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New perspectives on fashion industry: a revolution driven by innovation

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A mio padre e a mia madre,
che mi hanno sostenuto e appoggiato
fin dall'inizio della mia vita.

A Beatrice,
grazie.
Tu per me sei stata, sei e sarai.

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Introduction

In recent years, fashion industry has experienced many changes and relevant growth, despite the global recession that affected international markets and consumers' purchasing power.
This growing trend experienced so far, however, is expected to heavily slowdown in the fashion sector due to downward fluctuations of the main economical indexes, causing a generalised state of high nervousness and uncertainty. Firms across all geographies and price points are expecting to be impacted by this sentiment, that is further fostered by low and mid-size brands that still strive to produce economic value and revenues, drawing for the global fashion industry a "winner take all" scenario. However, even fashion leaders are currently experiencing relevant pressure, since they need to address international challenges and changing patterns emerging on the markets. These challenges are due mainly to the impossibility to make forecasts over international matters like Brexit, the international policy and tariffs adopted by USA president Donald Trump, as well as trade disputes coming from China. All these matters will lead fashion companies to reorganise their global value chain.

Despite this unfavourable scenario, during the history the fashion industry has always demonstrate to adapt its structure to market changes through adopting innovative solutions in the various field of the organisation, from the most immediate product innovation in designs and materials to more complex reorganisations of production processes through the introduction of innovative tools for sewing, prototyping and even designing garments. As the dissertation will demonstrate, studies on fashion theories have also allowed to understand the reasons behind necessary changes, in order to follow customer's expectations and new ideological patterns.

Different fashion segments have spread across the market, with the development of fast fashion from early nineties that revolutionised the way of conceive fashion, mainly across younger generations: trendy, inexpensive garments mass produced at a very fast speed in subcontracted factories, refusing the sartorial traditions of older generations. Fashion had then acquired a different meaning, since being trendy became a necessity and a social symbol, increasing the importance people attributed to the way of dress. Nowadays, however, several issues are emerging and are addressed by companies, since are expected to deeply influence markets and customers' behaviours.

The dissertation has the purpose to provide an exhaustive analysis over the theory of innovation, specifying the fields on which innovation activities can take place, offering then an overview about the way these are implemented and diffused in the society. This first theoretical part is then followed by a deep analysis over the structure of the fashion industry, from the discussion over fashion theories, moving then to the analysis of the common internal structure of apparel enterprises. Data analysis will provide then insights over the value of fashion companies, studying the contribution of the fashion leading groups to the industry economical result. General results are then considered according to the differences by geographical areas and on a segment of interest level, revealing that non-luxury apparel products currently represent the 95% of the entire industry's revenues and that, despite the high digitalisation of the current era, e-commerce sales channels accounts for only the 20% of the entire global sales. Customer are still heavily relying on brick and mortar stores, where firms are trying to improve customer experience and clients retention.

However, since many years fashion industry strive to radically change his internal structure,

and disruptive innovation in the sector strive to come. Future challenges and firms willingness of being competitive in such a difficult environment are pushing firms in approaching innovative solutions. Products innovation aims at developing environmental friendly and sustainable materials like innovative textiles; process innovation, instead, pay more attention to water consumption and chemicals impact, as well as new technological solutions like the 3D printer can reduce waste and increase flexibility. Further, service innovation can both aim at offering more involving experiences to fashion customers, creating and increasing brand loyalty and customers retention, as well as offering easier channels for products purchase through e-commerce and social commerce.

This changing scenario and innovations involved is the field of research for this dissertation. The purpose of the thesis is to consider which are the main innovation that are expected to impact the fashion industry in the future, classifying data retrieved from various sources like Lexis Nexis and the last two years of Pambianco Magazine. The classification is fundamental for evaluating the importance that fashion entities are giving to different innovative solutions and for then discussing which are going to be the most likely scenarios that will determine the sector development. The research will be supported by a direct interview with a local fashion firm, Volcar S.p.A based in Brendola, which will provide a point of view from an internal side, thanks to the firm's collaboration with international brands like Philippe Plain, Thom Browne, Christian Dior and many others. These steps will determine which directions the fashion industry is taken and will engage during next years.

Chapter 1

1. An overview of innovation

1.1 Definition and functions of innovation

Innovation is everywhere. Especially in the current period, innovation has become a typical discussion topic in the most various categories, becoming the "emblem of the modern society" (Benoit, 2008)[1]. From an economic point of view, it influences and determines all the types of organisations and all the aspects of businesses, from supply chain to after sales services. Innovation is considered the main driver that can lead firms to succeed or to fail in their own business, since the adoption of an innovative solution can heavily contribute to company's effectiveness and performance, increasing their possibility of staying competitive and gaining market shares. For all these reasons, innovation is the company response to an external or even internal environment which actually keep changing over time, together with the associated market needs. Industries, from their side, evolve over time, and the most appropriate response for staying competitive is to devolve resources for pursuing it.

An emblematic sentences from Steven Paul Jobs, the former Apple CEO, keeps driving discussions over innovation. He was so convinced that "innovation distinguishes between a leader and a follower" (Jobs, 2001)[2] that this sentence became the head quote on the first chapter of the book "The innovation secrets of Steve Jobs". This concept has been reinforced during his entire life by his personal vision, currently generally shared, which brought him approaching innovation like the exploitation of new ideas finalised at solving common problems. This approach adopted by Steve Jobs embodies the deep essence of what innovation really represent, but it doesn't provide the audience with any explanation of the reason why innovation is such fundamental for guaranteeing the organisational survival. Through these words, he meant to explain that the ability of certain firms to behave differently from established patterns, looking forward to better succeed in a particular aspect of their own business, is what really makes difference in business since this attitude can provide competitive advan-

[1] Benoit, G. (2008). *Innovation: the History of a Category*. Project on the Intellectual History of Innovation, p. 5

[2] Jobs, S. (2001). Interview for Gallo, C. "The innovation secrets of Steve Jobs". McGraw-Hill, p. 1

tages. Being innovative means having the possibility to exploit new knowledge and to enter new markets as first movers, making use of all the advantages connected to the position, like having the possibility to influence the innovation direction and gaining relevant market shares. Actually, revolution and innovation are not synonymous. Being an innovator doesn't necessarily mean the actor has to come up with a brilliant new idea since, as most of times happens, an innovator can also take an already consolidated idea and enhance it. Further, it is clear that what expressed by Steve Jobs is mostly suitable for competitive and mature markets since these are usually characterised by high competitiveness, high market share fragmentation and a constantly increasing number of firms which keep running their business in such prosperous environments.

According to Damanpour, innovation "contribute to the performance or effectiveness of the adopting organisation. Innovation is a means of changing an organisation, whether as a response to changes in its internal or external environment or as a preemptive action taken to influence an environment" (Damanpour, 1991)[3]. He also goes on affirming that "innovation includes the generation, development and implementation of new ideas in organizations" (Damanpour, 1991)[4]. Concepts like idea generation, development and implementation will be further treated in order to understand how they contribute to the final exploitation of innovation from an organisational and individuals point of view.

Technically speaking, the term "innovation" is very versatile and is also frequently inflated. A clear definition of the term is important as it is commonly approached by companies over many different aspects, which sometimes tends to be misunderstood, like in case of disruptive innovation that will be analysed below. As provided by the business dictionary, innovation is "the process of translating an idea or invention into a good or service that creates value or for which customers will pay. For being called "innovation", an idea must be replicable at an economical cost and must satisfy a specific need" (Business Dictionary)[5]. Moving from this assumption, the analysis on the object of innovation or on the degree of innovation presents different categories which will be analysed one by one. Each of them presents predefined and

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[3] Damanpour, F. (1991). *Organisational innovation: A meta-analysis of effects of determinants and moderators.* Academy of Management Journal, 34(3), p. 556

[4] Damanpour, F. (1991). *Organisational innovation: A meta-analysis of effects of determinants and moderators.* Academy of Management Journal, 34(3), p. 556

[5] Business Dictionary, from *http://www.businessdictionary.com/definition/innovation.html*, p. 1

specific characteristics which allow to determine the type or the degree of innovations. A company innovation process may provide, for example, a revolutionary product which satisfy an unserved customer need, can result in a more efficient production process which allow the firm to cut their costs or provide a better market visibility for companies. All these possibilities have some differentiating characteristics which allow us to classify them.

Moving on, something necessary to consider in order to comprehend what an "innovation" is, stands on the difference between "invention" and "innovation". Commonly speaking, the term "invention" is referred to something that can potentially be different from what already exists, independently from the field we are keeping into consideration. The invention process, so, covers all those steps aimed at creating new ideas and getting them to work. An invention can be patentable once presenting fundamental features like being unique, having an utility and being non-obvious. Differently, the term "innovation" refers to the exploitation and the conversion of the invention into a business or other useful application, since it becomes a concrete implementation or output which creates value (Roberts, 1988)[6].

All the various innovations can be grouped within predefined categories depending on the level of innovation or on the types of innovation. Different research can provide diverse approach and classification on the grouping method utilised. As reported above, there are several types of innovation a firm can pursue, and this variety implies that there are no a single predefined way to innovate. At the same time, nonetheless, concrete applications of innovation usually combine different type and different level of innovation, making difficult to completely isolate a pure theoretical pattern. Each of the type offers advantages and disadvantages, defined in the related paragraph. More importantly, a company has the necessity to classify the innovation they are going to approach in order to understand the potential related risks and rewards. Approaching to a disruptive innovation idea, for example, will comport bigger risks for the company, which at the same time could get a far better reward than if facing an incremental innovation idea. Having a deep understanding about these types and levels will allow companies to focus on certain pattern of innovation and consequently allocate its resources in a wiser way (Schilling, 2017)[7].

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[6] Roberts, Edward B. (1988). *Managing Invention and Innovation.* Research Technology Management, p. 11-27

[7] Schilling, Melissa A. (2017). *Strategic Management of Technological Innovation (Fifth Edition).* McGraw-Hill Education International Edition, p. 46-67

1.2 Sources of Innovation

According to Peter Drucker, "innovation is the work of knowing rather than doing" (Drucker, 2002)[8]. In his article the author affirms that, from an organisation point of view, innovation typically arises from the ability of companies in taking under focus and active surveillance specific areas of the business.

Differently, in many cases something innovative may emerge from a flesh of genius, considered as something unexpected that is realised by a specific inventor thanks to circumstances like life experience, personal background or casual events. At the same time, however, most innovations are more likely to result from a conscious, expected and purposeful search for new innovation opportunities, which originates from few specific situations. These situations constitutes the four areas of opportunity which exists within a company or industry: unexpected occurrences, process needs, incongruities and industry and market changes.

Moreover, if we analyse the social environment outside a company, three more sources of opportunities arise. These are potential demographic changes, changes in perception and, above others, new knowledge.

These seven categories account as the most common source of innovation firms and organisations are pushed to look at. Most of time these sources overlap, since the potential of innovation can lie on more than one of them, like, for example, the case on which a new knowledge results applicable in order to satisfy a specific changes in market needs (Drucker, 2002)[9].

These sources affect the innovation process within an organisation due to specific characteristics. Starting from opportunities coming from within the company or industry we consider:

- Unexpected occurrences, considered as the easiest and simplest source of innovation opportunity, which can be represented by both unexpected success and unexpected failure. The latter one, in fact, can give birth to inventions initially thought for satisfying a specific need but then readapted for fitting a more appropriate necessity arising within the market.

  Unexpected success and failure are such productive sources of innovation because most organisations dismiss them, disregard them or even resent them;

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[8] Drucker, Peter F. (2002). *The discipline of innovation*. Harvard Business Review, p. 1

[9] Drucker, Peter F. (2002). *The discipline of innovation*. Harvard Business Review, p. 1-2

- Process needs involves all those necessity arising from an organisation or market point of view which needs to be satisfied in order to solve a specific problem. The implementation of new or already existing practices in an unexpected field constitutes a valuable source of innovation for firms;

- Incongruities between expectations and results, as well as incongruities within the logic of a process or between economic realities can all open up possibilities for innovation. This is the case on which is necessary to change the viewpoint of a specific issue in order to solve and better the entire problem;

- Industry and market changes usually reveal great opportunities for business innovation. These kind of opportunities typically arise in rapid growth industry or when the industry lifecycle comes to an end. Such situations usually push firms in finding alternative ways for better or differently satisfy a specific need;

Moving on, the focus shifts on the social environment outside the company:

- Demographic changes are the most reliable among outside sources of innovation. Common belief was that demographic statistics changes too slowly for being considered determinant from a business point of view. Instead, the last century has demonstrated the contrary, since innovation opportunities made possible by changes in the number of people, in their age, distribution, occupations and geographic location, are surely the most rewarding and least risky of entrepreneurial pursuits.

- Changes in perception refers to the way organisation's management approach to the environment and influent events. Changing a manager's perception from a glass half full to half empty opens up to potentially great innovations, since his point of view typically permeates organisational mindset and determine the way to perceive and approach to issues and possibilities. "It does not alter facts. It changes their meaning" (Drucker, 2002)[10].

- New knowledge is what people typically mean when talking about innovation and accounts for great part of the history-making innovations. What characterise this kind of

[10] Drucker, Peter F. (2002). The discipline of innovation. Harvard Business Review, p. 6

source of innovation is the time these innovations take for being developed and adopted, the casualty rates and their unpredictability. They can results temperamental and hard to direct. Among all, knowledge-based innovations have the longest lead time and are the most market dependent. Moreover, for becoming effective, most of times these kind of innovation approach requires many different knowledge to be applied together.

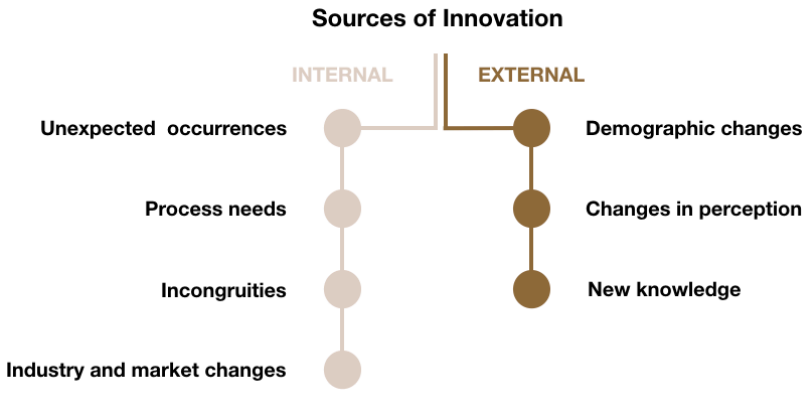

Figure 1.1. Sources of innovation. Source: Drucker, (2002)

Despite the sources that can be great for indicating the path to follow, all the innovations should present certain features. Innovations must be analytically tested for determining what them need to be in order to satisfy a specific market need or, generally, an opportunity. It is necessary to test the innovation, studying the expectations and expected values, in order to reduce the possibility to fail. For satisfying this last point, innovation must also be simple and focused on its specific and clear purpose. At last, from all the considerations above, emerged that entities that pursue innovation requires a know-how to apply, purposes and focus, while being at the same time flexible and pragmatic.

There are many entities that could act as direct innovators. In addition to firms innovations, the latter can originate from individuals, like the lone inventor, or users who design solutions for their own needs, as well as from university research, government laboratories or incubators.

Considering the entire panorama, firms are typically well suited for innovation activities because they usually have greater resources than individuals, even considering that, most of times, innovative firms can also count on a structured management system. One of the newest and most effective forms of innovators is embodied by linkages between firms: networks.

This structured cooperation between firms use to leverage their knowledge and other resources for pursuing innovation by working together and merging specific knowledge and competences. We can then imagine all these entities like a complex system wherein "any particular innovation may emerge primarily from one or more components of the system or the linkages between them" (Schilling, 2017)[11].

Usually, the innovation process usually starts with the idea generation. The ability to generate new and useful ideas is called creativity. At the very beginning of its time, innovation was rather concerned with change, broadly understood by people, and had really few to do with creativity (Benoit, 2008)[12]. Nowadays, considering the importance of creativity in specific industry of interest for the research, we are now going to approach and analyse the two main form of creativity: individual creativity and organisational creativity.

- "An individual's creative ability is a function of his or her intellectual abilities, knowledge, style of thinking, personality, motivation and environment" (Schilling, 2017)[13]. As reported above between the sources of innovation, what really matters for being innovative is the ability to look at problems in an unconventional way, being able to analyse which ideas worth pursuing and which are not, while at the same time being influencing enough for convincing other that the idea is worthwhile.

  It is possible to list the characteristics that, theoretically speaking, determine an ideal creative individual. These are the ability to think in a novel ways of their own choosing, self-confident in his or her capabilities, with a great tolerance for ambiguity and a willingness to overcome obstacles.

- The creativity of an organisation, instead, is a function of the creativity of the individuals which act within the organisation, as well as social processes and contextual factors, that determine individual behaviours and interactions. An innovative organisation is well structured once it implements routines and procedures that gives to actors the possibility to amplify their personal creativity.

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[11] Schilling, Melissa A. (2017). *Strategic Management of Technological Innovation (Fifth Edition).* McGraw-Hill Education International Edition, p. 19

[12] Benoit, G. (2008). *Innovation: the History of a Category*. Project on the Intellectual History of Innovation, p. 6

[13] Schilling, Melissa A. (2017). *Strategic Management of Technological Innovation (Fifth Edition).* McGraw-Hill Education International Edition, p. 20

Despite all, from a business point of view it is necessary to recognise that, most of times, well-established firms have difficulty in pursuing creativity and innovation. Due to their dimension and affirmed structure, these firms are usually better executors than innovators, that in many cases find more advantages in optimising what they have already established than spending resources on research and innovation development (De Jong, Marston and Roth, 2015)[14]. Moving from these consideration, we expect start-up and small companies outperform established companies on the innovation field.

Nevertheless, an empirical research, carried out from interviewing more than 2500 business executives in over 300 companies, has determined eight different attributes that characterise every firm that has a high performance in product, process or business-model innovation, independently from their size.

As stated above, the pace of changes has drastically increased in recent times, so companies must adopt strategic, creative, executional and organisational factors. According to De Jong, Marston and Roth, "if companies assimilate and apply these essentials […] they can rekindle the lost spark of innovation" (De Jong, Marston and Roth, 2015)[15].

These factors can be divided into two groups.

The first group is composed by four practices that have a strategic and creative nature and can help firms to set and prioritise the terms and conditions under which innovation is more likely to thrive:

- Aspire: refers to quantify an innovation target for growth, and integrate it within future strategic plans, valorising the importance of innovation;

- Choose: usually companies sets many different projects than they are actually able to financially afford. Managers need to set boundary conditions for opportunities they want to pursue. Established companies typically fails in overloading their innovation pipelines with safe, short term and incremental projects. These are likely to results in a low possibility to realise expected growth targets or staying within the risk parameters previously set.

[14] De Jong, M., Marston, N., Roth, E. (2015). The eight essentials of innovation. McKinsey Quarterly, p. 1

[15] De Jong, M., Marston, N., Roth, E. (2015). The eight essentials of innovation. McKinsey Quarterly, p. 3

- Discover: as previously analysed above in the sources of innovation, adopting insight-discovery processes can lead companies to successful innovation. These requires actionable and differentiated insights, collecting informations on new opportunities from evaluating three areas: the presence of a valuable problem to solve, the availability of a technology that enables solutions and a business model that generate money from it (Hall, Lovallo and Muster, 2012)[16].

- Evolve: this factor is considered from a business model point of view. A continuous evolution in the value chain, diversify the revenue streams or modify the delivery model have always constituted a vital part of a strong innovation portfolio.

The second one includes four essentials which consider how to deliver and organise for innovation in a constant way over time:

- Accelerate: many times, companies just fail because they get lost in their attempting to innovate. In order to diminishing the possibility of this to happen, it is wise to introduce and valorise continuous learning cycles, cross functional collaboration and clear decision pathways.

- Scale: manufacturing facilities, distributors, suppliers and other must be prepared to execute rapidly according to the expected dimensions of the project, as well as resources and capabilities must be split in order to guarantee the availability of the desired volume and quantity of products.

- Extend: recent periods have been influenced by a new coming trend within organisations, which consists in approaching innovation involving external collaborations and creating networks. This approach has led many firms in achieving significant results, also reducing the amount of time previously estimated for completing projects.

- Mobilise: best companies strive for making innovation part of their culture, rewearing, stimulating and encouraging innovative approaches. Even if most of times achieving such expectations is a really long journey, all these actions are used to translate in an increased commitment from the core to the periphery of the organisation on which they are

[16] Hall, S., Lovallo, D., Muster, R. (2012). *How to put your money where your strategy is*. McKinsey Quarterly, March 2012, p. 1-12

introduced (Hall, Lovallo and Muster, 2012)[17].

Set and prioritise conditions for innovation				Deliver and Organise for innovation			
I	II	III	IV	V	VI	VII	VIII
Aspire	Choose	Discover	Evolve	Accelerate	Scale	Extend	Mobilise

Figure 1.2. Steps for organising innovation. Hall, Lovallo, Muster, (2012)

Many firms we are going to discover and analyse in next chapters are part of those big companies that not easily reinvent themselves along years, but sometimes, including leading practices of high performing innovators can help in obtaining results, maximising the possibility of success.

1.3 Types and levels of innovation

Commonly speaking, the term "innovation" can be referred to many different object and outcome. Past researches has argued that, to distinguish the various types of innovation is necessary for understanding organizations' and individual's adoption behaviour, as well as for identifying the determinants of innovation in them. Besides the various types, we will further analyse the degree of innovation and its classification.

1.3.1. Types of innovation

Product innovation

Most of times, once thinking about innovation, product innovation is considered firstly since it represent the type of innovation embodied by firms output and consequently the most intuitive type of innovation. Pattern of product innovation pursued by a business might include a new product's invention, technical specification and quality improvements made to an already

[17] Hall, S., Lovallo, D., Muster, R. (2012). *How to put your money where your strategy is*. McKinsey Quarterly, March 2012, p. 1-12

existing product or the inclusion of new components, materials or functions into an already existing product. To obtain such innovative solution a firm has typically to invest in research and development. Actually, there are many stages that precede these innovative product commercialisation: market research, product development, testing and feasibility studies.

- The first stage aims at gathering as much information as possible regarding tastes and preferences of market potential customers and trying to fill the gap introducing the new product in the target market. These useful results are typically obtained by forming focus groups, performing interviews and questionnaires or analysing studies approached by other institutions;

- The second stage, named "product development", involves all those processes that lead to the creation of a prototype. Recent technological innovations have drastically decreased the costs firms have to afford in this particular stage. A clear example is the introduction of the 3D printing. The prototype creation ensures the firm that its product is functioning as expected, presents the desired features and that appropriate arrangements are made.

  These processes are then usually followed by a market test where firms introduce the new product to a small group of potential consumers;

- The third and last stage encompasses the feasibility studies. Object of attention are now the legal and financial restrictions, which precede the launching of the product into the market.

After all these stages, the firm is usually ready to launch the product.
There are certain type of product innovation which requires an introduction since will become fundamental for the following chapters. Precisely, these two have always been directly associated to the fashion industry: material innovation and style innovation. Material innovation typically refers to the ability of firm in producing garments by utilising innovative materials which confer particular expected characteristics.
For what concern the other one, a "style" is the look that results from the combination of clothes presenting predefined characteristics. Talking about fashion, various styles can be retrieved like the vintage one, bohemian, chic, artsy, sexy, casual, sophisticated and a lot more.

Each of them has impressed their singular footprint in a certain époque. It is also important to highlight that new styles are always introduced into the fashion world in a continuous process called "the fashion cycle" (Arnault, 2018)[18]. This means that new styles are developed and designed, launched into the market, start gaining customers demand, reach the maximum popularity and the maturity and then get out of recognition and acceptance from customers. But there is always an evolution from season to season, in a forever transient course, where only innovation has the power to provide significant revolutions, even if it is typical to refer at "style innovation" as an evolutionary processes, rather then as a revolutionary process. This definition is derived from the facts that products at the base of these styles "doesn't comprehend revolutionary changes, but instead provide adjustment of previous styles" (Arnault, 2018)[19].

Process innovation

Going further, usually we are less induced at thinking about innovation if it is related to the processes involved in product production and in all those processes that constitute firms organisation and occur internally to the firm. Most of times, this particular type refers to an improved or revolutionary way of producing goods across the whole supply chain, aiming at helping firms to achieve higher-level performance by reducing the time and cost to produce a product and increasing productivity and growth.

As noticed before, due to its nature, process innovation takes place within the firm and is invisible to customer. Thus, along the steps, these innovative processes create intermediate outcome which can serve as a means in order to detect problems, solve them and achieve better production performances, rather than a final goal. This particular type of innovation usually takes place during the product development process, in the production process, in store operations or at a service level, having as final aim the purpose to confer additional value to firm's internal operations.

The current period has offered many technological revolution that are particularly influencing

[18] Arnault, L. (2018). Fashion World. Street Style, Upcoming Trends And Tech Innovation. Retrieved from https://wtvox.com/fashion/fashion-world/, p. 2

[19] Arnault, L. (2018). Fashion World. Street Style, Upcoming Trends And Tech Innovation. Retrieved from https://wtvox.com/fashion/fashion-world/

and helping process innovation among firms' organisation. Most important innovations in this sense have been:

- the development of 3D printing and robotics, as introduced previously, most involved in both the prototyping process and in production optimisation;
- the development of high performance information systems and digital technologies allows the possibility to enhance the supply chain efficiency and information flow, lowering all those difficulties related to physical barriers.
- at the same time, as will be analysed later, artificial intelligence is deeply being studied in order to revolutionise all those processes related to customer services, aiming at offering a more complete and competent customer assistance. The same technology, used in parallel with digital solutions is also linked at acquiring information on customer behaviour, aiming at predicting customer expectations and preferences. The potentiality will bel analysed in the next chapters.

Despite all these radical innovation approach presented above, many non technological process innovations are available. This is particularly related to the possibility to innovate at a managerial level, making already existing patterns more efficient and suitable to organisation objectives. A major problem of firms running their business is that most of times they don't keep pursuing innovation like a continuous process, which is also the reason why most of them are cut off from the competitive market (Cedrola and Jin, 2019)[20].

Service innovation

Service innovation refers to all innovative behaviours or activities related to service or conducted for service. It also refers to the activities applied by companies in using new ideas and new technologies to improve and reform product and service provision process and method, for the purpose of meeting diversified demands of customers, helping them realise value improvement and enabling enterprises to gain competitive edges (Vang and Zellner, 2005)[21]. According to the definition of service innovation, its aim is to preserve and enhance customer's

[20] Cedrola, E., Jin, Byoungho E. (2019). *Process innovation in the global fashion industry.* Palgrave McMillan, p. 1-139

[21] Vang, J., Zellner, C. (2005). *Introduction "Innovation in Services"*. Industry & Innovation. 141-152

interests, realise customer's objective, and improve their own values. Most of times effects produced by service innovation are indirect. This means that positive effects derived by introducing this kind of innovation derives from all the aspects related to customer services which are not directly linked to firm's outputs themselves. Actually, service innovation is analysed on two different levels.

- The first level refers to the consumption service, directly related to the process of utilise a specific product from customers' side.
- The second level, instead, refers to buying process on which most of companies are currently focusing their innovation activities.

In fact, this kind of innovation offers lots of opportunity to organisations, mainly thanks to latest advancement in technological tools which are revolutionising every aspect of customer experience. Among others, there are three main technologies which are drastically revolutionising the entire panorama. These are artificial intelligence, augmented reality and blockchain (Luhao and Ling, 2017)[22].

Artificial intelligence, which was previously introduced as a process innovation, is gaining great position for what concern firms' strategy: these tools can help in turning large and diverse data sets into enriched information that results in improved speed and flexibility across the value chain, mainly regarding those processes that involve customer experience. This technology allows firms to adapt their services basing their decision in a more focused way thanks to new informations provided by AI or due to AI ability to help brands and retailers with predictive forecasting, capacity planning and merchandising. For these aspects, customer can enjoy the benefits of better product availability, as well as of faster and more accurate deliveries (Abnett, 2019)[23]. McKinsey & Company has determined that an AI based approach can reduce forecasting errors by up to 50 percent, while overall inventory reductions "between 20 to 50 percent are feasible" (McKinsey & Company, 2017)[24]. In a more digital based approach, Artificial Intelligence helps in creating a smoother browsing experience and improve customer retention through personalisation.

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[22] Luhao, L., Ling L. (2017). *Service Innovation Theory and Its Latest Development: A Summary of Literature*, Atlantis Press, p. 364-370

[23] Abnett, K. (2016) *Is Fashion Ready for the AI Revolution?* from https://www.businessoffashion.com/articles/fashion-tech/is-fashion-ready-for-the-ai-revolution

[24] McKinsey & Company, (2017). *Smartening up with Artificial Intelligence.* Digital McKinsey, *p.* 33

Augmented reality, instead, consists into an "interactive experience of a real-world environment where the objects that reside in the real world are enhanced by computer generated perceptual information, across multiple sensory modalities, including visual, auditory, somatosensory and olfactory" (Shouffel)[25]. It allows customer to be completely immerse within the experience, pushing his perceptions to formulate a faster evaluation over products.
Blockchain is a technological system which has not yet being implemented in a large scale since it is still under development, but despite this, according with Statista this technology will reach €20,95 billion by 2023 (Liu, 2019)[26]. This technology consists in a decentralised and distributed digital record that offers new opportunities for managing product safety, authenticity and ethical standards. Once records are added to the blockchain, they can no more be altered.

Business model innovation

Considered alone, business model is the company's plan to create profit or, more in general, to generate value. Business model innovation consists in making changes to the ways a company creates value for its stakeholders, but it could also be intended as a different approach the company adopts to capture value from innovation. In fact, despite a business model is composed by many different levels, at the end they are all converging in the value creation purpose.
A business model can also be seen as a strategical project to be implemented through organisational, processual and systematic structures within the firm. In other terms, a business model is a map of how the company intend to approach to its business, providing a clear direction, identifying the ideal customer, distribution channels which better fit organisational requirements, the main partner involved in the business, the value proposition to communicate and, at the end, the prospect of costs and revenues and their determinants. This model considers and determines the four main areas of a business: clients, offer, infrastructures and financial solidity, as well as sales and marketing strategies, including branding, pricing, sales channels

[25] Schueffel, P.(2017). *The Concise Fintech Compendium*. Fribourg: School of Management Fribourg/Switzerland.

[26] Liu, S. (2019). *Blockchain technology market size worldwide 2018-2023.* Retrieved from https://www.statista.com/statistics/647231/worldwide-blockchain-technology-market-size/

and potential partners. Nowadays, a business has to have a business model, which is fundamental for attracting investments. What is essential to highlight is that this prospect should also be often revisited and updated following the economic trend characterising the business industry, especially in an era influenced by a rapid digital revolution that is influencing each economic field like the current one. From a business point of view, this means that the innovation pace increases and business model's lifecycles are decreasing. Firms have the necessity to innovate in order to stay competitive in such a dynamic environment, and this should lead them in treating business model like a dynamic tool too.

Particularly, through business model innovation, firms may improve profitability and productivity, adopting a more efficient strategy for managing their business and thanks to the fact that everything can be kept under control. More important, this kind of innovation allow firms to develop the ability to conduct an audit of their current business model and generate ideas for improving it, also developing a framework for evaluating and applying new ideas regularly to review and re-evaluate their currently implemented business plan.

Organisational innovation

So far, we noticed that what differ from a type of innovation to another is the core matter of the innovation. The last type of innovation we are going to consider is what is called organisational innovation. Defining what organisational innovation refer to is actually not so immediate. Concretely, it is complex trying to isolate the organisational innovation from firm's product or process innovation, since the first ones immediately reflects into the other forms (Damanpour, 1991)[27]. Most of times, organisational innovation refers to the process of internal re-design of the organisation in order to increase organisational efficiency or to better organise internal structure. However, organisational changes doesn't necessarily imply an organisational innovation since sometimes firms change their strategies or structures but without being innovative and without providing clear advantages on value creation. Despite all, we are used to refer to "organisational innovation" also regarding any new workplace implemented or new external relation created. The implementation of new external relations, in

[27] Damanpour, F. (1991). *Organisational Innovation: A Meta-Analysis of Effects of Determinants and Moderators,* the Academy of Management Journal, 34(3), p. 555-590

fact, will automatically reflect on the internal structure, e.i after the implementation of an outsourcing process, an entire department or more, previously prevent within the firm's organisation, could become completely useless. What seems to be essential is to understand that implementing certain innovation necessarily requires coordination throughout the entire organisation, starting from the managerial line. In fact, there are no innovational strategies that can be applied without an innovative leadership and culture. Melissa Schilling reported that implementing an innovation strategy means, for the organisation, having a deep understanding of the innovation dynamics, the innovation strategy, and a well-designed process strategy (Schilling, 2017)[28].

If compared to other kind of innovation analysed above, the organisational one usually refers to larger-scale changes. This larger-scale, for example, can easily be represented by the implementation of the total quality management, which consist in making all the parts of the organisation committed in maintaining high standards of work in every aspect of company's operations, outsourcing operations and supply chain modifications.

Marketing innovation

Especially nowadays, from a firm point of view focusing organisational effort in developing and implementing a marketing innovation strategy can provide several benefit. Among these, the most relevant advantages a firm can gain are the possibility to open up their business toward new markets, better addressing both already established and new customer needs, or similarly newly position a firm product on the market aiming at increasing sales. In order to understand how marketing innovation can be such a fundamental tool, it is relevant to introduce the definition of this concept. First of all, when people refer to marketing they usually consider the process through which producers communicate to both their target customers and prospective customers about products and services offered by their firm. Marketing is thus essential for transmitting fundamental information about companies' offers, the features and illustrating the reasons that should push customers buying these specific products (Cleverism,

[28] Schilling, Melissa A. (2017). *Strategic Management of Technological Innovation (Fifth Edition).* McGraw-Hill Education International Edition, p. 1-309

2016)[29]. Marketing innovation, conversely, consists into "the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing" (OECD, 2005)[30], for both new and already existing products. Listed in the definition there are the "four P" of marketing, since marketing innovation directly refers to an innovation focused over these areas of interest. Empirically speaking, ideas of marketing innovation may focus on launching products in unconventional places, pricing products uniquely or promoting in a unique and revolutionary way. In particular, being innovative in marketing imply for firms adopting strategies that has never been implemented before by the firm, providing a significant detachment between the old and the new approach. Despite all, the first precept to consider once striving for innovating in marketing is being able to adapt to new consumer behaviour, new technology and market preferences, while at the same time maintaining a strong customer focus.

Looking behind, clear trends that applied this concept have drastically influenced industries among recent years. Innovative marketing programs and technologies has allowed firms of gathering consumers informations enabling them to reach consumers more effectively and to use tailored pricing strategies that were previously not feasible. At the same time, promoting a more efficient way to approach and buy products, like faster and easier online purchase processes, have expanded the market for many companies and potentially reduced consumer transaction costs (Chen, 2006)[31].

Besides these clear trends, many other trends have been approached and implemented for potentially leading firms growth and establishment over their own industries. This type of innovation will become fundamental in the next chapters for classifying upcoming trends in the fashion industry.

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[29] Cleverism. (2016). *Innovation Marketing. Source retrieved from:* https://www.cleverism.com/lexicon/innovation-marketing-definition/

[30] OECD, (2005), "The Measurement of Scientific and Technological Activities: Guidelines for Collecting and Interpreting Innovation Data: Oslo Manual, Third Edition" prepared by the Working Party of National Experts on Scientific and Technology Indicators, OECD, Paris, p. 169

[31] Chen, Y. (2006). *Marketing innovation. Department of Economics, University of Colorado, p. 1-25*

1.3.2 Levels or Degree of Innovation

Incremental vs Radical Innovation

A different degree of analysis is categorised as "level of innovation". Aiming at analysing the differences between innovations, it results important trying to determine the degree or level of the innovation considered, basing the analysis on the extent of changes embedded in innovations considered.

Incremental innovation can be considered as a deep innovation that doesn't modify the subject of innovation itself, but rather improves it while conserving the identifying characteristics. It is possible to note that an incremental innovation makes minor change from existing practices, preserving the previous features embedded in the subject of innovation without revolutionising the entire pattern. A radical innovation, instead, can be referred to a "combination of newness and a degree of differentness" (Schilling, 2017)[32]. A radical innovation represent a brand new solution, a completely new product, service of process which can provide to a specific need in a radically new way, since it completely differ from past solutions.

As reported by Schilling, a radical innovation can also be interpreted in terms of risks. Radical innovation often embodies the exploitation of new knowledge, of which reliability is analysed and evaluated by customers, users and adopters. Further, it is also possible to affirm that the radicalness of an innovation can be relative, based on the different observers. Since then, observer can determine the presence or not of such innovation basing the judgment on his own knowledge base, within its existing market (Schilling, 2017)[33].

While incremental innovation is usually pursued and applied by many companies, radical innovation happens less frequently but most of time can have a huge impact. Evidences found from authors like Marit Engen and Inger Elisabeth Holen (2014) have shown that there are many drivers which compete in order to determine the pursuing of one kind of innovation instead of the other.

Moreover, they also discovered how the use of customer information has revealed to be an important driver for both radical and incremental innovations. These results give to firms the

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[32] Schilling, Melissa A. (2017). *Strategic Management of Technological Innovation (Fifth Edition).* McGraw-Hill Education International Edition, p. 48

[33] Schilling, Melissa A. (2017). *Strategic Management of Technological Innovation (Fifth Edition).* McGraw-Hill Education International Edition, p. 1-309

possibility to redirect their investments in certain direction in order to reach a certain level of innovation and provide better business solutions (Engen and Holen, 2014)[34].

Competence Enhancing vs Competence Destroying Innovation

Innovation can also be analysed with regards to the knowledge which stands behind the product, process or service considered. Sometimes the knowledge underlying a specific innovation directly comes from already existing knowledge base, thus it is built on an existing know-how. In many other situations, the structure of the new innovation completely require new knowledge in order to achieve the expected innovation, making the previous knowledge obsolete. In other terms, a competence destroying innovation requires new skills, abilities and new knowledge for pushing development and production of a certain innovative solution, if compared to those held by existing firms in an industry. The same scholar also evidenced that a competence destroying innovation creates either a new product class or substitutes for existing products. A competence-enhancing innovation is an order of magnitude improvement in price, performance or efficiency that builds on existing know-how within a product or process class (Tushman and Anderson, 1986)[35]. Such innovations substitute for older technologies, yet do not render obsolete skills required to master the old technologies. For example, electric typewriters represented a competence enhancing innovation if compared to mechanical typewriters.

Architectural vs Component Innovation

A particular level of innovation ca be classified basing the judge on the way innovation took place. As far as architectural innovation concerns, it refers to the usage of already established skills, components and know-how and applying them in a different product or market. The

[34] Engen, M., Holen, Inger E. (2014). *Radical Versus Incremental Innovation: The Importance of Key Competences in Service Firms.* Technology Innovation Management Review, p. 15-25

[35] Tushman, M., Anderson, P. (1986). *Technological discontinuities and organizational environments*. Administrative Science Quarterly, p. 439-465

risks connected with this kind of innovation are really low since the market is already aware of new product components, considering that the only difference is represented by the way these components communicate and interact each other.

In contrast, a component or modular innovation happens when changes are referred to one or more components, but the overall configuration is not deeply affected (Schilling, 2017)[36].

Disruptive innovation

As retrieved from business theory, we refer to disruptive innovation as an innovation level that creates a new market and value network, or eventually disrupts an existing market and value network, taking over established market-leading firms, products and predefined patterns.

Most of times, a disruptive innovation arise in a niche market which is not highly relevant for existing players. Moreover, in the current period, a disruptive innovation usually incorporates technological solutions which allows new products to take over the market.

At the beginning, the theory of disruptive innovation was simply a statement about correlation. Nowadays, despite the high usage of the term "disruptive", empirical test show that using disruptive theory makes people and researchers measurably and significantly more accurate in predicting which businesses will be more likely to succeed. In fact, the theory of disruption predicts that when a new entrant company tackles incumbent competitors, offering better products or services, the incumbents will accelerate their innovation attempt trying to defend their business.

Empirical findings also showed that "incumbents outperformed entrants in a sustaining innovation context but underperformed in a disruptive innovation context" (Christensen, Raynor and McDonald, 2015)[37]. The reason for this correlation was due to the fact that, according to evidences, smart disrupters improve their products and direct upmarket. In addiction to this, researchers also realised from evidences that a company's propensity for innovational and

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[36] Schilling, Melissa A. (2017). *Strategic Management of Technological Innovation (Fifth Edition).* McGraw-Hill Education International Edition, p. 1-309

[37] Christensen, C. M., Raynor, M. E., McDonald, R. (2015). What is disruptive innovation?. Harvard Business Review. Source retrieved from: https://hbr.org/2015/12/what-is-disruptive-innovation, p. 11

strategic change is profoundly affected by the interests of customers who provide the resources the firm needs to survive. In other words, incumbents keep listening to their existing customers and concentrate on sustaining innovations as a result.
Once a new innovation is discovered, then, disruption innovation theory does not dictate what managers should do about the innovation, but it helps them in making a strategic choice between taking a sustaining path and taking a disruptive one.

1.4. Innovation Management

The meaning of what innovation management represents can be explained by scholars Kranzburg and Kelly, whose researches revealed that innovation management helps organisations in grasping opportunities and use them to create and introduce new ideas, processes, or products from an industrial point of view (Kelly and Kranzburg, 1978)[38]. The term management, in fact, represent the management of a task and the coordination of activities in order to achieve a defined purpose and goals, that, in this case, is innovation.
The previous paragraphs highlighted how innovation is necessary for companies survival and for succeeding in business, especially when acting in highly competitive markets on which is increasingly harder to differentiate services and products from competitors.
Innovation can help firms for the following reason:

- it allows businesses to gain customer and to expand their customer base, providing market with new products;
- as seen before, a competitive advantage is based on the ability of a firm to innovate and to preserve those innovation from competitors, gaining and retaining market shares;
- it allows company to charge a premium price that will increase firm's margin;
- most of times, introducing an innovation into market allows company to raise revenue and profit, increasing shareholders value.

All those firms that are not investing through new innovative application are supposed to decline as their existing portfolio inevitably matures, following the natural cycle that charac-

[38] Kelly, P., Kranzburg, M. (1978). *Technological Innovation: A Critical Review of Current Knowledge.* San Francisco: San Francisco Press, p. 1-390

terise all the industry. The common link between each of the type of innovation analysed above is an improvement in efficiency, productivity, quality and competitive positioning for the adopting firms. What characterise great innovative brands is that they are able to see a space that other firms do not, finding a way to fill it through the introduction of something innovative. To better reach this aim, many companies have created positions such as the Chief Innovation Officer (sometimes abbreviated in CINO), also to ensure they continue to survive and thrive as industries change. CINOs show organizations how to keep pace by integrating new ideas into an organisations already established infrastructure and processes. Greater competition, new technology and tightened budgets have contributed to increasing the importance given to innovation and figures like innovation executives. These high level managers embrace the work of doing things that might not work, persuade others in supporting missions that do not guarantee a secure outcome, invest in assets and activities that are not a certainty and, for definition, make risky decisions (Wood, 2016)[39].

Firms and their executives, in fact, need to take into consideration that there are many risks connected to innovation:

- First of all, the main risks include the possibility for firms to fail in meeting specification, costs or timing. These eventualities may cause brand or reputation damages. These are called operational risks.

- Secondly, far as commercial risks concerns, there is the possibility to face a commercial consumer resistance and competition from other firms.

- Furthermore, financial investment yield may not reflect expectations. In the other hand, there is also the risk that debt or equity investors results dissatisfied.

  All the researches carried out on innovation failures bring the attention at considering that the failure rate can be very high. According to these figures, some researches suggests that 50% of innovations fail to reach organisational expected goals, while other studies reveal that the failure rate is close to 90% (O'Sullivan and Dooley, 2008)[40].

[39] Wood, C. (2016). What is a Chief Innovation Officer?. Retrieved from https://www.govtech.com/people/What-Is-a-Chief-Innovation-Officer.html

[40] O'Sullivan, D., Dooley, L. (2008). Applying Innovation. SAGE, p. 59

However, the risk of not innovating at all can often be much higher as businesses lose competitiveness and market share.

Besides the just reported risks, one of the greatest challenges for the innovation management is managing the balance between process and product innovations. Process innovations can enhance shareholder satisfaction through the improvement of efficiencies, whereas product innovations can enhance the customer satisfaction. Theoretically speaking, innovation management is the "systematic promotion of innovations among the organisation and includes tasks of planning, organisation, management and control" (Hengsberger, 2019)[41]. One more definition states also that innovation management involves the process of managing the organisation's innovation procedure, starting at the initial stage of ideation, to its final stage of successful implementation. It encompasses all the decisions, activities and practices of devising and implementing an innovation strategy.

Following the definition provided, innovation management is composed by two main pillars, which regards two different aspects of innovation within the firm:

- On one hand, the shaping of framework conditions, regarding the fact that ideas are developed and implemented into successful innovations. The focus here is on organisational development activities;
- Then, on the other hand, the actual innovation which includes the active search, development and implementation of ideas. This requires, among others, of creativity and project management.

These entire processes are very versatile. The fields of action of innovation management includes, among others, the definition of trends, future opportunities and potential risks, in order to better define which is the most valuable direction to pursue. The second step consists into the development of an innovation strategy and planning of the innovation activities, for example by drawing a roadmap. The following action regards to structure the organisation and the various roles in innovation management, such as the decision making structure, establishing the basis on which will be possible to develop the new innovation. It pass then at considering the most relevant point. According to Godin, creativity is the basis of innovation man-

[41] Hengsberger, A. (2019). *What is innovation management?. Retrieved* from https://www.lead-innovation.com/english-blog/what-is-innovation-management, p. 2

agement while the end goal is a change in services or business. For the author, innovative ideas are the result of two consecutive steps, imitation and invention (Benoit, 2008)[42].

As discussed above, this is consistent with ideas management theory, which aims at finding, developing and evaluating the ideas.

On the matter, Schilling distinguished two different types of "creativity", grouped in individual creativity and organisational creativity. The first one refers to the individual ability of using a mix of "intellectual abilities, knowledge, style of thinking, personality, motivation and environment" (Schilling, 2017)[43]. Individual creativity can be really valuable within the company, especially if the firm adopts reward methods for individual goals. On the other hand, organisational creativity is carried out by the implementation of all the steps reported in these paragraphs.

Moving on, the following step, instead, consists in the application of the innovation process, in order to transform the idea into a successful innovation: this moves through the concept, the business plan development, the prototyping process, implementation and marketing strategy.

Once the implementation is reached, it's necessary to include an innovation control strategy to control all those activities previously described. Among the others, each company use to adopt the most suitable Key Performance Indicators, which varies according to many variables such as the type of innovation, the organisational structure and the market of reference.

Furthermore, a necessary step to consider is the design of an innovation culture which can promote innovation among collaborators.

Besides all this management activities, which are carried out within the company, innovation management has to deal also with the protection of patents and commercial rights, in order to protect the innovation against potential competitors or business actors.

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[42] Benoit, G. (2008). *Innovation: the History of a Category*. Project on the Intellectual History of Innovation

[43] Schilling, Melissa A. (2017). *Strategic Management of Technological Innovation (Fifth Edition).* McGraw-Hill Education International Edition, p. 20

Stage	Action	Activity
1	Ideas	Identify a market opportunity
2	Resources	Organise firm resources to achieve the goal
3	Investigation	Research the possibilities
4	Patent	Protect the intellectual property
5	Design	Model and test the innovation
6	Develop	Improve features
7	Production	Start the production
8	Sell	Advertise and inform potential customers
9	Service	Help and communicate with customers

Figure 1.3. The Innovation Path. Source: Australian Academy of Technology, Sciences and Engineering

Before going further, it is necessary to highlight one of the point previously noted, which most of times can deny the innovation management to be successful: it is essential that the company support an innovation culture and make employees feel valued and active parts of the innovation process. This will encourage employees to generate quality ideas in return. Not implementing such a sort of culture may drive to a loosing in focus among the firms, compromising the possibility for employees to work together pursuing at a unique target which, in this case, is represented by the innovation to develop. Sometimes, organizations use to leverage collaborative technology like social networking to get feedback, which helps in generating a steady stream of ideas from stakeholders both within and outside the company.

To make innovation management a routine part of business, many firms follow a disciplined and cyclic approach. Alongside the path, ideation is the first step to innovation and incentives and feedbacks help encourage a steady flow of ideas. The further step in a well-managed innovation process is represented by the identification of the most valuable and viable ideas. Companies can then move forward to create prototype products based on the shortlisted ideas and implement them to see how they work. In the final step of full implementation, it results important to evaluate the outcome to see whether the desired business goals were met once the ideas were implemented.

In order to better summarise the path that a good innovation management has to follow, all the

steps will be resumed into the following table:

The first step to take in the innovation cycle is clearly the ideas generation. Ideas will often arise from observation of a current or future problem, as well as the possibility that arise for the company to solve an already existing problem trough a completely innovative solution. They could be inspired by the organisation's objectives or by a new market situation that can represent a business opportunity (Schilling, 2017)[44].

Once the opportunity has been recognised, it needs to be evaluated. An important test for an idea is evaluating if the ideas match the goals of the organisation and if them can be pursued though available resources, which are represented by people, finance availability and facilities.

If there is alignment with the objectives of the organisation, the idea moves toward a new stage on which it can be investigated and further enhanced. The development phase may involve further research into the opportunity to patent the concept. Prototypes are suggested to be designed, developed and tested at this level of the innovation process.

The further stage involves the decision to start selling the innovation, which usually represent a critical stage. Most of times, this happens when significant resources are required to support the launch of the innovation. Sometimes an organisation might wait at the end of the development phase for more suitable market conditions.

Following this step, the final stage of the innovation cycle is represented by the commercialisation, where the innovation is marketed and sold to the customer. The innovation now moves out of the organisation's control and into the hands of end users. This is the hardest stage of the innovation cycle for organisations to manage. It is crucial for firm monitoring the innovation's performance in the market so that any shortcomings can then be corrected.

Thus, from the ideas stage to commercialisations, there is a need for structured management.

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[44] Schilling, Melissa A. (2017). *Strategic Management of Technological Innovation (Fifth Edition).* McGraw-Hill Education International Edition, p. 1-309

1.4.1 The Innovation funnel

Among others, innovation management typically refers to a tool which among all, is able to identify which are the most valuable ideas. This framework is called innovation funnel. It is based on the idea that most of new ideas do not become successful new innovation. Many studies, according to Schilling, reveal that only one out of several thousand of product can become a successful new product (Schilling, 2017)[45].

There are many advantages in adopting this tool:

- it provides structure and discipline to all those people whose are committing in the project, and facilitates the innovation process;

- providing a predefine ideal structure, it can allow faster development of innovations that drive growth;

- it gives the possibility to define and track innovations according to predetermined criteria;

- it provides safe 'gates' to control innovation resource decisions. Once the idea pass among the gate, it is evaluated the possibility to continue or keep going. This allows the passage of projects more likely to succeed by killing those more likely to fail as early as possible.

  As just reported, each stage is a decision point (or gate) where the idea or project is assessed against selected criteria. This is to determine whether it should progress and continue to receive funding and resources. Progression only occurs after satisfying certain criteria, designed to ensure that the investment is minimised in the early stages. If necessary, the project is abandoned sooner rather than later. It is this prioritisation process that gives the funnel its shape. It means that those innovations that are most likely to succeed are not starved of resources from those that are most likely to fail.

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[45] Schilling, Melissa A. (2017). *Strategic Management of Technological Innovation (Fifth Edition).* McGraw-Hill Education International Edition, p. 1-309

Activities in the innovation funnel are typically categorised into specific stages, which needs to be strongly coordinated and directed by management in order to guarantee efficiency.
These activities are:

- The concept creation, on which the focus is on generating ideas and concepts and assessing them against strategic fit, market opportunity, organisational impact and the chances of success, to decide which are worth exploring further.

- Feasibility verification, according to which projects are selected for further development based on an evaluation of market acceptability, the investment risk or reward and the availability of the required resources (people, facilities and money).

- Development. The market launch is dependent on the satisfactory feedback of the product prototype or service pilot previously tested, an evaluation of likely competitor response, and ability to deliver the required supply chain, marketing and pricing.

- Implementation includes the execution of the launch and performing post launch reviews to understand whether the implementation has been successful and what, if any, changes need to be made. Between each stage are decision points (or 'gates') where the idea or project is assessed against selected criteria. This is aimed at determining whether it should progress and continue to receive funding and resources. Progression from one gate to the next only occurs after satisfying certain criteria, designed to ensure that the investment is minimised in the early stages. If necessary, the project is abandoned sooner rather than later. It is this prioritisation process that gives the funnel its shape. It means that those innovations that are most likely to succeed are not starved of resources from those that are most likely to fail.

1.5. Adoption-diffusion theories

The diffusion of innovation has a great relevance for any innovation, since without diffusion innovation simply has no impact on society or on economy. The decision of whether an individual adopt a particular innovation and the time-frame involved in that decision has been a

long source of research among multiple disciplines of study. Across the years, many theories have been developed trying to determine and explain the reason of innovation adoption and diffusion, as well as the rate at which new ideas and innovation spread. Commonly, we are used to refer to "innovation adoption" considering that moment on which an individual decide to integrate a new innovation into his/her life or organisation.[46] Diffusion, instead, is a dynamic phenomenon defined as "the collective adoption process over time" (Straub, 2009).[47] The following theories aims at examine individuals and choices taken from individuals to accept or reject a particular innovation, considering two different point of view:

- the micro perspective of adoption processes, focusing in the single adoption decision that constitutes the whole innovation diffusion panorama. Diffusion process, in fact, is affected by the social and economic structure.

- the macro perspective of diffusion process, that describes how an innovation spreads through a population. Here, factors like time and social pressures are examined for understanding how a population decide to adopt, adapt or rejects a particular innovation. This approach is commonly adopted by technology planners, market and industrial researchers that investigate the time pattern of a spread of innovation at a macro level for applying results directly to their own business (Kumar)[48].

Different approaches to the topic gave birth to many different theories on innovation innovation adoption and diffusion. Despite all these differences, all the theories later examined reports certain commonalities. First of all, all them start with a specific pro-adoption bias, that moves from the assumption that the goal is to disseminate information about a particular innovation specifically for adoption. In fact, when adoption does not take place, it is considered a failure of the entire diffusion-adoption process (or non-diffusion) rather than its own stage of a process. Secondly, individual characteristics are individual differences, or trait-based

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[46] Wisdom, J. P., Chor, K. H., Hoagwood, K. E., & Horwitz, S. M. (2014). *Innovation adoption: a review of theories and constructs*. Administration and policy in mental health, p. 480–502

[47] Straub, E. B. (2009). *Understanding Technology Adoption: Theory and Future Directions for Informal Learning.* American Educational Research Association, p. 629

[48] Kumar, N. (2015). *Review of Innovation Diffusion Models.* National Institute of Science Technology & Development Studies, p. 1-54

characteristics, that predispose a person to shun change or to seek out. These researches in fact, highlight that there may be personality traits that predispose certain kind of people to adopt innovations, or adopt them quicker than other people (Wood & Swait, 2002)[49]. As third proposition, all these scholars considers that "contextual characteristics make up the environment and surroundings of an individual during the adoption process" (Straub, 2009)[50].

Although most of times it is useful to consider individual behaviours as isolate factors, these theories base their assumptions on the fact that they are insert in a social environment. Social learning in fact, consider individuals as subjects capable of learning not just from their own previous experiences but from experiences of other people around them (Bandura, 1986)[51]. It is common for people observing other adopting a particular innovation being themselves inclined to adopt the same innovation and replicate the observed behaviour.

For its part, self-efficacy push individuals to believe they can complete a specific task given a set of circumstances. From an adoption point of view, people are used to consider themselves as able to approach and manage innovation (Bandura, 1997)[52].

This research has the purpose to approach to the following theory for highlighting why many innovations become important for people while much more innovations struggle to become known beyond their close circles of developers.

Rogers's Innovation Diffusion Theory

Everett Rogers published his work "The Diffusion of Innovation" in 1962, and it is still considered one of the most influencing book which lately contributed to the development of many other theories of diffusion and adoption. This importance is due to Rogers's particular intention to provide a deep analysis of the factors that influence the choices individuals make about an innovation, crossing fields like psychology, sociology and education. Despite all, the

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[49] Wood, S. L., Swait, J. (2002) *Psychological Indicators of Innovation Adoption: Cross-Classification Based on Need for Cognition and Need for Change.* Journal of Consumer Psychology, 12(1), p. 1-13

[50] Straub, E. B. (2009). *Understanding Technology Adoption: Theory and Future Directions for Informal Learning.* American Educational Research Association, p. 628

[51] Bandura, A. (1986). *Social cognitive theory of personality.* New York: Guilford Publications, p. 154-196

[52] Bandura, A. (1997). *Analysis of Self-Efficacy Theory of Behavioural Change.* Cognitive Therapy and Research, 1(4), p. 287-310

broad scope of this theory, that makes it flexible and adaptable across many contexts, makes it also difficult to be directly applied concretely when planning for organisational change.
The Innovation Diffusion theory move from the assumption that adoption and diffusion are related and inseparable processes, considering diffusion as composed of individual adoptions.[53] Rogers defines diffusion as the "adoption process across a population over time" (Straub, 2009)[54].
There are four main parts that constitutes Rogers's diffusion theory:

- the innovation, considered as the subject of the adoption process. His research identifies five attributes of an innovation that will be analysed immediately below.

- communication channels, used to broadcast information about the innovation, favouring people's interaction with the novelty and from individual to individual.

- the social system, intended as the context, culture, and environment that an individual is involved in.

- the time that individuals requires for moving through the adoption process.

The close interaction and combination of these factors allow to understand why an individual choose to adopt or not an innovation. This decision making process follow specific steps, moving from an initial information gaining process to become aware of the innovation and its functions, influenced by factors analysed above, to a second step on which the potential adopter has enough informations to formulate a personal opinion on the innovation, until reaching the final decision of adoption or rejection. These three initial steps are followed by the implementation of the innovation and, after a practical proof, the final seek for reinforcing the decision of adoption or discontinue to get back to the initial situation (Rogers, 1995).[55]

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[53] Rogers, M. E. (1995). *Diffusion of Innovation*. New York: Free Press, p. 1-519

[54] Straub, E. B. (2009). *Understanding Technology Adoption: Theory and Future Directions for Informal Learning.* American Educational Research Association, p. 630

[55] Rogers, M. E. (1995). *Diffusion of Innovation*. New York: Free Press, p. 1-519

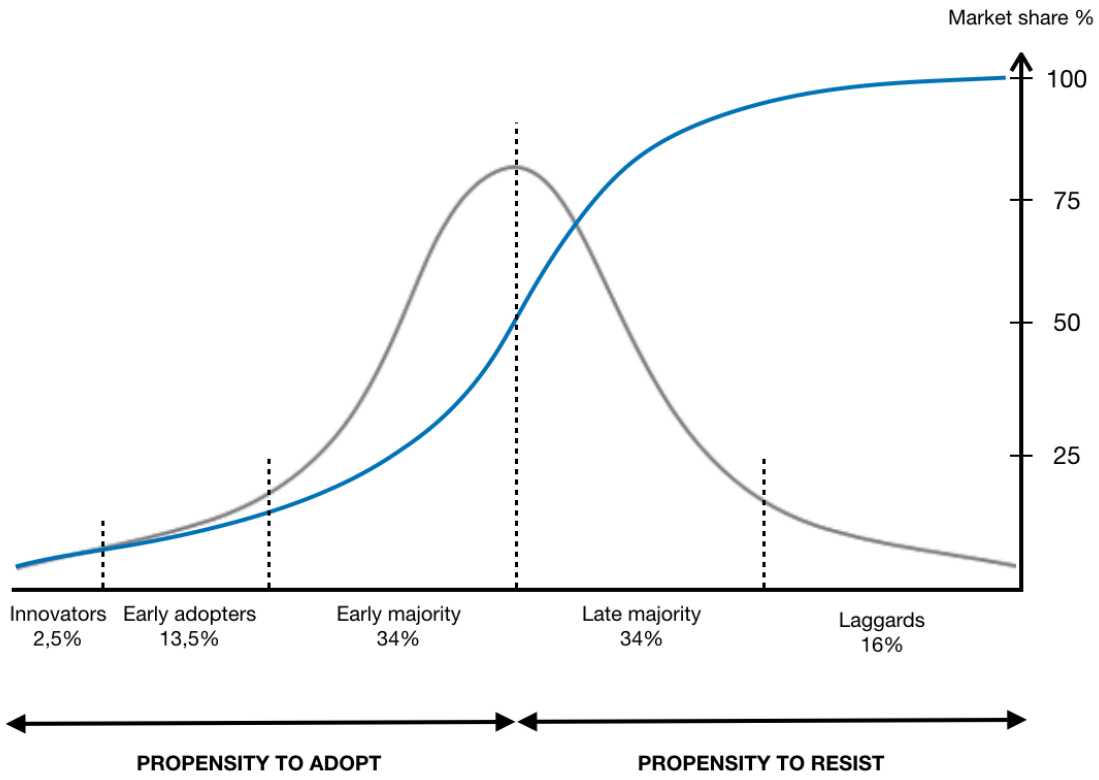

Figure 1.4. The Innovation adoption curve. Source: Rogers, 1962, p. 283

The following step of the theory analyse the classification of adopters, depending on the timing and degree of the innovation adoption. Rogers classifies adopters within five categories: innovators, early adopters, early majority, late majority and laggards. Theory's results revealed a S distribution curve, since initially the adoption process moves really slow, for then increasing the pace once reaching the mass adoption for then flattening again the curve when the innovation har reached the mass diffusion and only laggards are left. This analysis suggest that a small percentage are early adopters, followed by a mass diffusion for early and late majority and a small percentage are laggards. Empirically, Rogers assigned and determined that the first group of adopter usually accounts for the 2,5%, the second for the 12,5%, the third and fourth accounts each for the 34% and the last one group accounts for the 16%, as reported from the graph below (Rogers, 1962).[56]

This process of classification has allowed to study and highlight similar attitudes, personality, socio-economic situation and behavioural traits, revealing that early adopters commonly have personal features like higher socio-economic status, have higher upward mobility within their social culture, are more likely to be literate, broad access to communication methods, tend to

[56] Rogers, M. E. (1962). *Diffusion of innovations (1st ed). New York: Free Press of Glencoe,* p. 283

be more intelligent and have higher capacity for uncertainty for change (Straub, 2009)[57].
Moving on, Rogers analysis focus the attention on those attributes that can actually affect whether an innovation is adopted or not. Innovations can be rated over these five attributes in order to formulate a prediction about potential adoption by individuals, whose commonly judge innovation depending on:

- relative advantage, that regards to estimate how much innovation's benefit are once compared to alternatives;

- compatibility, which considers how well innovation fit with adopter necessities;

- complexity refers, that instead treats difficulties that potential adopters may find in using the innovation. Usually, the lesser the complexity of innovation is, the higher is the possibility for it to be adopted;

- observability occurs once an innovation is adopted by a community of people, so that other individuals within the same social group that were not interested about the innovation before can change their mind or taking into consideration the innovation.

According to Rogers's theory, the evaluation of potentialities of diffusion related a certain innovation in a specific population requires the adoption of a wide point of view, which takes into consideration all these variables and determinants.
Following this premise, the next chapter will provide a clear panorama about the context on which fashion firms strive to compete and innovate, exploring also the socio-economical factors that can determine the evolution and diffusion of future innovations within such a complex industry.

[57] Straub, E. B. (2009). *Understanding Technology Adoption: Theory and Future Directions for Informal Learning.* American Educational Research Association, p. 631

Chapter 2

2. Fashion industry insights

2.1 Brief introduction on fashion industry

The world "fashion" has latin origins, deriving from the world "factio", which means "to make". Currently, in the Oxford Dictionary of English, the term "fashion" carries fourteen different meanings. Among these, the most relevant are "manner, mode, way" or further "conventional usage in dress, mode of life", and more "the mode of dress, etiquette, furniture, style of speech adopted in society". (Oxford Dictionary)[58] These definitions suggest that fashion is related to specific moment in time and space, preluding the fact that different periods have been characterised by deeply diverse patterns in the fashion environment. In order to better analyse the most relevant events that characterised the fashion scenario, various terms need to be defined: (Welters and Lillethun, 2018)[59]

- Taste: according to the OED[60], taste is defined as the sense of what is appropriate, beautiful and harmonious. Further definitions reconnected "taste" as a component for creating beauty, providing the term with an aesthetic value.

- Style: Coco Chanel said ""fashion fades, only style remains the same".[61] The meaning of the term, then, has been reconnected with individuals dressing well in clothes, accessories and grooming that suits their looks and personality, as well as their age and occasion.

- Trend: this term started to be highly adopted since it has to do with the disruption that occurred within the fashion industry in the mid-twentieth century, when few European cities determined the direction of fashion for the whole international panorama. The meaning this term assumed represents the tendency or the general course taken by a specific matter; in this case, it is referred to tendencies or inclinations taking place within the fashion word.

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[58] Oxford Dictionary of English. (1989). Retrieved searching for "Fashion"

[59] Welters, L., Lillethun, A. (2018). *Fashion History: A global view.* Bloomsbury Academic, p. 14-18

[60] OED, Oxford English Dictionary

[61] Coco Chanel. (1965), from http://www.amandawhite.co.uk/uncategorized/fashion-fades-only-style-remains-the-same-coco-chanel/

The fashion industry is currently one of the most widespread and powerful multibillion-euro industries that rules the global scenario, representing the business of making and selling clothes. This global enterprise has been considered as composed by two main parts until 1970s: previously, in fact, researchers distinguished between the fashion industry and the apparel industry. Among these two definitions, the first term was used to be related to the high-end fashion business of producing and selling luxury fashion garments, while the second one was about functional clothes, also known as mass fashion. Nowadays, the term "fashion industry" incorporates the design and manufacturing, distribution and retailing, marketing and promotion of any kind of clothes and related accessories, from the most expensive and refined to ordinary apparel. In other words, as explained by Valerie Steele and John S. Major (2019) "fashion is a complex social phenomenon, involving sometimes conflicting motives, such as creating an individual identity and being part of a group, emulating fashion leaders and rebelling against conformity" (Steele and Major, 2019)[62]. For many people, fashion is about showing your identity or having the possibility to be diverse from mainstream and predefined patterns, as well as feeling free to express personality.
The traditional view of fashion industry encompasses four interrelated levels, each of them dedicated to create a particular value aimed at satisfying consumers demand and creating a profit for fashion firms (Stone and Farnan, 2018)[63].

The first level is represented by raw materials production, like synthetic and natural fibres, textiles, fur and leather. Despite the various alternative proposed, fashions are still mostly made from textiles. These are composed by fibres of two main kinds: natural fibres like cotton, linen, silk and wool and synthetic fibres like nylon, polyester and acrylic. This level is currently a big issue for what concern sustainable fashion, which led to the introduction and development of environmental friendly fibres like hemp.

The second step encompasses the production of fashion goods, which comprehends the design, manufacturing and contracting stages. Fashion collections are mainly developed by designers, whose, through their work, try to propose fashion garments that are supposed to meet customers demand. In previous years, designers based their work on sketching on paper and

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[62] Steele, V., Major, J. (2019). Fashion industry. Retrieved from: https://www.britannica.com/art/fashion-industry, Encyclopædia Britannica, inc., p. 3

[63] Stone, E., Farnan, S. A. (2018). *The dynamics of fashion, 5th Edition.* Bloomsbury, p. 1-415

draping fabric on mannequins. Following the rapid changing market trends (daily for what concern the fast fashion) designing process and drawing tools has changed from the past, and are most of times supported by computer assisted design techniques, that allows designers to easily implement required changes. The following stage is about translating designing pattern into a range of size. This step determine how textiles are cut for then be joined together to create the final product. For all but the most expensive clothing (Haute Couture market segment, analysed below), the cutting step is processed by computer guided knives or high intensity lasers, programmed to cut many layers at once. Despite all the technological advancement, the final step of sewing is still considered a labour intensive stage. This step is typically outsourced by firms, looking for low wage and less regulated countries. Alternatively, instead of outsourcing the assembling process to other firms, enterprises typically establish themselves production facilities in these low wage countries. This allow firms, especially those operating in fast fashion, to reduce manufacturing cost and to provide low price garments to the final customer. For this reason, in the late 20th century, China has emerged as the larger producer of clothes because of its low about cost and indisciplined labour law. Differently, high end fashion firms are used to exploit globally known labels like "Made in Italy", which confers added value to the final piece of fashion, thanks to the recognised characteristics like quality, creativity and craftsmanship. Final garments can be produced embedding a wide range of effects obtained through weaving, dyeing and printing processes. The "finishing" stage includes the addition of decorative elements, brand-name labels and product specification labels.

Moving to the further step, retail sales consists into the "business of buying clothes from manufacturers and selling them to customers" (Kimberly, 2019)[64]. Manufacturers typically produce collection in established period of the year which are delivered to retailers. These periods are deeply different for fast fashion and high-end fashion segments, since in the first case the delivery frequency can be on a weekly base, while in the second case collections are provided on a seasonal or semestral base. Usually, as far as high end fashion industry concern, retailers perform the purchases for resale stocks three to six month before the customer has the possibility to buy products in store. This new launches are commonly anticipated by fash-

[64] Kimberly, A., (2019). Retail Sales and Its Components, source retrieved from: https://www.thebalance.com/what-is-retail-sales-3305722

ion shows, which take places in particular period of the year. These are usually held during spring and fall "fashion weeks", among which the most important are Milan, New York, Paris and London. These events have a great commercial impact for fashion firms, and are commonly used for providing to media and customers the perception of the direction a particular firm is taking. This last topic is heavily link to the next level.

Concluding, advertising and promotion represent the activity of communicating and promoting products among users and final customers, aiming at maximising company's sales and profitability. At the base of a good marketing process there is the ability to understand customer's demand and to respond through right proposals. Marketers elaborate sales tracking data, posing attention to media coverage and other indicators of preferences for driving designers and manufacturers in elaborating the right type and the right amount of garments to produce. Marketing is typically implemented both at wholesale and retail level, intending for "wholesale" the process of selling garments to retailers, involving initiatives like promotional activities, social media advertising, website enhancement or manage marketing campaigns. All these activities are fundamental for a relevant department like "merchandising", of which tasks consist in maximising sales and profitability through "selling the right product at the right price, at the right time and place to the right customer" (Steele and Major, 2003)[65]. Merchandise specialists utilise marketing informations for adopting right selling strategies, make products more attractive or reorganise stocks through discounts and promotional events, always striving for guaranteeing customer the possibility to buy the desired product at the desired time and price. All the different kinds of media are relevant for marketing in fashion, from television, to fashion photography and fashion magazines such as Vogue and Pambianco. These latter forms of adverting have become dominant and determinant for the industry development.

The current fashion world has been built over many years of changes and reforms over the old established patterns, that saw fashion industry going through periods of unrest or uncertainty of aesthetic precepts, and other more stable periods in which certain styles become dominant and established as a model, them followed by the majority of creatives (Cappetta, Cillo and

[65] Steele, V., S. Major, J. (2019). Fashion industry. Retrieved from: https://www.britannica.com/art/fashion-industry, Encyclopedia Britannica, inc.

Ponti, 2003)[66].

Initially, the fashion industry finds its roots in Europe, but then quickly established all over the world, from America to Asia. From 1945, the end of the World War II marked the beginning of a strictly regulated trade for what concern textiles and garments. Countries, in fact, imposed severe protectionist measures like quotas and tariffs to prevent production to be moved from high to low wages countries. These impositions were gradually abandoned in the beginning of the 1980s, replaced by a free trade approach regulated by the World Trade Organisation and other international figures.

However, the fashion industry, as we consider it, is a product of the modern era. The mass production process began in the middle of the nineteenth century, when manufacturers started to craft garments that did not needed for personal necessities. Previously, in fact, clothes were product of handmade production directly crafted for individual, both as home production or from tailors. Networks of neighbourhood tailors evolved giving birth to manufacturing business that signified the down of restrictive and unilateral codes of dress. This era also determined the advent of international designers like Paul Poiret, Charles Worth, Jeanne Lanvin whose influences started to shape the fashion styles recognised globally. From these movements, the globalisation process started to take place, acquiring importance more than ever before. This process has been favoured by the emerging middle class and a widespread increasing of foreign labour, mostly from Italian manufacturers that brought high tailored skills in the main strategic environments like New York and, in general, across Europe. The 1950s and 1960s marked the advent of entrepreneurial designers that aimed at establishing their own labels worldwide, moved by ambitions and vision. These years saw the establishing of figures like Oscar de la Renta, Calvin Klein and Bill Blas. In the 1980s, moved by the economic boom, fashion industry become globalised more than ever. This period has also experienced a shift from masculine style towards minimal style. The beginning of the 20th century, from its side, has determined a disruption on previous patterns, since the development of global capitalism and the factory system of production, based on the introduction of the sewing machine, technological advancement and new automation tools, has brought to life the quick mass production characterised by standard sizes and fixed prices. This trend has pushed fashion con-

[66] Cappetta, R., Cillo, P., Ponti, A. (2003). *Convergent Designs in Fine Fashion: An Evolutionary Model for Stylistic Innovation.* Research policy, 35, p. 1273-1290

glomerates in looking for countries that offer low-wage labor. Globalisation is a really current matter, as related topic like offshore outsourcing stands at the base of the current fashion system. This established pattern is currently exploited as strategic practice in which firms hire a third party supplier to outsource manufacturing or other business tasks in different nations than those in which the hiring business primarily conducts its operation. (Outsourcing glossary)[67] Garments, thus, may be designed in a country, manufactured in a different one and sold in many others. These organisational innovations allowed fast fashion to grow rapidly in last two decades. This pattern refers to the modality of companies which are able to modify garment assortments at very short intervals, led by the advent of Inditex, the promotor of fast fashion that will be analysed later in this chapter. (Ferdows, Lewis, and Machuca, 2004)[68] This approach to fashion has been radically revolutionary since it drastically shortened the production and logistics processed, but at the same time also stimulated customers to go to stores more often since clothes were offered at reasonable prices. These upcoming trends was also fostered by the rising of social networks, e-commerce and mobile devices. These necessities required a deep renewing of many companies activities for competing globally and for taking advantage of new opportunities. In this period, for luxury brands, product innovation became a critical topic since consumers unpredictability and selectivity made the global scenario far more complex, and companies strived in balancing creativity with trends that become established in the market. The challenge for manufacturers was also based on managing the duality between tradition and fashion, while at the same time attempting to face the increasing market dynamism. Italian manufactures, from its side, still remained an important competitive advantage for firms, and the period started to rediscovered the values of artisanal production and product personalisation.

Despite all, the latest fashion panorama defined in the 21st century, has been deeply influenced by the widespread diffusion of internet. Social networks, fashion blogs and related figures definitely transformed this channel in a relevant retail outlet, also thanks to the development of fashion platforms or promotional portals that at the same time have represented a radical challenge for fashion companies that had to reinvent the whole value chain. At the same time, many other issues have emerged in the industry, like the social and environmental ones.

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[67] Outsourcing glossary, source retrieved from: https://www.taskus.com/glossary/offshore-outsourcing/

[68] Ferdows, K., Lewis, M. A., Machuca, J. A. D. (2004). *Rapid-Fire Fulfilment.* Harvard Business Review, p. 2

People are slowly modifying the making decision process, redefining their own priorities and evaluation factors.

2.2 Fashion theories

This paragraph has the purpose to delineate the reason behind changes and pursuit of novelty that have always characterised the fashion industry. Many different disciplines have tried to determine fashion trends, from economics to sociology and anthropology, trying to provide fashion theories which were dedicated at providing explanation about how and why fashion occurred. Herbert Spencer proposed that fashion oscillates between extremes and that it is based on changes based in the imitation of elites, seeking the pleasure of novelties (Spencer, 1854)[69]. This author also coined the sentence "the survival of the fittest" readapting the famous Darwin's quote and giving birth to the movement called Social Darwinism, which was based on interpreting human developments in a hierarchical scale. This social concept, was then adapted to fashion also fostered by the coming of western capitalists, whose started to think that dress practices of western people were superior to those of other cultures. From this point on, fashion started to be associated to western people styles and traits. Such theories remained at the bases and shaped fashion until the last quarter of the twentieth century.

The early twentieth century was determined by different events, starting from a social point of view. The standardisation of fashion allowed several ideas to emerge, and a process of imitation started to take place. Lower social class, in fact, started to imitate higher status group's fashion, whose reacted in creating new look and fashions once copied. Veblen, in 1899, analysed the differences between dressing habits of the worker class and those of which he called the "Leisure Class". The researcher finally determined that the leisure class was involved in an excessive consumption of fashion products, which aimed at having a specific clothe for the varied events of the day, for being dressed fashionably. Form these evidences, Veblen understood that the way of dress communicated the social status and the ability of higher class to follow fashion.

Moving on, George Simmel in his essay of 1904, affirmed that fashion occurred in stratified societies characterised by social mobility, on which lower status groups emulates the fashion

[69] Spencer, H. (1854). *Essay: Scientific, Political & Speculative.* Library Edition, p. 1-452

of the immediately higher group, moved by the impulse of conformity and imitation.

In 1930, Walter Benjamin introduced the idea that fashion change was also driven by recycling ideas from past fashions or fashion history, anticipating the idea developed later by Brenninkmeyer in 1973 that revealed how people preferred incremental changes in their fashion rather then sudden changes, describing an "historical continuity". According to this theory, people feel more comfortable in choosing fashions similar to what they already know, rather then adopting a revolutionary new style. (Brenninkmeyer, 1973)[70] In the same years, Blumer proposed a theory according to which people belonging to the same social group prefer the same idea or style. (Blumer, 1969)[71]

Further, in 1994, anthropologist Ted Polhemus treated the fashion theory from a specific point of view: he examined subcultures, determining how these were used to deploy fashion as a way to show authenticity, obtaining an identity and a symbolic meaning. Finally, Evelyn Brennon diffused his own research based on the analysis of the black leather jacket, affirming that this piece of clothe's history can explain the entire process of fashion change. He revealed how actually all the previous considerations could have been applied to this specific matter: the leather jacket moved from subcultures like motorcycle gangs across which represented an identifying tool, to mass fashion as a rebel piece of clothes. The black leather jacket became an icon adopted by mass idols, for then becoming widely adopted. This entire process took many years but, currently, that fashion is reinterpreted and adopted by high end fashion designers.

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[70] Brenninkmeyer, I. (1973). *The Diffusion of Fashion* in G. Willis and D. Midgley (eds.), *Fashion Marketing*, 259–302, London: Allen and Unwin.

[71] Blumer, H. (1969). *Fashion: from class differentiation to collective selection.* University of California

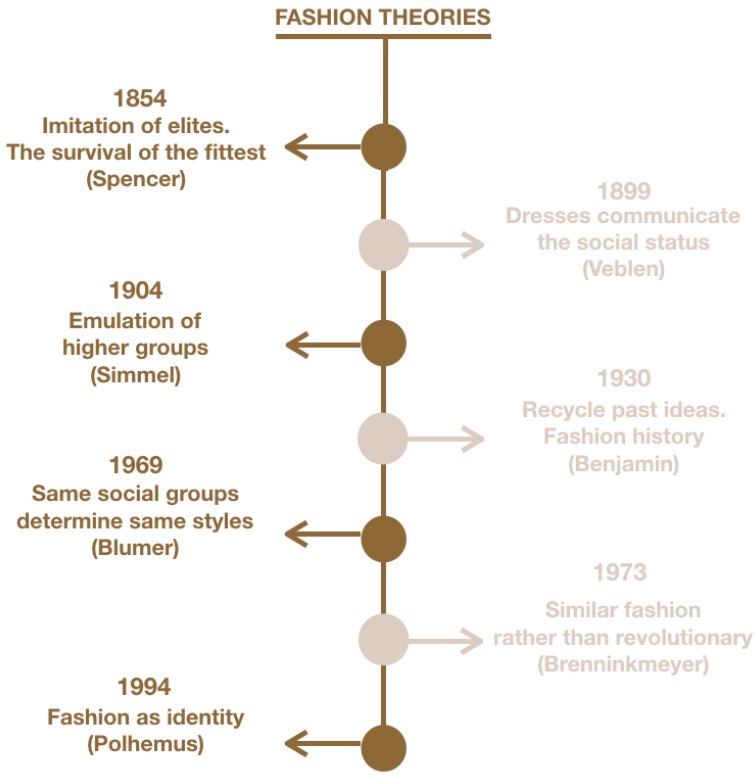

Figure 2.1 Fashion theories. Data retrieved from many sources

2.3 Fashion companies: common structure and departments

Before proceeding in analysing the fashion industry structure, a more clear insight of the internal dimension of fashion firms is supposed to be helpful in order to better approach more complex interactions that take place in such a complex industry. Nevertheless, companies structures depend on firm's goal and on industry structure, but within the same industry firm's internal organisation can widely differ.

The analysis of a firm structure is fundamental for understanding how information flows are coordinated among the various level of management by the various department's manager. The necessity of a great definition of such internal processes are required since efficiency, decision making processes and organisational operations rely on following the same direction within all the firms components, defining the job of each employee and the contribute it provide to the whole organisation for pursuing corporates goals and values.

Most of times, firm's structure is illustrated in a diagram or in a chart (Farias, 2016).[72]
Many departments can be included within a firm organisation. Among these, general departments that are commonly present in a firm structure include the Human Resources, Research and Development, Production, Accounting and Finance, the Information Technology, Sales and Marketing. However, as anticipated above, their interrelation can vary deeply even for firms that belong to the same industry. Despite all the potential combinations, when referring to fashion industry it is possible to find recurrent patterns that are common for most of fashion firms, at least for what concern the current period as they need to meet industry specificity.
For what concern fashion firms, besides the possible variations and departments similar to companies of other sectors, the departments that typically stays at the bases of the structure are the design department, purchasing department, sales and marketing departments. All of these depend directly by the CEO of the company, that is positioned at the top of the organisational chart. These departments are also those that are going to be analysed in following paragraphs in order to provide a better awareness over the typical environment on which innovations within these companies commonly takes place.

Design, Purchasing and Quality departments

The design department is devoted at coordinating the design process of the product lines, determining the creative strategy, the required budget and schedule development time for design projects. For its particular purpose, this department is also one of the most dynamic, since new and innovative possibilities for creative executions are continuously pursued. This is all dedicated at finding and developing design concepts and execute creative material, pushing department's components at widening their vision across multiple disciplines and categories. The creative director is typically the figure in charge to direct and determine the company style direction. Outside from their own specific area, designers are often called at providing ideas to enhance productivity and efficiency among departments, mainly for what concern garments production. Despite these classical definitions, the increasing uncertainty in fashion industry has directly determined a blurring in roles and tasks of the creative director, as well as for what concern the entire design department. Designers role has been modified widening

[72] Farias, G. (2016). *Organization and structure of a fashion brand or company.* Source retrieved from: https://gabrielfariasiribarren.com/en/organization-and-structure-of-a-fashion-brand-or-company/

their specific task, asking them to perform tasks regarding business development and innovation strategies (Marxt and Hacklin, 2005).[73] The high responsibility and the heavy impact he is in charge of locate the creative director directly correlated to the CEO of the company, as well as with the purchasing department.

This other branch of the firm works in a strict relation with the design department since purchasing team is in charge of planning and controlling the acquisitions of suppliers' goods and resources, directly involved in clothes development. Purchasing team has to deal both with internal and external relations, since they have to satisfy internal requests of raw materials and resources while maintaining a profitable relationship with external suppliers. These tasks has been widely recognised as deeply influencing the internal and external supply chain activities. The main responsibilities include the definition of product categories, determination of purchasing quantity and quality and scheduling the delivery of these products. At the same time, this department is commonly involved in searching and improving the network of suppliers. These figures must be able to negotiate and manage the purchase from various suppliers.

A third valuable figure that is strictly related to those presented above is the quality manager, of which job is dedicated at controlling the quality of materials purchased directly performing various tests and, at last, control the quality of final products too.

Sales and Marketing departments

As it is widely recognised, sales and marketing are two strictly related departments that are also fundamental in every company. The reason why it is analysed with such attention is due to its particular relevancy on fashion companies. Differently from how conceived in the past, nowadays the sales department is commonly conceived as a unique with the marketing department. Originally, the sales departments was dedicated at planning, direct and control selling activities, while at the same time selecting, training and supervising salesforce. These selling operations are not considered as an isolated activity, but instead perceived as a society-oriented, where components of the sales team are inducted about values and vision of the firm, providing a common human-welfare aspect shared with colleagues that aims at fostering

[73] Hacklin, F., Marxt, C. (2005). *Implication of technological convergence on innovation trajectories.* International Journal of Innovation and Technology management, p. 313-330

team building.

Sales departments is based on four distinct elements:

- The first element is about planning. These plans must be redacted after an extensive market research, where products are tested. The results must then be translated into variations or confirmations over the products proposed, that will require also flexibility from the firm side. These necessities will also require to revise continuously the sales plan.

- Coordination of any sales aspects, in order to maximise the resources coming from employees' efforts. This is also essential in order to guarantee a free flow of information among employees.

- The third element regards the controlling side. Sales managers has supposed to check if sales activities are moving through the right direction, in order to decide how to interact with subordinates for reaching company's target.

- Motivation is the last element, but it currently represents a pillar over which the sales department is build. Any motivational activity aims at increasing employees' potential and potentially increasing company's economical return (Sales Management, an overview)[74].

Marketing, from its side, has been treated in the previous chapter since it is a hotspot for innovation activities. This department is probably one of the most common structure existing in any kind of firm. Fashion firms, among others, are currently heavily dependent on marketing of any kind. Nevertheless, despite the industry, firms has the final aim to let customers know about their products, promoting them transmitting ideas and firm's mission. As direct consequence, marketing department aims at establishing a business within the market of reference, moving from strategies that generally aim at increasing target customers awareness and interest, creating a wide recognised firm identity.

The marketing department aims at identifying areas in which products can be relevant and environments on which firms should focus their marketing strategy. At the same time, marketing budgets are deployed, pursuing at maximising campaigns coverage and results. Through these campaigns, firms create brand awareness among customers, as well as provide imputes

[74] Sales Management: an overview. Source retrieved from http://www.ddegjust.ac.in/studymaterial/mba/mm-308.pdf

for creating interest through audience. This interest aims at involving customers making them perceive the products value added and transmitting main companies values and, concretely, physical products characteristics, that are necessarily focused at generating income.
The main figures that determine and manage this department are typically the Chief Marketing Officer and the Marketing Director. The CMO typically stays at the direct supervision of the CEO, since he is at the top hierarchical level as in charge of managing the marketing department. As marketing director, instead, is commonly indicated the person responsible for all the marketing strategies implemented, reporting directly to the CMO of the company (Marketing Department: Organisation, Tools and Responsibilities)[75].

Fashion Merchandising

The fashion merchandising departments is suited for managing all the processes that new garments go through, from the end of the designing process to become available in mass quantities for final customers. More precisely, this part of the firm plays a fundamental role both in creativity and financial matters. The tasks they accomplish are typically inherent to garments manufacturing, buying processes, promotion and selling of new collections. As far as manufacturing concerns, fashion merchandisers are considered like specialists in suggesting best productive choices, since this department is commonly aware about types and characteristics of fabrics, as well as a concrete fashion approach, that usually results useful for fashion designers. Further, their awareness on markets price and targets makes the merchandising department really helpful for finding the best way to manufacture a specific piece of fashion, taking into consideration costs and market timing and aiming at minimising risks and maximising products' potentialities. In order to do so, this firm's branch is also typically involved in providing analysis and forecasting over potential preferences and trends, providing suggestions for stores' orders. These sector of the firm is in charge to select the target stores that potentially may treat products offered by the fashion firm. This lead to the a further specific task on which the merchandising department is involved in: selling activities. For selected buyers, merchandising commonly provide a shopping list of products illustrating prices and supply timing. Then, the department is also responsible for store's provision of fashion

[75] Marketing Department: Organization, Tools & Responsibilities. Source retrieved from https://www.cleverism.-com/marketing-department-organization-tools-responsibilities/

clothes, through their activity of products promotion, as well as providing support through visual merchandising skills that provide stores with a better presentation patterns for products involved, offering suggestions on how to display products within the store. Outside of store's activity, this branch of the firm is also commonly in charge of preparing fashion shows and promotional events that aim at capturing both established and perspective customers' attention (Merchandising, Rai Technology University).[76] All the activities just analysed require for firm a strong effort in term of intra-departments coordination and collaboration. As far as selling and promotional activities concern, in fact, fashion merchandising is commonly involved in strict communication with the marketing department, which is going to be analysed below.

2.4 The international fashion structure: market segmentation

When we talk about fashion industry, it is important to be aware that it is composed by many different shades that can determine relevant differences among the same sector. The fashion industry, in fact, despite it is nowadays intended as a huge unique industrial category, is characterised by many businesses.

From a firm's point of view, "being focused" also means for firms to take decisions and make choices among many different aspects of the business: the best price at which selling the garment, the most suitable target customer to aspire at, the best innovation approach to adopt according to firm's resources. All these decisions are immediately visible within the industry. As we can normally experience everyday, garments and materials may differ a lot, from textiles, leather, knitwear and many other. These clothes, moreover, are usually produced by firms that belong to different industry segments, which is determined by business model decisions and which, in turn, will determine business models variations (Dillons, 2018).[77]

Making a clear distinction is necessary since industry characteristics heavily depend on the segment of interest and a generalisation would not allow firms to strictly identify direct competitors. Moving from these statements, firms are used to approach and pursue business strategies that fit the most according to the market type and dynamics they are insert in.

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[76] Merchandising, source retrieved from http://164.100.133.129:81/econtent/Uploads/Merchandising.pdf

[77] Dillon, S. (2018). *The fundamentals of Fashion Management*, Bloomsbury, p. 1-216

For analysing the fashion industry, thus, the starting point is the identification of firms which presents similar characteristics and value-offered, allowing to compare different brands and, from a new entrant side, to better determine the market positioning strategy. The high quantity of informations to manage, referred to both internal and external matters, makes segmentation is a very challenging process.

There are three main criteria to determine industry segmentation: (Corbellini and Saviolo, 2009)[78]

- The product utility or end-use, intended as the final value a company pursue to deliver through selling products;
- The final customer necessities and characteristics, targeted by firms in business models and identified according to social, cultural, geographical and economical differences;
- Products prices, which are also the most immediate term of segmentation, since firms offering similar price products can be easily identify. A segmentation based on the product allows the possibility to split the fashion industry in five distinct categories such as couture, pret a porter (ready to wear), diffusion, bridge and mass, which will be analysed later in the chapter.

Among the others, the price criteria is the most commonly utilised. Within the fashion industry, five distinct price segments can be retrieved:

- Haute Couture. In french these words indicate the "high fashion" delivered by really few French couturiers which provide high level craftsmanship for satisfying high level customers with the highest degree of fashion luxury. These masterpieces involve typically skill-intensive labour to create made-to-measure products which most of times are created for leading customers' dreams, and for this exhibit during fashion shows. A clear example for explaining such sophisticated characteristics is embedded by the dress confectioned by Maria Grazia Chiuri, Dior's creative director, for Chiara Ferragni's wedding. That occasion may also be seen as a powerful and innovative communication strategy, from a Dior's point of view, since that occasion really increased a widespread increasing in brand awareness over characteristics like elegance, products quality and exclusivity. Bottega

[78] Corbellini, E., Saviolo, S. (2009). Managing fashion and luxury companies, Rizzoli ETAS, p. 1-294

Veneta, Valentino, Salvatore Ferragamo, Versace, Dolce&Gabbana and many other have set clear high standards for the segment.(Brownlees, 2019)[79]

- Pret a Porter, intended as the high fashion segment based on the idea of Italian manufacturers whose still aimed at delivering high level clothes to a more accessible price than those belonging to Haute Couture segment. This is considered the luxury market which targets a wider range of customers. If compared to the previous segment, the one currently analysed guarantees more collections and higher products availability.

- Diffusion, from its side, is commonly intended as the spot aimed by high-end fashion houses on which garments are produced via industrial manufacturing but still try to stay consistent with the brand high level image. Differently from the above segment, the diffusion one aims at increasing productive volumes while at the same time bearing clothes image through strong communication strategies for increasing products value perception. Armani, from its side, included sub-brands like Armani Exchange and Emporio Armani to offer lower price products while trying to maintain perceived qualities recognised in the higher level brand Giorgio Armani.

- Bridge is commonly associated with fast fashion. This price line is most of times associated and perceived as lower quality products, but fashion companies can still retrieve relevant returns by providing fast changing and up-to-date clothes which follow fashion trends, minimising the gap time from designing to sale. Within this same category, two different price level can be retrieved: the higher one is referred to better quality products with relatively higher prices than lower ones, that solely aims at providing convenient prices. These segments can be represented by brands like Zara, controlled by the group Inditex, which distributes discrete quality products at very convenient prices and Bershka, which instead aims at providing very low cost, as well as low quality, garments.

- Mass and discount products have the characteristics to be really basics and undifferentiated, while most of times are also unbranded products that do not follow fashion trends.

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[79] Brownlees, T. (2019). *Market Segmentation in the Fashion Industry.* Source retrieved from https://440industries.com/market-segmentation-in-the-fashion-industry/

The presented segmentation analysis is the most useful and the most utilised by most fashion firms, but many other valuable characteristic can be taken into consideration for segmenting the industry, according to firm's necessities. (Misani and Capello, 2017)[80]

Thanks to the segmentation analysis, in fact, firms can gather may advantages. First of all, as anticipated above, segmenting the industry allows firms to pursue the correct market positioning strategy according to firm expectations. Further, having clear evidences over the entire competitive environment allow firms to determine the most suitable business growth strategies, as well as defining the best integration and control possibilities among the distribution channels. A clear overview over the targeted customer segment, then, can help in clarify the degree of business complexity aimed by firms. At the end, having a comparison over products of the same segment allows companies to develop new collections better aligned with market expectations. (Saviolo, 2018)[81]

Moreover, for creating a more detailed and tailored business strategy as well as for better evaluating how to particularly innovate a business aspect, firms are used to proceed in creating a customer Persona, delineating the customer-type profile within the most accurate aspects, which will result also very useful from a marketing point of view. (Keegan and Green, 2017)[82]

The characteristics to extrapolate must be well defined and not overlapping as well as they need to meet the price level of products supplied by the firm.

Accordingly to what was previously introduced above, one more segmentation criteria is, in fact, the final customer, of which identity can be insert, generally, within a group of users.

These users present the same descriptive criteria:

- The geographic location determines a series of cultural and geographical characteristics among the customers;
- Socio-demographic criteria divide customers on the base of features like gender, income and family status.

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[80] Misani, N., Capello, P. V. (2017). *Fashion Collections*, Bocconi University Press

[81] Saviolo, S. (2018). *Signature Experience*, Bocconi University Press

[82] Keegan, W. J., Green, M. C. (2017). *Global Marketing*, Pearson, 9th Edition, p. 1-624

- Age represent a determinant element since customer from different ages have been influenced by different experiences and consequently can be influenced through divergent approaches. This characteristics has allowed the developed of certain categorisations like millennials (also known as generation Y, collocating people borne from the 1981 to 1996), generation X (borne from 1961 to 1981), generation Z (borne from 1995 to 2010) and baby boomers (from 1946 to 1964). (Williams, 2015)[83]

Otherwise, considering the general behavioural attitudes and status, consumers typically can be segmented according to:

- The users status, which can be classified as non-user, habitual user, potential user, former user. Each of these categories need a direct communicative approach. Form an innovation point of view, as also analysed above in the first chapter, radical and disruptive innovation may transform non users into users.
- The occasion of use, taking into consideration the particular event or context that can lead customers to buy a specific product, which can lead certain companies to link a product to a specific occasion.
- Brand loyalty, driven by a strong emotional attachment to the brand, that most of time determine a returning customer and multiple sales. (Brownlees, 2019)[84]

As well as we introduced in the previous chapter on the innovation adoption theories, segmentation approached can be actually determined also through a psychological customer analysis, moving from the innovators mindset to late majority and laggards.
These numerous variables determine the reasons behind customers decision to buy specific products. Informations like these can results to be essentials for determining what kind of product firms need to develop.

[83] Williams, A. (2015). Meet Alpha: The Next 'Next Generation', in New York Times

[84] Brownlees, T. (2019). *Consumers segmentation in the Fashion Industry.* Source retrieved from https://440industries.com/consumer-segmentation-in-the-fashion-industry/

2.5 Analysis: a picture of the current and past fashion industry

The fashion industry is considered the seventh-largest economy in the world if ranked alongside individual countries' GDP. According to data retrieved from "Statista", the global annual retail revenues in 2019 for the global fashion industry accounts for €1,64 trillion, including footwear and jewellery, which are leading departments in the most important international firms. (Statista, 2019)[85]. Among these, woman's fashion accounts for the greatest part of total revenues with a total value of €841,07 million, the 51,5% of the overall amount. Men's and child's apparel counts respectively for €533,16 (32,5%) and €264,24 million (16%).

Revenues of 2018 must be highlighted too, since this will be later necessary for then calculating the concentration index for the fashion sector, once analysed revenues performed in this year from the main fashion firms. According to data from Statista, revenues in 2018 accounts for €1,56 trillion. These are distributed unequally from woman's apparel, men's apparel and children apparel. For what concern 2018, as well as the situation in 2019, these three categories accounts respectively for €802,83 million (51%), €506,20 million (32%) and €250,88 (17%) of total revenues, which define the same trend of the previous year.

Data from 2012 to 2019 of fashion industry revenues are reported in the chart below in million euros:

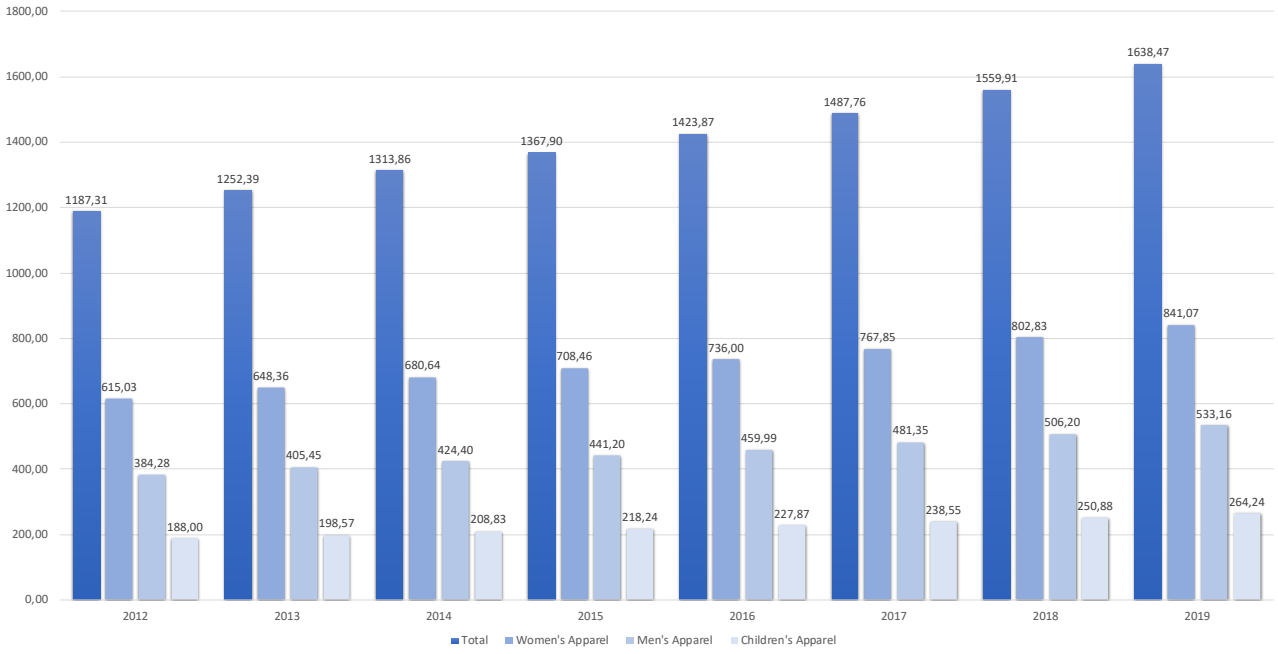

Figure 2.2 Fashion revenues. Data retrieved from Statista

[85] Data retrieved from Statista

The total revenue value in 2018, compared to the one in 2019, defines an increasing growth of 5% from 2018 to 2019. From the previous graph, the growing trend is almost linear, with a continuous increase year by year. The growing data for the sector revenue are reported in the chart below, related to years from 2013 to 2019:

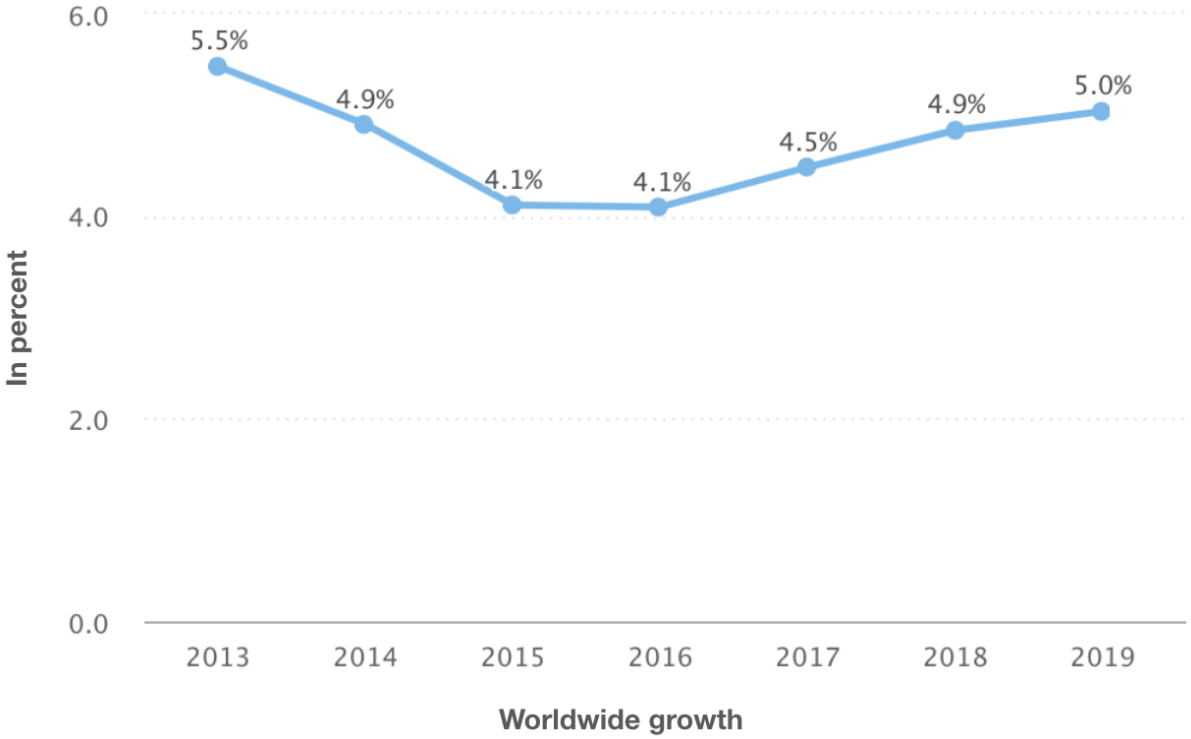

Figure 2.3 Fashion revenues growth. Data retrieved from Statista

The chart highlights how the growing trend for the sector has maintained stable values, varying from 4,1% to 5,5%. Taking into consideration the fashion industry economic growth reported by McKinsey & CO[86], starting from 2018 the economic growth was estimated to be around 4 to 5 percent, then continuously decreasing in 2019 with an economic growth around 4,5 percent. In 2018 the economic profit has grown for the second year running, following the decline that determined years from 2012 to 2016. Data reported by McKinsey are confirmed by the trend described by Statista data, reported in the figure above.

However, the optimistic trend revealed until 2019 is expected to change for the following year, also anticipated by the sentiment of uncertainty that is currently characterising the sec-

[86] McKinsey & Co. (2019). *The state of fashion 2020, Business of Fashion, p. 1-108*

tor. (McKinsey, 2019)[87] Taking into consideration the fashion industry economic growth reported by McKinsey & CO[88], starting from 2018 the economic growth was estimated to be around 4 to 5 percent, then continuously decreasing in 2019 with an economic growth around 4,5 percent. However, despite this great position in the global scenario and the positive industry growth rate, the fashion industry is currently dominated by particular sentiments of concern and anxiety about the future. This current unstable situation has been determined by a slower economic growth for the sector once compared to the expected one. Moreover, according to the survey, if we take into consideration the 2020 expected economic growth for the sector, it will be around 3 to 4 percent, presenting a continuous decrease. In fact, the last year was characterised by a generalised negative sentiment (despite it was mitigated by optimism in the Luxury segment) in the North America that is currently facing a pessimistic moment among all the price segments and geographies. Aaron Orendorff validate these sentiment by reporting that during the 2018, almost 10.000 fashion retailers shut down their activity (Shopify, 2019)[89], affirming that the industry is changing from the past.

For retaining their position in such a complex scenario, fashion firms had to adopt digital solutions and try to strongly leverage new technologies in order to increase diversity across their assortments and organisation in general. According to Statista[90], the e-commerce fashion industry is continuously growing, setting its value at €466,64 Billion in 2018, with an expected growth to €829,14 billion within the 2023.

The graph reports the expecting increment of e-commerce fashion market determine a CAGR[91] per year of 12,2% in the e-commerce segment. According to Statista, the three main global macro area expect a growth of 12,2% in China, 8,7% in Europe and 16,5% in USA.

87

88 McKinsey & Co. (2019). *The state of fashion 2020, Business of Fashion, p. 1-108*

89 Data retrieved from: https://www.shopify.com/enterprise/ecommerce-fashion-industry

90 Data retrieved from https://www.statista.com/outlook/244/100/fashion/worldwide

91 CAGR: Compound annual growth rate

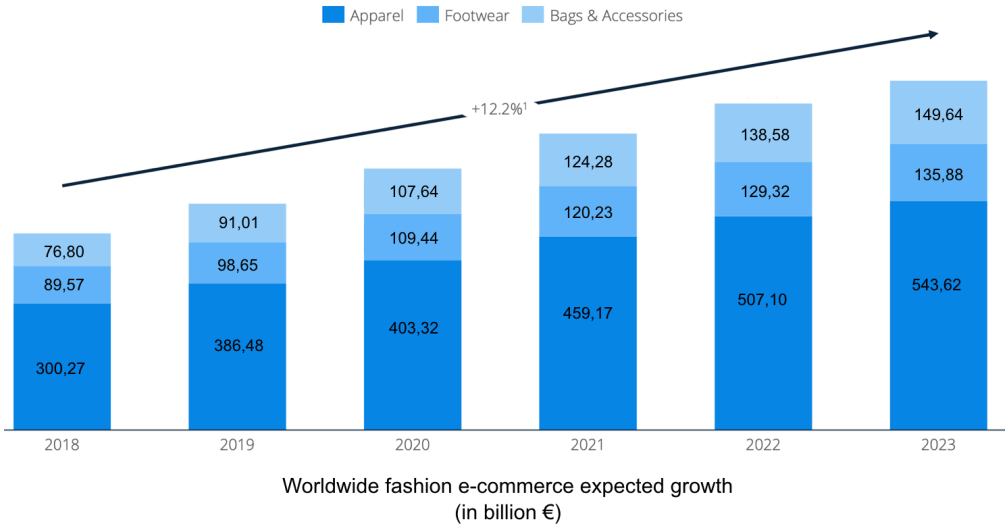

Figure 2.4. Fashion e-commerce perspectives. Data retrieved from Statista

For what Europe concerns, in 2018 UK and Germany leads the e-commerce sales, accounting respectively for 24,0% and 19,0%. These are due to their two leading e-commerce, since UK customers relies a lot on next.co.uk, while Germany detain its lead thanks to Zalando, based in Berlin. Other countries participation are reported in the graph below:

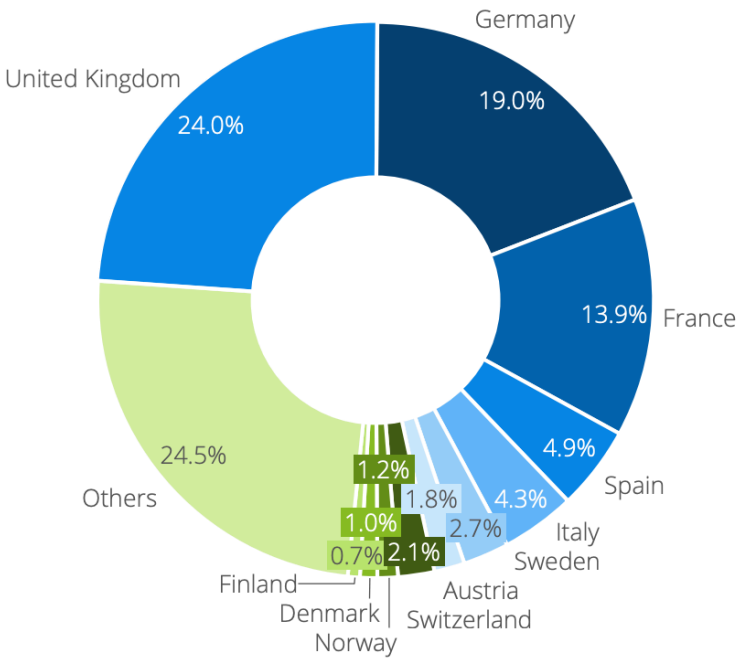

Figure 2.5. European e-commerce. Data retrieved from Statista

These results are mainly derived from the increasing relevance and trust given by customers to e-commerce retailers like Next, Zalando, H&M (which detains lot of physical selling points), vente-privee and El Corte Ingles (also strongly present on brick and mortar stores).
In US, from their side, customers rely on macys.com which has determined total revenues for €3,61 billion in 2018, while in China Secoo and Mei.com lead the e-commerce sales.
The current trend is defining a clear scenario for the future of e-commerce. Statista has provided data over the main sales channels, reported in the chart below. The continuous growth of e-commerce among years is expected to increase further in 2020, also thanks to new possibilities in social media for direct purchase and the increased reliability of e-commerce channels.

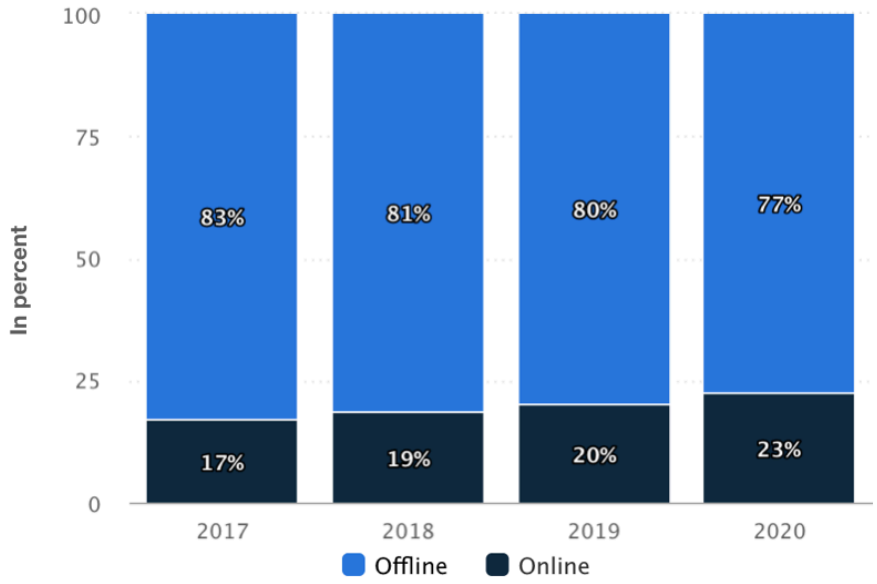

Figure 2.6. Sales channel relevance. Data retrieved from Statista

Moving on, the exploitation of new technologies also allow companies to face sustainability requirements that are slowly characterising the global focus. In order to follow this trend, firms of any size are thus trying to implement meaningful change across the value chain. Despite all, these solutions are still not enough to efficiently compete in fashion industry. As anticipated in the paragraph above, the fashion industry scenario is currently determined by a high market polarisation between winners and losers: as anticipated in the previous paragraph, the first 20 percent of firms accounts for almost all the economic profit for the fashion industry, while the 80 percent left is currently "failing at making profit" (Berg, 2019)[92]. Features

[92] Berg, A. (2019). *Winner-Takes-All Trend Raises Tough Questions for Everyone Else*. Business of Fashion

that deeply characterise these leading groups are that they have adopted the purpose to look at incrementing the earning results, instead of revenues growth, while at the same time improving productivity (McKinsey, 2019).[93]

Among others, these firms incorporate further general advantages that deserves to be specified:

- They are highly value-creating;
- They run business operations on a global scale, exploiting differences and advantages offered by any markets;
- They pioneer innovation in fashion industry through wide product ranges and strict interaction with customers;
- Their privileged position allow them to attract and exploit firm's limited resources and talent, which is also considered a disadvantage for other competitors;
- These firms are typically more efficient in creating and implementing strategic actions to understand and reduce risks, as well as managing uncertainty;
- Most of them are pioneers in adopting environmental sustainable solution in processing their business operations, and these actions are valued by customers that are increasingly oriented to sustain firms that issue these matters. This is correct especially with referral to younger generations, which increasingly affirm that they would pay more for products that have the least negative impact on the environment and this, for such an high environmental impact industry like the fashion one, could represent a global turning point.

Among the groups cited above there are established and affirmed groups that lead and shapes the fashion industry, driving the sector since many years, but the scenario also revealed that also new entrant actors has established their position among the leading fashion brands. Some of these firms have been reported and analysed here below, reporting their own annual results data. The world five leading firms (Fashion united, 2019)[94] are analysed based on their market performance, contextualised within their own market segment and geographic area of interest. Moreover, a particular interest is posed over the innovation and strategies that these companies have applied to their business model, in order to highlight the most relevant solutions for success carried out by the most valuable fashion groups.

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[93] McKinsey & Co. (2019). *The state of fashion 2020, Business of Fashion, p.* 1-108

[94] Fashion United, 2019. Data retrieved from https://fashionunited.com/i/top100/

1. LVMH, Louis Vuitton Moët Hennessy, is a French luxury conglomerate which is currently the largest fashion group worldwide, producing high-end products for the Haute Couture and Pret a Porter market segments. It was founded in Paris in 1987 by Bernard Arnault, and nowadays, the LVMH group counts around 70 luxury brands, acquired along the years. The most diffused and famous are Louis Vuitton (founded in 1954), Dior (acquired in 2017), Celine, Emilio Pucci, Marc Jacobs, Fenty (in collaboration with Rihanna, as reported in previous paragraphs), Bvlgari and Tiffany & Co. (acquired in 2019 for €14,7 billion, one of the most imposing financial acquisition in the fashion industry history). The company operates through a chain of independent stores and shops-in-shops for fashion brands, providing also products for every aspect of the luxury lifestyle, from champagne (Moët) to sailing yachts, through the controller Royal Van Lent. LVMH is currently the leading fashion group for market value, with a market capitalisation of €210,80 Billion. According to their Group Report, the revenues in 2018 were valued in €46,80 Billion, accomplishing an increasing of +10% from the previous year, and obtaining an economic profit of €10,003 Billion, up 21% from the previous result (LVMH Report, 2019)[95]. The results reported highlights the great favourable period the group is going across. According to the chairman Bernard Arnault, these results have been possible thanks to the "desirability of our brands, the creativity and quality of our products, the unique experience offered to our customers, and the talent and the commitment of our teams" (Bernard Arnault, 2019)[96]. Going further with the speech, the chairmen also affirms that the fashion industry is currently a very uncertain environment, and from the LVMH side they pursued to implement strong dynamic of innovation, targeted investments, strategies for combining tradition and modernity, everything sustained by a long-term vision and responsiveness. The revenues by geographic region define the following scenario: Europe accounts for the 25% of the entire revenues, the United States value the 32%, Asia and Japan accounts for the 29% and other markets for the 14%. From an operative point of view, many elements have concurred in determining such an affirmed success, like the continued growth in consolidate countries like Europe, the United States,

[95] LVMH, 2019. Report retrieved from https://www.lvmh.com/news-documents/press-releases/record-results-for-lvmh-in-2018/

[96] Arnault, B. (2019). Quote retrieved from https://www.lvmh.com/news-documents/press-releases/record-results-for-lvmh-in-2018/, p. 1

Asia and Japan, the exceptional profitability of Louis Vuitton for in both icon and new products and a creative renewal in several Maisons. To this matter, the social responsibility report from LVMH also reveals the importance that the entire group gives to innovation, which stands at the base of the group business model: "the combination of creativity and innovation is the foundation of our Maisons and figures at the heart of the delicate balance required to continually renew our offer while resolutely looking to the future, always respecting our unique heritage" (LVMH, 2018).[97] Their business model is founded on the heritage of the group's brands with a long term vision, keeping an ethic behaviour in any stakeholder relationships. It is based on six defined pillars that are: (LVMH, 2019).[98]

- Decentralised organisation: all the brands of the group are considered as autonomous and responsive. This choice allows the company to be rapid and effective in taking decisions, as well as providing each single company the possibility to be close to the relative customer. Through this approach, LVMH expects to push and sustain the entrepreneurial spirit among the employees.
- Organic growth: the French groups prioritise the organic growth of the houses, committing a relevant amount of resources in sustaining it. At the same time, this growth is expected to be accomplished through employees jobs, that are supported in their career growth.
- Vertical integration: the group purse the excellence both upstream and downstream, aiming at controlling the absolute quality of every link in the value chain, from high level sourcing to selective retailing.
- Synergy creation: LVMH aims at sharing valuable resources among the entire group, while at the same time respecting the autonomy and identities of every brand, in order to leverage group's benefits.

[97] LVMH. (2018). Source retrieved from https://r.lvmh-static.com/uploads/2019/05/2018-social-responsibility-report.pdf, pag 8

[98] LVMH. (2019), *Six pillars model.* Source retrieved from https://www.lvmh.com/group/about-lvmh/the-lvmh-model/

- Sustaining knowledge transmission: the main value on which the business plan is based is the long term vision. In order to sustain and preserve the internal know how, the group institutes initiatives in order to transmit the internal knowledge on crafts-manships and creativity.
- Balance across business segments and geographies: according to their business model structure, the group has the resources to sustain regular growth thanks to the balance across business activities and a well distributed geographic footprint. This balanced position allow them to well sustain the potential impact of shifting economic factors.

2. Nike, Inc. is the second largest fashion companies in the world, currently based in Oregon, United States. The company was founded in 1964 by John Donahoe and it is currently engaged in the design, development, manufacturing, marketing and sales of footwear, sportive apparel and equipment. Despite its concrete core business description, Nike is globally recognised as an athleisure and lifestyle brand. Just for reference, the meaning of "athleisure" allow to better understand what is behind Nike's expectations: "a style of clothing that is comfortable and suitable for doing sports, but also fashionable and attractive enough to wear for other activities" (Cambridge Dictionary, 2019)[99]. Nowadays, this company currently detain a market capitalisation of €142,499 billion that guaranteed them in 2018 revenues for €32,55 billion, signing an increased results from the previous year of +5,96%. However, a weird result is characterised by the net profits value, which accounted for €1,739 billion, losing the -54% from previous year due to the Tax Act imposed by the government that weighted for a rate of 55,3% instead of 13,2% of the previous year.

   According to Statista, Nike distributes its products worldwide but its largest markets are the United States, which currently accounts for 42% of the total revenues, followed by the Western Europe and Middle East that provide the 26% of revenues, Greater China that accounts for the 14% and Pacific Asia and Latin America, that together make the 14% of total revenues (Statista, 2019).[100] Besides many Nike's sub-brands, the company also detain the brans "Converse", which alone accounts for the 6% of the total income. The 94% left is all determined by the Nike brand (Nike, Nike Air Force, Air Jordan, Nike Air Max). The brand's best selling division is the footwear, which accounts for the 64% of the entire Nike's income, while the apparel department generated revenues for €9,607 billion, equal to the 26% of the entire revenues and signing a 9% increase over the previous year (Investopedia, 2019).[101]

   As anticipated above, Nike's business model is based on the design, development, marketing and sales of athletic footwear, apparel and equipment. The greatest part of the brand products are specifically designed for particular sports and activities, but the com-

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[99] Athleisure definition. Source retrieved from the Cambridge Dictionary

[100] Nike Sales by region. (2019). Source retrieved from https://www.statista.com/statistics/241692/nikes-sales-by-region-since-2007/

[101] Nike's results. Source retrieved from https://www.investopedia.com/articles/markets/080415/how-nike-nke-makes-its-money.asp

pany markets all-purpose products. The selling activities are processed through wholesalers as well as directly to consumers via its NIKE Direct Program, which is currently the program through which the brand aim at driving growth over the coming decade through strategies based on: (Footwear news, 2019)[102]

- focusing on key cities;
- ramping up the innovative pipeline;
- editing products catalog while preserving and valorising brand's best performing styles;
- enhancing digital efforts posing the mobile as primary channel;
- scaling of new and existing product platforms;
- increasing speed to market capabilities;
- new personalisation tools for allowing customers to directly customise products.

Resuming, the focus for the brand is delivering more compelling innovation at a faster pace than competitors and continuing to enhance customer engagement via digital platforms. Besides this, a final aspect of Nike's business model includes providing licensing agreements that allow unaffiliated parties to include Nike's brand among their products.
The CEO of the company, Mark Parker, reported on a call with investors: "We're focused. We're investing in our brand in key markets and we're accelerating in the high growth dimensions of our business. And that's especially important in the volatile macroeconomic and geopolitical environment that we see today" (Parker, 2019).[103]
Despite all, one of the most recognised reasons behind the company success is the marketing aspect: in advertisement campaigns Nike rarely mentions its products. What they really try to do is to sell emotions through "emotional branding", selling aspiration, which is more meaningful than selling products. The company apply this marketing strategy through playing up the narrative of a "sportive hero", who works hard to overcome difficulties. Emblematic is the slogan "Just do it", that aim at pushing people to act in a straightforward manner to reach expected results.

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[102] Nike's business model. Source retrieved from (https://footwearnews.com/2019/business/opinion-analysis/nike-dtc-competition-adidas-under-armour-digital-sales-1202845517/)

[103] Parker, M. (2019). Quote retrieved from https://footwearnews.com/2019/business/opinion-analysis/nike-dtc-competition-adidas-under-armour-digital-sales-1202845517/, p. 1

3. Industria de Diseño Textil, S.A, also known as Inditex, is the third largest fashion company in the global scenario. The group currently owns many fashion brands like Zara, Pull&Bear, Massimo Dutti, Bershka, Stradivarius and Oysho. It was founded in 1985 by Amancio Ortega and Rosalia Mera in A Coruña, in the north west of Spain. They have been considered the pioneers of fast fashion, a model that completely changed the fashion industry, counting on designers that continuously adapt their creative creations to customers' demands on an ongoing basis, abandoning the concept of "seasonality" previously so strictly linked to fashion. This has allowed the group to gain its position in the international fashion environment, currently reporting a market value of €99,141 billion, revenues in 2018 for €26,10 billions (+3% from 2017) and a related net profit of €3,40 billion, performing the same result of the previous year.[104] According to last reports, the firm manufactures more than 840 million garments annually that are then distributed in 96 different markets, with around 7490 stores spread in all the main cities of the world, among which Europe still accounts for the majority of company's revenue. In fact, the performance achieved currently sees the Europe as the main market, with the 61,3% of the entire sales coming from this market, followed by the 15,5% from America and 23,2% from Asia and the rest of the world. Among these, online sales account for the 12% of the entire value.[105] Inditex has described its business model as "creativity and quality design together with a rapid response to customer's demand"[106], where every piece of cloth is provided at reasonable price.

   According to the company website, Inditex "work to create value beyond profit, putting people and the environment at the centre of our decision-making".[107]

   The company business model is act to create value through the supply of beautiful, ethical and quality products with a complete cycle of life. They also affirm to act "precisely and responsibly in every stage of the fashion process from design and sourcing, to manufac-

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[104] Inditex website, (2019). Source retrieved from https://www.inditex.com/investors/investor-relations/financial-data

[105] Inditex website, (2019). Source retrieved from https://static.inditex.com/annual_report_2018/en/year-review.html#financial-indicators

[106] Crofton, S. (2007). *Zara, Inditex and the growth of Fast Fashion,* Essay in Economic & Business History, p. 42

[107] Inditex website, (2019). Source retrieved from https://www.inditex.com/en/about-us/who-we-are

turing and quality control, logistics and sales through stores and online."[108]

Furthermore, there are many pillars around which the group business model is built:

- customers: according to the company, they put customers at the very centre of their business model. They strictly listen to market feedbacks analysing real-time sales data, trying to adopt shorten production runs and investing in logistics. This aim at meeting customer needs, also refreshing stores with new styles twice a week. Further, they adopt a customer focus innovation, with daily brainstorming on how to serve customers better.
- vertical integration: one of the most studied and recognised advancement is the complete vertical integration adopted by the Inditex Group. It manages design, production, shipment, display, promotion and sales, relying only very little on outsourcing strategies. This vertical integration approach gives the company a lot of control over how it operates. In turn, it leverages this control into precise data acquisition and forecasting for enabling more fluid communications between stages of the product cycle: design, manufacturing, distribution and marketing.
- low inventory strategy: among the supply chain, products are designed and distributed really fast. One more characteristics determine the Inditex strategy: the low products inventory. According to this, customers should perceive a sense of urgency in having the products, since there are relatively few pieces available, which is the reason behind the impulsive purchases. This strategy also allow the company to reduce the numbers of discount events, selling the greatest part of the stock at full price.

[108] Inditex website, (2019). Source retrieved from https://www.inditex.com/en/how-we-do-business/our-model

- environmental responsibility improvements: the fashion industry is one of the most water dependent sector. The company is committed in following in strict times the UN Global Compact guidelines, the world's largest corporate sustainability initiative, reducing water in productive processes, reducing water consumption and improve water efficiency in stores, offices and facilities, achieving zero discharge of hazardous chemical products in the production processes by 2020, improving supply chain control as well as monitoring and being transparent about progresses. All these initiatives are particularly important to issue the main problem of our time, which are also matters that provide a firm value added from a customer point of view. (Inditex, 2019)[109]

[109] Inditex website, (2019). Source retrieved from https://www.inditex.com/our-commitment-to-the-environment/water

4. The french luxury group Kering, originally called Etablissements Pinault, was firstly founded in Paris in 1963 by Francois Pinault, father of the current group's CEO Francois-Henri Pinault.

   Since its creation, the company has developed and evolved, becoming the second fashion group in Luxury. Today, Kering is still growing and developing, also thanks to the expertise and inspiration of its Houses. The group currently control many of the international leading brands in the luxury segment: Bottega Veneta, Gucci, Yves Saint Laurent, Balenciaga, Alexander McQueen, Brioni, Boucheron are all part of Kering group. Currently, the entire company has a market capitalisation of €76 billion and in 2018 has generated corporate revenues for €13,665 billion, increasing the previous result of +26,3%. (Kering, 2019)[110] This great result has been determined by the great performance of the main brands like the +36,9% of Gucci and +18,7% of Yves Saint Laurent, followed by a bad result by Bottega Veneta that performed a negative -3,4% due to the change of the creative direction from Tomas Maier to Daniel Lee. The aggregate result of other brand has been calculated in +32,1%. Further, a shocking and emblematic value is the net income, which has been calculated in €3,715 billion, that compared to the 2017's result of €1,786 billion has marked a result of +108,1% in 2018. (Kering, 2019)[111] In Kering, the 53% of the revenues derives from leather-goods sales, while shoes and ready to wear accounts respectively for the 18% and 15%. Among these, in 2018 Gucci has provided the 63% of the entire revenues, establishing its position as leading firm of the group. Following, Yves Saint Laurent and Bottega Veneta performed the 13% and 8% each. Kering's main markets are the western Europe, from which comes the 33% of revenues, followed by the Asia-Pacific that accounts for the 32%, the USA that accounts for the 20%, Japan that brings the 9% of revenues and other countries constitutes the left 6%.(Kering, 2019)[112]

   There are certain elements that stands at the bases of today's Kering action and that move the group's intention: authenticity, creativity and sustainability. However, according the the group statements, the current scenario is actually uncertain and continuously changing considering that "cultures collide, disruptive technology appears and a younger generation

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[110] Kering website, (2019). Source retrieved from https://www.kering.com/en/finance/about-kering/

[111] Kering Report, (2019). Source retrieved from https://keringcorporate.dam.kering.com/m/29f87c085bb1f941/original/Press-release-2018-Full-year-results-An-outstanding-2018-performance.pdf

[112] Kering website, (2019). Source retrieved from https://www.kering.com/en/finance/about-kering/

of “always-on” consumers arrives on the scene. This new generation is changing the rules by bringing new expectations and desires to the market”. Following this sentiment, Kering pursues at providing superior level of craftsmanship, in order to supply products that allow customers to “express what makes him or her unique, arousing emotions and empowering imagination” (Kering, 2019)[113]. From its side, Kering consider every House like an independent entity, providing them the possibility to express creativity and better follow market expectations, providing group support if necessary.

Nowadays, the main focus for the enterprise is on applying the developed integrated business model that combine agility, balance and responsibility. The group coordinate all functions that can be shared among its Houses, “freeing up precious time to focus on the essentials: creation, crafting a genuine and inspiring story, the development and renewal of collections, customer relations and excellent execution at every step.” (Kering, 2019)[114] Moreover, the Group has also invested heavily for applying vertical integration to its business model, preserving the rare know-how and keeping using the best raw materials in productive processes. Besides all the focus on products, Kering invest a lot on employees development, allowing them to grow and realise their own potential, preserving their competence for the group purposes, also moving them from an House to another. For what concern sustainability matters, Kering has issued a three pillars sustainability roadmap named “Strategy 2025”, where values like reducing resource consumption and respecting people are “absolute necessities”. The three pillars are the following:

- Care: it aims at reducing the environmental footprint and preserve the planet and its natural resources through the usage of innovative tools, new practices, and original methodologies, as well as applying strict standards in the supply chain. The first project aims at identifying and developing a new network of farms from which Kering can source sustainable materials.
- Collaborate: this pillar aims at establishing a close collaboration with company’s stakeholders, ensuring higher economic, environmental, ethical and social performance.
- Create: the group, with this pillar, commits itself in creating innovative alternatives, driving change to influence the entire fashion industry.

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[113] Kering website, (2019). Source retrieved from https://www.kering.com/en/group/discover-kering/our-strategy/

[114] Kering website, (2019). Source retrieved from https://www.kering.com/en/group/discover-kering/our-strategy/

5. Hermes International S.A. is a French high-end fashion company established in 1837 by Thierry Hermes, and for five generations, Hermes has been a family owned company. Nowadays, it is mainly specialised in the design, development, production, marketing and sales of leather-goods (50% of total revenues), ready to wear (32% of total revenues) and perfumery (5% of total revenues). The left part is covered by watches and other products. The current market value is €71,94 billion, the revenues in 2018 are valued in €5,966, reporting a +7,5% from previous year and €1,405 billion in net income, that imply a growth of +15% from the previous year result. (Fashion United, 2019)[115]

   The distribution channel structure is based on exclusive retail stores, divided in concessionaires and branches, respectively 91 and 219 across the world. More in particular, the European market accounts for the 32% of the sales, Asia-Pacific from its side accounts for the 36%, America values for the 18% and Japan for the 13%. Other countries, instead, accounts for only the 1%.

   Differently from fashion groups previously analysed, Hermes doesn't own a portfolio of brands. From its side, the brand globally represent the combination of rich heritage, fine craftsmanship, eye for detail and high levels of quality and professionalism through the entire manufacturing process. The company vision is represented by a quote from the former CEO Jean-Louis Dumas, which stated "We don't have a policy of image, we have a policy of product" (Dumas, 2019)[116], specifying that brand's precise interest is focused on quality and refinement. For these reasons, Hemes has always refused to structure its business over strategies like mass production, manufactories lines and outsourcing, striving for letting emerge the hard work of artisans to craft a specific piece. This theory is also reinforced by the current CEO, Alex Dumas, which recognised the love for craftsmanship as the main strength of the brand. (Hermes, 2019)[117] Also for this reason, each product is entirely manufactured by hand by only one craftsman entirely in the French Atelier Hermes. Through their products, the company really desire to remain exclusive, serving the fashion market as a recognised Haute Couture brand, thus affordable by very

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[115] Fashion United, (2019). Data retrieved from https://fashionunited.uk/news/business/hermes-posts-rise-profits-for-2018/2019032142289

[116] Dumas, J. L. (2019). Source retrieved from https://martinroll.com/resources/articles/strategy/hermes-the-strategy-behind-the-global-luxury-success/

[117] Hermes, (2019). Source retrieved from https://martinroll.com/resources/articles/strategy/hermes-the-strategy-behind-the-global-luxury-success/

few people and not so easily accessible. This brand collocation is also reinforced by a specific service offered by the brand: it has a huge, expanding and profitable service category of working towards bespoke requests of ultra-rich individuals.

One more significant aspect of Hermes business strategy is the total absence within the brand of a marketing department, remaining consistent with the principles of “heritage” and “exclusivity” of the brand, and the only marketing campaigns aim at celebrating the Hermes lifestyle.

Furthermore, there are many elements that characterise Hermes’ strategy. As a fashion company, it started to exploit opportunities coming from proficient Asiatic countries and from China in particular, but unlike others, they have adopted a very patient approach, through not opening more then one store a year in the country from 2015, considering this cultural approach as really innovative but risky at the same time. This approach has been evaluated as really suitable for changing approach that Asian customers are adopting over premium luxury fashion.

Besides all these aspects, the company is also trying to establish their global recognition beyond leather and silk. These segments still exists but currently accounts for a really marginal amount of the total equity.

In conclusion, there are many strategies that determine the company current business plan:

- all new employees and artisans are selected and receive a full immersion three-day induction;
- differently from other brands, Hermes doesn’t look for celebrities endorsement as brand building tactic.
- the brand makes large use of “limited edition” tactics, also limiting the products distribution in the stores.

In order to better define the current growing trend for the main international fashion firms, the following companies for market values are reported below:

6. TJX Companies: reports a current market capitalisation of €66,02 billion, revenues for €34,89 billion in 2018 and a net income of €2,77 billion. (TJX Report, 2019)[118] The revenues growth is set at 8,08%, while profits growth marked a +13,48%.
7. Adidas: the company currently is valued €57,32 billion, achieving revenues for €21,92 billion in 2018 (+8% previous year) and profits for €2,37 billion (+14% previous year). (Adidas Report, 2019)[119]
8. Fast Retailing: the market value is currently set in €54,64 billion. Further, the group revenues are valued on €17,627 billion with an increment of +14,4% from the previous year, gaining profits for €1,96 billion (+5,00% from 2018). (Fashion United, 2019)[120]
9. Ross Stores: the economic market value is currently estimated in €37,62 billion. For 2018, revenues amounted at €12,67 billion, with a net income of €1,221 billion, reporting a +21,93% from the previous year. (Macrotrends, 2019)[121]
10. PVH Corp: PVH Group currently owns Tommy Hilfiger's brand, which is one of the most innovative brand in the fashion industry that allowed the group to perform a +38,79% between 2017 and 2018 in net profits results (from €0,538 billion to €0,746 billion), while revenues just achieved a growth of +8,32% with €8,67 billion in 2018. (PVH Report, 2019)[122] The market capitalisation of the company is set on €6,97 billion.

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[118] TJX Report, (2019). Data retrieved from https://www.tjx.com/docs/default-source/annual-reports/tjx-2018-annual-report.pdf

[119] Adidas, (2019). Data retrieved from https://report.adidas-group.com/2018/#homepage

[120] Fashion United, (2019). Data retrieved from https://fashionunited.uk/news/business/fast-retailing-reports-rise-in-annual-revenues-and-profit/2018101139394

[121] Macrotrends, (2019). Data retrieved from https://www.macrotrends.net/stocks/charts/ROST/ross-stores/net-income

[122] PVH Report, (2019). Data retrieved from https://www.pvh.com/~/media/PVH/Files/Investors/Reports/2018-PVH-Annual-Report.ashx

The following table reports all the datas reported above for having a clearer view over fashion leading companies' performances:

Company	Market Value (€ billions)	Revenues 2018 (€ bilions)	Revenue variation (2017-2018)	Net income 2018 (€ billions)	Net income variation (2017-2018)
LVMH	210,80	46,80	10.00%	10,003	21,00%
Nike, Inc.	142,499	32,55	5,96%	1,739	-54,00%
Inditex, S.A.	99,141	26,10	3,00%	3,40	0,00%
Kering	76,00	13,665	26,30%	3,715	108,10%
Hermes	71,94	5,966	7,50%	1,405	15,00%
TJX Companies	66,02	34,89	8,08%	2,77	13,48%
Adidas AG	57,32	21,92	8,00%	2,37	14,00%
Fast Retailing	54,64	17,627	14,40%	1,96	5,00%
Ross Stores	37,62	12,67	9,85%	1,221	21,93%
PVH Corp.	6,97	8,67	8,32%	0,746	38,79%

Figure 2.7. Main fashion companies data. Data retrieved from many sources

Data retrieved from main fashion companies allow to calculate the market concentration for the fashion industry. Concentration ratios are usually applied to determine the extent of market control of the largest firms in the industry and to illustrate the oligopolistic nature of an industry that indicate the degree of competition. The concentration ratio further revealed whether an industry is composed of a few large firms or many small firms.. The most common concentration ratios are the CR_4 and the CR_{10}, which means the market share of the four and the eight largest firms in the market.

These are calculated through the following formula:

$$CR_4 = \frac{R_1+R_2+R_3+R_4}{R_T}$$

$$CR_{10} = \frac{R_1+R_2+R_3+R_4+R_5+R_6+R_7+R_8+R_9+R_{10}}{R_T}$$

Considering that PVH is not the 10th fashion firm for valye, for the CR_{10} formula it is necessary to use the revenues of the tenth firm in the chart provided by Statista: H&M, that in 2018 has performed revenues for €20,89 billion.

Applying the previous two formulas to the fashion market, using data in billion euro retrieved above, the results are the following:

$$CR_4 = \frac{R_1+R_2+R_3+R_4}{R_T} = \frac{46,80+32,55+26,10+13,665}{1559,91} = 7,64\%$$

$$CR_{10} = \frac{R_1+R_2+R_3+R_4+R_5+R_6+R_7+R_8+R_9+R_{10}}{R_T}$$

$$= \frac{46,80+32,55+26,10+13,665+ 5,966+34,89+21,92+17,62+12,67+20,89}{1559,91} = 14,94\%$$

Results are really representative, since highlights that only the first four firms accounts for the 7,64% of the entire industry revenues, while the first 10 firms counts for almost the 15%.

Despite the low number of firm utilised for calculating the indexes above, the situation previously anticipated by McKinsey is confirmed also by these results: the first 20 percent of firms accounts for almost all the economic profit for the fashion industry (Berg, 2019)[123].

2.6 Luxury fashion and fast fashion

The distinction between luxury fashion and fast fashion companies are really emblematic for the current global scenario. Affordable fashion is indubitably what determine the greatest part of industry revenue, accounting for almost the 95% of the entire fashion revenues. This is due to the fact that the largest part of the entire pool of apparel firms do not belong to the luxury segment. Luxury firms count on value and know-how, take advantage from economies of scale, exploit the access to an exclusive network of suppliers, have better access to capital, and professional talent. From their side, luxury brands had to face the emergence of fast fashion brands retailers such as Zara, Topshop and H&M since the market has become more com-

[123] Berg, A. (2019). *Winner-Takes-All Trend Raises Tough Questions for Everyone Else*. Business of Fashion

petitive as these companies have introduced similar brands to that of luxury brands with quick access and at cheaper rates. Some luxury brand have also opted for the provision of fair and affordable prices for their products in specific occasions, making their brand accessible to many consumers and increasing their position among customers. Differently, many luxury fashion designers have also embarked on the production of outstanding brands of high quality but affordable to consumers. Different strategies adopted by high end apparel brands have been using new marketing strategies, mainly on branding. Furthermore, mainly companies which supplies haute couture and pret-a-porter products typically adopt customer retention strategies which concur in increasing brand loyalty among clients.

Fast fashion, instead, aims at providing customers exiting clothes they can easily afford pushing them in buying great amount of clothes since they are affordable but trendy at the same time. Customers, and people in general, stopped caring about clothes and instead started paying attention about the number of garments owned and new pieces to add to the closet, putting product's quality on a secondary level. Customers and general opinion has recently posed attention to the matter, also considering the pollutive emissions, the exploitive labour practices like child labours and low wages and the environmental impact that this segment requires for producing such an enormous amount of garments.

Currently, the global fast fashion industry is producing double the number of garments it produced in 2000, according to McKinsey (McKinsey, 2019)[124], and determine more than the 8% of our total greenhouse gases, as well as being one of the leading contributors of micro-plastic pollution impacting oceans.

The increasing awareness regarding the previous issues has pushed customer's to protest, asking for more sustainable and social responsible solutions. From their side, fast fashion brands have stated to adopt solutions to solve such relevant matters.

As anticipated before, from an industry overall view, fast fashion accounts for much of the industry overall revenues, as reported by Statista, that trace with great evidence that the 95% of the current apparel sales belongs to the non-luxury segment.

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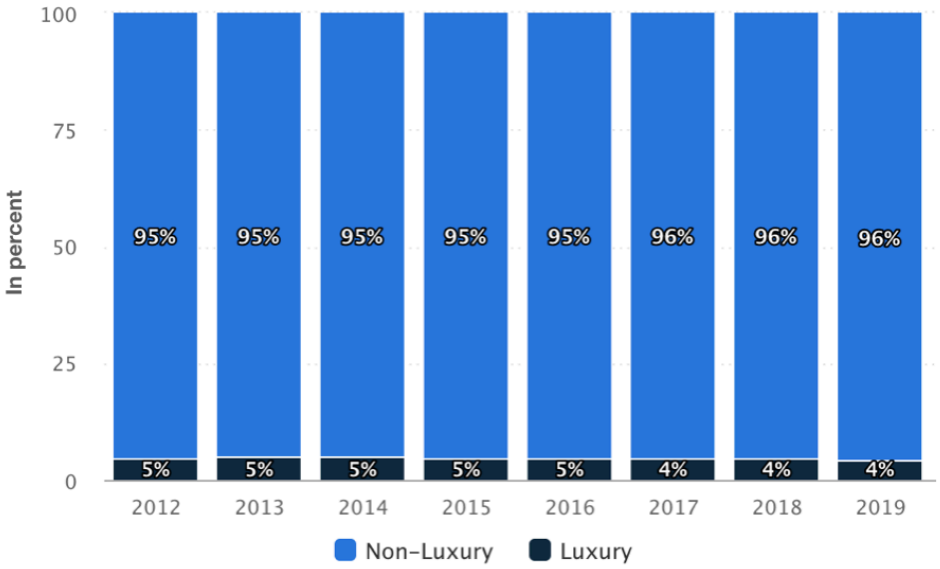

Figure 2.8. Market revenues Luxury-Non luxury. Data retrieved from Statista

These data are also confirmed by the analysis of the average price per unite of garment sold during the years considered, which established their value in EUR from €7,31 to €8,99.

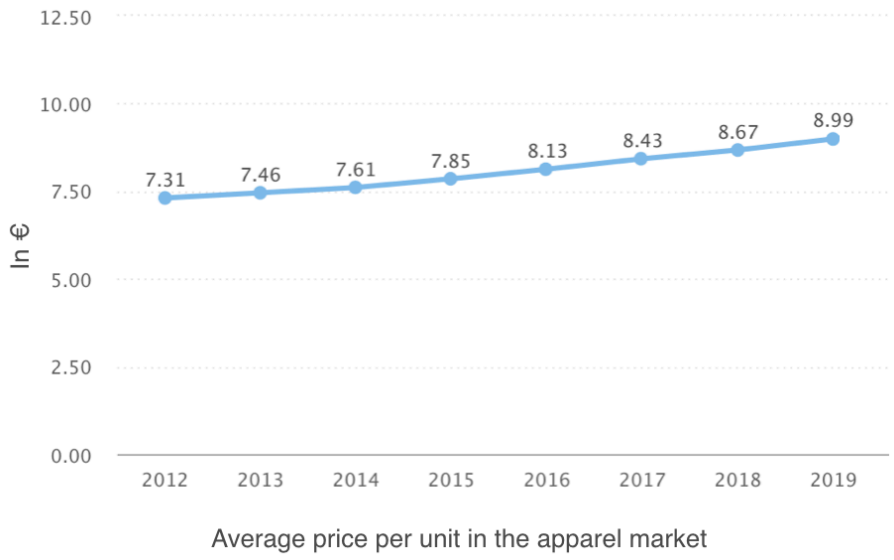

Figure 2.9. Average price per unit of garment sold. Data retrieved from Statista

2.7 A geographical analysis over fashion markets

The geographical relevance among fashion firms seems clear. The Western Europe still maintain its relevance as the main market for international fashion firms, considering that for the companies analysed, this markets still accounts for one third of the entire revenues. However, according to The State of Fashion, these mature markets present a slower growth if compared to emerging ones.According to the research carried out, new markets like Asian-Pacific is gaining relevance, in certain case also being more relevant that the American market, like in the case of Kering, where Asian-Pacific market accounts for the 32% while America for the 20%. For Hermes, the situation is similar, for Asian-Pacific markets that has doubled the value of the American one, accounting for the 36% of the entire revenues.

Different is the situation for LVMH and Nike, that currently perform the most part of their respective revenues in the United States. The only fast-fashion group of the chart is based for the 61,3% on European markets, having the Asian-Pacific market as second market for relevance with the 23,2% of entire sales performed on those countries.

However, these emerging markets like Asia, Africa, Latin America and Japan are expected to overcome old markets for relevance, considering that they currently achieve growth rate of 6,5 to 7,5%, far greater than the growth rate of mature markets like North America and Europe, which is currently estimated from 1 to 3%. From its side, the North America is also heavily impacted by commercial tariffs, both for imports and exports. The Unites States - China trade war has led to billions of dollars in tariffs imposed on imported goods between the two countries. The fundamental player in this international relationships is the China, that is expected to continue playing a leading role in the international fashion scenario thanks to its competitive advantages like fast market responsiveness, possibility of products' customisation services, relative low wages in manufacturing and low labour rights. Thanks to this, over the past 10 years China accounted for the 38% of the global fashion industry growth. Since 2012 it has been responsible for 70% of expansion in the luxury segment, and this trend is expected to continue until the 2025. (McKinsey, 2019)[125]

On the other side, the rapid expanding middle class of Nigeria and Brazil is providing these two countries a rapid growth in the international panorama, increasing their purchasing power.

[125] McKinsey & Co. (2019). *The state of fashion 2020, Business of Fashion, p.* 23

Finally, markets from the East like Romania, Russia and Turkey are increasing their growth pace, setting the growth value around 5,5 and 6,5%. (McKinsey, 2019)[126]

For what concern the current situation in 2019, the following map aims at providing a global comparison on revenues for each market, expressing value in million of euro:

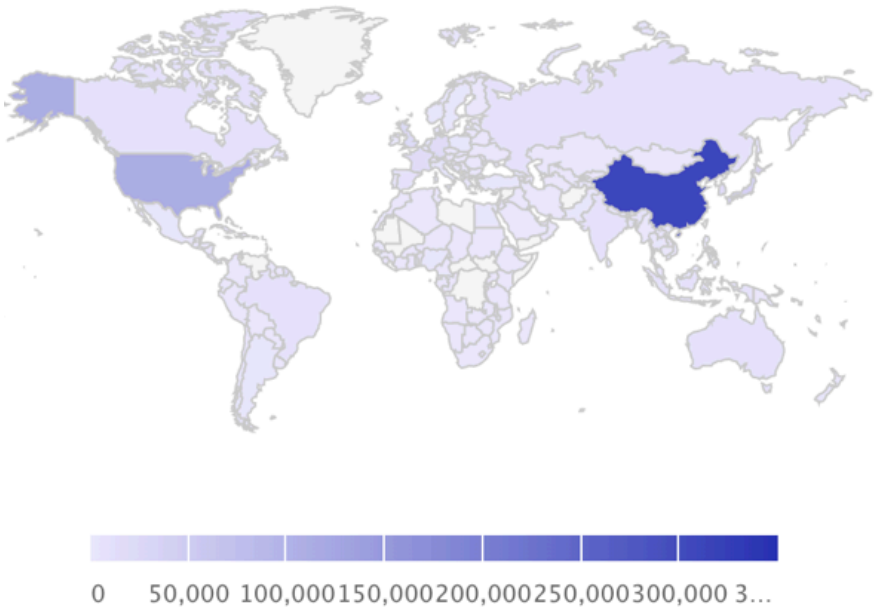

Figure 2.10. Revenue on a geographical base. Data retrieved from Statista

[126] McKinsey & Co. (2019). *The state of fashion 2020, Business of Fashion, p.* 1-108

2.8 Final considerations

Data and values are really explicative for what concern the current situation taking over the fashion industry, and the first forecasts and reports on 2019 have confirmed the trend. (McKinsey, 2019)[127] Leading fashion companies seems to grow faster and more profitably then the rest of the industry, while the great amount of firms from the middle section of the sector are underperforming the market.

Even worse, however, McKinsey & Co reports that firms from the poorly performing bottom are currently destroying value. The final scenario reveal that, at these conditions, in the fashion industry scenario "the winners takes it all" (Achim Berg, 2019)[128]. Further, it is possible to affirm that nowadays the fashion industry is determined by an increasing demand that is characterised by more conscious and informed customers that, thanks to digitalisation and new communication channels, are increasingly aware about the international fashion panorama, having the possibility to better direct their preferences. From their side, customers are also increasingly influenced by social icons, while at the same time present an increased awareness of relevant issues, like sustainability and social responsibility matters. This has determined an increasing in e-commerce reliability over the years, as well an increasing in market revenues year by year from 2012 to 2019. Among these results, fast fashion and the non-luxury segment still account for most of the entire results, thanks to their accessibility and more affordable prices.

In conclusion, the current fashion panorama, as revealed by the analysis above, suggests that many of these issues are trying to be addressed by leading fashion firms, but the scenario still strive to become clear, since the rout to value creation requires heavy investments. (McKinsey, 2019)[129] All these matters have determined the sentiment of uncertainty so present in all the firm's analysis reported above. However, what really makes the difference for the fashion industry is that this uncertainty is providing a great push to innovation activities. In the following chapter, a first part over the methodology will provide information on how data has been retrieved and utilised to carry out the research on how innovation is changing the fashion

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[127] McKinsey & Co. (2019). *The state of fashion 2020, Business of Fashion, p. 1-108*

[128] Achim Berg. (2019). source retrieved from https://www.businessoffashion.com/articles/opinion/op-ed-winner-takes-all-trend-raises-tough-questions-for-everyone-else, p. 1

[129] McKinsey & Co. (2019). *The state of fashion 2020, Business of Fashion, p.* 12

industry. In fact, the aim of the following research is to determine which are the main emerging innovative trends and understanding how firms are adapting their current business model in accordance with these new trends.

Chapter 3

3. Fashion firms: a revolution driven by innovation

The fashion economic context has been impacted by radical transformations in the last years: industry development rates have slow down, new leading markets have emerged, surely more interesting but also more difficult to face, while customers have globally become more exigent and careful on many matters.

In order to face such a complex situation, scientific researches are continuously developing and evolving, new raw materials are provided, customer needs can be satisfied in continuously new ways.

Fashion magazines, international publications and news are treating various solutions that firms are trying to research, develop and apply to their business model. As retrieved from the previous chapter, the decreasing growth rate in the industry, mixed with new global supply chain's solutions and companies' willingness to emerge from the mass for becoming part of the fashion's leading firms are opening many possibility in the sector.

These possibilities' analysis and discussions on future trends are the aim of the chapter. The approach adopted in order to carry out this target is the following:

- an initial overview over many innovations that are coming over is presented immediately below. The aim is to provide an idea about how innovations are trying to emerge and approach the industry through an accurate analysis of specialised publications.
- the overview is followed by the analysis of the methodologies adopted to perform the research. These delineates the procedures applied during the data research, the founts analysed and the keywords adopted for each single innovation considered. Each fount present a diverse approach due to their different structure. Pambianco, in fact, is a fashion magazine while Lexis Nexis is a global database. In the methodology paragraph all the procedures are analysed more in detail.
- data collections put into evidence which innovations have emerged as the leading trends that will determine the future of the industry. After a first presentation over the concept considered and a detailed review of filters applied during the research, each innovation will cover a relative sub-paragraph on which data will be reported and a related citation distrib-

ution graph is reported. In this section the two research are performed, both on Pambianco and Lexis Nexis. In addition, in order to discuss results obtained, an interview with a fashion firm of the territory, Volcar S.p.A has been performed. Data emerged has been submitted, and the CEO direct knowledge on the matter has been reported behind each innovation analysed.

- the last paragraph presents the results obtained through both a visual and numerical perspective, performing a report over previous results and a comparison between two pie graphs obtained from the two different sources. This, supported by informations emerged from the interview, will highlight the tendency of the industry in the research for innovative solutions in order to emerge.

Currently, in fact, it is clear that firms are working for building a brighter future for fashion behind many perspectives, and this can only be achieved through a generalised innovation approach of the entire industry, from big firms to small start up.

Among innovations presented, for example, firms are striving to find the way to become environmental sustainable. This is one of the main shared focus and aspired target within fashion firms.

Algiknit is specialised in the production of biomaterials for sustainable textiles, BioGlitz is involved in the production of biodegradable glitters, circular.fashion aims at ensuring longevity and recyclability to garments in the circular economy, Frumat is committed at substituting leather with apple skins exploiting the "made in Italy" brand, Nano Textile is currently developing anti-bacterial textiles. And the examples are many. These are only few of the various firms that are currently trying to revolutionise the fashion industry through this kind of innovative solutions.

Just for providing a different point of view, Evrnu is an emblematic example for explaining why sustainability is such a relevant matter in fashion: so far the impact of cloths production has always been underestimated. According to Water Footprint Calculator (Water Footprint Calculator, 2019)[130], producing a single cotton T-shirt actually requires 3000 litres. These data can provide a clear example of the reason why this industry is also called the "Thirsty industry". If this was not enough, the manufacturing process is estimated to use over 8000 synthetic

[130] Water Footprint Calculator, source retrieved from: https://waterfootprint.org/en/water-footprint/personal-water-footprint/

chemicals in the ongoing process of turning raw material into fibers (Common Objective, 2018)[131].

The firm developed an innovative manufacturing process which allowed them to save the 98% of water commonly utilised in their production processes. The process established by Evrnu consists of taking cotton garment waste, purifying them and then pulping it, breaking the textiles at molecular level. The pulp created is extruded into a new fibre described by Flynn as "finer denier than silk and stronger than cotton" (Flynn, 2015)[132]. Evrnu's goal is to use no virgin product in the process of creating the new fibres in order to have every aspect of their manufacturing business renewable.

This is the differentiating aspect from traditional way of producing cotton fibres, an innovative process which is keeping increasing their cooperation with great name of the fashion industry like Levi Strauss and Stella McCartney. This firm is a clear example of how product and process innovation typically coexist and can revolutionise long-established patterns. But without innovation, the possibility to reduce water consumption or minimising the amount of chemicals utilised would have not be possible.

Analysing current data on water wasted, this innovation emerge like a necessary change: every year 1,5 trillion litres of water are used in the fashion industry. In the United States alone, each year 13,1 million tons of textile waste are produced, of which 11 million tons ends up in landfills, a volume enough to fulfil the Washington Capital Building from top to the bottom every single day.

Start-ups and small visionary firms are not the solely deeply involved in pursuing for solutions: Adidas, Galeries Lafayette, Kering, Target and Zalando are heavily investing for organising cooperation and joint ventures with smaller and innovative firms and exploiting their internal know-how. Both small companies and bigger enterprises aim at making the difference in the industry. Despite all this just reported, however, the purpose of this dissertation is highlighting the emergence of such relevant innovation, classifying them, tracking their evolution and diffusion among the last two years, and at the end define the way these innovations are impacting on companies structures. All this will allow to determine the way the industry is changing, as well as to define the most likely direction that will be taken in the next future.

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[131] Common Objective, (2018). Source retrieved from: https://www.commonobjective.co/article/the-issues-chemicals

[132] Flynn, S. (2015). Clothing will save us. Source retrieved from https://www.youtube.com/watch?v=AoIfcCbAs7o

3.1 Research methodology

The following dissertation aims at analysing the international fashion industry scenario, highlighting the main innovations that will determine relevant changes in the sector during next years.

In order to provide a general overview, official resources like Pambianco Magazine, the Italian journal on Fashion and Luxury, and Lexis Nexis will provide business informations and mainly data analytics that are studied and reorganised to provide an aggregate result over the most likely innovative solutions that will influence the industry during the next future. These are then studied both from a single perspectives and from an aggregate point of view. This is further integrate with an interview that will be explained in detail here below.

In particular, the last twenty-four edition of the Pambianco Magazine have been downloaded and examined one by one in order to highlight and report the main innovative trends. The procedure adopted in order to analyse this fount has counted over the possibility to perform a research over the electronic version of each magazine. In particular:

- Each magazine is read in order to understand the main trends on a theoretical way, retrieving and saving the most important citation then reported in the insight of each single innovation.
- A table is constructed, reporting the main relevant innovation cited on the columns, creating a raw for each magazine analysed.
- A keyword research is performed, using specific strings for each single innovation considered that are reported in the relative section.
- Once the table is completed, results for each innovation are summed up and a relative graph is constructed. Over the graph has been traced also a trend line to analyse the tendency of innovations considered, basing the analysis over the positive or negative inclination (qualitative) and on the angular coefficient (quantitative).
- A further general graph, reporting all the innovations together is constructed, providing a general overview of the current situation.

Further, once these topics have been defined, the research purpose will define and classify them, also through the usage of categories analysed in the first chapters, basing the judgment on each specificity of the innovation considered.

This first source level aim at retrieving informations from an Italian magazine, despite its international focus. The second analytical level has the purpose to enlarge the range of action of the research, in order to obtain a comparing tool for the first analysis. In order to provide more information, Lexis Nexis is a corporation providing computer-assisted legal research (CALR). Moreover, it also provides business research and risk management services that has detained the world's largest electronic database for legal and business-records related information.
The research over this second fount has been performed in this way:

- the innovation previously retrieved from Pambianco are first of all listed in an apposite chart and then inserted within Lexis Nexis database, limiting the research only for contexts related to the fashion industry issued within the last two years, as well as implementing many other specificities. However, this time range has allowed to restrict the research field only to fresher informations, adopting the same range as done with Pambianco Magazine.
- Other specificities implemented are the industry of research, inserting only publications related to the Fashion and Apparel industry, the filter "must contain" that allows to restrict the publications emerged only to the topic in focus, the Publication language in english and the type of publications considered like newspaper, industry press, magazine and journal. For any new filter implementation a new research is performed, and intermediate data reported in the chart. Filters are applied in order to drive the results search, aiming at extrapolating the higher quality sources. In other words, the aim is to evaluate the quantity of information available online about a specific innovation matter, taking care of verifying publications' strict relation to the fashion industry. However, all these processes are further explain during the results evaluation.

Furthermore, in order to obtain a deeper level of informations, a direct interview with Daniele Volpato, CEO of Volcar S.p.a, has been performed. Volcar S.p.A is a knitwear manufacturer firm based in Brendola and founded in 1952. Since 2001, the firm has focused its business on the luxury segment and actively collaborate with the main international designers to produce Haute Couture and Pret-a-Porter products. Their collaboration pool counts firms like Thom Browne, Philippe Plain, Gucci, Chloè, Christian Dior and many others. This company rely a lot on the value of the "made in Italy brand", and this sentiment pushed them, in occasion of Volcar's 60th anniversary in 2012 and with the support of the Brendola municipality, to

launch a program to train the next generation of Italian artisans. This company reveals many values like a concern for design and quality and respect for the hard work. Daniele Volpato took the lead of the company in 1970s and immediately started to attend fashion events all over the world, working with the greatest stylists in the fashion panorama, and he is still doing it nowadays. His global vision and context on which is insert, his knowledge of the industry and his clear tendency to innovativeness has pushed me to request an interview with him. The aim is to obtain industry's internal information in order to understand how previous retrieved innovations are interacting and chaining within the global scenario, which directions the market is taken, as well as the main challenges for the sector.

In order to reach dissertation's aim, the following paragraph starts from grouping the main expected innovations in the sector, providing an aggregate result of data retrieved.

3.2 Data collection: evidences

The current era is deeply focused over innovation. Fashion firms have to face a really competitive market, on which companies strive to make profits. Many firms that faced difficulties in the past realised that the only way to emerge is trough a process of innovation within their business. Innovative solutions, as explained in the first chapter, can be retrieved and applied to any part of the firm, from the mere product to processes or marketing strategy. However, the fashion industry has revealed to be an industry particularly impacted by incremental innovations, rather that radical or disruptive ones. It is also true that incremental innovations are easier to develop and apply to already established patterns, and this is maybe the reason behind the fact that most common news on fashion reports about minimal and low relevant innovations. This chapter is dedicated at describing the research processes carried out, looking for all the main innovations that will characterising the industry. First of all, the last twenty-four editions of Pambianco magazines have been downloaded in PDF. Pambianco is currently the most respectful and widespread on-line newspaper dedicated to the world of fashion and apparel. Founded in 2001, it is currently a free resource for manager, entrepreneurs and opinion leaders on the fashion industry.

The editions considered starts from January 2018 to reach December 2019. For any of these publication, data retrieved about innovations have been extrapolated and reported below, or-

ganised in a reasoned chart reporting the main innovations studied or maybe already utilised by successful brands, defining it

According to informations retrieved from Pambianco Magazine of the last two years, many innovation are approached and developed by the fashion industries to face the uncertain future of the sector. In the same chart has been inserted also data retrieved from Lexis Nexis, reporting the filters applied and the number of results obtained for each research.

The chart is presented in several part, each representing a specific innovation described in detail and presented with concrete examples from global leading firms' actions. The results obtained in the chart are obtained by the integration between informations retrieved through the analysis of Pambianco Magazines and Lexis Nexis.

The strict importance to make an accurate research has imposed the necessity to reduce the field of analysis applying specific filters to the research.

According to this, the researches performed on Lexis Nexis have required the application of the following limitations:

- Considering that the dissertation aims at revealing the innovative trends, the years range analysed for the research have been reduced only to publications issued during the last two year, from January the 1st, 2018, to December the 31st, 2019.
- Moreover, publications retrieved must be related to fashion industry's matters, and this is the reason behind the restriction to news only about the fashion industry. This limitation has been possible through filtering the industry of relevance, selecting "Fashion and Apparel" for all the researches.
- One more useful filter restrict the application of the research only to those publications that contain a specific term within the text. This will be useful in order to further restrict the research area. However, results will be provided in both the versions, with and without the filter.
- Just to evaluate the spreading potentiality of results retrieved, one more approach consists in figuring out the number of international publications which are mainly shared through the english language. Results will highlight that the formers usually constitutes the entire amount of resources found.

- A last analysis is based on providing informations about the type of publications retrieved. Newspapers are periodical publications containing verified contents on a specific matter, while industry press are specialised publications with a high relevance for the industry of reference. Magazines and journals, from its side, are trustable founts containing articles and verified publications on a particular subject.
  These can all be classified as relevant and official sources.

Each innovation is reported within a dedicated table on which research results are presented. Before each table, informations retrieved on sources analysed, mainly Pambianco and Lexis Nexis, have been adjusted and described in order to understand how these innovations are impacting the fashion industry.
Further, informations retrieved from the speech with the Chief Executive Officer of Volcar S.p.A about each of these innovation will follow the table insertion, in order to make a more concrete point over each topic.

The following representation has the purpose to anticipate the various topic that has been retrieved from researches carried out and that are going to be analysed in the following pages. In particular, the main innovations that are going to heavily impact the fashion industry are sustainability and all its consequences, Big Data and their application on firms' decision making processes, blockchain and traceability matters, Industry 4.0 supported by technological advancements, e-commerce and the emergence of social commerce, capsule collections that are changing long established patterns and the digital service technology that, grouping innovations like artificial intelligence, virtual reality and augmented reality, are driving firms in changing their approach to customers.
Step by step, these innovations are impacting the current fashion firm's scenario, changing all the consolidated patterns and approach to business. The following paragraphs will analyse them reporting their influence over the industry.

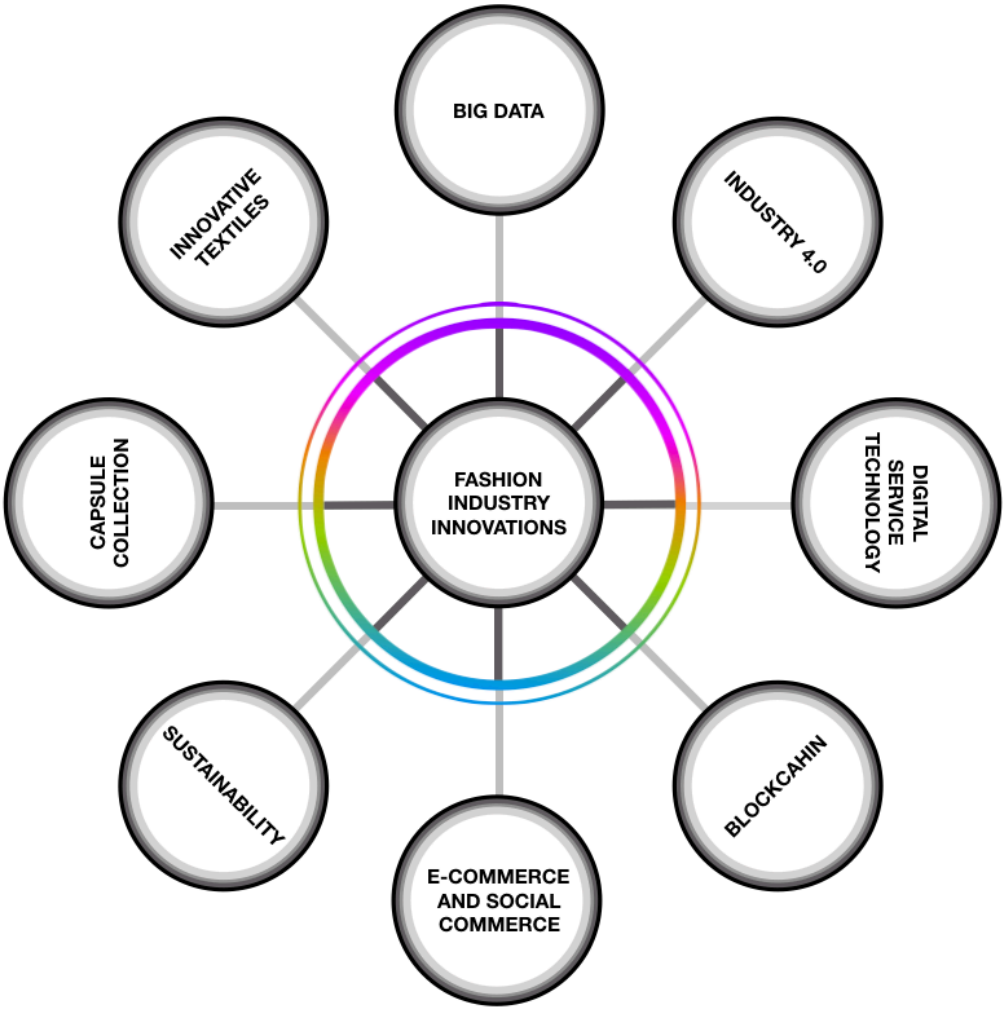

Figure 3.1, Iconography over fashion industry innovations, author's elaboration

3.2.1 Sustainability

Sustainable fashion and sustainability in general is a topic that is receiving increasing attention during the current period from all the subject involved, both within and outside the fashion industry. In order to provide a definition, sustainable fashion can be considered as "a movement and process of fostering change to fashion products and the fashion system towards greater ecological integrity. Sustainable fashion concerns more than addressing fashion textiles or products. It comprises addressing the whole system of fashion." (Fletcher, 2008)[133]. This definition provides informations that allow to easily classify sustainability as an innovation that involves many aspects of firms, from productive materials to organisational changes.

[133] Fletcher, K. (2008). Sustainable fashion and textiles: design journeys (2nd ed.). London; Washington, DC

Nowadays, it is required for facing the unclear prospectives that the industry is going through, as well as for addressing necessities of changes recognised globally. Moreover, brands are strictly forced in being more sustainable, since customers with purchase powers have increasing interesting over sustainable issues. To certificate the supply chain, certifications are increasingly conquering firms on a global perspective (Pambianco, 2018)[134].

Sustainable fashion is actually considered an innovation in the sector since in the past all the business paradigms were only entered in creating profit posing different values at the center of the business. The implementation of sustainability pass through the improving of productive processes through more advanced and less polluting machineries, the research of sustainable materials that are not so easily obtainable, the reorganisation of the entire organisational paradigms, starting from implementing a sustainable vision among firms' human capitals. Firms are starting to understand that, for making sustainability a competitive advantages, companies have to merge them with their own DNA, including them within the business model for guaranteeing the possibility to increase visibility through them. Brands alone are not ruling anymore (Pambianco, 2018)[135]. Many strategies have been implemented: Furla and many other brands become fur-free, Versace has invested in an environmental sustainable boutique that aim at saving energy and water, as well as reducing wastes (Pambianco, 2018)[136], Miuccia Prada affirms the desire of the brand to become completely fur free, experimenting the implementation of new materials, creating more responsible products and Ebarrito gave birth to leather accessories by using the patchwork technique, matching together pieces of wasted leather, making unique pieces that are also environmental compatible (Pambianco, 2018)[137]. Form a productive point of view, firms like Samsonite exploits a sustainable productive cycle to confer value added to the image of the brand, aiming at becoming a carbon neutral enterprise within 2030 (Pambianco, 2018)[138]. These approaches are not directly correlated to a single fashion segment and any part of the industry is being impacted. From a high-end brand perspective, Giorgio Armani is dedicating great effort in reshaping the term

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[134] Pambianco Magazine, (2018). July-August, *Pambianco Strategie di Impresa*, 1-116

[135] Pambianco Magazine, (2018). May, *Pambianco Strategie di Impresa,* 1-76

[136] Pambianco Magazine, (2018). March, *Pambianco Strategie di Impresa,* 1-98

[137] Pambianco Magazine, (2018). May, *Pambianco Strategie di Impresa,* 1-76

[138] Pambianco Magazine, (2018). June, *Pambianco Strategie di Impresa,* 1-144

"luxury". According to his vision, luxury is the extreme cure of quality, which cannot be divided from environmental respect.

Even from a legislative point of view, sustainability is becoming necessary for firms, since fashion chambers and legal entities are moving toward the creation of a legislation on the matter, mainly in London. Being not-sustainable and non adapting firms' structure to this innovation may soon represent a disadvantages for fashion companies. On the other hand, adopting firms' have many advantages. Events like the Green Carpet Fashion Award have been instituted for celebrating the most sustainable brands in the fashion scenario, or those that are playing a relevant role in the matter. In the current scenario, obtaining such awards may represent a valuable competitive advantage (Pambianco, 2019(4))[139].

However, sometimes sustainable solutions are just expressed in order to create a sort of attention over brands. These are the cases on which green solutions are superficial, hiding processes of greenwashing, processes that will be eliminated through solutions of supply chains' tracking or approaches like the Per and the Oef. According to these, the first aims at measuring the environmental footprint of products, while the second on a organisational level. These are respectively about products and about processe sides (Pambianco, 2019)[140].

Interview: a further insight over sustainability

The interview carried out with the owner and CEO of Volcar S.p.A, a local fashion industry operating on a international level, has revealed the current status of the industry allowing to provide a more direct statement. According to what emerged, sustainability is currently the world that is ruling the fashion panorama, and concepts like "sustainability and innovative textiles have become an inseparable dualism. The interview revealed that, during Pitti Summer 2020, a meeting point for the most important fashion maison in the world, the guidelines on sustainability for the next years have been traced. Fashion students were given tracks to follow in order to perform their studies and stylists proposed innovative yarns retrieved from recycled products, in order to issue wastes' issues like plastic abundance. Pioneering productive techniques have been presented, aimed at impacting directly on pollution emissions, water waste and chemical usage on productive processes. However, sustainability is strictly con-

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[139] Pambianco Magazine, (2019). April, *Pambianco Strategie di Impresa,* 1-84

[140] Pambianco Magazine, (2018). November, *Pambianco Strategie di Impresa,* 1-108

nected with concepts like value chain and, talking about innovation, also with blockchain and traceability. From the farms, leathering animals must be treated trough respectful processes, since within 2023 fashion firms are expecting to implement only tracked raw material that follows strictly values like ethic and sustainability. According to the CEO, nowadays these only represent the 30% of the entire production, but at the same time customers are requesting a continuous more amount of informations and firms that do not adapt themselves at certain standards are inevitably cut out from the supply chain.

On their side, the company interviewed is releasing a collection for a Chinese partner that will be presented on February the 14th in Tokyo which is entirely based over recycled yarns and textiles, mainly obtained through plastic bottles recycle, which pass through a melting process for then being recombined into polyester yarns used to produce clothes.

Despite this great leading trend, many other recycled and sustainable material is being used, for example the eco-cachemire and the eco-wool, thus treated with non-polluting dyes presenting a zero environmental impact. However, these textiles presents some limits. The painting phase is the most polluting in the whole supply chain and produce lot of bad chemical emissions.

According to his view, people are witnessing to a mental changing among all the levels, but these kind of sustainable fashion is still on an experimenting phase and firms are not completely aware about market response yet, since for a capillary implementation of these values are expected to pass many decades.

Innovation analysis:

The fashion industry is entirely focusing their efforts on the sustainability issue. Firms are showing many different approach through different type of innovation developed and many revolutions applied. However, sustainable intents are mainly retrieved on the usage of new sustainable textiles and raw materials, as well as the implementation of sustainable production processes for reducing the environmental impact of productive strategies, like Evrnu cited above. However, despite the greatest amount of innovations on the matter can be classified within these two categories, “sustainability” encompasses all the departments and districts that compose a firm, from the production to final services.

According to the analysis, sustainability must be considered surely a product innovation and a

process innovation, but at the same time being "sustainable" means changing the entire approach of the firms to the business, pushing firms to re-design the organisation in order to reach the sustainability goals. For these reasons, sustainability can be at the same time a **product**, **process** and **organisational** innovation.

Results obtained from the research reveal a great interest on a global scale about the matter, with a great amount of founts retrieved on news or industry press. However, magazine and journal still produce a relatively small amount of contents about the matter, despite the great influence on the global scale. All the details on the research have been reported within the following chart:

Innovation:	Sustainability
Lexis Nexis Result:	Research string: Sustainability **Filters applied:** **- Industry of research: Fashion and Apparel** **- Publication period: 01.01.2018 - 31.12.2019** **- Must contain: "fashion"** Considering the sole application of filters reported above, applied in order to reduce the field of analysis at specific fields and period, the results revealed a huge diffusion of the matter, reporting **18449** results in total. Considering to perform the research without inserting the filter "must contain", the results obtained become **32332**, a really relevant production. Moreover, the graph on the database reveals an exponential increasing of this kind of publication from 2018 to 2020, delineating a generalised increasing interest on the topic. **Filters added to previous:** **- Publication language: English** Restricting the research area on international publication in English, the result reveals **17989** publications out of **18449**. **Filters added to previous:** **- Type of publication: newspaper, industry press, magazine and journal** The results here are emblematic: researching for newspaper are provided **4745** results, a number comparable to the industry press publications that are about **4510**. On magazines and journals, instead, in the last two years have been published **721** news about sustainability.

Pambianco Result:

The research carried out on the magazine has taken into consideration the editions from January 2018 to December 2019.
The data gaining process has been acted through the quantitative analysis of the research string also adopted in the Lexis Nexis research.
From data elaborations, among the innovations analysed, sustainability has emerged as the main treated matter. Sustainability related matters have been cited a total of **466** times among editions considered.
However, in order to present a more readable and organised approach, data have been grouped according to its quarter of reference. Each year is composed by four quarters, renamed Q1 2018 until Q4 2019.
Data retrieved about sustainability citations have been presented here below:

Q1 2018: 6
Q2 2018: 22
Q3 2018: 39
Q4 2018: 52

Q1 2019: 36
Q2 2019: 87
Q3 2019: 67
Q4 2019: 157

These data have been reported within a chart that reports each quarter in the x-axis and delineates the average trend-line that the topic is assuming in the publications analysed. The y-axis, instead, reports the number of time the innovation has been cited. Further, he trend-line equation also allow to highlight the elevated increasing rate, given by the slope (angular or m-coefficient) of the line, that is set in +16,786. This put into evidence how the community is putting and increasing interest over the innovation in matter among the years, setting it as a predominant issue in the current era.

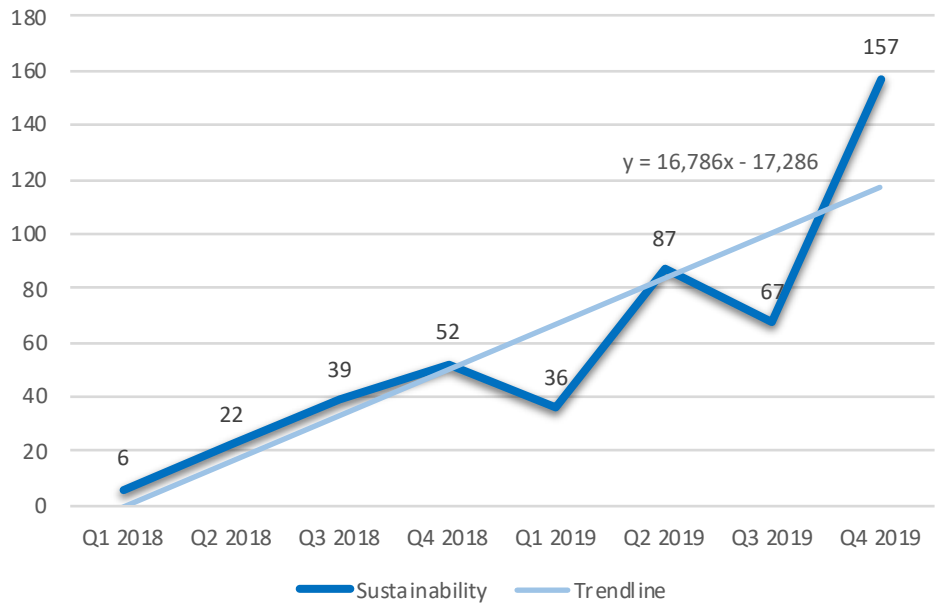

Figure 3.2, Sustainability citations' trend, author's elaboration

3.2.2 E-commerce and social commerce

E-commerce is actually a recognised innovation that has signed the development of many sectors in the recent years. As retrieved from analysis processed in the previous chapter, e-commerce and social purchases are expecting to determine increasing results during the next years. However, before moving on, such a relevant matter can be expressed as the service provided to customers to process purchases through electronic channels like smartphones, laptops and tablets. Even if the e-commerce era has started long ago, firms are now looking for implementing in-house solutions for e-commerce, integrating it for a direct management, using online market as a driving decision regarding lines to adopt within stores (Pambianco, 2018)[141]. Moreover, a more recent innovation is arising and is further supporting electronic commerce solutions: the social commerce. Instagram, for example, has recently implemented the check out solution, offering the possibility to buy directly within the application. Facebook, that already offer this kind of service, and WeChat are also concurring in generating interactions through their platforms (Pambianco, 2019)[142]. All these social platforms are helping fashion brands in acquiring popularity and visibility, and this is becoming globally recognised by the whole industry. However, for what concern the global market, the social commerce side is currently hesitating in generating incomes, prospecting a decreasing in sales in US of the 11% (Pambianco, 2018)[143].

Independently to this early stage hesitation, and according to what expressed above, e-commerce and social commerce can be easily classified as radical service innovations that are revolutionising the way customers approach to fashion purchases, as well as the way fashion firms organise their selling channels.

These electronic solutions allow to delate the direct relation between the product physical experience and the purchasing process. Starting from this point, firms are increasingly decentralising their focus over electronic selling channels, directing investments and attentions over these solutions. Brooks Brothers, for example, is approaching a complete store restyling for making smaller stores intended more like showrooms for products then brought on line by customers, Inditex is trying to sell 16 physical stores for dedicating more resources to e-com-

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[141] Pambianco Magazine, (2018). March, *Pambianco Strategie di Impresa,* 1-98

[142] Pambianco Magazine, (2019). September, *Pambianco Strategie di Impresa,* 1-120

[143] Pambianco Magazine, (2018). December, *Pambianco Strategie di Impresa,* 1-96

merce solutions (Pambianco, 2018)[144], LVMH is creating an its own multi-brand digital commerce, 24 serves, that will serve more than 150 brands (Pambianco, 2018)[145].

Moreover, e-commerce has represented also a great advantage for many small fashion firms. Digital natives brands run their business in an environment (the digital one) on which entry barriers are inexistent, allowing them to put up a business based on an idea applied through social platforms.

Among others, one of the main results that these innovations are producing isa generalised Logo's abandonment by fashion firms. The strategic aim is to reinvent the logo adopting scripts, neglecting the brand heritage, looking for a better communicability of the new solution. Balenciaga, Balmanin, Burberry, Belluti all adopted a minimalistic script for increasing the logo communicability and easiness of writing, allowing new age customers to makes less efforts in communicating information about the brand through electronics channels (Pambianco, 2019)[146].

However, a clear trend has emerged: all digital natives firms, with a strong online commitment but not present on a physical side, aim at creating a physical image also outside the digital world. At the contrary, physical established firms aim at creating a strong presence online, revealing that firms are currently dependent over both the sales channels. Retail, wholesale and e-commerce are considered at the base of the brand development, and still nowadays physical experienced results reveal the necessity to maintain both the selling solutions, re-dimensioning the physical approach toward a wider electronic potential.

So far, the integration between e-commerce and physical retail has expressed a reciprocal symbiosis, since statistics reported a positive influence on both the channels as well as the situation that these two side are increasingly more integrated each other.

Interview: a further insight over e-commerce and social commerce

The interview carried out with the owner and CEO of Volcar S.p.A, a local fashion industry operating on a international level, has revealed the current status of the industry allowing to

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144 Pambianco Magazine, (2018). January, *Pambianco Strategie di Impresa,* 1-104

145 Pambianco Magazine, (2018). January, *Pambianco Strategie di Impresa,* 1-104

146 Pambianco Magazine, (2019). March, *Pambianco Strategie di Impresa,* 1-94

provide a more direct statement. According to what emerged, nowadays the matter is highly determined by values like brand's heritage and brand's recognisability. Within the industry, the target is to make customers aware and able to recognise a firm's specific piece of fashion without directly get in touch with it. According to Mr Volpato, only once reached this level firms can really exploit the potentiality of e-commerce. "The brand in this case has an enormous weight", stated the Volcar CEO during the interview. He further stated "we are all inducted in thinking at e-commerce as a stand alone concept. Actually, there is a lot more about the mere building of an electronic selling channel. In order to apply a value added e-commerce solution, brands must be recognised and customer must be aware about firms' inner values. Trusting a product without experiencing it can work only in fast fashion segments, and only with well known brands". He also revealed that conversion rates compared to first interaction, in small and less-known contexts that approach e-commerce solutions, are really low.
According to what emerged from the interview, the direction is focused on e-commerce and social commerce that one day will probably have the possibility to determine the greatest income for firms but that nowadays seem to still have the necessity of a physical shop where customers can experience fashion pieces.

Innovation analysis:

According to its nature, e-commerce is aimed at favouring and simplifying the customer purchase process. The development of the e-commerce allow firms to decentralise financial resources involved in physical brick and mortar stores for providing a centralized service on which customers can place orders effortless. This innovation consists in new technologies implemented to improve and reform product provision processes, as well as creating a more diversified demand, facilitating the contact with old and new customers. This imply the necessity to think at e-commerce as a **service** innovation.

E-commerce and social commerce together have a wide visibility worldwide, and the heavy transformation of the industry has concurred in increasing the amount of publications on the matter. Even once compared to Pambianco, e-commerce and social commerce emerge as a diffused approach that fashion firms are attempting in order to integrate innovative solutions, with social commerce that aims at becoming the leading channel for sales.

Innovation:	E-commerce and social commerce
Lexis Nexis Result:	Research string: “E-commerce” and “social commerce” **Filters applied:** **- Industry of research: Fashion and Apparel** **- Publication period: 01.01.2018 - 31.12.2019** **- Must contain: “fashion”** Filters applied above revealed a huge diffusion of publications on e-commerce, reporting **28112** results in total, with an equilibrate distribution along the period examined. This result has been obtained through the adoption of a “must contain” filter to increase the quality of publications retrieved. Without the last filter, the results obtained would have been **65619**. The global impact of the matter has contributed to a widespread diffusion of e-commerce potentialities, as well as increased the number of publications on the matter. On the other side, social commerce has revealed a presence of **770** publications on the matter, that becomes **1160** once removing the “must contain” filter. **Filters added to previous:** **- Publication language: English** Restricting the research area on international publication in English, the result reveals **27049** publications in English, which is almost the entire amount of global production. For what concern social commerce, instead, the number of english publications are still almost the entire production, with **751** units. **Filters added to previous:** **- Type of publication: industry press, newspaper and magazines** The research has revealed a great number of founts derived from the industry press, with **7521** units. Newspaper publications account for **3522**, while magazines and journal accounts for **630**. These categories can offer more official and trustable informations. Social commerce instead has revealed **205** industry press publications and **196** newspapers publications as most relevant sources.

Pambianco Result:

The research carried out on the magazine has taken into consideration the editions from January 2018 to December 2019.
The data gaining process has been acted through the quantitative analysis of the research string also adopted in the Lexis Nexis research.
From data elaborations, among the innovations analysed, e-commerce and social commerce have been treated as a recurrent matter in all the editions taken into consideration. The overall number of citations is second only to those regarding sustainability. Electronic and social commerce have been cited a total of **439** times among editions considered.
As presented before, in order to present a more readable and organised approach, data have been grouped according to its quarter of reference. Each year is composed by four quarters, renamed Q1 2018 until Q4 2019.
Data retrieved about e-commerce and social commerce' citations have been presented here below:

Q1 2018: 45
Q2 2018: 36
Q3 2018: 38
Q4 2018: 32

Q1 2019: 46
Q2 2019: 64
Q3 2019: 67
Q4 2019: 111

Data reported above have been included within a chart that reports each quarter considered in the x-axis and delineates the average trend-line that the topic is assuming in the publications analysed. The y-axis, instead, reports the number of time the innovation has been cited.
Further, he trend-line equation also allow to highlight the increasing rate, given by the slope (angular or m-coefficient) of the line, that is set in +8,44, delineating a positive trend about the attention given to this innovation. Firms are setting it as a predominant issue in the current fashion scenario.

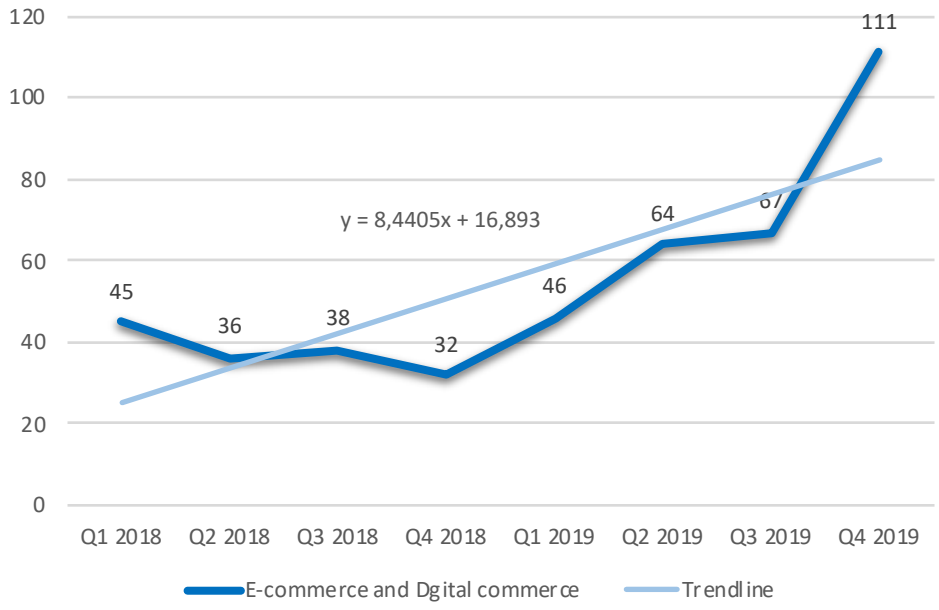

Figure 3.3, E-commerce citations' trend, author's elaboration

3.2.3 Capsule collection

Capsule collections are currently gaining much attention among the international panorama. Referring to capsule collections, fashion firms consider it as a "condensed version of a designer's vision, often limited edition, which transcends seasons and trends by being functional and commercial. Fashion firms aim often focus on construction and delivering key looks, without the styling and theatrics of a show". (Business of Fashion, 2020)[147]. Specific characteristics emerge from the definition, like the fact that a capsule is a condensed and limited quantity of products issued for commercial and marketing purposes that revolutionise previous fashion precepts of "seasonality". A revolution here is clear over many aspects. Firms are organising their collections according to their own timing, all the fashion brands seem to look for shorten times, transforming "fast fashion" concepts in just "fashion" matters, losing the distinction between the two terms. From other perspectives, this innovation constitutes a great marketing innovation. From the first chapter, marketing innovation is defined as the implementation of new marketing methods that involve significant changes in product design or packaging, product placement, product promotion or pricing. The concept of "limited edition" created according to specific vision provide clothes with emotional features that push customers to buy them, even just for not loosing a limited edition item of a specific firm. Capsule collection allow firms to advertise themselves in a completely different way. Moncler, followed by many important firms like Diesel and Tod's, has recently established this trend. The firm has proposed many capsules collection along the months. As anticipated, customer relationships have been revolutionized as well, with the pre-collections and capsules as the base for customer engagement (Pambianco, 2018)[148].

Many other relevant examples come from the cases of Tommy Hilfiger and Ralph Loren. These two firms, until few years ago, Tommy Hilfiger and Ralph Loren were focusing their attention over the possibilities offered by the "see now buy now" model, making clothes presented in the runway immediately available to customers for being bought in stores and on line. However, nowadays this model seems turning into a more conscious position that fashion brands have assumed over the potentiality of market segmentation and the linked possibil-

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[147] Business of Fashion, (2017). Source retrieved from https://www.businessoffashion.com/education/fashion-az/capsule-collections

[148] Pambianco Magazine, (2018). April, *Pambianco Strategie di Impresa,* 1-84

ity to create capsule collection repeated many times during the year, even monthly, without respecting the canonic periods for fashion shows but satisfying customers for the possibility to meet requirements like freshness and re-assortment. However, the "see now buy now" model has allowed firms to understand the potentialities of that kind of communication, then adapted in the capsule pattern (Pambianco, 2019(4))[149].

Interview: a further insight over capsule collections

According to Mr. Daniele Volpato's words, capsule collections are trying to emerge in the international panorama since two years. He explains that these are limited collections that has mainly a conceptual purpose, issued for marketing purposes and for gathering information over customers reactions. They produced many capsules, the last one for Dior that was completely centred over Japan, presenting haute couture pieces with embroidery on topic like cherry blossom that at the end has been directed to be sold in a specific geographical zone. He follows saying that "firms are showing great interest over the topic".

Further, the CEO sustains that capsule collections are on the same line as pop up stores, they aim at gaining attention over temporary strategies, both on physical temporary store and collections, for increasing customer desire over firms' products. The fact is that fashion is going at a very fast pace, and everything on it seems to follow the same trend. According to details provided during the interview, the idea of seasonality has been revolutionised and fashion weeks are still the leading global scenario, but this previous trend seems strongly influenced by many events that previously had a more marginal relevance, like the Apart Show in New York. These events are impacting over collections, and capsule collections are just an idea to exploit these frequent events for screening the market. According to Mr. Volpato, these have two main purposes: the first is to evaluate customer's response to products with specific features, while on the other side there is also the necessity to keep high the interest over the firms' initiatives.

[149] Pambianco Magazine, (2019). April, *Pambianco Strategie di Impresa,* 1-96

Innovation analysis:

Despite the fact that this innovation is strictly connected with collections and clothes, it constitutes an innovation for matters not directly correlated with them. Capsule collections refer to a completely new approach that firms has implemented on the marketing side. According to the theory approached in the first chapter, a marketing innovation consists into the implementation of new marketing methods that involve significant changes in product design or packaging, product placement, product promotion or pricing. Through the exploitation of capsule collections, firms are aiming to these specific targets. Products in fact are produced in limited run proposing specific emotional features that constitutes the theme of the capsule and advertised based on creating a specific need within customers that feels themselves involved in such objects. Capsule collection allow firms to advertise themselves in a completely different way, highlight specific matters linked to specific values, from unusual collaborations with famous subjects to new developed materials, to a specific period of the life. According to this, capsule collection is actually considered a **marketing** innovation.

Capsule collections have had a great diffusion among the industry during the years considered. However, the publication trend seems to highlight a constant reduction of interest about the matter, maybe due to the easy applicability of this innovation and the consequent low relevance obtained on fashion publications. Italian and French publications constitutes both a relevant value since luxury firms from these two main countries are highly involved in this new concept of capsule collections.

Innovation:	Capsule collections
Lexis Nexis Result:	Research string: Capsule collection **Filters applied:** **- Industry of research: Fashion and Apparel** **- Publication period: 01.01.2018 - 31.12.2019** **- Must contain: "fashion"** Filters reported above, applied in order to reduce the field of analysis at specific fields and period, revealed a moderate diffusion of the matter, reporting **6371** results in total, with a decreased production of publications at the end of **2019**. **Filters added to previous:** **- Publication language: English, French and Italian** Restricting the research area on international publication in English, the result reveals **5894** publications. The two further more relevant language have been in order French, with **214** publications, and Italian, with **166**. **Filters added to previous:** **- Type of publication: newspaper, industry press** Researching for newspapers productions have provided **1770** results, a number comparable to the industry press publications that are about **1854**.
Pambianco Result:	The research carried out on the magazine has taken into consideration the editions from January 2018 to December 2019. The data gaining process has been acted through the quantitative analysis of the research string also adopted in the Lexis Nexis research. From data elaborations capsule collection has resulted as a moderately cited innovation. The overall number of citations is positioned at the third place for overall amount. Capsule collection has been cited **167** times among editions considered. As presented before, in order to present a more readable and organised approach, data have been grouped according to its quarter of reference. Each year is composed by four quarters, renamed Q1 2018 until Q4 2019. Data retrieved about capsule collections' citations are presented below: Q1 2018: 28 Q2 2018: 31 Q3 2018: 17 Q4 2018: 6 Q1 2019: 17 Q2 2019: 25 Q3 2019: 20 Q4 2019: 23

Pambianco Result: (continue)

Data reported above have been included within a chart that reports each quarter considered in the x-axis and delineates the average trend-line that the topic is assuming in the publications analysed. The y-axis, instead, reports the number of time the innovation has been cited.
Further, he trend-line equation also allow to highlight the line decreasing rate, provided by the slope (angular or m-coefficient) of the line, that is set in -0,655, delineating a lowly relevant negative trend about the attention given to this innovation. Capsule collection, as reported above, is emerging in an almost stable way among firms, that are exploiting it to probe the market response to specific patterns, and this can explain the relatively stable interest demonstrated along quarters considered.

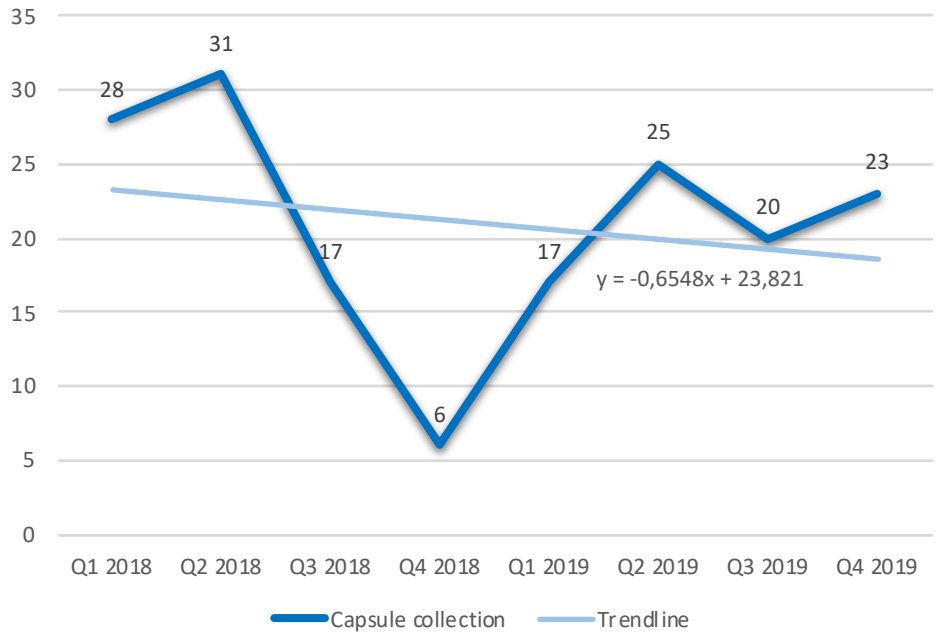

Figure 3.4, Capsule collection citations' trend, author's elaboration

3.2.4 Digital Service Technologies

Digital services technologies comprehend many technological advancements that has been recently integrated within the fashion scenario for changing the way customers experience is carried out by firms. The most relevant of these innovations are augmented reality, virtual reality and artificial intelligence. Augmented reality is defined as "an interactive experience of a real-world environment where the objects that reside in the real world are enhanced by computer-generated perceptual information, sometimes across multiple sensory modalities, including visual, auditory, haptic, somatosensory and olfactory. The difference with virtual reality stands over the fact that, while augmented reality simply adds digital elements to a live view, often by using the camera on a smartphone, virtual reality implies a complete immersion experience that shuts out the physical world, possible through the usage of VR devices. From a fashion industry point of view, fashion brands are recognising the impact of augmented and virtual reality on how they can enhance the customer's shopping experience and affinity for the brand. These offers elevated digital technologies that can immerge customers on firm's worlds, making them more conscious and more willing to proceed in the purchasing processes, also reducing doubts due to the physical distance between customer and product. As reported by Pambianco, Asics has developed the Asics Motion ID, a technology implemented in store for verifying the customer running posture in a virtual background for providing a more aware assistance in shoes selection. (Pambianco, 2018)[150]. Artificial intelligence, instead, is mainly used for the automation of customisation processes, submitting recommendations and making questions then immediately elaborating and adapting information for creating customised products. It is also revolutionising the after sales services through the usage of chatbots, supporting customers through elaborated algorithms, substituting the human presence especially on easier tasks. The magazine follow by reporting that, for a firm "being the first in introducing such innovations would create interests over the firm, generating traffic around the brand (Pambianco, 2018)[151]. According to latest news from January 2020, a new frontier for fashion innovation is embedded by visual and emotional communication, through the usage of vocal assistant for having and engagement during the shopping experience. Firms

[150] Pambianco Magazine, (2018). January, *Pambianco Strategie di Impresa,* 1-104

[151] Pambianco Magazine, (2018). November, *Pambianco Strategie di Impresa,* 1-108

are for then trying to integrating robots as shopping assistants, asking them to sell a specific piece of cloth and to follow the shipments (Pambianco, 2020[152].

All the information analysed allow to classify these innovations according to service innovations parameters, since aim at changing the previous traditional customer experience that was previously based mainly over a personal relationship with dedicated people.

Interview: a further insight over digital service technologies

According to information retrieved during the interview, the fashion panorama is currently approaching to these innovations, and only few firms are pioneering these innovations, at least the most radicals. However, these seems mainly adopted for searching information on orders' status, on the production processes, on the stock availability, integrating continuously new data retrieved from market responses. What emerged is that, according to market researches, customers seems positively attracted by brands' attitude over this kind of innovations. Information provided over practical applications have been mainly related to Tommy Hilfiger flagships store, considered the very pioneer over these sort of innovations. The interviewed personally reported his experience within the Tommy Hilfiger's store in Regent Street, London, where he had the possibility to get firstly in touch with digital dressing rooms. These allow customers to interact with touchscreens on walls and tables to complete orders or even personalise clothes, with smart mirrors that even allow to have a preview of the final fit. According to his experience, he reported that people is manifesting a real interest over these kind of digital services.

Innovation analysis:

Digital service technologies are dedicated directly at changing the normal patterns for what concern customer experience. Augmented and virtual reality allows customers to wear dresses and verify the fit just through the usage of a photo camera, reducing doubts about the physical distance between customer and product. Its application also allow to verify colours and size, providing detailed informations about the pieces of fashion. The difference between augment-

[152] Pambianco Magazine, (2020). January, *Pambianco Strategie di Impresa,* 1-128

ed and virtual reality consists into the fact that, while augmented reality simply adds digital elements to a live view through a camera, virtual reality completely provide a complete immersive experience that excludes the real world.

Finally, artificial intelligence allow customers to customise collections through recommendations and requests immediately elaborating and adapting informations for creating customised products. It is also revolutionising the after sales services through the usage of chatbots, supporting customers through elaborated algorithms in every moment.

Services that will be offered to customers are then expected to be completely revolutionised. For all these reasons, digital service technologies are classified as **service** innovations.

Virtual reality, augmented reality and artificial intelligence can be grouped in a single section since these all aim at the same intention: improving services offered by fashion firms. The low level of publications retrieved delineate the current status of these innovations. From results obtained emerged the prevalence of leading firms related publications, while medium and small firms seems still reluctant. Moreover, the previous technologies need also a great amount of financial investments, mainly affordable by structured and leading firms.

Innovation:	Digital Service Technologyes
Lexis Nexis Result:	Research string: “Artificial intelligence”, “Virtual reality”, “Augmented reality”

Filters applied:
- Industry of research: Fashion and Apparel
- Publication period: 01.01.2018 - 31.12.2019
- Must contain: “fashion”

Filters applied above revealed a relatively moderate presence of publications on artificial intelligence, reporting **3296** results in total, with an increasing during last months. This is due mainly to the filter “must contain”, considering that without including it, the results would have been **12712**.
The number of publications obtained on virtual reality are instead **1672**, obtaining instead **8896** results without the filter “must contain”.
Finally, the number of publication obtained on augmented reality are **1788**, that becomes **11168** removing the filter “must contain”.
However, the filter “must contain: fashion” has been necessary since those analysed are technology adopted in many industries.

Filters added to previous:
- Publication language: English

Restricting the research area on international publication in English, the result reveals **2969** publications in English for artificial intelligence.
The number of publications on virtual reality regarding the fashion industry published in english are **1628**, while for augmented reality, the number of english publications amount at **1744**. For all the three innovations, the English contribution encompasses almost the entire amount of worldwide publications. Other languages contributions are marginal.

Filters added to previous:
- Type of publication: industry press and newspaper

The research has revealed mainly founts derived from industry press publications, with **754**. Newspapers publications account for **682**, while press release account for **679**.
Regarding the virtual reality, newspaper publication accounted for **431** units, fashion industry press for **364** and magazine and journals for **349**.
The last research on augmented reality, instead, revealed **493** publications in industry press sources, **358** in press releases and **314** on newspapers.
These categories are those offering more official and trustable informations.

Pambianco Result:

The research carried out on the magazine has taken into consideration the editions from January 2018 to December 2019.
The data gaining process has been acted through the quantitative analysis of the research string also adopted in the Lexis Nexis research.
From data elaborations digital services technologies have resulted as moderately cited innovations. The overall number of citations is positioned at the fourth place for overall amount. Digital service technologies have been cited **72** times among editions considered.
In the elaboration, data have been grouped according to its quarter of reference. Each year is composed by four quarters, renamed Q1 2018 until Q4 2019. Data retrieved about digital services' citations have been presented here below:

Q1 2018: 0
Q2 2018: 8
Q3 2018: 3
Q4 2018: 25

Q1 2019: 10
Q2 2019: 8
Q3 2019: 6
Q4 2019: 12

Data reported above have been included within a chart that reports each quarter considered in the x-axis and delineates the average trend-line that the topic is assuming in the publications analysed. The y-axis, instead, reports the number of time the innovation has been cited.
Further, he trend-line equation also allow to highlight the line increasing rate, provided by the slope (angular or m-coefficient) of the line, that is set in +0,881, delineating a lowly relevant positive trend about the attention posed over this innovation. Digital services technologies are emerging in an almost stable way among firms, that are exploiting it to provide high level services that are currently adopted and affordable only by fashion leading firms.

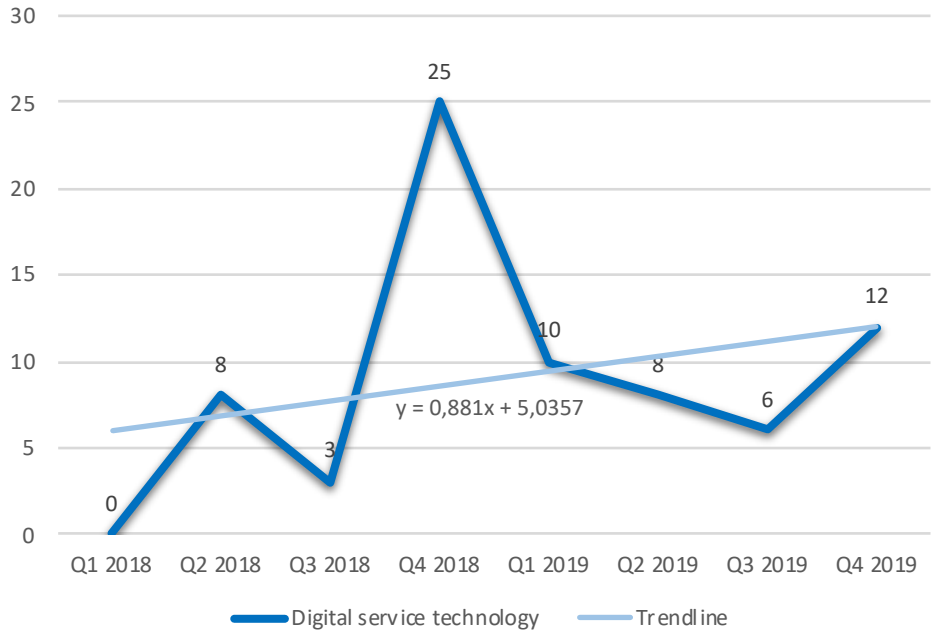

Figure 3.5, Digital service technologies citations' trend, author's elaboration

3.2.5 Innovative textiles

Innovative textiles refers to all those new garments and yarns presenting different characteristics from those already available on traditional markets. Nowadays, this particular topic is strictly related to sustainability matters, since all information retrieved reports the intention of firms to produce and use sustainable material like eco-fur, eco-wool, Scuba wool (waterproof wool), eco-cachemire, recycles polyester, graphene and more. Further researches were also implemented in order to develop smart textiles with particular features, but so far this branch is not presenting successful results, or at least their application are not producing an acceptable value added. As reported by Pambianco, new products can be produced using these materials thanks to the integration between artisanal abilities and new technological machineries. There are even exceptions: brands as Au197Sm has patented an innovative material that merge textiles and gold through innovative production processes (Pambianco, 2018)[153]. Moreover, Ten-C has developed a new nylon microfiber coming from recycled plastic that allow the creation of innovative and timeless pieces based on unusual quality that could last for the whole life of the owner (Pambianco, 2018)[154], or Polartec, that has expanded its business based on sustainability applied to technical textiles. Its new solution, the Power Air, has just received the recognition from the World Textile Information Networks, since this technology is designed and produced for reducing the micro fibres dispersion on the environment (Pambianco, 2019)[155].

According to information retrieved from the founts utilised, at the current stage of development innovative textiles are being developed to face sustainability necessities. However, the clear subjects involved in the innovation are the final products that present characteristics different from the past even if not radically different. This allow to classify the innovation as an incremental product innovation.

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[153] Pambianco Magazine, (2018). April, *Pambianco Strategie di Impresa,* 1-84

[154] Pambianco Magazine, (2018). June, *Pambianco Strategie di Impresa,* 1-144

[155] Pambianco Magazine, (2019). August, *Pambianco Strategie di Impresa,* 1-96

Interview: a further insight over innovative textiles

During the interview, I was told that innovative textiles have represented a hot topic during Pitti Filati, an important meeting point for the main international fashion brands. Volcar itself, as reported above is issuing a collection composed by recycled nylon yarns, obtained from plastic bottles. Mr. Volpato also considered to directly show me a piece of textile already produced with these materials, explaining that the touch is really good and can be compared to organic tissues. At the same time he reported also the example of wood yarn that is obtained through an innovative process that avoids complex chemical processes that allow to improve environmental respect and reduce the industry impact. The fact, he reports, is that the market focus his attention over the main trendy topics, and in this precise period the aim is to conform firms' structures to sustainable issues. These textiles provide also the possibility to create different color contrasts, that push firms in producing more stunning color clothes, "very pushed at a stylistic level" aiming at selling to a young market, driven mainly by the pioneering Japanese firms. At the end, he also revealed the presence in the market of new photosensitive materials that change colors (the one he saw changed from white to blu) once enlightened with a flashlight. However, the commercial applications of such yarns are yet to be discovered. From his point of view, these trends are prospecting a great enthusiasm over the entire industry, even considering that the final impact of these products has not been figured out yet. Finally, in order to reveal the research on the matter, the CEO also reported about new coming frontiers, despite they are on a conceptual stage yet. These refers mainly to medical application through yarns that should embed nano-capsules containing various substances that can be released by the textile during the day. A tendency to curiosity is currently leading the market.

Innovation analysis:

Innovative textile are revolutionising established pattern that have so far characterised the fashion industry. Firms are continuously more involved in external opportunities and challenges, with many resources that offer new possibilities. This is the case of plastic abundance, that has from its side pushed firms in developing new productive processed in order to exploit such opportunities. Further, sustainability challenges is also pushing firms in implementing new sustainable textile, without impacting the environment. Moreover, technology is also of-

fering many opportunity for modifying simple textiles and obtaining a technological garment. The point of interest in this matter is the direct action toward the modification of simple and recognised textiles and garments. The object of the innovation that is taking place is the raw material, and the final product as a consequence. For this reason it is possible to affirm that new textiles are a **product** innovation.

However, as evinced by above analysis, they are mainly adopted related to sustainable textiles or eco-friendly tissues adopted to produce garments, that is actually an emergent matter that is taking place during this period.

Innovation:	Innovative textiles
Lexis Nexis Result:	Research string: “Innovative textile” and “Textile innovation” **Filters applied:** **- Industry of research: Fashion and Apparel** **- Publication period: 01.01.2018 - 31.12.2019** **- Must contain: “innovative textile”** Filters applied above revealed a relatively low presence of publications on innovative textiles, reporting **990** results. However, including the filter “must contain: fashion”, the amount decrease to **359** units. The same low presence has been retrieved inserting “textile innovation” as research string. The results obtained highlighted **1820** publications in total. Otherwise, including the term “fashion” within the results retrieved, the number of results decrease to **772** units. **Filters added to previous:** **- Publication language: English** Restricting the research area on international publication in English, the result reveals **980** publications in English, constituting almost the entire amount of worldwide publications. Other languages presence only encompass **5** publications in Italian. The second research string has otherwise revealed **1698** publications in English. Other relevant language encompass **20** publications in French. **Filters added to previous:** **- Type of publication: industry press, newspaper, magazine and journal** The research has revealed mainly founts derived from industry press publications, with **338** results for the first string and **249** for the second one. Press releases publications account for **200** units for the first research and **144** for the second, while magazines and journals account respectively for **79** and **97** results. These categories are those offering more official and trustable informations.

Pambianco Result:

The research carried out on the magazine has taken into consideration the editions from January 2018 to December 2019.
The data gaining process has been acted through the quantitative analysis of the research string also adopted in the Lexis Nexis research.
From data elaborations, innovative textiles have resulted to be a moderately low cited innovation. The overall number of citations is positioned at the fifth place for overall amount. Innovative textiles have been cited **57** times among editions analysed.
In the elaboration, data have been grouped according to its quarter of reference. Each year is composed by four quarters, renamed Q1 2018 until Q4 2019. Data retrieved about citations on innovative textiles have been presented here below:

Q1 2018: 5
Q2 2018: 3
Q3 2018: 2
Q4 2018: 3

Q1 2019: 12
Q2 2019: 6
Q3 2019: 17
Q4 2019: 9

Data reported above have been included within a chart that reports each quarter considered in the x-axis and delineates the average trend-line that the topic is assuming in the publications analysed. The y-axis, instead, reports the number of time the innovation has been cited.
Further, he trend-line equation also allow to highlight the trend increasing rate, provided by the slope (angular or m-coefficient) of the line itself, that is set in +1,549, delineating a positive trend about the attention posed over this innovation. Textile innovations are emerging among the industry in a capillary way, since for being competitive firms must respond to market's request and, according to this thesis result, the market is currently looking for innovative textiles for producing environmental sustainable pieces of fashion.

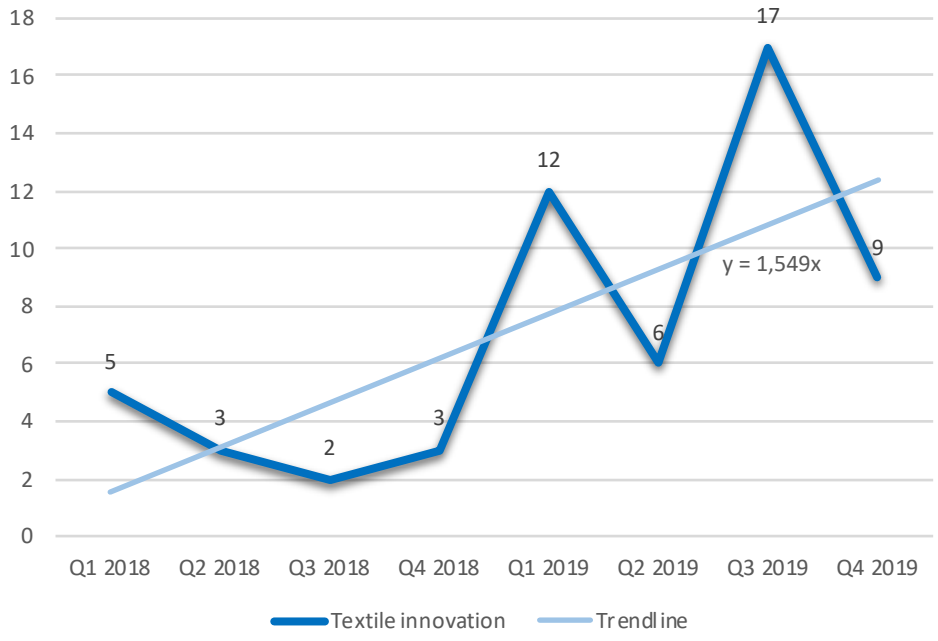

Figure 3.6, Innovative textiles citations' trend, author's elaboration

3.2.6 Blockchain

Blockchain has prospected a great interest over the entire fashion panorama. This new generation technology consists into a "growing list of records, called blocks, that are linked using cryptography. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data. By design, a blockchain is resistant to modification of the data." (Narayanan, Bonneau, Felten and Goldfeder, 2018)[156]

This innovation addresses supply chains issues, providing trustable information over the traceability of fashion products from the producer to the consumer, bringing a complete transparency to the fashion industry. Value added features like products origins, eco-sustainable yarns, social responsible farms become impossible to be altered, providing the final consumer a clear and certain idea about the entire product path, from raw material production, to productive processes it passed through, to the final distribution and sale. This technology is fundamental in order to fight against grey and black markets, where third parts aim at reselling fashion products according to not recognised or not allowed transactions. Practically, it consists into the creation of a centralized ledger that encapsulates all the information regarding specific matters. This register is decentralised and information contained cannot be altered, but at the same time information themselves are accessible for any peer that get in touch with it. In Italy, blockchain is gaining importance, even if the legislation is still causing a slowdown in the processes. According to Pambianco, this information become fundamental once considered the final ideal customer. Generation Z is one of these, that in change for the availability at paying a relevant higher price (they are willing to pay a 5-10% more than common prices) ask in change the availability of correct information about ethical standards and sustainable procedures of final products. This result can be achieved through blockchain implementation. Among the pioneers, LVMH has hired an dedicated blockchain team, operating full time with the aim of building up a register containing informations for authenticating its luxury products. This system is based on a pattern build on a digital certification that can guarantee a transparent production as well as the "made in" label though monitoring and tracking the entire supply chain (Pambianco, 2018)[157]. All the informations provided allow to

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[156] Narayanan, A., Bonneau, J., Felten, E., Miller, A., Goldfeder, S. (2016). *Bitcoin and cryptocurrency technologies: a comprehensive introduction*. Princeton: Princeton University Press.

[157] Pambianco Magazine, (2018). December, *Pambianco Strategie di Impresa,* 1-96

classify this innovation as a radical service innovation, since customers are made aware about products background with a technology that can assure the trustability of informations provided.

Interview: a further insight over blockchain

According to what emerged by the interview, it is possible to affirm that firms talk about traceability of the supply chain with the final aim that remain the implementation of the blockchain technology. This perspective is highly ambitious but at the same time also necessary. Firms are making strong efforts for conform their structure to sustainability standards, and sometimes the non-transparency of the industry or illegal market heavily harm firms' results. During the speech has emerged the tendency that are at the base of any topic treated. Mr. Volpato, in fact, wanted to highlight that all these technologies and innovations are being developed and hopefully implemented in order to confer added value to brands products through the adoption of particular processes or supply chains. Mainly, markets has revealed the great attention that customers are posing over sustainability matters, and for a business sustainability and transparency must always be considered together. Blockchain is globally considered like the final solution on the matter, but as for other innovations analysed future perspectives can vary very fast.

Innovation analysis:

Blockchain is considered a **service** innovation. This consideration emerge from the analysis of the final aim of the technology. The blockchain technology allow firms and customers to think at products in a completely different way from before. It is conceived as a digital register, on which data coexists and are grouped in many different blocks, each of them cryptographically guaranteed and tamper-proof. Through its implementation, firms are offering a completely new service which consists in guaranteeing many values to customers. Among these there are products, material and value chain transparency, immutability of informations as well as sharing informations.

Blockchain applied within the fashion supply chain is still a "work in progress" matter. The technology at its base is currently experimented only by a low number of elite firms, and it has not been applied on global scale yet.

Innovation:	Blockchain
Lexis Nexis Result:	Research string: Blockchain **Filters applied:** **- Industry of research: Fashion and Apparel** **- Publication period: 01.01.2018 - 31.12.2019** **- Must contain: "fashion"** Considering that blockchain is not a solely fashion related matter, it has been necessary to include the string "fashion" within the research results. This has allowed a better quality among results obtained, as well as founts focused on fashion industry matters. Filters applied above revealed a low presence of publications on blockchain, reporting **1500** results in total, with an heavy increasing amount of founts from 2018 to 2019, and almost no publications in the years before. **Filters added to previous:** **- Publication language: English** Restricting the research area on international publication in English, the result reveals **1272** publications in English, which constitutes the largest part of the entire amount of publications. **Filters added to previous:** **- Type of publication: industry press, newspaper and magazines** The research has revealed mainly founts derived from press release publications, with **315** units. Industry trade press accounts for **375**, while newspaper accounts for **141** units. These categories are those offering more official and trustable informations for the matter considered.
Pambianco Result:	The research carried out on the magazine has taken into consideration the editions from January 2018 to December 2019. The data gaining process has been acted through the quantitative analysis of the research string also adopted in the Lexis Nexis research. From data elaborations, blockchain has resulted to be a moderately low cited innovation yet. The overall number of citations is positioned at the sixth place for overall amount. Blockchain has been cited **56** times among magazine's editions analysed. In the elaboration, data have been grouped according to its quarter of reference. Each year is composed by four quarters, renamed Q1 2018 until Q4 2019. Data retrieved about citations on blockchain have been presented here below: Q1 2018: 0 Q2 2018: 2 Q3 2018: 0 Q4 2018: 12 Q1 2019: 5 Q2 2019: 13 Q3 2019: 12 Q4 2019: 12

Pambianco Result: (continue)

Data reported above have been included within a chart that reports each quarter considered in the x-axis and delineates the average trend-line that the topic is assuming in the publications analysed. The y-axis, instead, reports the number of time the innovation has been cited.
Further, he trend-line equation also allow to highlight the trend increasing rate, provided by the slope (angular or m-coefficient) of the line itself, that is set in +1,976, delineating a moderately positive trend about the attention posed over this innovation by the magazine. Blockchain is affirming among the industry moving really slowly, despite the great necessity the industry is expressing about products traceability. This is due to the fact that the technology behind blockchain is not definitely developed and adopted capillary.

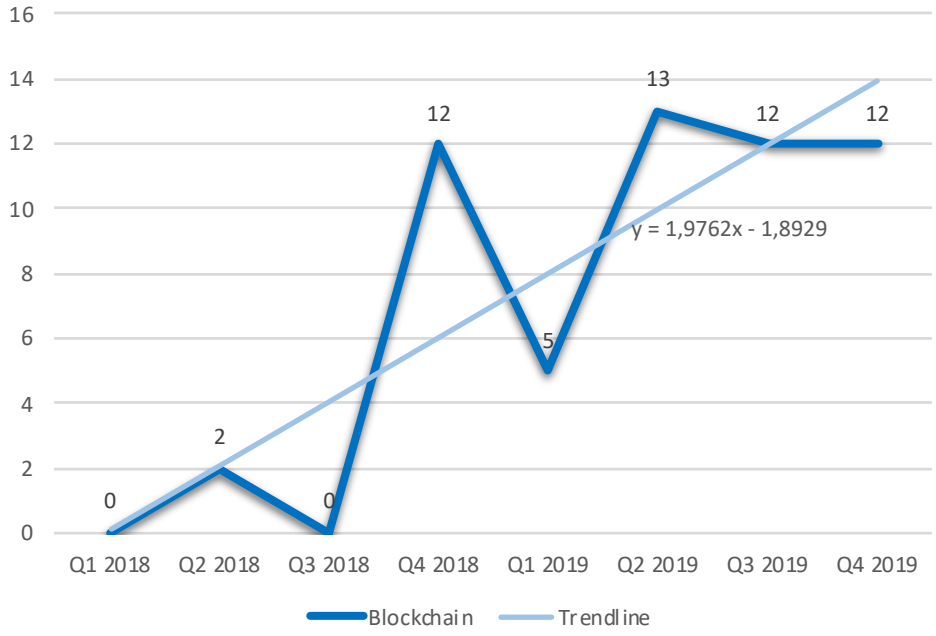

Figure 3.7, Blockchain citations' trend, author's elaboration

3.2.7 Industry 4.0

Industry 4.0, also known as the fourth industrial revolution, is heavily impacting many industry, since it is based over the computerisation of manufacturing that is brought at a new level by introducing customised and flexible mass production technologies. This means that robotic machines will operate independently, or cooperate with humans in creating a customer-oriented production field that constantly works on maintaining itself. The machine rather becomes an independent entity that is able to collect data, analyse it, and advise upon it. (Cleverism, 2020)[158]. Fashion is turning into a fashion 4.0, integrating facilities and tools belonged to industry 4.0. Within this digitalised model, tailors are still present but IT skills are required. Technology is changing the scenario, and the job market is actually looking for designers CAD skilled, knitwear developer and sample coordinator (Pambianco, 2019)[159].

According to this approach, reported on a fashion industry level, firms have to face a heavy personalisation request, mainly during the latest periods. It has been strictly characterised by a tendency directed to products personalisation since, through the possibility to personalise products, fashion brands aim at bulging up stable and persistent relationships with customers. This is possible since personalisation push customers in creating an identification between them and the personalised product. This allow also the firm to preserve the customer relationship among years. From fast fashion brands to luxury firms, personalisation is currently driving the fashion trends, from Gucci to Golden Goose, that has also applied a personalisation lab directly within its store in Milan (Pambianco, 2019)[160]. These personalisation processes are currently possible only thanks to the implementation of flexible production, as well as a shortening in productive cycles. Further, many innovations included within Industry 4.0 like 3D printing are definitely reducing prototyping costs, allowing firms to produce prototypes in short periods and without committing relevant financial resources nor human capital. Everything is automatised, even those fields that years ago were completely dependent over human work. Among the world leading brands, Adidas, is shortening productions processes investing

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[158] Cleverism, (2020). “Industry 4.0”. Source retrieved from https://www.cleverism.com/industry-4-0/

[159] Pambianco Magazine, (2019). January, *Pambianco Strategie di Impresa,* 1-112

[160] Pambianco Magazine, (2019). August, *Pambianco Strategie di Impresa,* 1-76

on technology 4.0 solutions, where facilities are driven and managed by robots, already established in Atlanta and Ansbach (Pambianco, 2018)[161].

Integrated solutions and digitalised networks has revolutionised the communication models, but these innovations, once integrated, have multiplied the possibility for interconnecting and managing relationships at all levels. The value chain in the industry 4.0 fells itself like integrated and everything within the industry become demand focused. A more hi-tech supply chain gives the possibility to analyse the amount and the quality of the stock that can be sold. This idea brings customers at the centre in terms of ideation, presentation and products' distribution, and the supply chain is turning into a demand chain. The final aim is to balance customers satisfaction and operational costs optimisation (Pambianco, 2018)[162].

Interview: a further insight over industry 4.0

During the interview, many concrete data over industry 4.0 have emerged. In particular in Volcar they are used to analyse the productive system in each stages. The productive techniques are heavily dependent over fashion firms request, since makers can be asked to produce total craftsmanship, while other, mainly in lower segments, request lower costs as main variable in the dear, and this is the case on which automatised machineries are exploited. Haute Couture is depending on Industry 4.0 automatisation only for a minimal part, since from the designing process to the productive one people's high know how is the main resource used. Different is the situation for fast fashion, that request products to be produced in very short period and without respecting all those productive limits that are strict for other levels.

At intermediate levels, however, industry 4.0 and digital production plays a relevant role. Fashion firms request to makers products of high level quality that are produced by mechanised stamps controlled by the Pc, but at the same time the details are insert manually by artisans. According to Mr. Volpato, what really matters is the respect of productive norms, continuously evaluating the possibility to integrate new generation machineries that better fit new digital solutions as well as updated environmental norms. From their own experience, the firm

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[161] Pambianco Magazine, (2018). November, *Pambianco Strategie di Impresa,* 1-108

[162] Pambianco Magazine, (2018). November, *Pambianco Strategie di Impresa,* 1-108

firstly proceed in evaluating the emissions issued by machineries, and if new ones issue the 30% less in pollution they proceed in investing in the new machinery. However, the CEO made me noticed that despite the innovation treated, at the end everything is based over sustainability matters and responsible actions, once considered the overall scenario.

Innovation analysis:

Industry 4.0 encompass many different innovations. Despite the great diffusion of such terminology, industry 4.0 still strive in making difference within the fashion context. The concept embeds the tendency to industrial automation that aims at integration new productive technology for increasing working conditions, production efficiency and products quality, reducing the productive wastes. Among the others, innovative solutions comprehend robotic automation, information technology solutions, database management and integrated systems. All these solutions directly define Industry 4.0 as a fundamental **process** innovation.

Industry 4.0 is currently a big concept that encompass many innovations. The whole industry however, even smaller firms, is directing their efforts in implementing industry 4.0 solutions.

Innovation:	Industry 4.0
Lexis Nexis Result:	Research string: Industry 4.0 **Filters applied:** **- Industry of research: Fashion and Apparel** **- Publication period: 01.01.2018 - 31.12.2019** **- Must contain: "fashion"** Filters applied above revealed a relatively low presence of publications on industry 4.0, reporting **2407** results in total. However, including the filter "must contain: fashion", the amount decrease to **761**. **Filters added to previous:** **- Publication language: English** Restricting the research area on international publication in English, the result reveals **756** publications in English, constituting almost a third of the entire amount of worldwide publications. Other languages presence only encompass **5** publications in Italian. **Filters added to previous:** **- Type of publication: industry press, newspaper, magazine and journal** The research has revealed mainly founts derived from industry press publications, with **338**. Press releases publications account for **200** units, while magazines and journals account for **79**. These categories are those offering more official and trustable informations.

Pambianco Result:

The research carried out on the magazine has taken into consideration the editions from January 2018 to December 2019.
The data gaining process has been acted through the quantitative analysis of the research string also adopted in the Lexis Nexis research.
From data elaborations, Industry 4.0 has resulted to be a moderately low cited innovation yet. The overall number of citations is positioned at the seventh place for overall amount. Industry 4.0 has been cited **32** times among magazine's editions analysed.
In the elaboration, data have been grouped according to its quarter of reference. Each year is composed by four quarters, renamed Q1 2018 until Q4 2019. Data retrieved about citations on Industry 4.0 have been presented here below:

Q1 2018: 1
Q2 2018: 3
Q3 2018: 0
Q4 2018: 1

Q1 2019: 10
Q2 2019: 3
Q3 2019: 6
Q4 2019: 8

Data reported above have been included within a chart that reports each quarter considered in the x-axis and delineates the average trend-line that the topic is assuming in the publications analysed. The y-axis, instead, reports the number of time the innovation has been cited.
Further, he trend-line equation also allow to highlight the trend increasing rate, provided by the slope (angular or m-coefficient) of the line itself, that is set in +0,976, delineating a moderately positive trend about the attention posed over this innovation by the magazine, that can also be considered as a stable discussion over this matter. In any case, the Industry 4.0 is causing a great impact within the industry, since automatisation, digital processed and networks are spreading globally.

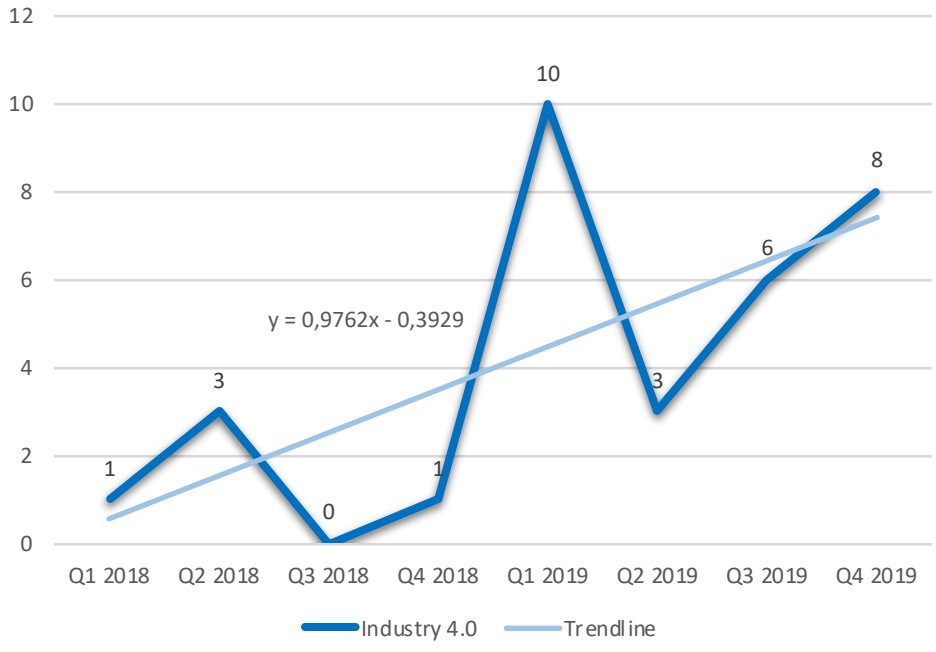

Figure 3.8, Industry 4.0 citations' trend, author's elaboration

3.2.8 Big Data

According to traditional analysis, big data are commonly an industry 4.0 related topic. Big data, in fact, are strictly connected with productive automatisation and productive patterns decisions. Providing a better definition, big data are an "extremely large data sets that may be analysed computationally to reveal patterns, trends and associations, especially relating to human behaviour and interactions" (Oxford dictionary, 2020)[163]. This definition reveal how big data aim at analysing and forecasting fashion trends, basing the source of data on people digital behaviours. Each interaction determine the creation of a huge amount of data. These are then analysed in order to predict features and patterns that can have a better market success. Big data is also one of the greatest challenges that fashion industry is facing: more precisely, a great challenge is to o balance the dualism between big data and creativity. From the second chapter fashion industry has been described as a completely creativity dependent industry, but big data and digital tools are revolutionising the system, since fashion collections are not determined anymore by the sole creativity. Basing products specification on patterns determined by the big data analysis confers more of possibilities of selling garments successfully. According to Pambianco, the market has become demand focus. Informations retrieved from big data assume the importance of any other firm's asset, allowing firm to reorganise the supply chain and direct the productive decisions (Pambianco, 2019)[164].
This analysis allow to classify big data as a process innovation, that due to its newness and the non existence of similar patterns pre-existents has a radical level.

Interview: a further insight over big data

Big data, according to Mr. Volpato, are absolutely a valuable tool. However, so far he distinguished the applicability contexts over which these technologies can effectively be applied. He explains that indubitably firms take into consideration information coming from such an wide pool of analysis, but at the same time there is still a tendency to approach differently once talking about haute couture. Haute couture designers are still reluctant in directing their decision according to big data, they just limit themselves in considering them. The real aim

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[163] Oxford dictionary, (2020). "Big data" definition. Source retrieved from https://www.lexico.com/definition/big_data

[164] Pambianco Magazine, (2019). September, *Pambianco Strategie di Impresa,* 1-120

remain the expectation to create timeless pieces not dependent by fashion trends of a certain period. However, talking about fast fashion, instead, firms find an enormous amount of informations that drastically easy the job of designers that simply adapt creations to trends revealed.

Innovation analysis:

According to informations retrieved in the first chapter, process innovations consist in improved or revolutionary ways of producing goods that aim at helping firms to achieve higher-level performance. Big data solutions consists in analysing voluminous data to extract valuable information to specific subjects that, in the fashion scenario are expected to take care of trend forecasting, consumer behaviours' analysis as well as preference and emotions' detection. Once applied in firms' contexts, having access to all these informations allow companies to better direct productive resources, with more efficient volumes and increasing product specification. Colours, fabrics and styles' trends can be detected to improve productive performance. This classify big data as a **process** innovation.

According to results obtained, big data are expected to play a determinant role in the industry context. However, the high technological level required are still constituting a limiting obstacle to large diffusion on the general fashion scenario, that is likely to establish in the next future.

Innovation:	Big data
Lexis Nexis Result:	Research string: Big data **Filters applied:** **- Industry of research: Fashion and Apparel** **- Publication period: 01.01.2018 - 31.12.2019** **- Must contain: “fashion”** Filters applied above revealed a relatively low presence of publications on wearable technologies, reporting **1497** results in total, with an equal distribution of publication among years considered. This is due mainly to the filter “must contain”, considering that without including it, the results would have been **5369**. However, the filter “must contain: fashion” has been necessary since big data are a tool adopted in many industries. **Filters added to previous:** **- Publication language: English** Restricting the research area on international publication in English, the result reveals **1412** publications in English, which is almost the entire amount of worldwide publications. Other languages contributions are marginal. **Filters added to previous:** **- Type of publication: industry press, newspaper and magazines** The research has revealed mainly founts derived from industry press publications, with **421**. Press release publications account for **306**, while newspapers account for **236**. These categories are those offering more official and trustable informations.
Pambianco Result:	The research carried out on the magazine has taken into consideration the editions from January 2018 to December 2019. The data gaining process has been acted through the quantitative analysis of the research string also adopted in the Lexis Nexis research. From data elaborations, Big Data have resulted to be a really lowly cited innovation yet. The overall number of citations is positioned at the eighth place for overall amount. Big data have been cited **14** times among magazine’s editions analysed. In the elaboration, data have been grouped according to its quarter of reference. Each year is composed by four quarters, renamed Q1 2018 until Q4 2019. Data retrieved about citations on Big Data have been presented here below: Q1 2018: 0 Q2 2018: 0 Q3 2018: 0 Q4 2018: 4 Q1 2019: 5 Q2 2019: 0 Q3 2019: 4 Q4 2019: 1

Pambianco Result: (continue)

Data reported above have been included within a chart that reports each quarter considered in the x-axis and delineates the average trend-line that the topic is assuming in the publications analysed. The y-axis, instead, reports the number of time the innovation has been cited.
Further, he trend-line equation also allow to highlight the trend increasing rate, provided by the slope (angular or m-coefficient) of the line itself, that is set in +0,333, delineating a low increasing trend about the consideration posed over this innovation by Pambianco. Big data are actually something on which many firms, mainly the most affirmed brands of fast fashion rely on but at the same time, as emerged by both the founts, are discussed very rarely. All the details are examined above in the study carried out over Big Data.

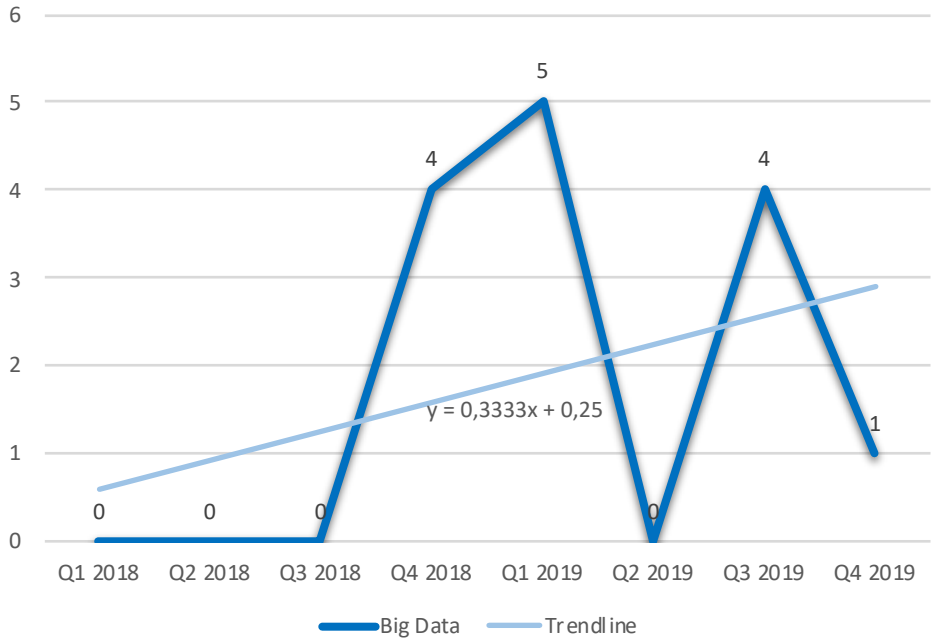

Figure 3.9, Big data citations' trend, author's elaboration

3.3 Results and data interpretation

The analysis of the current situation on the fashion industry has revealed a deeply complex scenario. Despite the moment of uncertainty driven by unclear expectations over the future of the sector, many innovations are concurring in changing the current scenario over the industry, as well as the entire structure. Moreover, the most relevant innovations retrieved have resulted to be an overall amount of eight, each influencing specific aspects of the fashion business. Among other less relevant innovations, those studied and analysed in the dissertation are sustainability, electronic commerce and digital commerce, capsule collection, digital service technology, innovative textile, blockchain, industry 4.0 and big data. These has all revealed a specific interest by fashion publications, which also reported how the industry is approaching to each of them, highlighting point of strength and weaknesses. The time range of reference has included topics that have signed the research and publications trends over the last two years, since most of times such period take into consideration relatively new matters.

Data analysed in the previous chapters has considered innovations analysing each specific case. However, from data elaboration has emerged that many recurrent trends are presented within more different innovations. However, all the innovations will be examined once presented the overall situation.

The decision to specify the attention of the analysis over these specific topics has emerged after having carried out a deep study and profound analysis of innovations retrieved on the last twenty-four editions of Pambianco magazine. In particular, recurrent themes have been selected and then noted, in order to quantify the amount of times that a specific innovation is cited in the text. In order to perform a more detailed analysis, when necessary, for each innovation many strings of research have been applied.

The most innovative and recurrent patterns have been taken into consideration for a further detailed analysis. The results obtained have been inserted within eight different charts that treats the same topics. At the end of each chart a graph representing each specific innovation is present, while in the graph below all those results have been condensed within the same graph in order to provide a more clear and overall perspective.

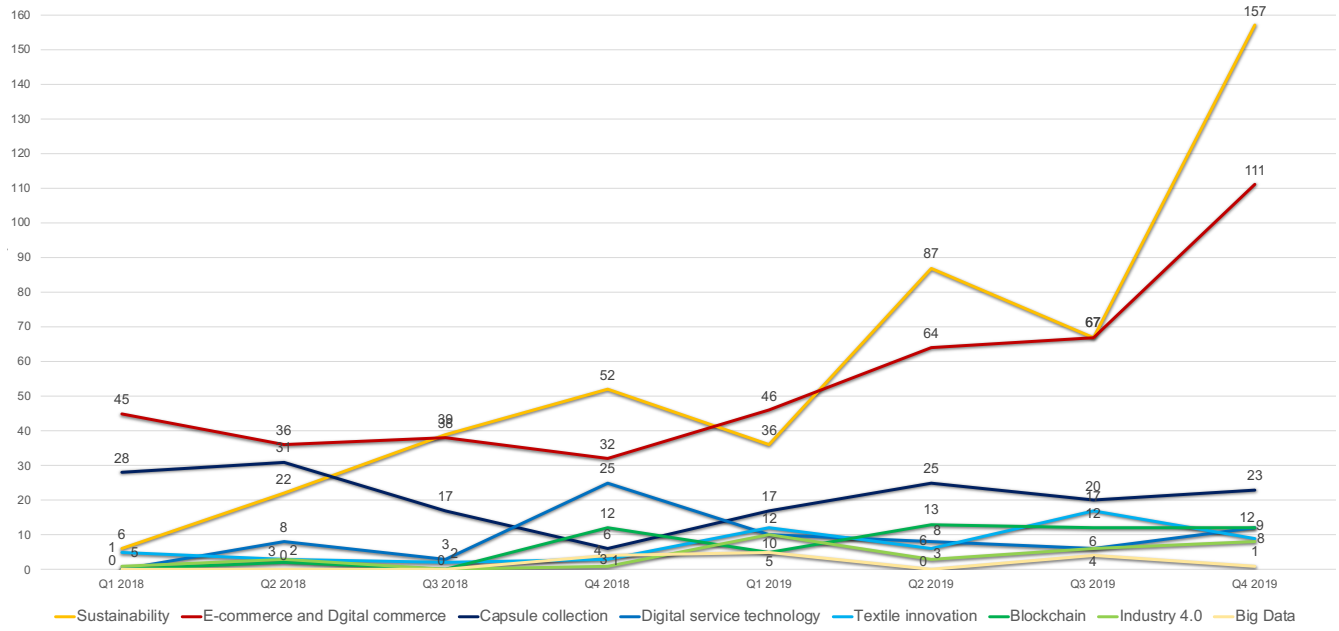

Figure 3.10, Overall innovations' trends, author's elaboration

From the graph, two main trends strongly emerge over others: sustainability and e-commerce. Other innovations present a considerably lower level of consideration, despite the generalised positive trends that characterise almost each of them. The only exception retrieved is in fact capsule collection that however present only a not very significant decreasing trends. In the respective graphs, for each innovation has been traced a trend-line that describes the respective progress among the two years considered. Considering those trend-lines, innovations that presented a relevant growing trends are sustainability matters and e-commerce. The first innovation in fact presents a slope, also called angular coefficient of the line, of +16,786, while for the second topic the slope is set on +8,44. These data are really significative, since demonstrate that these innovations have many potentiality to impact the fashion industry, considering that data derive from the fashion firms' interest over the topics. Effectively, sustainability has revealed to be the main trend of reference for the sector. On the other side, e-commerce and social commerce are playing a determinant role in the international panorama. Firms are striving for implementing e-commerce solutions that can allow great potential of growth for businesses.

Moving further, other innovations considered reveal a less relevant growing trend. However, the lower amount of publications on the matter is due probably to the early stage of development that all these topics are facing. For what concern capsule collection, that is positioned as

the third innovation for amount of citation in Pambianco magazine, the interest seem to be almost stable over time, despite the -0,6548 decreasing slope signed by the graph. Capsule collections represent a determinant innovation for marketing and brand awareness purpose, and firms are exploiting it treating the topic in an almost stable way even on publications. Digital service technologies, including technologies like augmented reality, virtual reality and artificial intelligence have signed a shape of +0,88 in the trend line, maintaining a stable consideration. The same trend is also maintained by other innovations like innovative textiles that present a +1,549, blockchain with +1,976, industry 4.0 set in +0,976 and big data with +0,33. Despite the discrete growth results, these results have been determined by the relatively difficulties that firms are experiencing in approaching such innovation with success.

In order to perform a more accurate research, the thesis has analysed a more international source. Pambianco, in fact, despite the focus centred over the entire fashion panorama, is an Italian publication. A comparison with an international source that group publications from all over the world allow to highlight relevant discrepancies over the analysis carried out.

The other sources considered is Lexis Nexis. This global database groups an enormous amount of publications on various business matters, as well as legal sources. However, the efficient structure of the database allowed to perform researches inserting specific filters that have given the possibility to reduce the research range only to publications specifically related to the innovation analysed. Results retrieved have highlight an great congruence with results obtained on Pambianco. The charts above reports all the steps taken in order to restrict the research range. In order to evaluate the quality of publications obtained, a champion of publications have been checked in order to verify the contents' congruence to results expected.

At the end, results obtained from both the founts had to be compared. In order to make such different amount of data compared each other, the total amount of publications and the total result obtained from Pambianco have been reduced at a perceptual of the entire results.

The two graphs attached here below represent the great accordance over informations retrieved by such different sources.

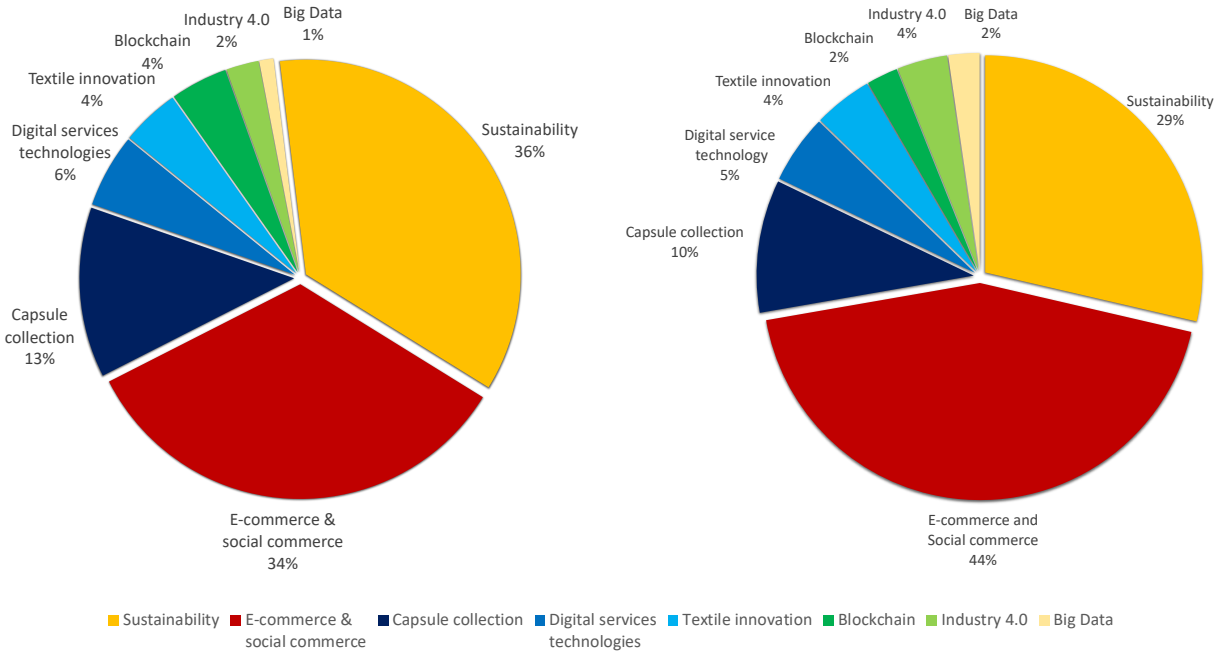

Figure 3.11, Pie charts for innovations from two different sources, author's elaboration

According to data used above in the research, the first graph on the left has been constructed over data retrieved from Pambianco, while the second graph on the right is related to results obtained through the analysis carried out on Lexis Nexis.

The two graphs present a similar distributions over innovation involved. The prevalence of publications over the two main relevant innovations has been confirmed even from the comparison with Lexis Nexis. However, while on Pambianco the prevailing informations were about sustainability, on Lexis Nexis the number of publications over e-commerce denotes a relevant prevalence. Other innovation relevance present an incredible compatibility between the two sources.

In conclusion, the dissertation can affirm and confirm that, according to data elaborated, the two main innovations that are leading the innovative scenario are sustainability matters and electronic and social commerce. However, has the research had the possibility to verify, all these innovations are not uncorrelated each other, but instead main purposes are pursued and targeted over different point of view.

Discussion and conclusions

The following thesis has the purpose to respond to two main topics. The first one is about determining if there are relevant innovations that are impacting the fashion industry and that can determine a significative change for actors involved. Further, the second relevant matter is determining how these innovations are perceived by the fashion panorama, evaluating the potential presence of discrepancies or variations to include in the analysis between local founts and a more international one.

The most recurrent patterns have been highlighted and, at the end, eight innovations have revealed to be prevalent over the others. These have been extrapolated in order to be further analysed. The main determining innovations retrieved from the research are: sustainability, e-commerce and fashion commerce, capsule collections, technologies for digital services, innovative textiles, blockchain, industry 4.0 and Big Data.

Once obtained the quantitative amount of citations over each of the innovations considered, a resuming table has been fulfilled with data retrieved from each edition, from January 2018 to December 2019. Data have then be grouped within eight different groups, according to the quarter subdivision, and from this perspective, for each innovation a graph has been constructed.

After having performed the analysis, it is possible to affirm that the method of grouping citations retrieved from different editions has allowed to obtain a more precise and clear result, both from analytical and visual perspective. The analysis of the graphs obtained has revealed the increasing interest that the industry is demonstrating over these topics. The second part of the research has focused the attention over the quantitative analysis of Lexis Nexis, considered as international fount.

The database analysis has been performed aiming at identifying international publications focused on innovations retrieved on the previous part of the research. The attention has been posed over the application of many filters, in order to obtain only strictly focused publications. For any step of the research, the quantitative amount of publications obtained has been reported in the chart, determining the international relevance that a specific innovation is having. The graphs obtained from the two sources, once made comparable through reducing number into percentages has highlighted that trends retrieved from both the sources are quite similar in both the analysis, mainly if compared less cited innovations.

In order to determine how these innovation are concretely impacting firms' structure, an interview with a local fashion firm, Volcar S.p.A, has been performed. The company can boast collaborations with many international firms like the American Thom Browne, Celine, Dior, Chloè and many others, that confers the firm a wide know how over the main fashion trends. All the questions submitted to the CEO in the four hours interview performed aimed at analysing how all the innovations are perceived in the fashion panorama, as well as understanding how fashion patterns are modifying. All the informations retrieved by the interview have been reorganised and compared to those retrieved by publications from other sources, producing an analysis over each single topic.

Further, despite Lexis Nexis has revealed the presence of a major amount of publications on e-commerce and social commerce (differently from Pambianco that instead has revealed a majority of sustainability citations) the quantitative analysis has revealed a great accordance between data retrieved on the two founts. The main attention on both the sources is posed over sustainability matters and electronic and social commerce, that results highly more rele-

vant than other innovations. The two main innovations treated have revealed an almost congruent percentage in both the analysis, since in Pambianco innovations like “sustainability” and “e-commerce and social commerce” accounts for 36% and 34% respectively, while in Lexis Nexis these two account respectively for 29% and 44%, maintaining the leading among other innovations analysed. Moreover, the sum obtained by these two reveal that in Pambianco they accounts for the 70% of the overall citations, while in Lexis Nexis for the 73%. The trend about these two seems defined. Focusing the attention over the innovation type, on the other hand, results obtained have highlighted a prevalence of innovation over process and service levels. Firms seems thus to focus their attention over the possibility to deeply satisfy expectation that customers have over products characteristics in a more complete and personalised way. In particular, the focus seems to be posed over the possibility to provide products adequate to customers expectations, thus clothes that respect the precept of sustainability, made of recycled fibres and textiles like recycled wool, plastic yarn, sustainable technical fibres as well as products that are produced thanks to completely sustainable production processes that exploit less water and less chemical substances. These precepts are commonly expressed by any fashion segment, delineating the great relevance that such adoptions denote. In order to be competitive, in fact, firms acting in such a complex and uncertain scenario can prepare themselves to variations only trying to anticipate or at least keep the pace, with the fast pace of variation that fashion trends are demonstrating. Innovations like innovative textiles, big data, capsule collections, the digital service technology, industry 4.0 and blockchain aim exactly at these targets. The thesis has defined the role covered by each of these, and once considered the overall scenario it is possible to evict that these innovations are all functional at increasing firms’ efficiency and ability at quickly satisfying customer’s demand and precepts. This journey can take place within brick and mortar sales points, where firms are ex-

ploiting incremental service innovations like augmented reality or artificial intelligence that aim at providing an added value to customer experience. The blockchain, from its side, is functional at providing tamperproof informations over products offered, both for commercial or sustainability expectations, from customers' point of view. Capsule collections and Big Data, instead, aim at providing both immediate informations over fashion trends that can allow to easily and quickly modify the production processes, while at the same time allow customers' to get in touch to fitter product selections. Industry 4.0 delineates the entire background over which these innovations are taking places. As retrieved from previous paragraphs, the integration of digital and robotic functions allow to simplify processes as well as providing wider possibility for treating unusual raw materials, from which innovative garments are produced. These machineries allow to treat innovative textiles cited above and firms' business can gain advantages over wider markets and possibilities.

However, it is necessary to recognise that, taking into consideration such a limited number of founts as performed during this thesis can be considered a limit. All the data utilised have been retrieved from sources focused over an international perspective and this can support the validity of results obtained. Despite this great accordance over the outcomes, it is possible to affirm that, including a larger number of founts, results obtained may change, even if trends seem defined. The analysis of more data sources would have allowed to draw a more precise scenario also through statistical calculations, delineating tendencies on an average bases, that could have been applied on a wider data range. At the end, however, the aim of the thesis has been reached, since innovations have been clearly defined and analysed, as well as the future trends have been delineated. Moreover, having the possibility to perform many interviews

would have given the possibility to compare data retrieved with many different experts' point of view.

Despite all these considerations, the final result has highlighting how industry is rapidly changing, and firms, from bigger to smaller, are approaching to innovative solutions. A point of relevance is the great willingness and dedications that fashion firms are applying for adopting sustainable solutions, that have resulted to involve more than a single part of the firm. Sustainability, in fact, must be eradicated within companies's DNA, educating also human resources to sustainable actions independently by the context of reference. This tendency over sustainability is further pushed and stimulated by a diffused attention that customers have posed over sustainability matters. A specific concept emerge from the overall analysis, revealing that all the innovations treated, despite the different degree of development of each of them, are for the greatest part all aiming at posing customer as the centre of firm's direction, basing the decision making process over feedbacks and results obtained. This trend has emerged from various informations retrieved, that are also fostered by new innovation potentials. Industry 4.0 tools, for example, allow fashion firms to rapidly modify the productive processes, basing the decision over the fast market changing. The uncertain situation that this industry is facing is being approach through augmented flexibility and being ready with the production. This is possible also thanks to big data and social commerce. Big data, in fact, heavily depends on people' social activities. Fashion firms, through the elaboration of these enormous amount of data, try to predict trends and making forecasts. However, also according to Mr. Volpato, the following years are expected to be exiting.

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