006), on the other it has led to a loss of focus, expressed in a definition of content analysis as suitable to each subject without distinction. However, this tendency to generalize the aim and field of application has broaden the technique's ability to investigate on the essence of human behavior (Krippendorff, 2004).

In line with abovementioned developments of content analysis throughout the decades, its definition has changed respectively. For example, a content analysis definition, dating back to the early 1950s, identifies this approach as a "*a research technique for the objective, systematic and quantitative description of the manifest content of communication*" (Berelson, 1952). The content analysis was then considered as a quantitative technique, applied in the limited field of mass communication, coherently with the use and mode of the methodology at the time. For this reason, such definition may nowadays appear obsolete and not consistent with current developments and uses of content analysis techniques.

According to a more recent definition, the content analysis is "a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use" (Krippendorff, 2004). This definition is composed by three main key concepts: inferences, texts and contexts. The task of the researcher is to use analytical constructs, or rules of inference, in order to find answers to research questions from the text. Due to logically independence of text and context domains, the researcher is enabled to draw conclusions just by moving from one independent domain (the text) to the other (the context) (White & Marsh, 2006).

Due to its technical nature, the content analysis is characterized by specialized procedures that can be learned and adjusted individually by researchers. Moreover, it can be defined as a scientific tool which provides new deductions, increases researchers' understanding of a one single phenomenon, and it leads to practical actions.

According to Krippendorff (2004), the applied technique must be reliable and replicable. In particular, replicability is considered the most important form of validity and it is

attained when different researchers, working in different times and circumstances, obtain the same results, deriving from the analysis of the same data sets and same techniques. Furthermore, obtained results must be valid, which means they must meet the prerequisites of conformability and confirmation by independent evidences.

If the first mentioned content analysis dates back to 1941, its utilization as text analysis was strictly applied to newspapers, whose data were classified under *a priori* categories and then described using several statistical tools, and for this reason, the early content analysis was developed following a quantitative approach (Gheyle & Jacobs, 2017). The methodology had remained a mere quantitative procedure for almost fifty years, since the rise of new approaches – defined qualitative - which exploited alternatives procedures for text analysis.

Being the distinction between qualitative and quantitative CA still object of interest, it is useful to identify, before proceeding with the distinction between the two approaches, the fundamental steps of content analysis. White and Marsh (2006) define the following steps:

1. establish research questions and hypothesis;
2. select pertinent data (text or other communicative source);
3. settle sampling method and unit;
4. define the sample;
5. settle data collection unit and unit of analysis;
6. settle a coding scheme allowing the test of hypothesis;
7. code data;
8. verify the reliability and eventually adjust the coding process;
9. analyze coded data, applying opportune statistical tests;
10. write the results.

As seen in the list above, the content analysis is a highly detailed procedure, consisting of a relatively large number of steps.

3.6 Qualitative and quantitative content analysis

After having defined the steps a researcher must go through when conducting a content analysis, the focus can finally be shifted to the main differences between quantitative and

qualitative CA; such discrepancies occur mainly in four different stages: hypothesis generation and formulation of research questions, sampling, coding and method of analysis (White & Marsh, 2006); these differences are presented below in the Table 2 and subsequently discussed more in detail.

Table 2. Main differences between quantitative and qualitative content analysis.

Research stage	**Quantitative content analysis**	**Qualitative content analysis**
Hypothesis formulation	Verify a priori hypotheses	Starting from research questions, hypotheses are developed throughout the process
Sampling	• large sample to obtain transferability • preference for random sampling • sampling process ends before coding starts	• small sample to detect shades and details • targeted sampling to identify sources useful for the research • sampling process continues also simultaneously with coding
Coding	Coding scheme is established before the coding process starts	Coding scheme can be developed or modified during the coding process
Method of analysis	Predominantly statistical techniques and approaches	The analysis is conducted by researcher after or during the coding

Hypothesis formulation

The quantitative content analysis derives from the application of quantitative paradigm and is deductive in its approach. The goal is to verify previously stated hypothesis – not to develop new ones. Therefore, a researcher should draw from existing theory and

already invested researches in order to formulate hypotheses and then content analysis is used to test them.

On the other hand, the qualitative content analysis is determined by qualitative paradigm and it benefits from an inductive approach. Hypotheses are formulated also in qualitative approach, but the main focus is on research questions: while the researcher is analyzing collected data to identify concepts and models, coherent with determined research questions, some other important concepts and relevant models could emerge. In this case, research questions and hypotheses can be modified to pursue new models.

Sampling

Both qualitative and quantitative researchers need to sample a text that is relevant to the scope before proceeding with its analysis, but the former researchers, in contrast to the latter, are focused on text uniqueness and are aware of multiple interpretations that a careful reading could lead to. Generally, such a close and reiterative analysis is quite time expensive and thus limits the sample size of application. The goal of qualitative analysis is transferability, referring to a judgement on the fact that results from one context could be applied to another. Following this logic, the sampling does not need to ensure equal and predictable probabilities of analyzed items to be included in the same sample. Instead, the sample needs to be theoretical and purposive – which excludes the possibility of extrapolation from the sample to the population.

Conversely, quantitative content analysis is based on a systematic sampling, to allow the application on a broader population. It can therefore be said that a major objective of quantitative CA is generalizability, which stands for the ability to generalize from the particular to the general. With a relatively non-structured population, the ideal sample derives from random sampling, that is, the sampling where each unit inside the population has the same the probability of being selected.

Moreover, while the sampling process in quantitative approach usually ends before the coding stage, in the qualitative research it may continue even after; some cases could be selected “ante” coding, but selection and coding might also occur simultaneously, with successive selection of case as an effect in consideration of discoveries emerging from coding process.

Coding

The quantitative CA benefits from a coding scheme that is determined a priori, i.e. before the start of coding process. A good coding scheme renders concepts that are amorphous per se operational and determines relevant and valid categories to test hypotheses. A relevant category allow the test of hypothesis, while validity refers to "*the extent to which a measuring procedure represents the intended, and only the intended, concept*" (Neuendorf, 2002). In order to determine validity, researchers measure as objectively as possible the correlation between what is measured and the way in which it is measured (face validity), or the correspondence between code and criteria (criterion validity), between a concept and the completeness of its representation (content validity), or theoretical consistency between measures (construct validity).

Moreover, an efficient coding scheme provides for an exhaustive number of categories and levels, meaning sufficient to represent all relevant aspects of the construct, but not excessive, to avoid mutual overlaps. In order to promote coding reliability, coding scheme should include clear definitions, easy-to-follow definitions and unambiguous examples. All these characteristics, in fact, increase the probability that an object is coded in the same way by different coders or the same item is coded in the same way by the same coders at different moments of time.

In the case of qualitative coding, the most important key points of researcher are the initial questions to which the research is aimed to answer – not the coding structure, established a priori. As previously mentioned, the qualitative approach is inductive, not deductive, and for this reason, evidence is as crucial as the initial questions in analysis framing. Often the researcher determines the coding scheme while analyzing the documents from which key concepts are extracted.

Moreover, in order to assess the accuracy of coding and analysis processes, qualitative content analysis relies on validity and reliability approaches that are similar to the ones promoted by quantitative CA.

Method of analysis

The next step of the researcher, once concluded the analytical process of coding, is composed by several additional actions in order to analyze coded data in the framework

of hypotheses and research questions. First of all, insights collected during the coding are summarized and simplified, in order to be easily understood and applicable to hypotheses. Secondly, patterns and relationship among findings are identified and articulated to facilitate the process of hypotheses verification and response to research questions. And lastly, the researcher should put into perspective the emerging, more involved findings by connecting the results to the ones deriving from other studies.

In analyzing contents from a quantitative point of view, it possible to choose among a variety of statistical approaches and techniques, useful to results' test and presentation. It should be noted that in most of cases they consist of complex techniques requiring different measuring scales for variables. The chosen approach needs to take into consideration not only research questions, but also the nature of available data. Moreover, decisions about techniques to be used are often taken at the initial phase of the project because they may affect the way in which it will be developed.

In the qualitative CA, data analysis is integrated in the coding process and in some ways also in the formulation of research questions. The focus is always on answering to research questions, but these may vary and change due to themes that emerge during data coding and analysis. The result of qualitative analysis is therefore a complex snapshot of the phenomenon being studied. At the moment of result presentation, the researcher can use numbers and percentages, collected in tables or cross-tabulations if correlations need to be shown, but he/she might count on a detailed textual presentation without resorting to numbers.

3.7 The emergence of a mixed content analysis

As seen in the previous chapters, the content analysis was originally a mere quantitative methodology, but with the passing of time it had evolved and been transformed according to researchers' needs and fields of research. This evolution led to the emergence of qualitative approaches.

Nowadays, the content analysis is applied differently from the beginning, and in some ways the distinction between qualitative and quantitative content analysis can be considered overcome. Krippendorff claims that the dichotomy quantitative/qualitative is not appropriate for describing the key distinction aspects of the two models: the

explicitness and objectivity of scientific data on the one hand and the appropriateness of used procedures with respect to a specific context on the other (Krippendorff, 2004). In the content analysis, both aspects are essential.

The qualitative approach opposes to limits and major methodological constraints belonging to quantitative approach. Researchers who openly support qualitative approach use the known literature to contextualize the reading of certain texts, re-articulating the meanings in line with hypothesized contexts and letting research questions and their answer to emerge together in the course of their involvement with texts (Krippendorff, 2004). The process of re-contextualization, re-interpretation and redefinition of research question is kept open until a specific interpretation, considered satisfactory for the researcher, is formulated.

For this reason, starting from the assumption that interpretation and text analysis are both open and temporary procedures, qualitative approaches allow a greater flexibility to researcher, leaving room for individual creativity. And the latter factor – researchers' subjectivity – is one of the main problems associated to the qualitative approach; qualitative researchers supports their interpretations through the use of parallelisms and metaphors applied to analyzed texts and contexts. This method is undoubtedly not as solid and verifiable as numerical evidence; as consequence, qualitative researchers tend to apply criteria that are different from those of validity and reliability to accept research findings.

In addition to this, the differences highlighted in the previous chapter attest, in the quantitative approach, a limitation of researchers' freedom in favor of research precision. For example, in the first stage, quantitative hypotheses must be established a priori, while the qualitative method allows the modifications even when the analysis is in progress.

All in all, the real contrast between the two approaches is based on a paradox: on the one hand the strictness of a data elaboration under a scientific and quantitative method, while on the other the need to consider elements such as contexts and emerging information, that can be collected only outside rigid pre-established schemes. The solution to this paradox can be obtained through the application of a pragmatic logic, that is, qualitative and quantitative approaches are combined under the name of mixed quali-quantitative method in order to benefit from corresponding points of strength and offset accurately

the disadvantages. At the same time the content analysis needs both the advantages deriving from quantitative rigor, namely analysis authoritativeness, and qualitative flexibility.

Moreover, it must be said that some authors have called into question the existence itself in the practice of distinction between qualitative and quantitative content analysis: according to Krippendorff (2004), each content analysis has within itself both qualitative and quantitative features. This claim is supported by providing two examples: firstly, a text quantification is considered, representing the perfect starting point for a quantitative analysis. However, not even the text quantification can be given as a distinctive characteristic of quantitative approach since the nature of the text is inherently qualitative (Krippendorff, 2004). The quantitative approach is applied successively to make a measurement possible and to run a high number of data, without considering that, at the end, the answer to research question is given in verbal form. Similarly, in the second place, when a researcher, who is conducting a qualitative CA, verifies the citations of an article in software like Google Scholar to obtain information about its relevance in the academic debate, is applying a quantitative logic aimed at increasing the validity of his/her statements.

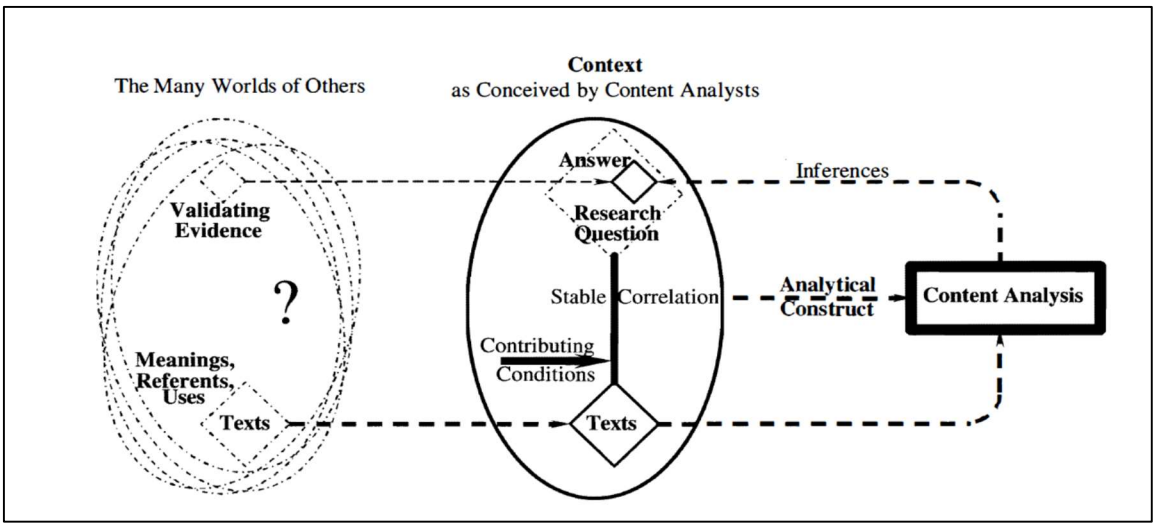
In conclusion, according to Krippendorff, qualitative and quantitative content analysis cannot be defined as complete separate methodologies: they both have not and cannot have practical evidence, because each of them will inevitably suffer the effects of the other. For this reason, the content analysis can be defined as a mixed method of research characterized by the supremacy of one or the other paradigm depending on the need of research.

3.7.1 The framework of Krippendorff

Following the definition of content analysis proposed in his work, Krippendorff developed a conceptual framework visually representing the process of content analysis (Krippendorff, 2004). In particular, the author defines the three main purposes that his model is intended to achieve: promoting the conceptualization and practical planning of CA researches, facilitating critical valuation and comparison between published CAs and thirdly establishing standards and criteria that can be applied by researchers in the phase of valuation of ongoing CA. This framework, reported in the figure below (Fig.6), is

composed by six different elements: a body of text, a research question, a context, an analytical construct, inferences and validating evidence. These factors are described in more detail in the following pages.

Figure 6. The framework of Krippendorff (2004).



Texts

Among data used in content analysis, textual data are undoubtedly the most important and frequent. The body of text, in order to be appropriate to analysis, should possess seven fundamental characteristics: cohesion, coherence, intentionality, acceptability, informativity, situationality and intertextuality (De Beaugrande & Dressler, 1981). This implies that the body of text should be composed by linguistic elements which are arranged in a linear sequence to convey a specific message (cohesion). Secondly, the text has to mean something – i.e., its meaning may be conveyed via relationships or implications – and it must be comprehensible to the receiver (coherence). The aim of the writer, indeed, is to convey a meaning (intentionality). Readers of the text, in turn, understand the message and valuate its usefulness and relevance (acceptability). The text is an instrument aimed at providing new or expected information, that can be judged on the basis of its quality (informativity). The context surrounding the text influences its production and determines the contents, coherent with specific situation and culture (situationality). Moreover, as a dialogue, in the text a correlation between what has been said before and after – or between other texts - is maintained (intertextuality).

Moreover, other important data which fall under the definition of "*other meaningful matter*" (Krippendorff, 2004) are: interviews, videos, images, questionnaire answers, Web pages and messaging of different nature (White & Marsh, 2006). These sources, like the others, must be contextualized in order to be successively evaluated in an appropriate way.

Research questions

The research question is the goal of researchers' inferences. It is similar to a series of hypothesis, addressed through data inference. Krippendorff identifies two main reasons to start the content analysis with a research question: efficiency and empirical grounding. When a content analyst is pushed by a specific research question, the analysis is conducted more quickly, based on an oculate sampling considering the most relevant data. Moreover, data are analyzed following a specific purpose – not the one hypothesized by the author or abstractly.

As regards empirical grounding, the veracity of answers to research questions is supported, if not by direct observations, at least by plausible claims deriving from correlated observations.

All things considered, research questions, in order to be valid for a content analysis, have the following features:

- they are answerable through the examination of a body of texts;
- they outline a series of possible answers, facilitating researcher's selective process;
- they relate solely to a currently inaccessible phenomenon;
- they admit – at least at the beginning, for validation or invalidation purpose – a new way of observing and recognizing the incidence of analyzed phenomenon.

Context

The context refers to the conceptual nature of texts, i.e. the situation in which they are included. From the point of view of content analyst, the context explains the origin of the text, its meaning and what it can tell or do: in other words, it explains the functionalities of the text. Furthermore, the context defines the area within which texts and research

questions can be related. Generally, this area is just one of several: in fact, it is strictly dependent on the approaches with which the analyst addresses the research topic.

Analytical construct

The analytical construct implement the knowledge about the context, which regards the correlations that elapse between the texts and answers to research questions, as well as the circumstances under which these correlations may change (Krippendorff, 2004). It is extrapolated from the known context and then integrated into research process; in this respect, it is even more important the fact that the analytical constructs "*ensures that an analysis of given texts models the texts' context of use*", that is, the analysis does not violate the known conditions surrounding the texts (Krippendorff, 2004).

Moreover, analytical construct makes the knowledges transferable to other content analysis and the procedures verifiable both by students and critics.

Inferences

The inherent nature of content analysis requires the process of establishing inference to be a fundamental step, often taken in the course of manual coding of texts. Although inferences can be of at least three type – deductive, inductive and abductive, the content analysis takes into consideration only the last one. In particular, abductive inference is developed according to different logical domains, switching from particulars of one kind to another in the same way that a content analyst proceeds from texts to the answers to his/her questions.

Validating evidence

Every content analysis must be validatable. Due to its founding principle, the content analysis often investigates on phenomena whose direct and clear observations are not possible, challenging the truthfulness of research findings. Being the validation, in most of cases, difficult or impossible in practice, in the field of content analysis validity is achieved through replicability, that is, the extent to which a process is replicable by anyone wishing to test it (Krippendorff, 2004).

3.8 Using technology to support content analysis

The wide use of software in the field of content analysis can be explained by the ability of computers to process big amount of information at high speed rate. Along with the evolution of software able to conduct literal elaboration of data, the academic world debated on their utilization. However, it must be said that not all technologies had great success in content analysis, for several reasons. One of them is linked to the skills required to apply more complex technologies; moreover, contemporary content analysts consider the use of computers in their researches as aids, not as substitutes to human abilities to read, transcript and translate body of texts (Krippendorff, 2004). As consequence, the most successful technology in supporting analysts' researches turns out to be the computer-assisted qualitative data analysis software (CAQDAS). These software give the possibility to put together the human capacity of comprehension and interpretation of texts with computer's ability to scan and organize large volume of text data.

The acceptance of CAQDAS in content analysis, especially at their early stage of adoption, was not a simple and linear process. In the eye of qualitative CA supporters, the use of these software appeared as a regression to the initial forms of quantitative content analysis. This sentiment gave rise to several epistemological debates which lasted until the end of '80s. Qualitative researchers were struggling to find advantages in the increase of cases in qualitative research, fueled by the use of these software. In order to achieve detailed insights on their field of research, analysts should not focus on a large amount of cases, but instead favor the most distinct set of cases possible (Wiedemann, 2013). In this sense, the use of software could threat creativity and serendipity, in exchange for mechanical elaboration of codes, applied on big collections of documents. Nowadays, the dispute between use or non-use of CAQDAS is almost solved and their use is widely accepted by the whole academic community.

In this context, it is interesting to note how the use of CAQDAS could play a key role in integrating the qualitative and quantitative approaches to content analysis. In newer versions of software packages, the functions allowing the evaluation of quantitative aspects of empirical textual data have been implemented; nevertheless, their use by qualitative researchers remains rather limited (Wiedemann, 2013). And in fact, a naïve mix between qualitative and quantitative standards appears to be methodological

erroneous – just think to the distribution of codes emerging from a few interviews, whose respondents' selection process has not been implemented in accordance with representative criteria (Schönfelder, 2011).

Moreover, while the criteria for assessing research quality are well established in quantitative studies (validity, reliability and objectivity), qualitative approach is still lacking generally accepted and defined valuation standards. And even if the current debate is focusing on the reformulation of quantitative criteria, to make them more appropriate to qualitative application – namely systematic method design, traceability of the research process, documentation of intermediate results, permanent self-reflection and triangulation – quantitative criteria are often seen as "soft" imitation of quantitative standards, based on the "hard science" of numbers. Despite all, the CAQDAS and their further developments in software packages seem able to incentivize the combination between the two approaches; this reflects the already ongoing process of blurring the obstructive and rather artificial distinction between qualitative and quantitative research paradigm (Wiedemann, 2013).

Chapter 4. Results

For fashion industry, the year of 2020 was revealed to be a turning point in which everything changed. The Covid pandemic has brought the global economy to its knees and almost three quarters of listed apparel companies suffers from the effect of worldwide spread of the virus, which negatively impacts their revenue streams and strongly affects their way of doing business. Consumer shifts, digital rush and disruption of global supply chains are just the tip of the iceberg; fashion firms were required to innovate and to adapt quickly to the new reality, radically transforming their business models on the run in order to survive.

In this chapter, the results from the content analysis of different papers and texts, deriving both from the academic world and consulting firms, arise with the ambitious aim of defining the trends of the next normal in the fashion sector. In presenting the results, it is important to stress that the majority of trends were already in motion even before the disruptive change known in 2020: the crisis has done nothing but accelerate trends that can no longer be ignored and become priorities to address when starting to build the business of the future.

4.1 Transparency and traceability

Transparency is defined as "the public disclosure of credible, comprehensive and comparable data and information about fashion's supply chains, business practices and the impacts of these practices on workers, communities and the environment" (Fashion Revolution, 2020). In this sense, traceability is a prerequisite for transparency, because by definition it is aimed at informing customers about how clothing production affects the environment and manufacturing processes involve labor condition of workers. Transparency along the entire supply chain and traceability of fashion items is going to be a crucial element of competitive advantage, since it could discourage customers to buy products which have been produced under questionable conditions, while promoting the demand for responsibly made products (Joy & Peña, 2017).

Traceability, however, is not a new concept: the evolution of globalization and the subsequent creation of global networks has increased the need for supply chain management and logistic efficiency, while at the same time local firms have struggle to

maintain their name and brand protected from counterfeits and then preserve their market – just think of "made in" effect (Guercini & Runfola, 2009).

Nowadays, the consolidation of multinational fashion firms, which have suppliers and manufacturing firms located all around the world, combined with the increasing consumer awareness on environmental and societal issues, is preparing the ground for a new organizational engagement in promoting transparent supply chains and traceable fashion clothes.

4.1.1 Fast fashion global sourcing

The consolidation of fast fashion model has been accompanied by the advent of globalization of markets; this led to firm internalization, not only in terms of sales in foreign markets through opening of new stores abroad, but it also caused a process of "changing geography" of the entire organizational production chain (Tokatli, 2008), in order to optimize the different competitive advantages that each geographical area offers, both in terms of raw materials supply and their production and sell. For this reason, companies whose elements such as costs reduction and quick response to market needs are fundamental – as in the case of fast fashion firms – need to operate strategic choices including the redistribution of value chain abroad. This results in two opposite approaches: vertical integration and outsourcing (Mihm, 2010). While the former is realized through the acquisition of the upstream organizations, resulting in a full control of the entire supply chain, the latter is defined as the externalization of some activities of the supply chain via contracts with external suppliers, who are in charge of conducting required activities and subsequently returning finished or semi-finished products to the company.

However, despite the fast fashion chain is characterized, by definition, of a network of different actors linked together by a constant flux of information allowing, for instance, to deliver on a short notice products that are more requested by consumers, information about environmental and social impacts of their supply chain is, in the majority of cases, still missing (Fashion Revolution, 2020). Nowadays, companies which are striving to promote a more sustainable supply chain – in terms of life-cycle assessment, product "foot printing" or ban of problematic work conditions – are motivated by four different aims: to follow international and national regulations, to create competitive advantage (via cost

reduction and supply chain innovation), to prevent the risk of supply chain disruptions (due to regional resources shortages) and lastly to satisfy an increasing stakeholders need of product information and sustainable organizational practices (O'Rourke, 2014).

4.1.2 Who made my clothes?

As anticipated above, consumers have changed their purchasing behaviors, since they became more meticulous in their choices and the product selection occurs in relation to experiences created and values which it embodies and promotes: according to a research conducted by McKinsey, the 52% of Millennials, also called consumer of the future – as they represent the future of global economy since, within the end of 2020, they will be the biggest global consumer group (Gapper, 2018) – consider as a driving factor, crucial in the purchasing process, not only the quality of product, but also its added value associated to sustainable and transparent practices along the whole supply chain, from tier 1 supplier to final user (compared to the 45% of Gen Z and 41% of baby boomers) (McKinsey&Company, 2018).

In the past, firms, particularly the ones operating in fashion and lifestyle sector, attributed to confidentiality of information on supply chain a competitive advantage, because it was thought to ensure exclusivity and non-replicability of the product/service (Agrawal & Pal, 2019). However, in the last years consumers have started wondering "who made my clothes", and, as recently stated by Business of Fashion: "*Fashion companies must come to terms with the fact that a more distrusting consumer expects full transparency across the value chain… consumers have become more active in scrutinizing the brands they do business with*" (Business of Fashion & McKinsey&Company, 2018). Better quality and credible information about clothes production and delivery, as well as their social and environmental impact helps consumers in making better informed decision. As consequence, information disclosure is a crucial factor in building a trustable brand reputation – conversely, lack of disclosure could negatively affect the way in which the company is considered.

The role of information about sustainable practices is then acquiring more and more importance in consumer purchasing process, and even if full organizational transparency is far from being achieved (Fashion Revolution, 2020), increasing "green" consumer awareness has led to a growth in the quest for knowledge: in 2019, "sustainable fashion"

has been googled three times the searches of 2016 (Business of Fashion & McKinsey&Company, 2019).

Moreover, the Covid pandemic is highlighting the necessity for a transparent supply chain, where relationships between firms and theirs suppliers are disclosed, as well as policies in place and purchasing practices; in fact, lockdown measures have been responsible for closure of several stores around the world and consumers' caution in spending money on clothes: a phenomenon that caused lot of brands to cancel orders and delaying payments, and, in the expectation that "the dust settles", letting clothing pile up in the warehouses (Paton, 2020). In this sense, transparent organizational practices are strictly linked to the theme of sustainability not only from the environmental point of view, but also to keep an eye on the social factor involved in fast fashion production – factor that has been ignored for far too long, and that includes work conditions and livelihoods of workers along the entire supply chain.

4.1.3 Future technological solutions to transparency

In order to track and provide information about product and their path through the supply chain, different technologies are used: for example, to provide information about product composition, recent technological researches identifies possible solutions in the use of magnetic barcodes, yarn-based tags (Kumar et al., 2016) and smart labelling (Mason & Niebuhr, 2019).

In the perspective of these technological progresses, new developments in blockchain technology, introduced for the first time in 2009 by the founder Natoshi Sakatomo and originally related to bitcoin system, opened up to applications in the fashion sector, characterized by complex and global-distributed textile supply chains (Carrone, 2020). The blockchain technology is based on a decentralized system of information collected in a single database (or digital ledger) and shared inside a community, i.e. a network. The access to the database can be either public or private, meaning it can be only used by certain firms or individuals (Nowiński & Kozma, 2017). When a user inputs an information inside the database, it can be available and visible to each member of the network, that can follow the history of entry information. Inside the network each member keeps his/her own personal copy of information that can be updated whenever a product changes ownership, constituting a certificate of guarantee about compliance of

determined production standards. The fact that blockchain update occurs without relying on a central administration allows firms to directly interact with its consumers and, at the same time, increase the sense of belonging to the brand (Boukis, 2019).

In order to preserve system transparency, each modification must be certified by network members, and in this way the decision is taken by the majority of users, making it almost impossible any alteration by single individuals.

The use of blockchain technology, in combination with the Radio Frequency Identification enables the company to trace the logistic path of raw materials, from tier 1 supplier to production firm as well as the finished good journey, from delivering process to final consumer.

All in all, it can be said that traceability systems can be applied for two different reasons, namely interorganizational control and market power (Guercini & Runfola, 2009): if on the one hand tracking the entire value chain allows the firms, especially the ones which depend on several suppliers and manufacturing firms, to control the activities and monitor costs, on the other, adopting traceability technologies helps in promoting the value creation process of the firm to the final user.

4.1.4 Effects on business model

Value proposition. The value proposition of a firm enhancing its traceability and transparency practices is related to the ability to provide to consumer all the product information that is necessary to proceed with a conscious purchase (Ministero dello Sviluppo Economico, 2019). By sharing their production process and, in some cases, their long heritage, brands are able to increase their brand identity at the eye of a more and more demanding consumer. In fact, in responding to the consumer's need of information disclosure about practices carried out along the entire supply chain, apparel companies are able to approach the public by offering products that are in line with consumers' sustainability interests and values, which at the same time reflect their sense of style and self-image (Boukis, 2019). Increasing supply chain transparency plays a crucial role in alleviating consumers' concerns about the quality of products, labor practices implemented by suppliers, etc.; for these reasons, value related to brand trust is eventually increased.

In blockchain technology, the chains of information blocks can be traced back from the initial block to the last one, therefore allowing the identification of assets' origin and their full history. These elements are important for the building of a reliable brand storytelling that stimulates the consumer in getting in touch with the brand through the emotional and dreaming sphere; in this way, the product offered acquires for consumer the value of being part of a process that goes beyond the mere purchase (Business of Fashion & McKinsey&Company, 2018).

Through the utilization of blockchain technology, the entire lifecycle of fashion product – from sourcing to production – can be easily tracked by apparel brands and directly connected to manufacturers. Such improvement of supply chain traceability will allow the reduction of negative impacts linked to the phenomenon of counterfeiting (particularly acute in the luxury sector) and, at the same time, supporting the textile industry in dealing with the increasing demands of consumers more and more sensitive to issues related to environmental sustainability and ethic of production (Business of Fashion & McKinsey&Company, 2020b).

Additionally, the value derived from traceability is extended to regulation compliance: by providing data related to product safety, for instance the use of chemicals in dyeing processes, the apparel firm is able to guarantee the compliance with existing rules that, especially in European market, are particularly strict (Carrone, 2020). In these cases, the use of blockchain technology for information disclosure is an added value for firms in order to demonstrate the alignment with market regulations.

Finally, firms which decide to implement their traceability systems can benefit from the acquired ability of controlling product quality, raw materials and product defects as well as monitoring logistics processes such as warehousing and transportation.

Society. The quality of data available along the entire supply chain, given both from their completeness (which requires the participation of all actors, also the less technological-equipped ones) and their consistency (consisting of non-ambiguous semantics and representations), is a crucial element for the process of digitalization of the supply chain to whom the combined use of standards, blockchain and application solutions may give a decisive contribution. In this context, a traceability system could provide a safe and distributed information register with immediate, reliable and origin-verifiable access, creating new and trusted connections between ecosystems that did not exist before. In a framework where fashion companies rely on lot of small suppliers that compete and

collaborate throughout a global supply chain, the application of transparent practices could have a positive influence on the society as a whole, because it simplifies the interactions and transactions between different actors, whether they are control agencies, certifiers, clients or manufacturers (Ministero dello Sviluppo Economico, 2019).
Moreover, traceability systems allow business and stakeholders to improve the management of risks along the supply chain, by efficiently reporting processes and procedures. In this sense, risks may arise from the social side, and then be related to the respect of human and worker's rights, health and product safety, unfair competition, attempted bribery; environmental risks, on the contrary, regard the overconsumption of natural resources, adoption of toxic chemicals and improper waste management (Carrone, 2020).
Lastly, transparent practices are able to give answer to the question "Who made my clothes?", by offering to stakeholders of the fashion industry such as final consumers, governments, international and non-profit organization and activists groups the appropriate information set to estimate the true impact of business modus operandi.

Partners. Product information are usually distributed among different actors. In order to promote transparency along the supply chain, a coordination strategy is needed to develop a greater capacity to communicate business practices. A key role is then played by each partner involved in the traceability system, which is asked to support the specific investments and introduce necessary changes to implement transparency practices. In particular, every manufacturing firm, from tier 1 to tier 2 suppliers, must make itself available to adopt the procedures for the management and control of data established by the system and acquire the assets that are indispensable to allow a complete disclosure of product information and raw material. For these reasons, fashion firms are required to reconsider and, in many instances, embrace innovative supply chain management strategies for partner identification, supervision and rewarding (Todeschini et al., 2017).

Resources. In order to promote a system of product traceability and transparency of practices along the supply chain, financial resources are needed to invest in technologies necessary to implement the ambitious aim of tracking a worldwide-spread supply chain. Moreover, fashion companies need to make big investments to acquire machinery, equipment, plants and capital goods for productive and hardware use, as well as software and digital technologies; other physical resources are related to IT systems which are

functional to technological and digital transformation of productive processes – that is the case of blockchain technology (Ministero dello Sviluppo Economico, 2019).
Once physical assets are acquired, traceability is efficiently obtained through the implementation of a network of people, inside and outside the fashion firm, that collaborate together by using the same technology. In order to do that, intellectual resources are needed to support the training and development of employers: it is the case, for instance, of the acquisition of highly specialized consultancy services to support the processes of technological and digital transformation. Moreover, education is needed to better communicate the best practices in terms of traceability and sustainability of apparel supply chains (United Nations, 2017). An informed, competent and trained workforce is the human resource the fashion firm should prioritize when considering information disclosure between suppliers all around the world.

Processes. Traceability is founded on the identification of operators and products along the supply chain and on the flow and record of information describing the process of product formation and transformation. In order to ensure traceability, it is fundamental to record the ties between product lots and logistics units and guarantee the traceability link along the supply chain, i.e. the connection with all productive operations occurring along the chain (GS1 Italy, 2016).
For this reason, traceability and transparent practices are developed since the first stages of product creation, namely inbound logistics activities. In fact, in the process of receiving, storing and distributing of raw materials a fundamental aspect is the support of information disclosure between supply chain partners. More synchronized is the system, more control is achieved along the supply chain and information asymmetries are reduced. In this context, a blockchain technology is helpful in promoting a real synchronization between actors of the same ecosystem, leading to valuable insights about inventory tracking, product components supervision and monitoring of environmental footprint (Rejeb & Karim, 2020).
In the processes related to converting inputs (or resources) into outputs (or finished goods), transparent practices enable business to control the authenticity of products and the sustainability of its manufacturing practices. Moreover, the constant flow of information may sustain a collaborative network in which manufacturing resources and capabilities are shared to promote more efficient operational practices (Ministero dello Sviluppo Economico, 2019).

When considering the physical distribution of final products to consumers, having tracked their entire movements is helpful for the retailer to convey the relevant information on the product and its characteristics. This ability is an opportunity for the departments of marketing and sales which are able to improve the image of their products by reporting sustainable supply chain activities and thus attract customers.

Customers. Consumers are increasingly demanding the product traceability along the supply chain since the social and environmental impact of textile waste and production is nowadays a hot topic that is stressed by non-profit organizations and activist groups (Fashion Revolution, 2020) and that cannot be ignored by apparel firms. The generation of Millennials is more and more concerned about labor practices and violation of workers' rights, as well as textile pollution of ground and water. For these reasons, one category of customers is identified in a young, informed individual whose idea of being in style is coherent with her/his personal values (Business of Fashion & McKinsey&Company, 2018). Traceability, combined with public transparency, is in general valuable for customers aiming at favoring fashion companies whose social and environmental practices are considered sufficiently "green" (Carrone, 2020).
Another important key customer trait is the one related to price sensitivity: due to the increasing amount of product saturation, combined with an easy access to product reviews and price comparation, consumer is more interested in understanding if the choice reflect a good value for money. Also in this case, transparent practices, delivering information about material qualities, labor and transportation costs, etc., are able to attract customers by providing a reliable report that justify the final price and add value to the product itself (Business of Fashion & McKinsey&Company, 2018).

Products. The products delivered by a traceability system are final fashion product whose characteristics and information are well described through smart labelling or QR code allowing the identification of all processes that have allowed the production and delivering. In the context of transparent practices, technological services such as the abovementioned blockchain are additional components that increase the value of the final fashion item.

Revenues. It has been pointed out the ability to transparency practices to give visibility and eventually economic rewards to the best performing actors inside fashion industry. In other words, consumer are more willing to pay a premium price for product considered

to have the least negative impact on social and environmental ecosystem (Business of Fashion & McKinsey&Company, 2019).

In particular, it is possible to estimate benefits deriving from three categories: increase in turnover, cost reduction, intangible benefits. Increase in turnover is basically attributable to three phenomena; first of all, reduction of counterfeit goods, which is particularly relevant for the luxury sector. Secondly, the increase in sales for products whose features are related to criteria of material quality, origin, sustainability and ethics; and thirdly, the premium price attached to the final products.

Cost reduction is correlated to three main phenomena: firstly, the simplification of communication processes between involved actors, with consequent reduction of relational costs and exception handling and secondly the dematerialization of document flows. Moreover, investment in sustainable sourcing, combined with the activities of mapping supply chain and actors, is expected to reduce monitoring costs.

Lastly, the main intangible benefit is related to an increase in brand image, visibility and perception (Ministero dello Sviluppo Economico, 2019). In fact, a transparent system allow the integration of trust between supplier and company, and in turn between companies and costumers: this "trust chain" creates positive associations in the mind of final users, who is likely to switch preference to a more transparent company (United Nations, 2017). It goes without saying that traceability systems create an advantageous ecosystem which respects employers and natural resources.

Costs. The process of creating an unique information flow along complex supply chain may impact the costs embedded in infrastructure creation, human capital and relational management, as well as technological knowledge (United Nations, 2017).

First of all, companies need to rely on infrastructure, especially technological ones (blockchain technology among the others) to promote transparency in fashion sector and create customer engagement and positive sentiment. Moreover, the investments in plants, machineries and equipment are necessary to create a high-technological chain, starting from the less-developed factories (especially regarding tier 1 suppliers), in order to ensure a flow of information that involves all actors of the supply chain.

Due to the fragmented nature of global supply chain for textile industry, the adoption of traceability systems require a certain level of collaboration and partnership between all actors involved, who must be unified under the same goal of incentives acquisition and reduction of environmental and social issues (Carrone, 2020). For this reason, trust is

crucial to support a fair and efficient collaboration between parties: the fashion company, in fact, relies on the information disclosed by its external manufacturing and raw material suppliers that in most of cases are worldwide located. Relational costs are then necessary to create a strict collaboration between actors, promoting a network based on trust and creating a common language, based on pre-determined mutual traceability semantics.

Moreover, being the knowledge on emerging technologies often limited and fragmented, the fashion company is asked to invest in research and development departments, both by acquiring highly specialized workforce whose experience may be crucial for the advancement of organizational technological progress, and by guaranteeing an adequate process of training and development of current labor force (Ministero dello Sviluppo Economico, 2019).

4.2 Shopping local

Even before the Covid-19, some tendencies were considered signals of a new desire for local stores: for example, declining rates in car ownership among younger people living in big cities was already expressing the consumer desire and need to find everything close to home. These considerations were evident in food shopping, since an incremental number of customers had been switching from a big, weekly grocery shop to little excursions to proximity stores. The pandemic outbreak has done nothing but accelerate this trend.

The year of 2020 was marked by an increase of time spent at home, that, coerced or not, has profoundly changed the consumer spending behavior: individuals are more concerned with local shopping, i.e. support of neighborhood stores and switch to national products, and sustainable consumption, without neglecting convenience aspects. This trend is meant to last over time since people, despite softened lockdown measures and suspension of restrictions, continue to consider home as the hub of all activities – socializing, working, experiencing DIY hobbies and so on (Accenture, 2020b). For this reason, a retail inversion is expressed in terms of local shopping: the high number of people working from home, combined with the stability of commercial and residential rents outside the CBD (Central Business District) zones support the emergence of "localism".

The current regulations, limiting travel distances, and the consumers' habits of having everything at once are transforming the shopping activity to something that is done locally (i.e. close to home) and with the support of digitalization (through omnichannel solutions). Despite the acknowledged switch to online sales, people are still keen on touching, feeling and trying fashion products before proceeding with the purchase, and fashion companies need to reassess the role of the store, by understanding the needs and necessities of the local communities and how to satisfy them in term of focused and localized services and experiences (Business of Fashion & McKinsey&Company, 2019). In order to do that, historical data may no longer be relevant for the establishment of expectations in terms of current store performance; on the other hand, real-time data are crucial to identify new shopping preferences, expressed with regard to where and what people prefer to shop and how far they are willing to travel from home (Deloitte, 2020b). These considerations may help in defining the location and the role of the stores in the future, as well as the brand mix.

4.2.1 Local stores

Demand for convenience and immediacy, combined with the need to shop in the proximity of their homes, is a driving factor for companies to start developing new format stores where capillarity and reduction of floor space are facilitator of the new customer journey. In this sense, companies are asked to seize this opportunity by exploiting their brick-and-mortar networks in order to meet customers in proximity, reshaping in-store experiences and territorial assortments at neighborhood level apart from main shopping avenues (Accenture, 2020b; Business of Fashion & McKinsey&Company, 2019).

The shift to local and neighborhood shopping may be a crucial driver to a total reconsideration of store location, factor which need to be considered when defining the fashion retailers' omnichannel strategy. In this case, local store formats may be thought of as complementary channel to flagship locations and online presence, with the aim of serving customers near their homes, both for sales and return (Business of Fashion & McKinsey&Company, 2019). Stores can be then smaller and decentralized, leveraging consumers through service personalization, extremely targeted assortments and experimental elements to be locally pertinent. In any case, the aim of this change in location of stores – whether in the form of pop-ups or corner shops in uptown

neighborhoods – is to improve brand awareness and loyalty by relying on a highly flexible inventory management (which can be addressed via exploitation of AI technologies and machine learning, that will be discussed in chapter 4.5).

Moreover, due to increasingly demanding customers, a simple replication of existing standard store format may not be the perfect solution to increase sales and brand loyalty; on the contrary, a more community-focused store aspires to be an important touchpoint in the new customer journey, especially if it manages to stand as a flagship stores at the micro level – providing experiences consistent both with brand identity and community values in which it is embedded in.

In a new normality that exacerbates the need for retailers to sell online, flagship stores located in residential neighborhoods are likely to exploit this trend by giving the possibility to costumers to get in touch with fashion items – conveying therefore the idea of store as a physical showroom – and then supporting a subsequent online sale. In this sense, a great flux of customers, besides not being possible in the current physical-distancing era, loses its relevance for retailers who recognize the importance of selling online.

All in all, considering both urbanistic evolution of cities and the new conception of home, fashion companies need to redefine their location strategy by increasing their retail presence in smaller satellite cities and diverse neighborhoods in the metropolis. The store format and aesthetic are only part of a larger organizational plan focused on customer service and acquisition.

4.2.2 Local products

The pandemic has undoubtedly heavily affected customer shopping behavior – from *what* is bought to *how* it is purchased – and these changes are expected to stick even after the relaxation of restrictive measures (Accenture, 2020b). This is due to the fact that the pause in life people have been forced to do has given to consumers the possibility to think about their own consumption patterns and to adapt them to the new reality: that explains, for instance, the increase in online sales and reduction in discretionary spending.

The impact of Covid-19 is likely to increase the consumer demand for sustainable and local goods. Companies are shifting their production towards sustainability through a

deep consideration of ethical values and brand repositioning. In this sense, the idea of sustainability has evolved beyond the environmental themes as plastic pollution and climate change, aiming at a holistic approach that creates social, environmental and economic value. In this context, brands are promoting the corporate social responsibility by supporting local economies and national products that are those who are struggling the most for survival in pandemic era.

A recent report of Accenture (Accenture, 2020a) seems to confirm this trend: consumers expressed their preference for shopping in the neighborhood stores (with an increase of 15% from March to May 2020) where to buy locally sourced products. In fact, the net purchasing of consumers switching to local and national brand has shown a positive growth of 23% and 19% respectively, with a consequent damage of demand for large global brands. This change in consumer sentiment for locally produced goods reflects the increasing attention for issues related to traceability and safety, as well as their origin; for these reasons, demand for local goods is especially significant in food sector (Sheehan, 2020). However, also brand of health, beauty and fashion are expected to invest in local production, in order to satisfy an increasing number of costumers more attracted to products manufactured at local level (De Tommasi, 2020).

In order to benefit from this trend, brand should rethink the product mix, by creating closer partnerships with local businesses: thanks to this, costumer demand for product authenticity and reliability is satisfied, and local production is further helped to face the challenges of a post-Covid business environment. Relationships with local trade, expressed in the introduction of local brands (defined as the major post-Covid loyalty-shift winners) in the product mix could then lead global companies to acquire new costumers and increase corporate social responsibility (Accenture, 2020b).

4.2.3 Effects on business model

Value proposition. When deciding to maintain a physical presence in the market despite the increase attention towards online shopping, the fashion brand needs to identify the consumer journey of its target segment. In particular, due to lockdown measures and increase in smart working, the costumer is increasingly searching for opportunities to shop within a certain radius around the house. For this reason, a small and decentralized fashion retailer creates value for costumer by delivering a proximity service, without

neglecting the physical need to touch, feel and try on fashion items (factor that is bypassed in online shopping). Moreover, being present in local communities gives the brand the possibility to create a special connection with individuals, by delivering experiences more targeted for different consumer groups (Business of Fashion & McKinsey&Company, 2019).

As regards local products, modern consumers are increasingly looking for fashion products which satisfy the need for variety and newness (Accenture, 2020b). From this point of view, local production benefits from the increased value derived from factors of creativity and variety; in fact, the inherent originality and uniqueness of local products are by far more appreciated than the standardization of "industrial" products. Local products are considered valuable for consumers aimed at detach themselves from the dictates of fast, standardized fashion, giving them the possibility to emancipate from massified and anonymous behavior patterns (Pencarelli & Forlani, 2006). Furthermore, extending the product offer by adding few, community-targeted local products is likely to increase consumer perception of social support and environmental sustainability, as they are associated to more hand-crafted and environmentally friendly activities than the "industrial" ones.

Society. The localism trend is a process that could influence society in different ways. Firstly, the introduction of local product inside an apparel company product mix could promote the development of local activities which may be struggling for survival in times of pandemic (Accenture, 2020b). Moreover, the opening of stores outside the traditional commercial district can be an opportunity for urban re-qualification of satellite cities or suburbs whose community lacks of targeted services and stores; alternatively, the presence of small-format fashion stores in new commercial districts where start-ups and cultural institutions have been already settled in may promote the emergence of smaller trendy commercial hub (Business of Fashion & McKinsey&Company, 2019).

Partners. Opening a store in a new community center, or residential district heavily affect the relationship with local institutions and governments that are responsible for the revaluation of suburban zones. Moreover, the fashion company is asked to evaluate new ventures with local producers of fashion items that can be inserted in the product mix; the selection of key partners is then affected to the extent that specific local products are

in line with both the values and need of local community as well as the identity of brand on multinational level (Accenture, 2020a; Todeschini et al., 2017).

Resources. Resources employed in the exploitation of localism trends are first of all related to the acquisition of physical spaces in the decentralized districts or neighborhoods that allow the fashion company to reduce distance between store and costumers, thus attracting the latter by being present in the new customer journey based on proximity.
For local products to be inserted in a more standardized and multinational fashion brands, certification of "made in" and partnerships with local private labels are necessary to inform customers on the origin of specific fashion items (Accenture, 2020a).
Moreover, in order to convey the idea of a community-focused store experience, human interactions between customers and store assistant are based on a common ground of values and culture: for this reason, employees need to be trained and formed to perfectly reflect the community identity of the specific store location (Business of Fashion & McKinsey&Company, 2019). In this context, exploiting a social and relational resource is the priority for the apparel firm aimed at conveying the idea of local customization and limited massive standardization.

Processes. The increase in demand for local products, in order to support small economies and enterprises, combined with the new customer journey which privileges the closeness to home, are important drivers of change that an apparel fashion should take into consideration when defining the value chain of the future.
In particular, if the company decides to expand its offer by introducing "made in" products, which are of significant importance for the specific community addressed, the external processes should be focused on the redefinition of relationships with the traditional trade (Accenture, 2020a), so as to ensure the distribution of specific locally-sourced goods. In this case, the partner company is responsible for the processes of production and transformation of raw materials into finished goods: the role of the commissioning company is limited to the processes of distribution, communication and channel definition (external processes). In this sense, the local provenance of fashion items should be highlighted through labels, campaigns, advertisements: in this way, brands are able to attract a consumer who is increasingly aware of the impact of pandemic on domestic economy – and concerned about survival of local and small-medium enterprises.

Moreover, selection and management of appropriate channels of distribution are crucial in exploiting the localism sentiment: while the former includes the review of location and format of apparel stores (Accenture, 2020b), the latter is aimed at shaping store services and experience on the basis of local communities needs and expectations (Business of Fashion & McKinsey&Company, 2019).

Customers. In 2020, in U.S., more than 16 million employees started working from home due to Coronavirus containment measures, and the Italian world of work has experienced a significant growth in the number of people switching to smart-working (+2 million of people only in the private sector) (Deloitte, 2020a). Moreover, in the last year, individuals tend to feel uncomfortable about visiting crowded places which are far from home (Accenture, 2020a).

This increase in remote working, combined with concerns about personal safety and healthy, is shaping the shopping habits of the fashion consumer, motivated not to leave the physical pleasure of touching and trying on dresses, but at the same time preferring small, close to home stores, where safety standards appear to be more guaranteed (with respect to mall-size stores).

At the same time, consumers are looking for original, customized fashion product that eschews standardization of apparel items; moreover, people have increasingly turned their attention to the domestic economy, generating a sentiment of "supporting local businesses" (Bhargava et al., 2020). For these factors, the search for an extended product mix where standardized fashion products are combined with few, valuable local products, is likely to be a key success factor for addressing the fashion consumer of the next normality.

Product. The local product holds with its place of origin a privileged relationship that is translated into the use of resources that are specific of the territory itself. It contributes to the quality of the product by firstly characterizing the intrinsic material features and then defining a set of immaterial intrinsic attributes of the product that are linked to the country of origin. In this sense, the link is created between the product and the local culture, natural environment, craftmanship and the traditional character of the production process. The set of these attributes generates the comprehensive quality of the local product, that the consumer can transform into value by purchasing it (Pencarelli

& Forlani, 2006). The combination of local fashion items with a community-tailored local experience are the product and services necessary to efficiently exploit the localism trend.

Revenues. Revenues derives from the increase in sales for locally produced goods that, promoting an increase in material qualities and craftmanship, justify a premium price with respect to standard fashion items. Moreover, selected partners, responsible for the production of such goods may benefit as well from the venture with multinational brand, that commissions them an increased volume of items produced.
Fashion company, responsible for the selection of manufacturing partners close to the region of consumption, are able to generate revenues from costs reduction in transportation and logistics (Todeschini et al., 2017).

Costs. Costs are identified in different areas: first of all, store openings in new commercial districts and residential zones require initial investment for plant acquisition, and the retail experiences, aimed at attracting local consumers, may be expensive for the company in terms of research and development costs – embedded for instance in the activities of analyzing specific features of the context, supporting a local strategy and conveying the right balance between omnichannel and physical presence – as well as training of staff in addressing the specific needs of the communities.
Moreover, product origin and qualities need to be appropriately communicated through campaign, social advertisement and smart labelling; these requirements heavily impact the marketing and communication costs for the development of targeted promotions and advertisement campaigns.

Finally, the relationship with local manufacturing factories could generate an increase in costs for managing the ventures and output acquisition: in most of cases, multinational fashion brands benefit from the relationship with low cost suppliers (located in Asian countries), but in this case specific agreements between partners is necessary to ensure a profitable costs/benefit ratio for both parties.

4.3 Collaborative consumption

The term “collaborative consumption” has been introduced for the first time in 2010, after the release of the book “What’s Mine is Yours” of the authors Botsman and Roger. This concept is strongly linked to the idea of sharing, among a specific group of people, the

same unsatisfied needs that can be met by consume the same service/product, whether it deals with transportation, accommodation, land, etc. (Pedersen & Netter, 2015). In the fashion sector, collaborative consumption practice is expected to maintain a steady growth despite Covid pandemic: in 2029, second hand market is projected to double the 2019 turnover of fast fashion (ThredUp, 2020).

At the emergence of new consumption patterns corresponds the rise of a new category of consumers: in the case of collaborative consumption, the users are identified being the youngest – Gen Z and Millennials in the lead – due to their relation with smartphones technology which allow the CC via specific fashion apps and online platforms. Moreover, the increasing concern for sustainability issues has been exacerbated during Covid: eco-brands such as Patagonia and Allbirds have received more attention (+57%) on ThreadUp platform during the pandemic outbreak (ThredUp, 2020). In general, youngest generation reveals a change in consumer habits, preferring renting, swapping and sharing over ownership (Perlacia et al., 2017). For this reason, one opportunity for retailers could be merging their activities with the rental services: with a centralized systems, retailers could benefit from this new emerging trends, attracting customers interested in collaborative consumption, while reducing the traffic of illegal renting products (Yuan & Shen, 2019). Furthermore, a centralized system may be helpful in promoting a valid alternative to a linear take-make-disposal model, which is not feasible anymore in the current context of a drop of customer spending on apparel and stakeholders' interest in sustainable practices and values (Business of Fashion & McKinsey&Company, 2020a).

Since different opportunities for fashion sharing are possible, the business models of organizations reflect their approach to this practice. In this regard, the literature identifies three business approaches to exploit collaborative consumption trend: first of all, fashion rental models offer rental services to consumers; secondly, the platform-sharing models allow the exchange of clothing items between costumers via online platforms; thirdly, in the second hand model, the firm acts as a broker between the buyer and seller, facilitating the transfer of ownership, which, differently from the previous cases, is permanent (Perlacia et al., 2017).

4.3.1 Fashion rental models

As can be guessed from the name, the fashion rental models offer to the customer the possibility to rent fashion items for a specific period of time: in this case, the targeted segments corresponds to individuals who do not feel the need of ownership, being more interested in differentiating their outfits on a continuous basis.

Fashion rental models can be categorized in two different approaches: Netflix model and Fashion libraries model. While the former offers the rental service via online platform, which access is guaranteed through the payment of a monthly subscription fee, the latter bases its service on community creation – in this sense, preferred channels are physical stores and events to create a fashion community. In a Covid era, the Netflix models appear to be the most profitable: their online presence allow an optimal performance even in case of lock-down; moreover, people seemed to be concerned about the spending, thus opting for an alternative offering "something new and nice to wear without the financial risk" – combined with the growing awareness of having small room to amass brand-new things (Conlon, 2020).

4.3.2 The platform-sharing models

The platform-sharing models refer to the role of retailer as an online platform enabling the exchange of clothing items between individuals. This model has its roots in the ancient practice of swapping: it is expressed in an exchange of tangible assets between users, facilitating the circulation and recycle of items which may be otherwise underused, especially in a consumerist era.

Differently from the fashion rental models, the retailer does not own the clothing items, and its main revenue derives from the service it offers – a certain percentage of fee for each transaction between users. The transaction could occur in two different ways: on the one hand, the online platform is used by individuals to rent out their goods in exchange of a certain amount of fee for renting (the so-called Airbnb model), while on the other, the swapping between fashion items takes place in the platform without flow of money (falling under the definition of fashion swapping model) (Perlacia et al., 2017). As in the case of fashion rental, the fashion swapping practice is expected to grow as a consequence of a new trend in consumption, which manifests interest in circular business models at

the expense of apparel spending on superfluous items and overconsumption (Global Fashion Agenda & McKinsey&Company, 2020).

4.3.3 Second-hand model

In the second-hand market, the retailer plays a broker role in offering and managing an online platform to facilitate the exchange of second-hand items between members. As mentioned above, the difference of this practice from the renting and swapping approach lies in the fact that the good, once exchanged, became property of the user who has purchased it (Perlacia et al., 2017).

The increased interest in second-hand fashion has occurred during the pandemic outbreak and it has been driven by two factors: firstly, the economic crisis which has brought together the offer (namely, individuals willing to get rid of unused clothes and accessories) and the demand, looking for unique pieces, possibly at discount price; the second factor is linked, once again, to sustainability: coronavirus and lockdown has turned the spotlights on environmental issues and social responsibility (Casadei, 2020). Vestiaire Collective, a French second-hand online platform, registered a boom of second-hand demand during Covid, expressed in an increase of 88% of deposits in May 2020 with respect to the previous month and a 119% increase in online orders compared to the previous year (Vestiaire Collective, 2020).

Moreover, an acceleration of trends already happening in fashion sector – e.g. the search for valuable pieces and desire to economize – has been identified in the period of lockdown. According to Thread Up, the 44% of people expressed their interest in buying more used product after lockdown, and the 52% claimed the willingness in spending more money on the second hand market, caused by a want to clean the wardrobe and buy new things at lower price. This trend is going to lead the resale market to be grater in value than fast fashion (44 million dollars against 43 of fast fashion) (ThredUp, 2020). Fashion companies then, need to internalize the process of reselling inside their value chain, in order to meet the needs of the Gen Z, which not only chooses second-hand for environmental matters, but it is also very proud of doing it.

Another option of resale – that takes already place in companies like Zara and H&M – is the collaboration with local non-profit organizations in order to share the burden of reselling used garments.

4.3.4 Effects on business model

Value proposition. Business models that encourage collaborative consumption are focused on offering to consumers a high level of clothes diversification, characterized by lower prices, through a set of flexible and sustainable services solutions (renting, sharing and second-hand models) (Jin & Shin, 2020).

In particular, while in the rental models the retailer owns the clothes, giving to the customer the possibility to rent out them within a specified renting period, the platform-sharing models offer an online place where consumers can swap their fashion items. Lastly, in the second-hand market the fashion company is a mere facilitator of the commercial relationship between buyer and seller (Perlacia et al., 2017). There is, therefore, a fil rouge connecting the different modalities of collaborative consumption: their value proposition is completely updated, switching from a product- and ownership-centrality to the delivery of a service (in terms of access and performance) (Bocken et al., 2016; Todeschini et al., 2017).

Moreover, collaborative consumption approaches give to members the possibility to mixing completely different design styles, thus enhancing their own creativity, without paying the full price (Pedersen & Netter, 2015). The convenience factor has the potential to attract different consumers group, even wealthy individuals (Business of Fashion & McKinsey&Company, 2018).

CC models which give to member the access to a shared wardrobe promote the experimentation with different styles, satisfying consumers desire for newness (Business of Fashion & McKinsey&Company, 2018). In this sense, they offer a pause from everyday consumption routine: the access to new clothes is guaranteed without the need to buy more and more clothes which will be forgotten, almost new, in the wardrobe (Pedersen & Netter, 2015).

Society. The collaborative consumption pattern is expected to be a fundamental aspect of a new idea of product circularity. In this sense, scientists, government and companies are increasingly concerned about sustainable consumption patterns defined as a way to

address the issue of resource limitedness and protection of natural environment for future generations (Strähle & Erhardt, 2017) by reducing the consumption of raw materials and encouraging behavior changes of customers and end users (Lüdeke-Freund et al., 2018).

The attention drawn by policymakers on issues related to environmental impact of fashion industry, combined with the increase in customer demand for sustainable consumption options, cannot be ignored by the fashion industry, which especially during this crisis, need to find innovative, up-to-date and valuable solutions to face the consumer shift towards sustainability.

Partners. Partners involved in the CC business models are often individuals who decide to sell via retailer platforms clothes that they no longer use. Moreover, fashion companies themselves could decide to devote part of their collection for sharing and collaborative use. Sometimes, the relationships with young, local designers are exploited in order to established a mutual beneficial exchange, where if in one side the company extend its offer by introducing new fashion items, on the other it facilitate the access to the market to unknown designers.

Another type of partnership is defined in the collaboration with organizations and start-ups where sharing economy and collaborative consumption practices are already common (e.g. Vestiaire Collective, ThredUp etc.), which could give to larger fashion brands the initial key competencies to enter in this market (Business of Fashion & McKinsey&Company, 2018; Ellen MacArthur Foundation, 2020; Pedersen & Netter, 2015).

Resources. The main resources used in establishing a model based on alternative modes of consumption are especially linked to the clothing assortment that the company can offer to its members. For this reason, production inputs are often associated to the inclusion of used or recaptured items that need to be reprocessed and reintroduced in the market (Lüdeke-Freund et al., 2018), through the help of partners and experts who offer their intellectual competencies and skills to evaluate the state of such clothes. The process of new garments acquisition is founded on the company's ability to build relationship with designers and members who provide the input necessary to the running of a fashion library able to attract new users (Pedersen & Netter, 2015).

At the same time, the delivering of an efficient service is gained through technological software and capabilities that allow the construction of an online platform where merchandise is swapped, rented and resold. In particular, the company's ability lies in the application of technological services to create a large enough online network to cover market need, while at the same time successfully connecting heterogeneous customers demand with the supply of clothes deriving from providers (members, partners, designers) (Benoit et al., 2017).
In developing a platform able to match customers and suppliers, a key role is played by relational resources: the platform provider should be able to attract new members and users since the service's performance is based on their interactions. In order to do that, fashion companies could leverage cultural and economic actors to increase public attention towards sustainable consumption patterns (Benoit et al., 2017).

Processes. For fashion companies aimed to develop a collaborative consumption business model, a new product flow must be established to connect the first user to the service provider. In this sense, inbound logistics activities are influenced to the extent which the company necessitate an intermediary or, on the contrary, is able to manage the "used" product flow by its own. For these reasons, main activities are linked to the creation of connections between suppliers and customers (in the case that the company plays the role of a mere online platform provider) that necessitates *a priori* the provision of used products through an efficient taking back service management. The output generated by these activities are product which are directly resold, often after being cleaned and repaired in case of small defects (Lüdeke-Freund et al., 2018).
Products are then resold through online services, e.g. websites and apps, or in physical places (permanent physical stores or showrooms). In the current pandemic crisis, a store opening may not be the best solution; on the other hand, it is important for fashion companies to exploit this trend by creating a new section in the company ecommerce website, or by dedicating specific corners inside the stores for the exchange and sell of used products. Other keys activities are then related to the management of ecommerce or retail store, such as clothes arrangements, store cleaning, customer service and management of borrowing and returns. Moreover, operational processes regard inventory management, intended as the record of new wardrobe entries or small defects repair: other activities correlated to inventory are not included, since in most CC businesses (except rental BM) the product are not own by the company itself, which is

only responsible for matching demand with supply (Jin & Shin, 2020). Moreover, the quality of service is measured and guaranteed by a proper management of members accounts – to see if the pieces have been retuned on time and everyone has paid (Pedersen & Netter, 2015).
Finally, the activities of a fashion community building are necessary to engage customers: due to the innovative nature of such patterns of consumption – alternative to the common linear model of consume-use-waste – the promotion of events and attractive contents on social media are the first steps to stimulate a change in consumer behavior (Pedersen & Netter, 2015; Perlacia et al., 2017; Todeschini et al., 2017).

Customers. An individual decides to access to rental, sharing or second-hand models for different reasons. First of all, fashion libraries often offer products that are used only in specific occasions – for instance, maternity clothes, tuxedo for men, and formalwear - which in most of cases represent a cost that the majority of people is not willing to bear. In the current situation, characterized by a lack of social occasions where party dresses or formal clothes are requested, consumers are still attracted to the convenience aspect of CC patterns: this is especially true considering the post-pandemic economic uncertainty that is going to generate an increase of price-sensitive customer segments (Ellen MacArthur Foundation, 2020).
In other cases, especially for high-priced membership fees, consumers are encouraged to access to the service in order to make the most of one's membership (Pedersen & Netter, 2015). Luxury, haute couture and jewelry products attract fashion customers which give importance to self-sense of style and trendy, ever changing outfits.
Some consumers may be motivated by personal values and beliefs: this target group is characterized by a fashion interest that is combined with individual desire to make a change by opting for a sustainable consumption behavior – expressed in consumption reduction, extended product life cycle and circularity of goods.
Finally, members of fashion libraries often enjoy the social factor that derives from exchanging their own clothes with others, giving to their dresses a second life, making someone else happy and sharing the story of the product (Pedersen & Netter, 2015).

Products. In collaborative consumption models, products are used fashion items which are discarded by first users although still in good conditions: in order to be reused, material qualities and/or limited use are fundamental characteristics for clothes to be

resold to new users. For these reasons, the swapping or rental activities occur for luxury products, whose high material quality allows the reintroduction in the market, or clothes for specific occasions, then not used on daily basis, e.g. maternity clothes or party dresses. If they do not have these characteristics, fashion products shall be at least underused: it is the case, for instance, of a highly volatile consumer who changes styles very often or regretted the purchase.

Revenues. Revenue is generated differently on the basis of CC business models (rental models, platform-sharing models and second-hand models).

In rental models, the main source of revenue derives from monthly subscription fees. Pricing systems vary as follows: the point systems provide for a codification in points for each item and, in line with subscription account, the consumer has access to a delimited number of clothes that can be exchanged any time for something new; the homogeneous price per item system exploit the concept of offering an unlimited product range for a fixed amount; lastly, the heterogeneous price per item system allow the renting of a specific item through the payment of a rate that is predetermined on the basis of product features. The revenue flow is further influenced by number of sponsorships and donations, penalty fees (in case of lost, stolen, damaged or delayed returns) and events.

In case of platform-sharing models, company benefits from a given percentage on each peer-to-peer transaction, since in most of cases registration is free. If the rented items are purchased, the service provider could benefit from a given percentage on the final sale price. Also in this model, revenue stems from events and booking or security fees.

Finally, a company establishing a second-hand business create economic value through flat commission rates, as well as margins on final price depending on product value. Second-hand models become profitable thanks to the income-generating activities of verification and evaluation of material qualities and authenticity of luxury products – bags, shoes and dresses – as well as hosting fashion events (Perlacia et al., 2017).

In general, CC business models benefit from the extended lifespan of fashion items that, being used several times by different users over a long period, generates an increase of revenue stream per garment with respect to take-make-dispose models, relying on volumes sold to product revenue. Moreover, due to increased product life cycle, costs for raw materials are reduced, resulting in a lower price point per garment – thus, a penetration pricing strategy (both for sale and rental) can be implemented (Ellen MacArthur Foundation, 2020; Lüdeke-Freund et al., 2018). The reduced price of CC items

leads to the consequence of an increase in consumers' real income, and the additional purchasing power deriving from it may brings to a boost in individual spending on other consumer goods (Lüdeke-Freund et al., 2018).
Moreover, delivering a service instead a product, by switching from ownership to experience, is considered a profitable activity due to its ability to increase loyalty of consumers, who are in turn more willing to pay to access the service (Ellen MacArthur Foundation, 2020).
What is more, CC models might be a solution to the current issue related to over-consumption – that is one of the major challenges for apparel companies in terms of sustainability efforts. For example, if an apparel lifetime is increased by three months – with consequent reduction in garment purchasing – the associated carbon, water and waste footprint is expected to be reduced by 5-10% (Ellen MacArthur Foundation, 2020). Promoting collaborative consumption practices is then beneficial both for businesses and consumers, as well as the environment (Pedersen & Netter, 2015).

Costs. The costs for running a business based on the idea of alternative mode of consumption are in the first place associated to fixed costs related to physical store maintenance (e.g. rent, electricity, insurance, salaries). If the service is provided only through online platform, the cost of web maintenance and management must be taken into consideration (Pedersen & Netter, 2015; Perlacia et al., 2017). Extra services, for instance dry cleaning, repairing and remaking may be paid by the user, or by the service provider, while the main expenses are associated to shipping costs.

Being the collaborative consumption efficient only if supported by a large fashion community that shares pre-owned products, it is necessary for companies to invest on digital capabilities which are nowadays a priority to build customer engagement. For this reason, costs associated to marketing and communication activities are included in the CC business model (Ellen MacArthur Foundation, 2020).

4.4 Take-make-remake model

In 2019, before the pandemic outbreak, a report launched by Global Fashion Agenda in collaboration with Boston Consulting Group claimed that 75% of consumers in the five countries surveyed considered sustainability as extremely or very important (Lehmann et al., 2019). The coronavirus is going to fuel this trend, and fast fashion may start being

thought “unfashionable” for an increasing range of consumers who are more and more concerned about environmental damages associated to textile production: according to McKinsey, “*the pandemic will bring values around sustainability into sharp focus, intensifying discussions and further polarizing views around materialism, over-consumption and irresponsible business practices*” (Business of Fashion & McKinsey&Company, 2020a). Moreover, the problem of inventory piling up in the warehouses, immediate consequence of store closures, border restrictions and lockdowns is highlighting the need to find innovative solutions to deal with unsold products. Although the problem can be addressed by collaborative consumption, rental and second-hand models are considered not sufficient to face the challenges of textile waste and resource scarcity on their own, especially in the context of large fashion companies (Sandvik & Stubbs, 2019).

In this sense, the current overstock situation, combined with a change in consumer sentiment, can be considered as an opportunity to progress to circular practices especially in terms of material and product flows (Global Fashion Agenda & McKinsey&Company, 2020). In literature, circular practices are considered one of the main implementations of sustainable business models (Stål & Corvellec, 2018). Circular models main characteristic lies in the value creation process, and in particular “[…] *the conceptual logic for value creation is based on utilizing economic value retained in products after use in the production of new offerings*” (Linder & Williander, 2017). Being the extraction of value from “waste” the aim of circular business models, a take-make-remake model is part of the definition of circularity, which a special focus on “*exploiting residual value of products – from manufacture, to consumers, and then back to manufacturing – or collection of products between distinct business entities*” (Bocken et al., 2016).

4.4.1 Recycling and upcycling

Nowadays the sustainability and circular economy opposing the old model of linear economy are object of debate especially in the fashion industry, to the extent that companies are adopting the logic of recycling or upcycling, in line with new needs of the consumer who are increasingly concerned about the protection of natural resources and waste management.

While the process of recycling, which involves the transformation of waste in a product ready for a new use, is already familiar, the term “upcycling” may still be unknown to the

majority of people. The closest translation is “creative reuse”, where the discarded object not only finds a new life, but it does it by acquiring a greater value than the original object or material, differently from recycling process that destroys materials to reuse them in the rough (Han et al., 2015). For this purpose, designers working in an upcycling approach reinterpret materials that for others are waste – unsold clothes, prototypes, fabrics, color proofs – as the starting point of a creative process. These materials are then disassembled, reassembled, colored, enriched with embroideries or particular seams to create something unique and sustainable.

While upcycling is an emerging trend in the field of fashion, especially for luxury products, recycling activities are often thought as necessary condition for fast fashion companies in developing resource circularity: being the quality of fast fashion items lower than the one deriving from high-end production, product recycling may be a better option than reuse, which require a certain level of product quality and durability (Sandvik & Stubbs, 2019). In fact, when a product is considered “cheap” by costumers, these lasts are more willing to throw it away as soon as it goes out of fashion. In these cases, both recycling and upcycling processes are made possible through a conscious design phase combined with fast and efficient collection systems.

4.4.2 Product eco-design

Textile circularity is possible through a proper design phase process, where designers are aware of the different recycling steps that are necessary for each material that feeds into the cycles. From a circular fashion point of view, in fact, garments are conceived - from the beginning - to be made again. This may lead to choose mono materials or design for easy disassembly in order to ensure high levels of material recirculation, whereas item processing (such as dyeing and blended fibres) need to be in line with the common goal of restoring degradation of material quality in a post-consumer stage (Ellen MacArthur Foundation, 2020; Pal et al., 2019).

In this sense, eco-design is defined as the process of creation of product in line with environmental protection criteria. The aim of eco-design is to completely eliminate the negative impact of production process on environment, through an intelligent and responsive design. In order to reduce waste and pollution, the sustainable design involves principles such as material reduction, reuse, recycle, disassembly and reassembly, use of

clean and renewable energy, the reduction of harmful emissions as well as materials' selection, quality and durability. So basically, when speaking about eco-design, the entire life cycle of the product is taken into consideration – and measured through LCA (life cycle assessment). Considerations are therefore not limited to clothes design, but other factors need to be examined, such as the origin of utilized raw materials and the future of the garment once finished using. It is also important to minimize the diversity of materials present in a fashion item, in order to simplify the disassembly – and thus the reuse or recycle of the product – without sacrificing style, factor that the consumer is not willing to renounce.

Eco-design and circular economy go then hand in hand, and it is not sufficient to use a recycled material to address circular economy principles. Companies aimed at integrating the circularity in their own businesses could take into consideration the use of circular design strategies in their processes; these includes the design for disassembly through the choice of single-fiber materials to allow the recycle or upcycle at the end of product life as well as a design for durability and longevity – concepts that collide with the fast-fashion paradigm. In this strategy, a system of collection of end-of-life clothes is necessary to feed the circle again.

4.4.3 Collection systems

The economic aspect of developing an efficient take-make-remake system need to be considered. First of all, recycled products must be in line with the current prices of production; secondly, emissions and resource use deriving from the activities of recycling must not exceed the current levels of garments production. In addition to these considerations, the cost of developing new technologies and infrastructures – needed by a recycling system to be totally efficient – may discourage fashion leaders to invest extra cost into the existing system to make it adaptable to the new purpose.

The size of fast fashion companies requires a change in the supply chain as a whole and the alignment of all stakeholders involved in good production. In fact, in order to benefit from the economies of scale deriving from technology developed for textile recycling, a certain amount of clothes is necessary; being the size amount collected enabler of technological progress in this field, the role of consumer in the circular system is crucial to provide enough textile and clothes to maintain an efficient stream of recycled materials

(Sandvik & Stubbs, 2019). Thus, in a perspective of textile recycling optimization or product reuse, the company needs to facilitate consumer engagement in clothes returning, for example by organizing the collection of clothes through campaigns.

Moreover, large fashion companies collaborate with collectors firms which are responsible for the collection and subsequent alternatives among recycling, reuse and reselling, that is, reverse logistic solutions. For instance, the Swiss company I:CO exercises in the field of textile recycling by collecting clothes from partners (mainly fashion firms) and sorting them by wearability: the items that can still be worn are sold as second-hand clothes, while the end-of-life clothes are recycled (thus destined to become, in the majority of cases, cleaning cloths or other manufacturing materials) or burned. The relationship with collector firms is then necessary to manage the textile waste stream.

Finally, the collaboration between large and small fashion firms is aimed at:

- enabling logistic process;
- systematizing the material access on industry-wide basis;
- attaining a sufficient scale to push technological progress in the field of recycling (Sandvik & Stubbs, 2019).

4.4.4 Effects on business model

Value proposition. The point of view of circular economy extends the value of fashion product through three phases: firstly, at the purchasing phase, then at the consumption phase and finally at the reuse and end-of-life phase. For this reason, the value proposition of recycled/upcycled product incorporates the product's post-consumer value flows (Kant Hvass & Pedersen, 2019): product life extension design strategies – among them repairing and remanufacturing activities - are then implemented to exploit the residual value of product and give rise to an affordable "as new" product (Bocken et al., 2016). The value proposition is then associated to the company's ability to transform discarded products and materials, deriving both from customers (used clothes) and B2B partners (production residues) into a new, available and affordable fashion apparel, whose quality is guaranteed (Lüdeke-Freund et al., 2018).

Being considered sustainable practices, the activities of upcycling and recycling materials attract consumer's interests on the basis of personal values and beliefs: in this sense, the

value associated to such product is enhanced by the greenness and eco-friendly features it embodies.

Society. Extending product use through collaborative consumption practices, for instance, are not sufficient to sustainably manage the big amount of textile waste that is produced every day – also because any dress will be worn-out at some point. By promoting recycling and upcycling practices, textile waste is employed as a resource: instead of opting for incineration or landfill, the lost value of textile waste is exploited, creating benefit for the environment and the society by increasing jobs connected to activities of collection, sorting and recycling facilities (Ellen MacArthur Foundation, 2020).

The issue of resource limitedness is strictly linked to emerging legislation restraining resources' access and utilization. Fashion companies should start design their activities in the perspective of legislative frameworks changes in terms of sustainable management of textile waste (Sandvik & Stubbs, 2019).

In general, circular business models are expected to create value for companies, customers, the environment and society as a whole by reducing consumption of environmental resources and promoting changes in consumer behavior; these practices will lead, in the long term, to increases in cost savings and reductions of negative environmental and social impacts (Lüdeke-Freund et al., 2018).

Partners. Nowadays, governmental and institutional pressure on circularity of resources and attached incentives is growing: in some areas, companies are already encouraged by specific taxation benefits to take part of collection and recycling activities (Ellen MacArthur Foundation, 2020). Governments are just one component of the complex framework allowing clothing collection and recycling, depending on a strict collaboration between companies and various stakeholders, among them researchers, collector and recycling enterprises (Bocken et al., 2016; Lüdeke-Freund et al., 2018).

In-store take-back activities, if not made independently, necessitates the partnership with a charity or professional collector: especially for large fashion chain, a professional global garment collector is fundamental to manage the flow of resources throughout its reverse logistics infrastructures. Highly specialized companies are then needed to implement the activities of textile sorting and recycling (Kant Hvass & Pedersen, 2019).

Moreover, in order to create a scalable and reliable new supply of recycled textile, the collaboration between large and small companies is crucial; working side by side to attain

a common goal allows the creation of logistics and achievement of a systemic access to materials for the entire fashion industry. Last but not least, the creation of a significant demand for recycled inputs will encourage researchers to invest on ad hoc technologies (Sandvik & Stubbs, 2019).

Resources. Resources used in a recycling or upcycling process are, by definition, textile scrap: the final aim of the manufacturing activities is creating a fashion collection utilizing textile waste (Han et al., 2015; Lüdeke-Freund et al., 2018; Sandvik & Stubbs, 2019). This goal is achieved by investments in plant and machineries that support the restorative process of turning waste into something valuable; moreover, structural capital related to infrastructures allowing the redistribution of collected textile waste is necessary to create the optimal conditions in which recycling or upcycling processes can be initiated. This "value creation and delivery" process necessitates an efficient network of take-back systems as well as a strict collaboration between partners (see section above) to gain significant product returns (Bocken et al., 2016).

As regard intellectual and human know-how, recycling and upcycling business models require specific skills and expertise in design and material science fields – in order to being able to deal with chemical and physical specificity of materials in use (Lüdeke-Freund et al., 2018). Designers' role is considered crucial both in activities of recycling and upcycling: if on the one hand the material composition of a garment, determining its ease of recycling, is decided a priori during design phase (Sandvik & Stubbs, 2019), on the other designers are responsible for activities of sourcing, design and production of upcycled products (Han et al., 2015).

Moreover, since the take-remake-model require a significant amount of textile waste to be feasible, customers need to be informed about the collection service as they enter the store, or by scrolling the social media feed. The engagement of individuals is crucial in establishing a well-functioning take-back system that ensures a certain amount of "already-used" inputs to be reintegrated in the production. In this sense, the ability of store personnel and marketing department in communicating and engaging with costumer is crucial to the proper functioning of the overall system (Kant Hvass & Pedersen, 2019).

Processes. The business model allowing a take-make-remake system is based on the idea that reverse logistics replaces inbound logistics: in this way, waste is used as a resource

without the need of obtaining new raw materials, textiles scraps are redistributed back at different stages of the supply chain, and circularity is obtained (Sandvik & Stubbs, 2019). Being textile waste and discarded clothes the actual production inputs, the company needs to collect sufficient amount for the system to be feasible and applicable to each business case, justifying investments in supporting technologies (Bocken et al., 2016; Sandvik & Stubbs, 2019). The main activities in this first phase are then limited to creating connections with suppliers and customers and implementing an efficient collecting system (if not provided by specialized partners, see dedicated section).
Once production inputs are obtained, product development processes play a crucial role for allowing the creation of new, attractive fashion item to be sell in the store. Moreover, in the design phase, garments should be conceived by considering a long-term view on recyclability of materials used. Designers, like the other member of the organization, are aligned with organizational strategy, structure and culture, and such alignment facilitates the achievement of business goals (Kant Hvass & Pedersen, 2019): in this sense, the communication and marketing departments work together with store personnel to communicate the company mission and involve customers into the creation of a circular loop.

Costumers. When a brand decides to implement a new in-store garment collection system, it is not relying on customers' need for new clothes, but rather on emerging environmental awareness and desire to take part of a system focused on product reuse and material recovery (Ellen MacArthur Foundation, 2020). Due to the crucial role played by consumer in the shift towards a circular economy, achieving a certain level of consumer engagement is necessary (Kant Hvass & Pedersen, 2019). This can be done by a proper education program, that is, putting all organizational efforts on communicating messages about environmental impacts of clothes and the value hidden in discarded garment: costumers need to be informed, before asked to make a contribution (Lüdeke-Freund et al., 2018). The educator role of company is essential for acquiring new, active customers, besides those that are already informed and concerned about sustainability of textile industry.

Products. In order to ensure circularity, products need to be designed for high durability, longevity or recyclability. Promoting recyclability of garment is a matter of materials easy disassembling: to achieve this characteristic, mono-materials clothes are in most of cases

the best solution, also because technology enabling the disassembling of blended fabrics is nowadays still on experimental stage (Sandvik & Stubbs, 2019). The product offered is then characterized by material durability (which allows repeated recycling actions) and ease of disassembling, in order to be recycled at the end of its life and reintroduced in the market without negatively affecting its final value (Ellen MacArthur Foundation, 2020).
Moreover, the company acquires value through the implementation and offering of specific services, among them take-back programs and redistribution of resources through available infrastructures (Lüdeke-Freund et al., 2018).

Revenues. The business entering in the current textile waste streams could benefit from the business opportunities of a still unexplored market: by 2030, the contribution of textile waste in global economy is expected to be around €4bn. Some examples deriving from Scandinavian multinational fashion brands shows that business commitment in product circularity is going to be a competitive advantage in the apparel industry in the very near future (Sandvik & Stubbs, 2019). In particular, the firm can profit from the reduction of material costs, which in turn allow a decrease in overall cost while supporting product differentiation, making the use of collected materials an appealing option for manufacturers (Bocken et al., 2016; Lüdeke-Freund et al., 2018). Moreover, the price of final product, especially if derived from upcycling processes, may be increased to a premium price that more and more people are willing to pay for environmentally friendly fashion products (Lüdeke-Freund et al., 2018).

Costs. Costs associated to take-make-remake models differ on the basis of the activities that need to be implemented when deciding to increase resource circularity.
First of all, resources need to be collected through an efficient take-back system, which involves numerous transaction costs – information, planning, inventory, travel and transportation costs, as well as costs associated to time waste and employee training. It goes without saying that some of these costs could be reduced by deciding to enter into a partnership with a professional collector: in this case, transaction costs are minimized while costs for managing the relationship with the right partner are increased (Kant Hvass & Pedersen, 2019). In general, relying on an outside company which takes charge of management of take-back systems and reverse logistics seems to be, at the moment, the least costly and risky solution.

A take-back system involves increase in costs related to lost store space, marketing and communication costs and general administration costs to handle product take back. Sometimes, incentives are created to encourage customers to return dismissed clothes, and such investment might be significantly expensive. In general, the active participation of consumer is a great challenge for a fashion company, and it needs to be supported by huge amount of cash devoted to communication strategies aimed at promoting the complex message of returning old clothes to a store. In this context, training of store personnel is necessary to support the success of such ambitious marketing strategy; interactive social media channels and e-commerce presence, as well as promotional events, are part of the same promotional strategy (Han et al., 2015; Kant Hvass & Pedersen, 2019).

Secondly, the resources collected need to be reintroduced in the production stream: according to a recent research, organizational routines appear to be unsuitable for the implementation of a circular initiative, which requires new (and costly) competencies and skills. In addition to issues linked to knowledge acquisition in design and material science (Lüdeke-Freund et al., 2018), the lack of technology supporting a large-scale textile recycling causes the recourse to current sorting practices which are still done manually – unsustainable in the context of a global fashion market and unfeasible for any company, regardless of the size. For these reasons, recycling and upcycling activities requires huge investments in research and technology, as well as infrastructure for used garments, which can be supported only by a collaboration between industry actors (Ellen MacArthur Foundation, 2020; Sandvik & Stubbs, 2019).

4.5 AI-based demand forecasting and product design

The Covid pandemic, and its effect on the consumer spending, has generated a decrease in clothes and apparel demand, highlighting the importance of the use of new technologies to implement demand forecasting and product design. The forced closure of stores and pause of the entire fashion system during the lockdown may be the starting point for a further development of fashion digitalization, from design to sales, through an increasingly necessary omnichannel approach, made-to-order processes and so on – made possible by the enhancement of automation through Artificial Intelligence.

Already before 2020, competition inside the fashion industry, combined with high level of unpredictability of consumer demand, made the market difficult to satisfy and challenging to accomplish; from one side, mass-market fashion companies are fighting against born-digital startups, that are able to reproduce the style of the moment and deliver products to customers in a few weeks (Jin & Shin, 2020). On the other side, apparel companies are losing influence in trendsetting: due to the rising role of individual influencers and stylish consumers in determining today's hottest trends, companies are losing their power to determine trends via ad-hoc ad campaigns. In addition to that, the decreasing full-price sell-through poses the pressure on profitability, and growing environmental awareness related to textile overproduction and footprint issues necessitate production processes able to adapt to on-demand replenishment (Andersson et al., 2018).

The impact of automation and AI in manufacturing apparel industry was therefore a rising trend even before the pandemic outbreak, and its role in promoting a demand-driven business models has increased in importance during these dark times, since the expected growth in inventory levels (+76%) stresses the need to find immediate solutions to season realignment and reduction of overproduction (Berg et al., 2020): the combination of factors driving the disruptive change in fashion industry, among them uncertain demand and sales volatility, put the emphasis on a more flexible supply chain. In order to face the slow recovery from overstock issue and vicious cycle of discounting, the fashion calendar should be updated.

The flexibility of supply chain involves different stages of process - including product design – to be as fast as possible in meeting consumer trends and needs, providing a responsive solution to satisfy them, while tackling the current overstock issue. In this sense, the use of data and Artificial Intelligence in fashion industry, despite being already known, is necessary a context of digital escalation and online channels importance, resulting in a volatility of future sales curve. In this next normal, the priority will be then given to full-price improvement and product margin – without forgetting sourcing costs – and this priority is addressed by companies through the achievement of a demand-driven paradigm shift (Global Fashion Agenda & McKinsey&Company, 2020).

4.5.1 AI in fashion

Even earlier than the Covid pandemic, the fashion industry was moving the first steps towards digital transformation, increasing its ability to produce and use data to facilitate knowledge co-creation and evidence-based business decisions (Acharya et al., 2018). In fact, since the emergence of Internet, customers have started to become more demanding in terms of product personalization and the production of enormous amount of data has encouraged companies to exploit them in order to optimize their business activities and align production (Thomassey & Zeng, 2018).

Moreover, the shift to bottom-up trend setting is a crucial factor affecting sales volatility and development of automation of processes inside the fashion industry. In the past decades, consumers' demand was strongly influenced by ad campaigns of apparel companies – fashion was then a result of a "push" model. The emergence of Instagram, internet communities and user reviews have shifted consumer attention to individual trendsetters (for instance, influencers) who determine what is in fashion and thus affecting design and product development process at organizational level – changing the model from the "push" to a "pull" model, where fashion items are conceived and produced on demand. The change in consumer demand is then putting pressure on fashion firms to increase their responsiveness and adaptability, generating big amounts of data that need to be analyzed and used through sophisticated automation programs (Andersson et al., 2018).

In order to manage big data and acquire competitive advantage in a more and more digitalized world, the use of Artificial Intelligence provides techniques and implementations to face the challenges of performing data-driven operation in an efficient way; as already mentioned above, the current situation has made this trend of primary importance. For this reason, AI applications in demand forecasting and supplying, as well as product design, are briefly described below.

4.5.2 AI for trend and demand forecasting

In the past, forecasting methods in fashion industry were evaluated on the basis of three different criteria: the first involved forecasting accuracy, while the second and the third referred respectively to the ability of running speed and being able to derive predictions

from a limited amount of data. With the advent of big data and cloud computing, the amount of data available to analysis and prediction is increased: nowadays, big data represents large volumes of data of different forms whose size continues to grow and change. While the traditional sale forecasting methods were suitable for the analysis of small-scale datasets, they could fail when approaching to big data, that, due to its complex nature, are difficult to organize and clean from noise. In this sense, Artificial Intelligence is considered the best option when dealing with large datasets, since its fast computation speed and non-linear processing abilities are crucial features for the prediction and forecasting of fashion sales and trend in the current context of big data (Ren et al., 2018).

Often marketers use the terms "predictive analytics" when speaking about techniques exploiting historical data to predict campaign effectiveness, demographics trend opening up to new targets groups and so on. Predictive analysis is a widely used approach which allows, for instance, to make recommendations about the clothes size to choose when purchasing online, based on previous customer's experience and fit (Gu et al., 2020). AI machine learning is a consequent application of predictive analytics, but, differently from the latter, it is able to autonomously make and verify assumptions, and learn from them (Reavie, 2018).

For this reason, the deep-learning algorithms of AI, inspired by human neural networks, gives the possibility to anticipate consumer demand and trends, and they represent a solution to reduce inventory levels and product waste - both serious issues of these times – by providing accurate forecasting predictions. At the same time, AI is useful for predict fashion trends, by scanning the colors, patterns, size more clicked in the social media images and e-commerce website and giving an anticipation of what consumer really need and demand (Gu et al., 2020).

4.5.3 AI for product, inventory and supply chain management

The Covid pandemic has highlighted the scarce investment in technologies able to improve the performance of supply chains, especially the globally distributed ones. Lack of transparency and traceability, inventory overload and poor work conditions are some of the fashion industry bigger problems that Coronavirus has only exacerbated.

In particular, the inability of predicting demand has always caused an oversupply of some items and the shortage of some others, and fashion industry, due to its discretionary nature and worldwide-distributed supply chains, is no exception. According to Fisher (1997), the strategy for an efficient supply chain management is dependent on the nature of product demand, that is in turn, determined by factors such as product life cycle, demand predictability, product variety; the product can be then categorized in two groups, namely primary functional or primary innovative, and the supply chain should be implemented according to the type of good produced.

The changing nature of fashion industry has made demand forecasting difficult to perform. In this sense, the decrease of product life cycle as a consequence of fast fashion paradigm gives primary importance to the activities of prediction, in order to correctly manage the amount of inventory manufactured, while at the same time avoiding the decrease in margin in case of discounts – or worse, a complete loss in case of unsold products. For this reason, the role of AI and its applications to fashion supply chains is crucially important to develop a demand-driven business model, able to provide more accurate demand predictions and fewer markdowns, while reducing inventory levels whose acceleration is expected to reach a +76% (Global Fashion Agenda & McKinsey&Company, 2020).

4.5.4 AI for product design

The AI can be applied in the product design process, with a huge potential not only for an aesthetical and customer-centric point of view, but also to address the problems related to overproduction and over-consumption. Clothes and accessories created on digital basis mitigate the need of stocks by promoting a make-to-order business models, where a bigger variety of options and explorations allow the company to increase their competitive advantage (Santos et al., 2020). Product creation and customization is made possible by AI without the need of inventory and stocks level as intermediaries. According to recent researches (Jin & Shin, 2020; Lieber, 2019), the future of fashion passes through virtuality, which allows the customer to be constantly updated with latest trends – without neglecting affordability and sustainability.

For instance, Amazon, exploiting the previous investments made on Artificial Intelligence and machine-learning algorithms development, is creating an innovative production

process in which garments are designed, cut and sewed with minimal human supervision. The in-depth analysis via algorithms allows the clothes produced to be in line with current trends and customer demand (Jin & Shin, 2020).

All in all, the combination between AI and Rapid Prototyping – allowing an automation of creation of fashion items – are fundamental technologies for the digitalization of the product. Such process enables designers to conceive the new "must have" fashion products which are in line with consumer tastes and need in constant evolution (McMillan, 2019).

4.5.5 Effects on business model

Value proposition. The implementation of Artificial Intelligence and automation in fashion industry helps in the delivery of a unique value proposition: the promotion of an accurate product design combined with the delivery of highly customized styling services, both more closely aligned with consumer needs (Jin & Shin, 2020).

In particular, AI implementation in the processes of product design may improve organizational ability to test different styles and quickly respond to changes in fashion trends: consumer feedbacks are the new starting point for the design of new products that combine existing styles with market demand. The use of algorithm is crucial in assessing the skills to satisfy consumer needs of specific set of product features, and then combining the most promising ones in a single item (Jin & Shin, 2020; Müller, 2019), that could be quickly reproduced and available in store within days. This leads to the avoidance of early sellout of successful styles and markdowns that could result in cannibalization and brand dilution – with a consequent increase in brand position over the long run (Andersson et al., 2018).

At the same time, customization appears to be one of the major priorities for apparel companies to maintain competitive advantage. Consumer involvement in the design of their own products is allowed through AI technologies, and it is expected to boost customer loyalty; especially in the field of fashion, where outfits are intended as visual representation of self-image, personalized products are considered deserving a premium price (Mattos et al., 2020).

Society. The advancement of automation and AI implementation in the context of garment design and production is nowadays a key priority for fashion companies to promote a

sustainable production loop; the current crisis of retail, combined with a decrease in spending, caused an excess of inventory that, besides being costly to manage for companies, is increasingly acquiring public interest in terms of waste management.
From a legislative point of view, the French government is already taking action to forbid fashion companies to throw away or destroy unsold goods by 2022 – thus avoiding the loss of about 800 million euros per year that the total amount of discarded clothes leads to (Matthams, 2019). While France has decided to face the challenging issue of overproduction and waste, similar legislative measures are expected to be taken by other counties: apparel companies need to change the way in which fashion products are designed and aligned with market needs, in order to solve the problem at the source.
In this sense, automation and AI improvements may help in establishing a demand-driven business models which result in accurate demand prediction and fewer markdowns, that, combined with in-seasonal retail and smaller product range, could face the social and environmental problem of increasing inventory levels (Global Fashion Agenda & McKinsey&Company, 2020).

Partners. In acquiring knowledge and technologies necessary to address the challenge of implementing Artificial Intelligence in production processes, collaboration with suppliers is growing in importance: in particular, apparel brands will need to establish partnership with global mega suppliers to ensure worldwide advancements in manufacturing capacity and capabilities. The selection of strategic manufacturing partners should be based on their already-acquired experience in AI field. For this reason, collaboration with local governments and industry associations is needed to support the evolution of new manufacturing clusters (Andersson et al., 2018).
Moreover, technology companies are fundamental components of the new partnership network allowing AI advancements and developments in automation solutions; experts in IT-related aspects will heavily contribute in the technological improvements that are currently far from be achieved by most manufacturers and apparel brands (Andersson et al., 2018; Müller, 2019). Investments in technology companies necessitate, in turn, of financial partners – such as private equity and venture capital firms – that could give the possibility to access to new skills and knowledge.
Furthermore, apparel companies are expected to work together to join forces – in terms of investments and competencies – to support an efficient technological progress in the industry: a step that has already been taken in automotive industry that is witnessing a

partnership agreement between two rival firms (BMW and Mercedes-Benz) (Mattos et al., 2020).

Resources. An AI-enabled apparel firm relies on two main resources; first of all, tangible resources such as production facilities and equipment need to be aligned, or in majority of cases, purchased in conformity to the requirements of this technology (Müller, 2019). The adaptation of existing machinery, namely retrofitting, or the purchase of new automatic systems requires a considerable investment of financial resources.
Secondly, once equipment is installed, the company needs new, highly skilled personnel – or alternatively, the retraining of existing one (Müller, 2019). An opportune development of organizational talents and an active effort in acquiring external capabilities conveys the idea that the main resource to be implemented is the one regarding human know-how and intellectual capability (Andersson et al., 2018)

Processes. The fields of AI and automation application will be numerous: from the point of view of product development process, for instance, Artificial Intelligence is likely to improve the process of creation itself by identifying elements such as color, fabric, patterns and cut based on the past sales performance and future prediction indicators. In this context, the activities of data analysis are introduced to comb through the big amount of data necessary to predict product features that are going to be preferred by consumers (Jin & Shin, 2020; Müller, 2019).
Moreover, AI gives to brand the power to implement an informed buying decision-making by analyzing real-time market performance of products based on detailed attributes and shifting trends. This gives the possibility to commercial department to be consistent and up to date with market needs.
From the point of view of supply chain management processes, AI could improve efficiency, flexibility and sustainability: while the combination of historical data with real-time data promotes accurate time-to-market forecasts, an on-going analysis of inventory performance and emerging trend gives to companies the ability to stop in advance the production of goods that will not be sold and to increase orders on well-performing items. Finally, sustainability is obtained through the identification of factors that have negative impacts on the environment, and act accordingly in finding more sustainable suppliers and modes of transport without neglecting feasibility.

Finally, the activities of outbound logistics benefit from the AI since it gives to company the possibility to differentiate channels and distribution practices on the basis of real-time data on customer preferences.

Customers. Due to the consolidation of social media as channels for exchange of fashion ideas between users, consumers are influenced by photos, videos and reviews that can be easily found online. For this reason, the fashion company needs to analyze consumer insights in order to switch enough quickly from a push to a pull model (Andersson et al., 2018). The fashion-conscious individuals, who take inspiration from social media and buy clothes online, are the largest application segment of AI-enabled design and demand forecasting. Artificial Intelligence could help the company in exploring new value propositions identified through the analysis of data, with the consequent ability to address new customer segments (Müller, 2019).
Moreover, being automation a tool for customization, it could give to brand the possibility to acquire new customers by offering them the possibility to co-create the goods they are going to wear. This process is valuable especially for the younger customers, who are the most likely to pay a premium price for customized products (Mattos et al., 2020).

Products. AI and automation allow the production of demand-generated fashion items that are in line with latest trends derived from data collected online. Clothes may be then produced through the application of machine learning and automatic production processes, especially in sewing stages – field that is still lacking of proper, efficient technology (Andersson et al., 2018). The impacts of such technology also occur in terms of customer service: AI is able to promote assistance in personal online shopping by suggesting clothes and accessories based on most liked and clicked posts or past purchases. Moreover, AI enables the process of customization of fashion products. Both services are responsible for an increase in customer loyalty and engagement.

Revenues. The automation and Artificial Intelligence in fashion industry are able to generate profits from different activities: first of all, a demand-driven production reduce the inventory levels and the costs attached to its management, with an action that is beneficial also in terms of environmental sustainability. It is the case, for instance, of the actual hug amount of inventory piling up in the warehouses, since the consumer spending was drastically reduced in the first months of pandemic crisis. In this sense, processes of

automation of production could positively impact the apparel firm by reducing time-wasting activities that nowadays are performed by humans (Andersson et al., 2018).
From the point of view of customer relationship, the increased ability in demand forecasting lead to returns minimization, and, in general, to generate higher profits deriving from offering to customers what they want when they want (Jin & Shin, 2020). Among the most efficient techniques for a good customer care, we have to cite the purchasing suggestions that support or encourage customer to repeat or go on with the purchasing process.
Finally, highly customized fashion goods may justify an increase in price (Mattos et al., 2020).

Costs. The costs associated to the technological development that is necessary to automation and Artificial Intelligence in production process are mainly related to investments in innovative technologies that are still missing today, especially at cut-make-trim stages (Andersson et al., 2018). Before reaching a certain level of automation, which will enable a production costs minimization and a reduction in lead times, the apparel company must invest in research and development activities to ensure relevant workforce skills and mindsets. In particular, both training costs for developing existing talents and incentives to attract external ones contribute to the increase in costs (Andersson et al., 2018; Mattos et al., 2020).
At the same time, additional competencies may be needed for increase efficiency in high-tech machinery – in terms of installation and maintenance. If the proper technology is not purchased by the brand itself, running a proper relationship management aimed at acquiring new highly specialized IT partners could impact on relational costs (Andersson et al., 2018).

4.6 Omnichannel retail

In retail, the effects of Covid 19 seems to have simply accelerated some trends that were already in motion during the previous years. Prior to pandemic, the rivalry between physical and digital store had been already overcome: consumers were increasingly moving from one channel to another while going through their costumer journey, and the fusion between online and offline, combined with the creation of multiple channels, was

considered being the only applicable strategy for retailers to satisfy demands for flexibility of an increasingly demanding customer (Bethan & Cano, 2019).

If up to one year ago the true challenge of retail was putting different channels in contact with one another, to encourage the realization of a valid customer journey and consolidation of brand identity, nowadays retail sector is struggling with a huge decrease in sales level, especially for clothes and accessories (-89%). Moreover, a general sentiment of uncertainty and fear generates an increase in savings and a cutback on spending, typical features of a global economy entering recession (Deloitte, 2020b).

If on the one hand physical retail is facing hard times, on the other the acceleration of digital sales recorded in the first month of Covid crisis is putting the emphasis on the necessary capabilities of companies to develop strong platforms and sophisticated data analysis to maintain loyalty of costumers. Customer that, being unwilling or unable to enter in physical stores, are switching more easily their favored brands for ones that can be purchased in contactless and safer ways (Begley et al., 2020). In this sense, company's ability to provide their consumers with alternative digital solutions to shop will be an important driver of brand loyalty (Accenture, 2020b).

The online presence of brand is then a trend that is expected to increase, as the convenience and usability of these methods of selling goods is acknowledged and experienced by costumers. For these reasons, companies need to develop (or acquire through M&A) new competencies that allow them to combine their physical presence with online platforms and pick-up in store solutions, making thus necessary an omnichannel approach allowing them to reach costumers and, in short, survive (KPMG International, 2020).

4.6.1 E-commerce penetration

Even before the pandemic outbreak, the increasingly intensive use of digital devices to purchase goods and evaluate products was already pushing companies to consider online channels as a source of competitive advantage. Coronavirus, with the consequent lockdowns and physical distancing measures, has forced many companies, especially the ones operating in fashion industry, to reconsider e-commerce as the only essential answer to their struggling businesses; an efficient e-commerce and digital capabilities are now

crucial to serve a bigger and bigger portion of customers, some of them entering the first time in an online platform. For this reason, the expected post-Covid increase in e-commerce penetration is around 10 to 15% (Begley et al., 2020).

The consumer shift to online shopping is a trend supported by numbers: it suffices to think that the 40% of consumers who had never shop online before the pandemic, has approached to the e-commerce solution, while at the same time the 26% of respondents express their willingness to reduce shopping activities in physical stores even after Covid-19 (Global Fashion Agenda & McKinsey&Company, 2020). Moreover, the expansion margin of e-commerce may be even higher: in this moment of global crisis due to Covid, online sales of some brands are reaching high peaks – for example, huge increases had been registered in China (+250%). At the same time the decrease in sales in physical stores had already been shown for a long time, on average of 5% per year: it is therefore an apparently irreversible trend. It is not a question of single brand, country or location: after a peak following the opening of a new store, the number of customers entering in physical shop decreases, and this is the reason why an omnichannel approach is necessary (Illiano, 2020).

This increase in transitions on online channels forces companies to have an e-commerce system solid and secure. In order to proceed on this path, retailers have now two main options: internalizing the management of their own e-store, as Kering and Aeffe have already done, or establishing collaborations with companies able to develop platforms and delivery activities, as for example in the case of Marks & Spencer's partnership with Deliveroo (KPMG International, 2020). In any case, the Covid has only accelerate a process which started years ago and actually reflects the beginning of the transition to omnichannel retail: companies which have been less affected by the preventive measures taken, e.g. lockdowns and physical distancing, are the ones that had previously developed internal structures to attain a single management of all sales channels.

4.6.2 BOPIS option

The increased interest in online shopping due to pandemic restriction is a trend that, despite having anticipated 10 years of growth in consumer and organizational digital adoption in a matter of 90 days (Fiedler et al., 2020), is expected to reconfirm itself as a new habit in the new, post-pandemic normality. For this reason, it is important for

companies to understand what and with which extent organizational solutions to online purchases have permitted the company to survive in dark times and will create a "must-have" in the future. In particular, the rise in online shopping, mentioned above, is likely to lead to an increase in BOPIS (Buy Online Pickup In Store) options, a solution which already the 50% of users have expressed their intention to benefit from – even after the dust settles.

This trend, combined with curbside pickup and delivery of goods, is a great opportunity to combine the capillarity of physical stores with the need for a safe and convenient online experience. Click and collect model in fact, allow the costumer to make their purchases online and pick up the goods in store, without having to spend too much time inside the boutique – with the fear of infections – while at the same time decreasing the risk of receiving a wrong or damaged good, or not receive it at all due to issues in delivery. A recent Deloitte report claimed that the main factor motivating customers to choose BOPIS is its safety, followed by convenience (Deloitte, 2020b).

Moreover, the BOPIS approach is a way to attract more consumers inside the point of sales, where they can be encouraged, thanks to personalized suggestions provided by shop assistants, to buy complementary products (through up selling and cross selling techniques). The online purchase allows the company to collect data on customer preferences, that can be easily used to promote a tailored customer experience, especially relevant for fashion items: if the customer bought online, for instance, a new dress, once arrived at the store he/she can be advised to buy a combined jacket or other complementary accessories.

The online commerce and the physical store, in order to promote a BOPIS approach, must be part of a well-oiled machine, where the omnichannel model is exploited and guaranteed; the physical retail is then subject to structural changes aimed at promoting the new relationship with the digital aspect of sales.

4.6.3 Reimagination of physical store

An omnichannel retail integrates the physical dimension of point of sale with the rise in digital and online services (e.g. cashless, delivery, BOPIS) in order to provide the consumer with the most valuable offer. For this reason, Covid outbreak, combined with

the digital acceleration of sales, is heavily affecting the role and functionalities of the physical store so far known. In particular, companies need to look at the new values sought by costumers in their shopping experience and adapt their store concept to comply with them to increase brand trust and loyalty.

In a context of traumatic and uncertain humanitarian crisis of Covid-19, lot of people have put safety and hygiene standards in the first place. This change in values is reflected in the shopping experience, that is expected to guarantee shoppers' and employees' safety through the compliance of hygienic guidelines such as plexiglass at checkout counters, limited numbers of customers that can be in store at once, availability of hand sanitizers at the entrance and so on. The communication of new hygienic standards is to be communicated in a proactive, clear and empathetical way in order to give to costumers the tranquility of shopping in complete safety.

At the same time, retailers need to balance social interactions – which are valuable for an optimized shopping experience – with the increased concerns about personal health. For this purpose, the use of mobile technologies are helpful for the creation of an hygienic and valuable shopping experience (Fiedler et al., 2020): besides the possibility to pay in a contactless way, thanks to mobile, consumers tend to recognize the importance of navigating quickly inside the store; many smartphones apps could be created to facilitate the costumer journey, addressing the current customers' need to spend as little time as possible in physical stores and in the future, enabling them to find products faster. For this purpose, the retail experience needs to be further digitalized, e.g. employees equipped with digital devices or development of mobile apps to optimize shopping experience. The use of technology, while providing customer with next-level experience, could give to the company the possibility to establish a dataset based on customer preferences and interesting shopping habits insights.

Moreover, due to the abovementioned increase in online sales and online order pickers, stores are expected to change their structures by developing features inspired to pick-up points, e.g. fast zones of most wanted online items placed at the entrance; the shift from large size stores to small physical shops, where consistency with online channels is maintained and optimized, will turn out to be the solution to bolster margins and economize store footprints and labor forces (Begley et al., 2020). These changes, affecting store networks and reducing overall store floor space, are driven by a bigger and bigger

portion of consumers who, after the experience of lockdowns, are going to switch purchase preference in favor of online channels, redefining the role of physical stores as mini-fulfillment centers and places where brand identity is further communicated to consumers (Global Fashion Agenda & McKinsey&Company, 2020).

4.6.4 Effects on business model

Value proposition. The pandemic outbreak has given rise to two main essential features both digital and physical retail must have: availability and safety. In particular, the consumer of the current new normality is more willing to switch favored brands with more available ones which at the same time can be purchased through a safe method (e.g. contactless payment) (Begley et al., 2020). For these reasons, an omnichannel experience should be able to exploit the digital capabilities of an efficient e-commerce without neglecting the value of a physical presence.

The value proposition associated to digital retail can be linked to the ability to transform data into helpful insights which enable the connection wi

th consumers and the provision of additional services and value, especially in terms of instantaneity, accessibility, availability and safety of online buying experience (Deloitte, 2020b; Fiedler et al., 2020).

As regards physical fashion stores, the possibility of interacting with garments, evaluating their qualities in real life and trying them on, is still of primary importance for customers. However, the shopping experience must be nowadays lived in conformity with new safety standards and digital capabilities. Brands will obtain added value by offering high-hygienic environments, through reconfiguration of check-out and store layouts, combined with the introduction of digital technologies (e.g. phones, apps) and online features (buy-online-pick-in-store option) in the physical shopping experience (Fiedler et al., 2020; Kohli et al., 2020).

Society. Companies need to leverage trust in order to maintain market share, since the physical health of consumers and employees is now more than ever a key priority. Governmental actions in terms of safety and hygiene preservation require companies to be compliant to social distancing measures and use of hand-sanitizer in stores, as well as the shift to contactless options for every firms operating in the fashion sector (Deloitte, 2020b). In this optic, the omnichannel approach, facilitating the implementation of buying experience in digital spaces, allows the reduction in store crowding; at the same time,

promoting BOPIS options allows the consumer to collect the purchased goods in the safest possible way, without entering physically in the store, which would increase the risk of contagion.
The implementation of such safety standards is beneficial both for companies employees, e.g. shopping assistants who work in the stores, and the consumer himself/herself.

Partners. In the process of implementation of digital capabilities and reimagination of physical stores, the introduction of new partnerships may be profitable for fashion retailers in the next normal, since the industry requires new competences, technologies and skills to satisfy emerging customer needs (Begley et al., 2020). For instance, the promotion of certain product categories deriving from new suppliers, e.g. homeware, could address the consumer demand for products related to home activities; by doing so, the fashion company is able to attract new consumer by exploring new market through partnerships with new suppliers (Deloitte, 2020b).
At the same time, the collaboration with companies responsible for the delivery of goods purchased online must be consolidated in order to grant an efficient service and successfully face the increase in online orders.
Finally, partnerships with companies allowing the compliance with safety standards (e.g. supplier of hand sanitizer and masks, plexiglass, etc.) is of primary importance.

Resources. Establishing a successful online commerce is based on the optimal flow management which allows the processes of collection and analysis of data. For this purpose, structural resources are employed, especially the ones related to back-end technologies, capable of crossing real-time information on items on the shelf and in warehouse, so that goods availability and delivery are optimized. Moreover, the website optimization requires technical features – linked to the possibility of selling abroad, payment systems, and everything needed inside an online store – as well as human resources and economic investments.
The workforce's competencies should be adequate to the management of an online commerce. In most of cases, the company rely on external resources which are responsible for the proper functioning of the website: for example, management of product catalogue, advanced web graphic design, server administration and operations related to web marketing. Needless to say, a company aimed at internalized such processes need to invest on employees training.

Economic resources are invested for the realization of the ecommerce as well as its technical management and web marketing campaigns.
As regards the physical store and its coordination with online commerce, the resources implemented involve first of all the structural capital necessary to deliver a good in a specific store location to allow the collection, and secondly the development of knowledgeable staff that facilitates the purchase in store, ensuring that safety standards are maintained and customers are monitored and adequately helped (Fiedler et al., 2020).

Processes. Processes to be implemented in an omnichannel retail, especially in the current times, are related to deliver value with the collaboration between offline and online capabilities. In particular, while some pre-crisis online shopping features – for instance, free and quick delivery and returns – are now the norm, the ecommerce need to compensate from the lack of physical shopping experience by providing punctual product descriptions and clear pictures (Deloitte, 2020b). The increase in consumer concerns about safety requires brand to develop a solid e-commerce and obtain digital capabilities and services – among them, curbside pickup option, apps and home-delivery services (Begley et al., 2020) – as well as compliance with new safety standards which influence return processing (Deloitte, 2020b).
The omnichannel ability is, by definition, related to the management of distribution processes; the physical location need to be rebalanced in view of reduction of tourists and professionals traffic (Kohli et al., 2020) and the increase in online shopping determines the need to have a BOPIS option. In this optic, fashion items and inventory should be respectively relocated to specific stores and online/offline warehouses. The process of reimagination of physical store should include the change in use – from shopping to fulfillment point – and size (Fiedler et al., 2020), but also the easiness to make a purchase without spending too much time inside (Fiedler et al., 2020).
Customers. The consumer shift in online shopping has already been reported before the pandemic crisis, but the digital escalation recorded in the spring of 2020 involved new customer segment that have approached to ecommerce for the first time (Accenture, 2020b). Consumer expectations towards omnichannel is related to being offered with a new level of convenience – in some cases, ensured by BOPIS, curbside and deliver-at-home options – combined with a more personalized experience and an efficient integration between offline and online stores (Fiedler et al., 2020).

Younger customers, who were already familiar with this kind of offer, are expected to reward brands that react well to the crisis through a deep and segmented understanding of changing demand and decision journey (Deloitte, 2020b). Moreover, the compliance with safety standards inside the stores is a prerequisite that is valuable for all customers.

Products. The retail trend does not affect the products, but the services offered to customers. The omnichannel strategy puts the consumer at the center and aims at creating a continuous interaction between brand and customer, independently from the channel through which the connection is created. Among the most popular services, the company gives the possibility to make a purchase online and then collect the item for free at the physical store, to verify online product availability in store, return purchased-online items in stores etc.

At the same time, the physical store will offer complementary services that are in line with current customer needs, namely contactless payments, easy-to-navigate store formats, sanitized changing rooms, hand-sanitizers and fast-zones at the entrance dedicated to online order pickers (Fiedler et al., 2020).

Revenues. Profits generated from an omnichannel approach derive from an increasing attention towards new customer journey, meaning that the customer attention is grasped through the use of channels he/she has navigated more during the pandemic outbreak of 2020 – and that will be maintained even after the crisis. In particular, the digital presence is a characteristic every brand must acquire in order to sustain or increase market share: the growth of online commerce is expected to hit the +20% in 2021 (Business of Fashion & McKinsey&Company, 2020b).

The industry shifts towards digital is going to impact the survival of physical stores, that in 2020 have been closed in favor of online commerce. However, the stores need to increase their power by offering to customers new shopping possibility, for instance BOPIS options or special promotion on specific product categories, without neglecting the protection of health: all these measures could increase customers loyalty and the brand will result being rewarded in terms of revenues flow long after the pandemic is over (Deloitte, 2020b). Finally, the tactics adopted in terms of revaluation of physical store would be beneficial for the apparel company to the extent which rents are negotiated, sourcing and supply expenses are reduced, and labor forces and store footprints are economized (Begley et al., 2020).

Costs. The new purchasing routines of consumers give to retailers and brands the opportunity to reach them with proper targeting and content, enabled by technology. Investing in technology, indeed, facilitate the automation of major work processes and the acceleration of digital transformation. In this sense, an omnichannel network should be created and improved to efficiently face the increasing demand for ecommerce solutions (Begley et al., 2020). It is necessary therefore to make investments in order to benefit from a solid digital infrastructure and enrich staff expertise.

The physical store, on the other hand, might implicate additional costs, e.g. equipment needed to guarantee a clean and safe environment both for the public and employees (Deloitte, 2020b). In addition to the measures of health preservation, that will be hopefully soon unnecessary, additional costs may be incurred when adopting the right technology aimed at improving usefulness and attractiveness of stores. For instance, digital services and tools should be given to sales associates to increase their performance in finding the specific item requested by customers. In this sense, training of personnel is a significant costs that enable the creation of a helpful and informed workforce which may support customers' in-store purchasing decisions (Fiedler et al., 2020).

Conclusions

In this dissertation, a content analysis has been conducted to identify the main trends that are going to impact the business models of apparel companies; on the basis of both academic paper and consulting reports, the author has tried to extrapolate the main changes in fashion industry that could affect the way in which businesses are run. In this regard, the Covid-19 pandemic has given rise to (or, in most of cases, just accelerated) six trends that are going to heavily shape the fashion business environment of the future, which are:

1. Transparency and traceability;

2. Shopping local;

3. Collaborative consumption;

4. Take-make-remake model;

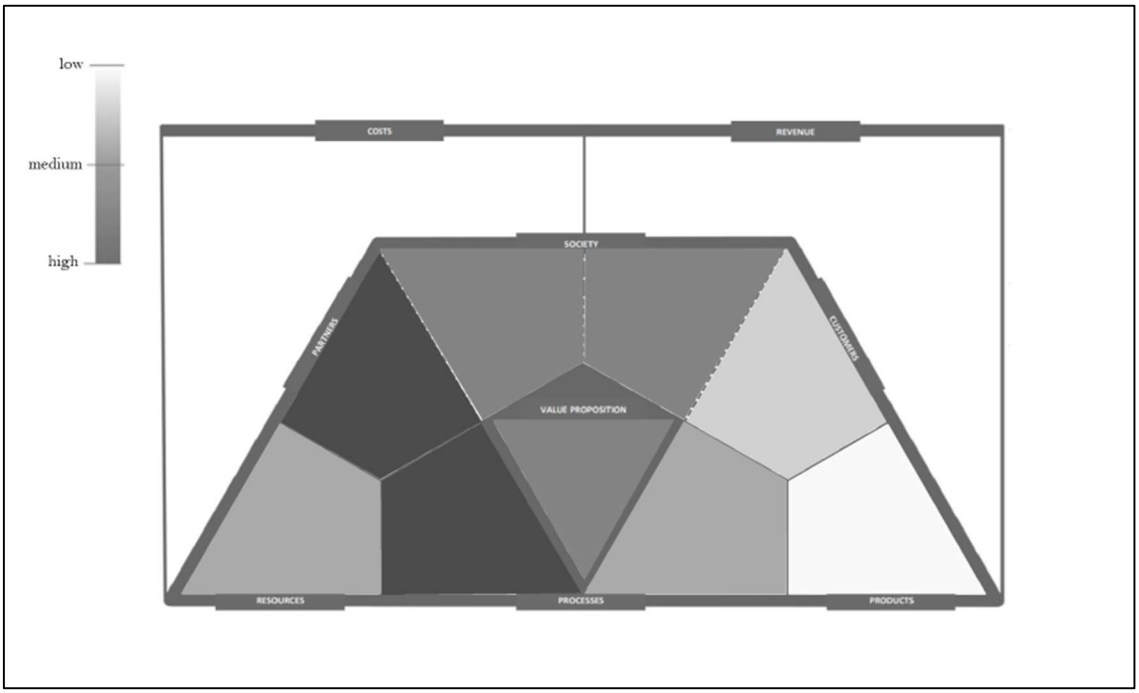
5. AI-based demand forecasting and product design;

6. Omnichannel retail.

The analysis of impact on building blocks, conducted in the chapter 5, allowed the creation of six heatmaps, one for each trend, where the intensity of color represents the importance attributed by the author to the possible impact of trends on each building block of business model. In particular, the impact has been quantified by assigning a point from 1 (low impact) to 5 (high impact).

Moreover, it is necessary to say that effects on profit model (namely, revenues and costs) have not been included in this final analysis due to the complicated nature of the subject, which would require specific competencies.

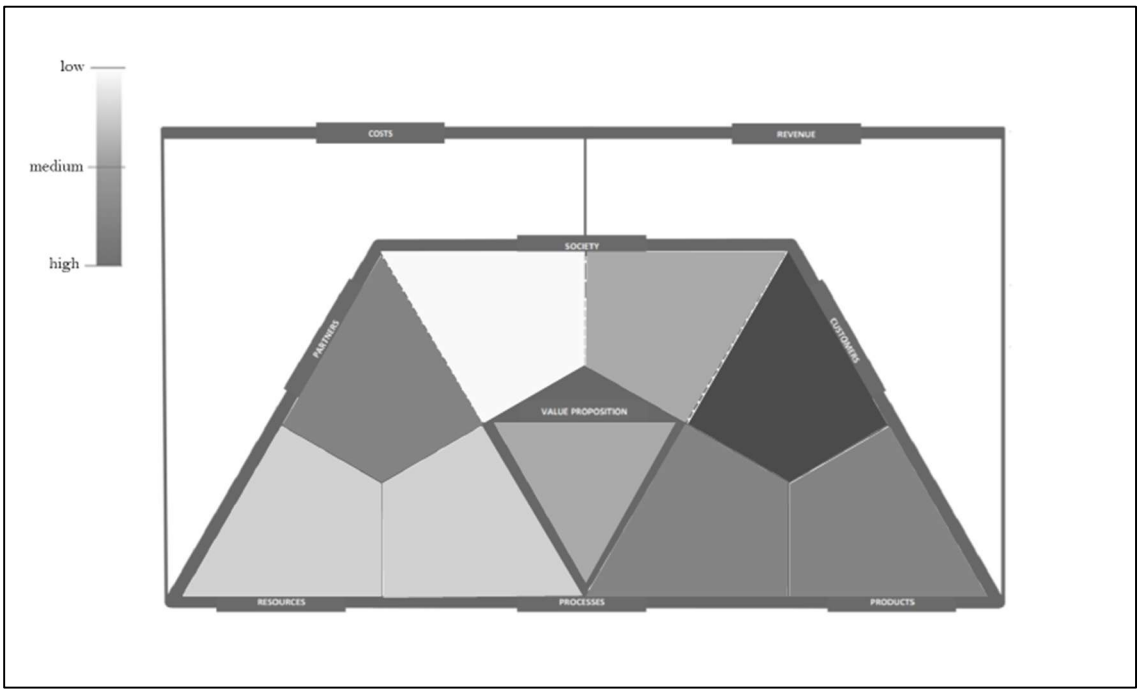
Figure 7. The business model canvas and "Traceability and transparency" trend.



In particular, the traceability and transparency trend appears to have a strong impact on company's choice of partners, considered responsible for the management of information flow, which is in turn necessary to promote traceability along the whole supply chain (Fig.7). At the same time, internal processes would be heavily affected since the promotion of a traceable system starts from the early stages of product creation, and it is developed along the whole production process, involving different actors (from tier 1 supplier to logistics partners). In this sense, the collaboration between partners and suppliers should promote a collaborative network in which the constant flow of information is supported to increase the company's ability to give to the final consumer full disclosure.

Society and value proposition are also affected by the trend, since the traceability and transparency are practices that the society is nowadays requiring (see "Who made my clothes?" movement) due to the social aspects related to working conditions and employees rights. In this sense, traceability affects both individuals working inside the firm (or in the manufacturing factories) and the several stakeholders revolving around business environment, including the final consumer, who is attracted by a different value proposition aimed at provide him/her all the product information that are necessary for make a conscious purchase.

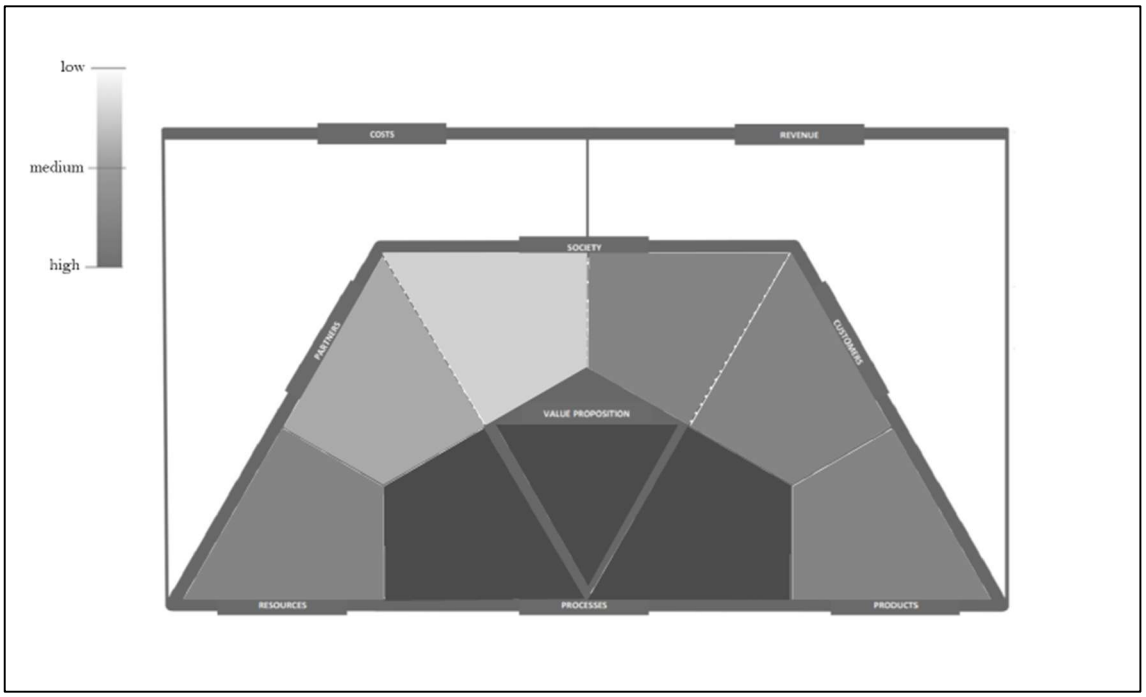
Figure 8. The business model canvas and "Shopping local" trend.



The increase in local shopping and localism trend seems to affect the external side of the business model (Fig.8). The company's ability to approach to potential customers "near their homes" – which nowadays have become the hub of all activities – impacts the relationship with them, by promoting a tailored and localized value offer that takes into consideration culture and values of the specific community.

Moreover, the external processes linked to the distribution of goods are strongly affected by localism trend, as the store opening (or renovation) should include considerations such as format and location of apparel stores, while the store experience and services should satisfy local communities' needs and expectations. For these reasons, the area dedicated to product is dark-shaded as well: in order to be attractive to local communities and customers, the product assortment needs to be broadened through the inclusion of products which derive from local production or, at least, are considered valuable for the specific target. It goes without saying that such adjustment of product mix offered to consumers needs to be supported by strong relationships and pre-agreed contracts with relevant local partners.

Figure 9. The business model canvas and "Collaborative consumption" trend.

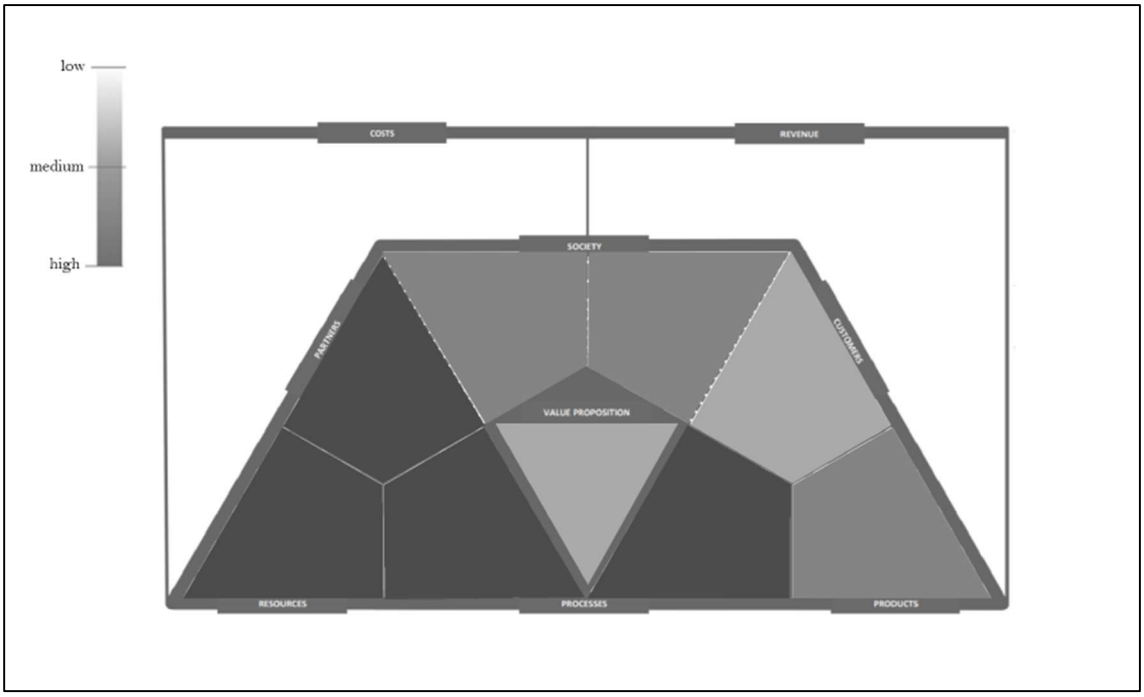


Collaborative consumption is a trend that is supposed to significantly affect the business model of apparel companies, with level of impact from medium to high for almost all building blocks (Fig.9). Collaborative consumption practice, which includes fashion rental, platform-sharing and second-hand model, is indeed one of the most mentioned solution to the unsustainable nature of fashion industry, since it promotes resources circularity and closing-the-loop goals.

In order to achieve this ambitious aim, fashion firms need to revolutionize the entire value creation process, by offering a second life to garment and giving to customers the possibility to reintroduce their "waste" in the system. Moreover, the distribution point switch from the physical to digital (e.g. mobile apps facilitating clothes swapping among users) and, in some cases, it may influence also the physical store with the opening of corners dedicated to goods that could be rented or swapped.

By definition, sustainability in the fashion sector is determined by a change in consumer mindset: for this reason, the value proposition needs to be updated in order to involve the final costumer as much as possible. The consumer in fact is responsible for a conscious consumption; at the same time, revolutionizing the value proposition by putting the

Figure 10. The business model canvas and "Take-make-remake model" trend.



emphasis on product circularity and sustainability could attract consumers that are nowadays more and more requiring companies to take green actions.

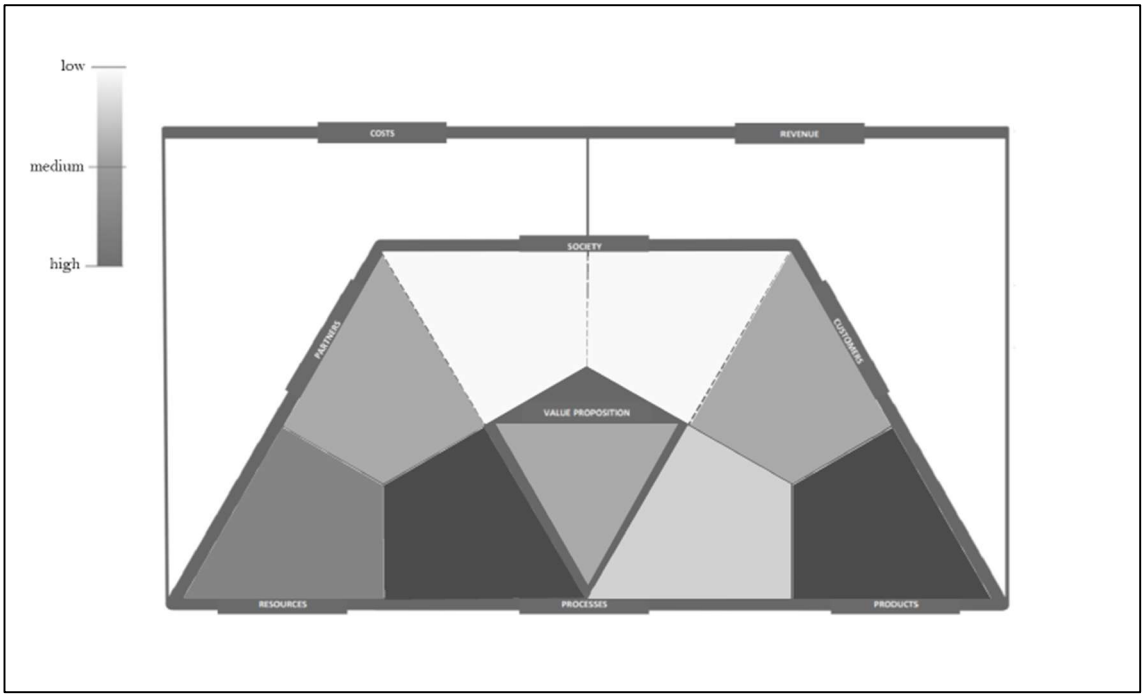
Developing a take-make-remake system implies a revolution of the business model of any apparel companies which has always operated following a linear logic (take-make-dispose model). For this reason, the most affected building blocks are the ones "inside" the business, namely resources, partners and processes. Although these three elements are considered the hardest hit when implementing a take-remake-model, generally this trend moderately affects all building blocks of the business model (Fig.10).

The circularity of a take-make-remake model, where companies are committed to recycle or upcycle waste material in order to close the loop, radically changes the resources implied: it suffices to think that production inputs is textile waste, not raw materials. The human resources and competencies required to make this big step forward are necessary for any apparel firm.

Both internal and external processes are significantly affected since the early stages of production and design need to develop new competencies in terms of recycled materials and reintroduction as final goods, while the external processes should be focused on promoting collection systems inside the distribution points (stores) where consumers

could bring their used clothes – that will become production inputs. Due to the high-specialized skills necessary to develop an efficient collection and/or recycling systems, the company could leverage important partnerships with firms that have developed specific competencies. Moreover, a collaborative network between fashion firms is necessary for the creation of a scalable and reliable new supply of recycled textile and development of ad hoc technologies.

Figure 11. The business model canvas and "AI-enabled demand forecasting and product design" trend.



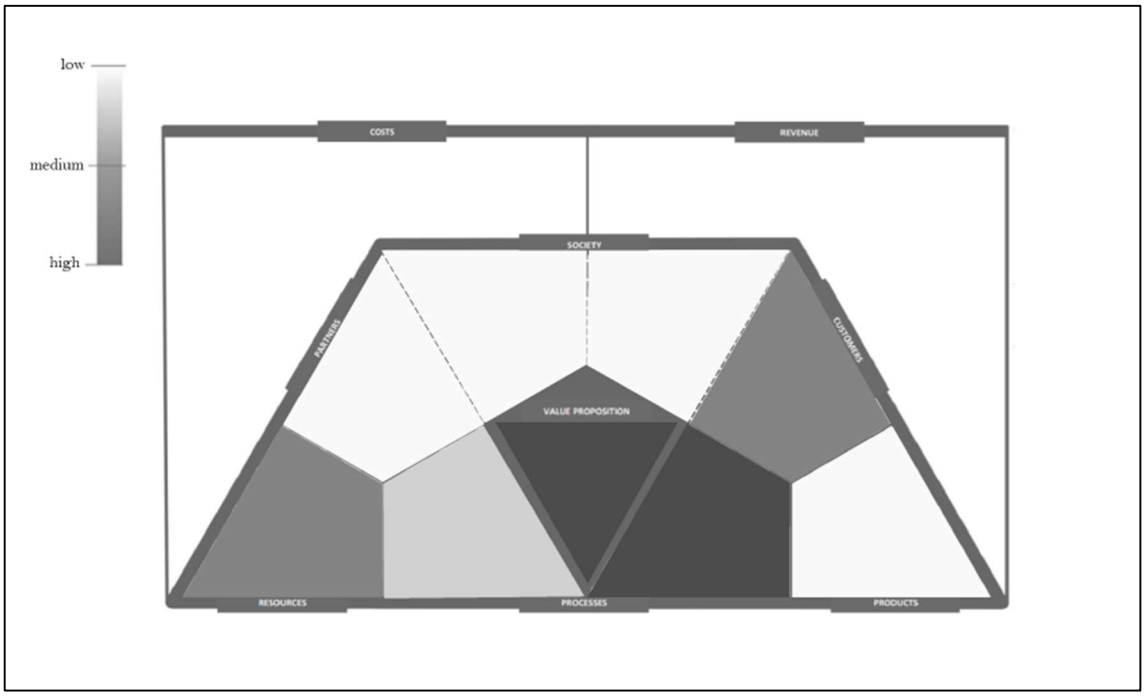
The effects of an implementation of Artificial Intelligence for product design and demand forecasting are particularly significant for two building blocks: internal processes and products (Fig.11).

In fact, the technologies related to AI and automation are supposed to bring structural changes in the way in which apparel products are designed and then created. The data collected through the analysis of customer preferences are relevant for designers who are asked to follow the trend requested by the market. At the same time, a real-time analysis based on AI could give to the company the possibility to efficiently manage the supply chain, by stopping the production of goods which do not satisfy the taste of customers.

Thanks to this, inventory surplus can be significantly reduced, with a positive consequence both from economic and sustainable point of view.

The introduction of big data and real-time data analysis heavily affects also the final product itself, which is able to reflect the "most-clicked" or "online-searched" designs and styles. In this sense, costumers become the actual designers of their own clothes and determines the latest trends in fashion.

Figure 12. The business model canvas and "Omnichannel retail" trend.



The last heatmap is dedicated to the analysis of omnichannel retail trend and its impact on building blocks constituting a business model (Fig.12). As it can be seen, the omnichannel retail does not imply great changes in almost all building blocks (as it was for trends associated to circular economy). On the contrary, developing a point of sale where the "physical" is interconnected with the "online" is an activity that influences value proposition and external processes – the ones related to distribution and delivery of values for customers.

The value proposition of an omnichannel retail is aimed at developing the idea of a safe and accessible point of sale where the customer is followed at every stage of his journey. For instance, giving the possibility to consumers to shop online and then collect in store is nowadays more valuable than ever, since it promotes a complete shopping experience

where safety standards are met. In this sense, the distribution itself should change: external processes related to distribution activities should focus on digital escalation on online platforms and recalibration of physical stores. The latter in fact should be designed to welcome "online" clients who have already bought online, while at the same time facilitating the shopping experience inside the physical store.

The analysis of impact on each building block through the allocation of a number from 1 to 5 allows a final pair analysis (Appendix A). In this sense, the comparison is made between each pair of building blocks, and the resulting matrix displays the relation of all trends with the specific couple of variables. The pair analysis helps in identifying similar impacts between trend, defining the ones that impact on more levels the components of an apparel business model.

On the one hand, collaborative consumption and omnichannel retail trends seem to have high impact on pair variables value proposition and processes. On the other, impact on value proposition is low for shopping local, take-make-remake model and AI-based demand forecasting and product design.

As expected, trends related to sustainability are considered of high impact on the society, both internal (e.g. employees) and external (stakeholders, public, customers, etc.) to the company. The pair analysis matrix identifies indeed collaborative consumption, transparency and take-make-remake model as principal factors affecting the "society" building block of a business model. These three trends are particularly high when associated with society *and* processes.

Due to their high dependance on partners, transparency practices and take-make-remake model are considered the major trends impacting partner selection activities combined with the necessity to transform processes to deliver a different value (full disclosure on practices implemented among the supply chain for the former, the closure of consumption loop for the latter). Moreover, take-make-remake model trend shows high impacts on resources, combined with processes, society and partners: this trend is going to be one of the most difficult to carry out for a fashion firm, since in order to be implemented it requires new infrastructures, the adoption of new technologies and a strict collaboration with partners and companies in the same industry.

Shopping local seems to be the most impactful trend on customer building block. While the other trends show a low to medium effect, a company's strategy aimed at moving closer to final costumers, approaching them in the local reality where they live and work (as an effect of a boundaries blending between workplace and homeplace) requires an additional targeting of customer segment. In this sense, customers' values, culture and needs are put at the center, in order to provide different offers depending on the local environment in which the company opens its physical store.

The building block related to product is particularly affected by the AI-based demand forecasting and product design. This trend is related to the company's ability to increase the ability to process customer data that, integrated in a more and more automized production process, is able to give fashion customers clothes and accessories which reflect their tastes and styles.

In the conclusion, it can be observed that the most impacting trends of the future for fashion sector are the ones related to the implementation of a circular model, which are take-make-remake model and collaborative consumption. In fact, the heatmaps of these two trends are the most dark-shaded ones, meaning a high impact on almost every building block composing the business model. Fashion companies are expected to redefine their entire value creation processes in order to achieve the ambitious aim of closing the resource loops and increase sustainability in the whole apparel sector.

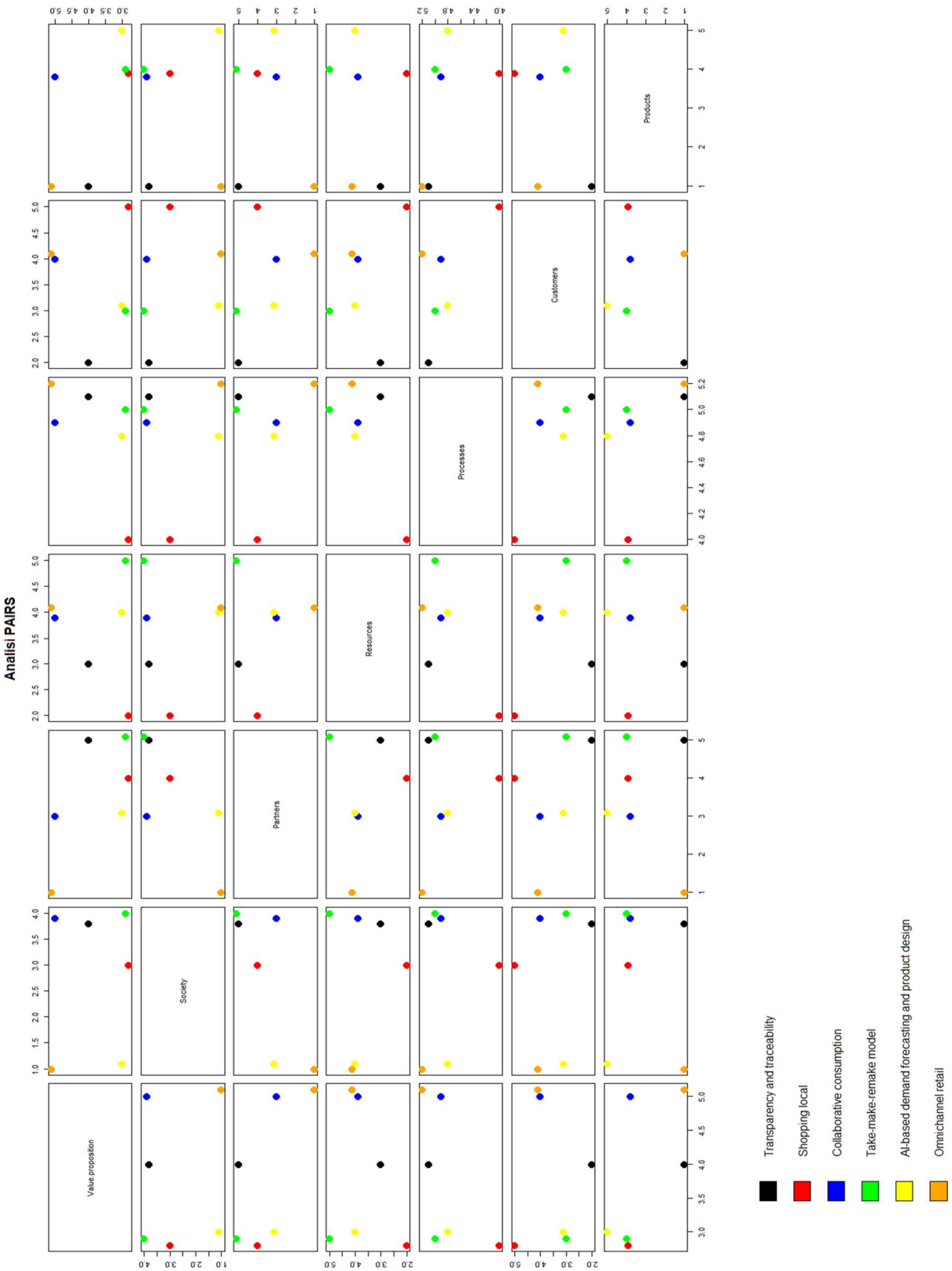
The implementation of traceability and transparency practices, as well as the introduction of Artificial Intelligence for demand forecasting and product design are considered impacting at a medium-high level: each trend shows an high impact on two building blocks (respectively internal processes and partners for transparency, and internal processes and product for AI), and more light-colored heatmap for the other elements of the business model.

Shopping local is a trend that shows significant effects only on one building block, namely customers, while the less impacting trend on business model is the one related to the omnichannel retail. The latter in fact, due to the technological progresses that have already happened (digital escalation, e-commerce penetration and contactless payments) just requires fashion companies to make the necessary adjustments to achieve a perfect synchronization between online and offline touchpoints.

The present work stressed the importance of foresight for companies, with a focus on trends identification for the fashion industry of the future. In this dissertation, the author analyzed how the study of the future affects the organizational ability to manage skills, processes and tools in a perspective of future-oriented strategy and innovation.

The process of future fashion trends identification and the consequent evaluation of impact on business models is just a small step demonstrating how foresight is necessary for every company aimed at successfully facing uncertain times. In this sense, this work is concluded with the hope to have provided new, interesting insights and stimulate further researches on these subjects.

Appendix A. Pair Analysis



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