How to leverage sustainable fashion consumption?
An extended application of the Theory of Planned Behavior

Sustainable fashion consumption: theory of planned behavior and the influence of self-identity, perceived consumer effectiveness and fashion consciousness

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ABSTRACT

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Keywords: Eco-fashion, sustainability, PCE, fashion consciousness, Theory of planned behavior, TPB, Business model, Structural equation modelling.
Consuming fashion has a strong environmental and social impact. Despite the size of the fashion industry, consumer’s choices have a great influence on the practices of the industry. In a fast-changing environment, different factors influence the consumer. Therefore, new researches are needed to explore the changing relationships between individuals and fashion consumption. To improve the impact of the industry, consumers need to change their consumption pattern and favor sustainable consumption. Eco-fashion greatly improves the impact of clothing production and new ways of consuming fashion allow longer clothing utilization and generate less waste. The interest of industry players and consumers for a better fashion consumption is growing. In this context, this study will investigate the different factors influencing eco-fashion purchase intention and better fashion consumption (BFC) models’ adoption.

The research was conducted on the French market among 404 individuals. The data collected comes mainly from young Millennials and a self-administrated online survey was used to collect data. To fulfill the goals of this study, 20 different hypotheses were tested. And two parallel analyses were conducted. In the first one, an extended version of the theory of planned behavior was used to model eco-fashion purchase intention. Perceived consumer effectiveness (PCE), environmentally and socially conscious (ESC) self-identity and fashion consciousness were added to the original constructs of the theory of planned behavior model. In the second one, a new model was developed using ESC self-identity, eco-fashion purchase intention and fashion consciousness to predict attitude toward BFC models.

Findings indicated that attitude was the strongest predictor of eco-fashion purchase intention. The other constructs of the TPB, subjective norm and perceived behavioral control, appeared relevant as well. ESC self-identity, PCE and fashion consciousness proved to be successful additions to the original TPB. All three had significant impacts on eco-fashion purchase intention and improved the predictive validity of the model. Regarding consumer attitude toward BFC models, the intention to purchase eco-fashion and ESC self-identity had a positive effect on consumer affective response, while fashion consciousness had a negative one.

This study successfully tested a new model to predict eco-fashion consumption. In addition, another model was built to lay the foundation for future research on consumer behavior toward BFC models. The present thesis contributed to the understanding of the interrelationships between the different constructs used in the analyses and provided useful insights for researchers and marketers to support a shift toward a more sustainable fashion industry.
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Submitting the final version of this thesis was a long and demanding process. Writing these very last sentences feels great and strangely a bit weird. This research is the culmination of nearly 5 months dedicated to understanding and investigating sustainable fashion consumption. I learned so much and finally got to understand academic papers. I guess I even like them now. Doing my thesis on such a hot topic was a great choice and I firmly believe that improving the sustainability of the fashion industry is a necessary yet exciting task. Transforming the fashion industry is a challenge. The industry is complex and the impacts of decades of carelessness are strong. Hopefully, things are starting to change; industry players and consumers are slowly improving their practices. However, changes need to be faster and deeper to stop years of destruction. Everyone should contribute and this thesis is part of this contribution.

It has been a thrilling journey and a very refreshing way of ending my academic career. Many people contributed to making it memorable. All these years have been a success for me, I discovered and learned so much. At 25 my path is free of regrets. There are several persons I want to thank for the ride.

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In Courbevoie, October 8th, 2019

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I. Introduction

Purchasing clothes has an impact and we are starting to realize it. The current practices of the fashion industry endanger the environment and populations. Thanks to different organizations, NGOs and media, the awareness about these issues is growing. Industry players, policymakers and consumers are slowly starting to change their practices. However, decades of fast-fashion retailing and materialistic consumption have created habits, beliefs and regulations that do not make a shift toward sustainable consumption quick nor easy. In this context, investigating consumer behavior toward better ways of consuming fashion is needed to leverage change. This study will investigate consumer behavior toward eco-fashion consumption and business models that favor better fashion consumption.

This first chapter will provide an overall introduction to the field. This chapter will present the context of the study, review the existing literature on the topic, define the scope of the study and expose its structure.

A. Background

1. The fashion industry today and its negative impact

The fashion industry is successful, sales have kept increasing over time and the industry revenue is higher than ever (Ellen Macarthur Foundation, 2017a; Euromonitor, 2016). Today, the global fashion industry is worth 3,000 billion dollars and account for 2% of the world’s Gross Domestic Product (Fashion United, 2019). The current state of the fashion industry is a true example of globalization, its supply chain is global and complex, exchanges are high (Kim and Rölkens, 2018). Fibers are produced and processed, then exported to be manufactured as clothes, and clothes are then sold in different markets all around the globe. Fast fashion has quickly become the prevailing model in the industry. High turnaround and cheap clothes are the not-to-secret formula to boost sales and feed consumers’ clothing consumption frenzy (Caro and Martínez-de-Albéniz, 2015). But such success is not without drawbacks, the fashion industry has a strong negative social and environmental impact (Ellen Macarthur Foundation, 2017a). It is one of the most polluting industry in the world and many social scandals have highlighted degrading working conditions and high pressure on the industry workers (Resta et
al., 2016; Kozar and Hiller Connell, 2013). However, many changes initiated by NGOs have begun transforming the industry in recent years. The awareness of manufacturers, retailers, consumers and policymakers has risen, and several stakeholders have started to take actions to tackle social and environmental issues (Lehmann et al., 2019). Because of the size and the strong impact of the fashion industry, shifting from an industry that puts social and environmental well-being at risk to a sustainable fashion industry is no easy task. To achieve such changes, several protagonists have underscored the need to shift from a linear consumption model to a circular one, where clothes won’t be treated as disposable items (Cobbing and Vicaire, 2016; Remy, Speelman and Swartz, 2018; Lehmann et al., 2019;). Solutions exist and are increasingly researched. More conscious consumption models or technological improvements would reduce clothing consumption and clothing waste while caring for the environment and mankind (Ellen Macarthur Foundation, 2017a). Sustainable fashion consumption has existed for a long period of time, but never could match the success of the fast fashion model (Luchs, 2010). Recent changes bring new opportunities to develop and scale ethical and sustainable models (Kim and Rölkens, 2018).

2. The different types of research on fashion consumption

The environmental and social issues of the fashion industry have attracted researchers' attention over the years. But more especially in the recent ones. Over the last decade, light was made on problematic practices and damages done to the industry’s workers and to the environment. Fashion consumption is a large research field; it can be approached by many different angles. Studying fashion goes from investigating process performances to understanding consumer perception of a garment’s style under the scope of social influences or other motivations. By reviewing literature on the topic of sustainability in fashion, five main research fields were identified as most relevant to tackle social and environmental problems: the study of behaviors in fashion, the study of sustainable consumption behaviors, the study of eco-fashion consumption behaviors, the economic researches done on the fashion industry, and finally, researches dealing with sustainable business models.

a) Fashion consumption behaviors

Fashion has been a fertile topic for social researchers. Most of the first researches started in the early 1970s. Researchers aimed to clarify the relationships at stake in fashion
consumption. Early researches focused on the impact of fashion involvement (Tigert, Ring and King, 1976; 1980), the influence of gender (Summers, 1970) and purchase decision-making criteria (Jenkins, 1973; Sproles, 1974). Today, other relevant mechanisms have been studied.

b) Sustainable consumption behaviors

Conscious consumption is not new, it has existed for a long time and researchers have found this niche segment interesting to study. In 1974, Kinnear already tried to understand who are the ecologically concerned consumers. Since then, different studies have explored the variables influencing environmentally responsible behavior (ERB) (Borden and Schettino, 1979), as well as the ones influencing environmentally and socially concerned consumption behaviors (Balderjahn, 1988).

c) Sustainable and ethical fashion consumption behaviors

In addition to fashion consumption and sustainable consumption behaviors, researchers have also been interested in investigating mechanisms influencing sustainable fashion consumption. If few researchers like D'Souza (2014, 2015) or Niinimäki (2009, 2010) have dedicated various researches to explore the topic. Other researches have also tried to understand what motivates eco-fashion consumption (Bong Ko and Jin, 2017), as well as the different barriers to sustainable fashion consumption (Achabou and Rink, 2014). Identifying eco-fashion consumers have attracted researchers’ attention (Niinimäki, 2009, Joergens, 2006). The different relationships uncovered by previous researches are complex, diverse and may depend on the study timeframe, its location or theories applied. A more precise overview will be given later in this paper, but, in short, when forming intention toward eco-fashion consumption the consumers is influenced by fashion-related considerations (Chan, 2001; Meikle and McCracken, 1989), his knowledge and beliefs about eco-fashion (Armstrong et al., 2015), plus his decision-making evaluation criteria (Achabou and Rink, 2014), his self-identity (Fu and Kim, 2019, Bong Ko and Jin, 2017) and by other external variables like the retail environment (Joergens, 2006).
d) Economic researches on the fashion industry

A less academic field of research, but nonetheless crucial to understand issues and mechanisms going on in a fast-changing environment, is all the researches and analyses done on the current state of the fashion industry. Usually conducted by NGOs, development organizations or consultancy firms, and presented as reports, interviews or case analyses, such reports provide the practical and economic knowledge needed to understand the field with an informed and holistic approach. Because of the complex and fragmented structure of the industry, up-to-date information matters. The main insights provided by those researches are that today’s fashion industry is changing. This change is deep and driven by multiple factors. First, the general mindset of industry players is evolving, pressured by NGOs’ actions and reports (Lehmann et al., 2019). Second, the consumer also is changing, his interest in sustainability has increased. Social and environmental impact is now increasingly considered when buying (Bakewell, Mitchell and Rothwell, 2006; Nielsen, 2018). Third, new economic mechanisms like automation or digitalization are transforming the industry. Finally, the new generation weight is increasing and transforming the traditional way of doing business (Sovie et al., 2019; Kim and Rölkens, 2018).

e) Sustainable business model innovation in the fashion industry

To support change toward sustainability at scale, a theory of business model and practice sustainability is necessary. Researchers have identified this need and tried to provide knowledge on the different business models for greater sustainability. In the literature, three main areas of work relevant to the topic of sustainable business models in fashion can be found. First, conceptual researches try to theorize what is a sustainable business model (Geissdoerfer, 2018). The aim is to improve the commonly used definition of a business model as what “describe[s] the design or architecture of the value creation, delivery and capture mechanism” employed by a business (Teece, 2010, PP). Second, researches investigate organizational implementation of sustainability and its outcomes. Researcher have outlined the need for sustainable business theory and have made the traditional business model concept adapts to capture more value while generating less inequalities (Pedersen, Gwozdz and Hvass, 2016). Financial performances have been found to be improved when sustainability is core of an organization or a business model (Pedersen and Andersen, 2015). Finally, researches try to understand how can Business Model Innovation (BMI) serve sustainability in the fashion industry context. Because of the evolving context around the
fashion industry, there is an opportunity for new business models to change the traditional way of selling and consuming fashion (Kim and Rölkens, 2018). Few researchers have tried to gather insights on consumer's attitude toward those better fashion consumption (BFC) models and highlighted opportunities and barriers to their adoption (Armstrong et al., 2015). Business model innovation in fashion does not necessarily mean than the business model is new, only that it differs from the traditional pattern strengthen by the success of the fast-fashion model.

3. A fast-changing environment that influence eco-fashion consumption behaviors

Consumer behavior has evolved, his interest toward a more conscious consumption has risen. He now tries to avoid toxic products and considers sustainability when buying (Kim and Rölkens, 2018; Nielsen, 2018). If few important researchers, during the first decade of the 21th century, have spotted a lack of understanding of consumer's interest for eco-fashion (Niinimäki, 2009; Joergens, 2006), such understanding has been improved. The field is becoming increasingly researched (Razzaq et al., 2018). Nonetheless, the environment around eco-fashion consumption evolves quickly and more recent and exhaustive researches are needed to investigate the effects of various variables. This sub-section aims to give a quick overview of this fast-changing environment influencing eco-fashion consumption.

First, the economic and social environment around sustainable fashion consumption has changed. Indeed, the financial crisis that took place 10 years ago may has influenced consumer behavior as well as researches’ focus. Price, pleasure and economic resources being key consideration regarding fashion consumption (Niinimäki, 2010). Since then, economies have recovered, and consumers attitudes and habits have changed accordingly. Moreover, the economic gap between mature economies and developing ones have also narrowed. New consumers impact the market and the traditional low-cost fashion producing countries have changed (Kim and Rölkens, 2018).

Second, the public awareness about the social and environmental impact of the fashion industry has exploded. The work of NGOs and the Rana Plaza collapse in 2011 have made brands, retailers, consumers and policymakers more concerned by the environmental and social issues due to fashion production and consumption (Barrett and Bauman-Pauly, 2019).

Consequently, the awareness about eco-fashion has grown. And sustainability in fashion has become a central consideration for industry players as for some consumers (Kim and Rölkens, 2018; Lehmann, Tärneberg and Tochtermann, 2018). New brands are starting fashion
businesses specialized in sustainability, especially small online brands. But big players are also changing their approach and started launching sustainable collections over the last years (H&M, 2019). Eco-fashion is becoming a popular topic in media and in social media (Lehmann et al., 2019).

In addition to recent economic changes, to an increase awareness about the impact of the fashion industry and to the rising interest for eco-fashion, researchers have underscored the impact of context on sustainable consumption (Chan & Lau, 2001; Haanpää, 2007). Eco-fashion behaviors are context specific. Depending of the country, of the cultural values, of the researched population behaviors vary. Motivators and barriers change. Cross-cultural studies have highlighted similarities and differences in consumer’s attitude toward fashion, eco-fashion and eco-consumption (Kim, 2002; Bong Ko and Jin, 2017).

Given the influence of the context on researches, it is important to understand eco-fashion consumption in France from findings of studies done in a similar context. It is to say, studies done in a recent timeframe within in a similar cultural and economic environment. Regarding, the French population, no recent researches have investigated consumer behavior toward eco-fashion. The latest studies about eco-fashion consumption in France were done more than 5 years ago (Achabou and Rink, 2014; Vautard, 2013). In the EU, the latest one is a research done by D’Souza (2014) among male consumers from the UK, four years ago.

In addition to the lack of recent researches relevant to the French market, France is an interesting country to research consumer behavior toward eco-fashion. French people are increasingly interested in sustainable consumption. Especially regarding food consumption where France has one of the most sustainable food systems in the world with high quality and transparency standards (Nielsen, 2018). Regarding fashion consumption impact, France is leading the way toward more responsibility by being the only country having implemented an extended responsibility scheme for brands and retailers (Ellen Macarthur Foundation, 2017a). Nonetheless, when Achabou researched 1083 respondents in 2014 he found that French have little interest in eco-fashion. A finding that needs to be compared with the actual situation.

If studying eco-fashion purchase intentions in the French market context is needed. The scope of this study makes it even more relevant. By first evaluating and modeling French consumer’s purchase intentions toward eco-fashion, then exploring the variables influencing attitude toward better fashion consumption (BFC) models, the outcome of this study bring a new light on the topic. This study is important for understanding business opportunities in the eco-fashion business. This study also aims to provide useful and up-to-date information to leverage the systemic change needed to transform the fashion industry by identifying enablers and barriers toward eco-fashion consumption and toward BFC models adoption.
4. Objectives & research questions

This thesis investigates consumer behavior toward two better fashion consumption practices: purchasing eco-fashion instead of traditional fashion and consuming fashion in a more circular way rather than following the traditional “take-make-waste extractive industrial model” (Ellen MacArthur Foundation, 2017b). The objectives of this study are dual. In one hand, this thesis aims to provide useful, up-to-date and comparable insights about factors influencing eco-fashion purchase intention among French consumers. In the other hand, this thesis also ambitions to explore and model attitude toward 5 different business models that improve the impact of fashion consumption. These BFC models contribute to shift from a linear consumption model to a more circular one. Therefore, improving the fashion industry sustainable practices by creating business that better capture value while still offering clothes to the end-consumer.

To fulfil and clarify this dual study goals, two main research questions have been formulated. In addition, to each main research question few sub-questions have been added to further detail the focus of the study.

Regarding, eco-fashion purchase intention, the main research question is: **Which factors influence consumer’s eco-fashion purchase intention in France?**

And the 5 supportive additional questions are:

- How attitude toward eco-fashion affects consumer’s eco-fashion purchase intention?
- How self-identity affects consumer’s eco-fashion purchase intention?
- How fashion consciousness affects consumer’s eco-fashion purchase intention?
- How perceived consumer effectiveness affects consumer’s eco-fashion purchase intention?
- Are the other original constructs of the theory of planned behavior valid to predict eco-fashion purchase intention?

Regarding, attitude toward BFC models, the main research question is: **Which factors influence consumer attitude toward more sustainable business models in the fashion industry?**

And the 3 supportive additional questions are:

- How eco-fashion purchase intention affect consumer’s attitude toward more sustainable business model in the fashion industry?
- How eco-fashion purchase intention affect consumer’s attitude toward more sustainable business model in the fashion industry?
- How eco-fashion purchase intention affect consumer’s attitude toward more sustainable business model in the fashion industry?

B. Preliminary literature review

1. Fashion industry’s success, issues and solutions

   a) Economic success of fashion industry

The fashion industry is a global and complex industry that is of high stake for the world’s economy. The global fashion industry is doing well despite a steady decline in profitability between 2012 and 2016. Profits reached their highest level in 10 years during the year 2017. And the growth of the fashion sector is forecasted to continue with a growth of 3.5 to 4.5 percent for 2019 (Kim and Rölkens, 2018). The global fashion industry is valuated at 3,000 billion dollars and account for 2% of the world’s Gross Domestic Product (Fashion United, 2019). Even if the complexity of the supply chain and the lack of standardised metrics make the global workforce of the fashion industry hard to estimate, Fashion United (2019) calculated that more than 300 million people work along the value chain, they represent more than 11% of the global labor force.

Since 2000 the global clothing production has doubled. Such growth is mainly driven by the increase in per capita sales in mature economies and the development of the middle-class market in developing countries (Ellen Macarthur Foundation, 2017a; Remy, Speelman and Swartz, 2018) coupled with lower-priced garments (Kim and Rölkens, 2018; REICHEL ET AL., 2014; Marc Bain, 2015) and lower clothing utilization (Ellen MacArthur Foundation, 2017a; Cobbing and Vicaire, 2016). An important enabler of those growth mechanisms is the production shift to lower-cost developing countries, engaged in the late 90’s (REICHEL ET AL., 2014; Bédat, 2016). The fashion industry success is not expected to stop anytime soon, and production could triple by 2050 (Ellen Macarthur Foundation, 2017a).

Clothing is the largest textile application, in 2012, 70% of all textile consumed in the European Union is clothing (European Commission JRC, 2012). In 2017, 53 million tons of fibers were used annually for clothing production only (Ellen MacArthur Foundation, 2017a). This fiber
consumption keeps on increasing as the industry grows. In 2018, the worldwide fiber consumption rose by 1.2% to 106 million tones (Lenzing Group, 2018).

The economic success of the textile industry and the shift of production toward developing countries have beneficial effects. The textile industry is a big employer in low-income textile-manufacturing countries. For example, in Cambodia, Pakistan or Bangladesh the fashion industry employed respectively 80.1%, 42.9% and 35% of the active population (McNamara, 2008). Nicita (2008) estimates that the wages paid by the industry to the workers increased the workers’ spending power by 24%. Such increase can be enough to get them out of poverty. Moreover, for countries engaged in an export-oriented industrialization, the apparel production is often a first step as it requires low-skilled workforce and relatively low investment costs (Gereffi and Stacey, 2010).

b) The negative social and environmental impact

The global economic success of the fashion industry comes at high cost for the environment and the society (Ellen Macarthur Foundation, 2017a). The textile industry is one of the most detrimental industry to the environment (Resta et al., 2016; Agrawal, Barhanpurkar and Joshi, 2013)). The different environmental impacts of the fashion industry are numerous and of different scales. The magnitude of the environmental impact depends of where and how the garment is produced and of the type of fashion item produced. The biggest environmental impacts of the fashion industry are: the global carbon footprint of the industry at each step of the life of the garment, the use of a large amount of non-renewable resources, the water consumption as well as the water and soil pollution, and, the wastes generated by the industry.

The textile and fashion industry also have a strong social impact on workers, local populations and society in general. Fashion-industry workers often face harsh working conditions with low-wages, excessive hours of work, poor living conditions and low workers satisfactions. In addition, workers suffer health & safety hazards, discrimination issues and in some case forced labor or child labor. Workers are often not represented and therefore cannot join force to claim more rights. Moreover, local communities often poorly benefit from the value created by the fashion industry. Another consideration is the effect of the predominance of the overconsumption model that endangers societies’ values and practices.
c) The main source of issues is the fast-fashion model

The social and environmental damages of the fashion industry would not be that big if it was not for the linear consumption model globally adopted (Ellen Macarthur Foundation, 2017a). Today, clothes are treated as disposable items (Armstrong et al., 2015; Remy, Speelman and Swartz, 2018). Thus, the consumer has no problem to easily throw away and replace his clothes. Even if factors are multiple, one major rational for a such throw-away attitude toward garments is found in the influence of fast-fashion over the last two decades.

The origins of the fast-fashion business model trace back to the 1980s and developed itself in the following decade where more and more fast-fashion retailers disrupted the retail market by offering low-priced garments. Garments became 50% cheaper than traditional ones and therefore fast-fashion retailers started changing customer’s expectations about fashion (Olivier Wyman, 2015). It was at the turn of the century and with the “explosive expansion” of brands such as Zara or H&M that the fast-fashion model really kicked off (Caro and Martínez-de-Albéniz, 2015). Quicker turnaround and an increased number of new clothing collection each year thrilled consumers and boosted sales. Today, Zara offers 24 new collections each year, where H&M offers 12 to 16 through weekly reassortment (Remy, Speelman and Swartz, 2018).

Low prices have been one of the main drivers of fast fashion success. For example, since 1995, the average apparel price has dropped by 44% for US consumers (Kim and Rölkens, 2018). Similarly, the EEA (2014) calculated that between 1996 and 2012, clothing price rose by 3% when the overall consumer prices increased by 60%. For the EU consumer it means that the price of clothing fell by 36% compared to other consumer goods. If we trace it back to the early 1900, this relative drop in spending is even more obvious. According to the Bureau of Labor Statistics, clothing accounted for 14% of American’s total discretionary expenditure back in 1901 (Marc Bain, 2015). In 1960, it accounted for 10.4%. And then dropped to be only 3.1% in 2013. Low-priced, often refreshed collections inspired from designers’ catwalks made the fast-fashion formula successful. Fashion became mass-marketed and consumers started to buy more and more clothes. In 2014, consumers bought in average 60% more garments than in 2000 (McKinsey & Company, 2016). The fast-fashion model is seeking the lowest price and a high-speed supply chain to be able to match and feed consumer demand. But such mechanisms have worsened the global impact of the fashion industry, the high cost and time pressures put on retailers’ suppliers across the supply chain have made social and environmental care more than secondary problems (Kamath and Saurav, 2016; GS1 UK, 2016). The situation is even more difficult to control and to measure because of the global and complex supply chains (Kozlowski and Bardecki, 2012).
d) Overconsumption is fueled by the increased digitalization

Digitalization and the rise of e-commerce fueled the clothing consumption frenzy. Internet made shopping fashion easier (The Atlantic, 2015). Consumer now easily access a greater variety of brand and shop effortless (Kim and Rölkens, 2018). Similarly, consumers visit more online store and spend more time looking for clothes online than ever (Melis et al., 2015). Furthermore, online retailing is a propitious place for impulse buying: marketing cues are used to encourage buying and make purchases seamless experiences (Eroglu, Machleit and Davis, 2003; Sundström, Hjelm-Lidholm and Radon, 2019). The development of E-commerce amplified the fast-fashion phenomenon by growing online clothing sales (Bold Metrics, 2016). In 2017, online sales accounted for 10% of the total Inditex group’s revenue (Riaño, 2018).

e) Other fashion consumption models exist but failed against the fast fashion model

If fast fashion is the prevailing retailing model today, other fashion consumption models exist, nonetheless. But for a long time, those alternative models have failed to gather consumer or retailer interest and stayed a niche market. Such alternative models are more conscious way of consuming. Slow fashion is one of them. In a revised version of Fletcher’s definition, Šajn (2019) define slow fashion as “an attempt to convince consumers to buy fewer clothes of better quality and to keep them for longer. The philosophy includes reliance on trusted supply chains, small-scale production, traditional crafting techniques, using local materials and trans-seasonal garments. It calls for a change in the economic model, towards selling fewer clothes. It is however not supposed to be simply a marketing stunt to sell even more clothes”. Similarly, eco-fashion is defined by Niinimäki (2010) as “clothing that is designed for long lifetime use; it is produced in an ethical production system, perhaps even locally; it causes little or no environmental impact and it makes use of eco-labelled or recycled materials”. Eco-fashion as defined by Niinimäki, focus on improving the impact of the product without conceptualizing eco-fashion as an alternative consumption model. Both, slow fashion and eco-fashion, convey the idea of a more responsible consumption, where garments are made to last and with care about minimizing the social and environmental impacts of the product. Eco-fashion, slow fashion, sustainable fashion, ethical fashion are all models or ideas related to a more conscious consumption, often their definitions overlap. A comprehensive and up-to-date definition will be provided in the “Definitions” section. The previous consumption models have existed for decades but failed to compete with fast fashion. Considering all the recent technological
changes and the ones that are to come ahead, the Global Fashion Agenda (2018) points out instant fashion and smart fashion as alternative models. Instant fashion would allow garments to be produced or customized on-demand locally, reducing garment’s waste and its footprint. Smart fashion would employ “state-of-the-art” technologies to improve garment’s versatility by making them last longer, needing less cleaning, changing color on demand or other not-so-futuristic ideas. No matter the definition and the lack of established standards of what eco-fashion is, eco-fashion consumption still represent a small market share of the overall fashion retail market (Luchs et al., 2010) despite the strong social and environmental benefits compared to a traditional fast-fashion garment (Ferguson, 2014).

f) Recent changes are turning the tide

The recent years and months have seen a growing concern about the impact of the fashion industry that is translating in more interest from all stakeholder in this matter. For a long time, NGOs and better fiber initiatives have worked alone trying to make things change by: gathering commitment from retailers (Ellen Macarthur Foundation, 2017a), empowering local communities (Better Cotton Initiative, 2018), proving the economic viability through pilot projects (Circle Economy, 2017) or by developing better culture of cotton (Kooistra, Termorshuizen and Pyburn, 2006; Better Cotton Initiative, 2018; Textile exchange, 2018). These efforts appear to start paying off. Sustainability is becoming increasingly important for industry players (Huneke, 2017), as well as for consumers (Kim and Rölkens, 2018) and for policymakers (Young, 2019; Garnier, 2019).

In this new environment consumer interest for sustainable fashion is starting to rise. Terms such as eco-fashion, sustainable fashion or ethical fashion are becoming increasingly popular in media (Fu and Kim, 2019). Google Trends indicates that global search interest for the key words “sustainable fashion” have been multiplied by more than 4 times between December 2015 and September 2019 (Google Trends, 2019). Sustainability is also getting popular on social media, where it is increasingly mentioned (Lehmann et al., 2019). Therefore, consumer interest for sustainable fashion have changed. It shifted from a total lack of awareness (Niinimäki, 2010) to a popular consideration.
Several stakeholders pledge for a systemic change

Things seem to be starting to change in an old-fashioned fashion industry. However, raising only concern is not enough. Many protagonists pledge for an urgent systemic change of the overall fashion industry (Keyfitz and Hardin, 1993; Preuss, 2011; Rohrbeck, Konnertz and Knab, 2013; Ellen Macarthur Foundation, 2017a; Lehmann et al., 2019). Indeed, even if the amount of clothes bought per capita stop rising, the forecasted global population increase will make absolute clothing consumption keep rising (Cobbing and Vicaire, 2016). Middle-class consumer segment is growing fast. In China and India especially, it is boosting garment consumption (Ellen Macarthur Foundation, 2017a). Moreover, without systemic changes the gains obtained from the industry efforts to improve their environmental impact will be outweighed by the amount of clothes sold (Cobbing and Vicaire, 2016). In China only, the today’s consumption of 6.5kg of clothes per year, already above the 5kg/person/year global average, could reach 11 to 16 kg per person and per year (Borneman, 2015; Cobbing and Vicaire, 2016). Ellen MacArthur Foundation’s (2017a) report forecast that the fashion industry could use 26% of the carbon budget associated with a 2°C pathway in 2050.

In its annual report about sustainability in the fashion industry, Lehmann et al. (2019) observed a general improvement of the environmental and social impacts of industry players. But improvements are not being done fast enough compared to the growth of the industry, they even have slowed down in 2018 compared to 2017. If efforts are not increased and implemented faster, the industry will not achieve the United Nations Sustainable Development Goals nor meet the Paris Agreement by 2030 (Lehmann et al., 2019).

There are also high potential economic gains from a systemic change of the fashion industry, and high economic risks of not changing. First, the industry would face resource scarcity issues and high price volatility because of the amount of virgin resources required by the actual production model (Muthu, 2014). Second, profitability could be at risk: according to a Boston Consulting Group analysis, industry players could lose up to 3 percentage point EBIT by 2030 by continuing business as usual. According to the same report, addressing the social and environmental problems of the fashion industry by 2030 could generate EUR 160 billion benefits to the world economy (Eder-Hansen et al., 2017). Finally, there are high potential gains for consumers as well, each year USD 460 billion of value is lost from throwing away clothes that could be worn again (Ellen Macarthur Foundation, 2017a). Improving clothing collection, only in Europe and in North America would raise EUR 24 billion annually (Toward the circular economy, 2013).
h) Solutions exist and all stakeholders are responsible

Various transformative changes have been identified to tackle the social and environmental problem of the today’s fashion industry. According to various reports and experts, the ultimate solution for a long term sustainable fashion industry that manages to satisfy the need of a growing demand for clothes while not endangering the environment or the people, is to move from a linear consumption model to a circular model (Toward the circular economy, 2013; 2017; Bontoux, Boucher and Scapolo, 2017; Šajn, 2019; Kim and Rölkens, 2018; Lehmann et al., 2019). Circular economy can be defined as « an industrial system that is restorative or regenerative by intention and design, uses and reuses natural capital as efficiently as possible, and finds value throughout products’ life cycles“ (World Economic Forum, 2014, cited in Koszewska, 2018). Transitioning to a circular economy involves that all stakeholders of the industry commit to improve every step of the life cycle of the garment. From its design to its very end of life, through steps like spinning yards, dyeing, packaging, collecting used clothes, etc. To go circular the different stakeholders, have to collaborate and gradually improve the traditional processes (Bocken, Rana and Short, 2015; Ellen Macarthur Foundation, 2017a; Lehmann et al., 2019). For the industry players, solutions are to adopt a proactive approach (Lehmann et al., 2019) by favoring research innovations (ETP Fibres Textiles Clothing, 2016), scaling up existing sustainable practices (Lehmann et al., 2019), using a less impactful material mix in their products as well as leveraging their image to educate consumer or improving the collection rate and recycling of the clothes (Kirchain et al., 2015; ETP Fibres Textiles Clothing, 2016). The industry also needs to adopt more efficient business models to recover most of the value created when producing a garment while scaling up efficient existing ones (Cobbing and Vicaire, 2016; Bontoux, Boucher and Scapolo, 2017; Global Fashion Agenda, 2018; Lehmann et al., 2019; Šajn, 2019). NGOs need to keep gathering commitment, carrying local project, auditing practices, setting new industry standards, educating farmers and industry players as well as educating consumer to leverage changes and best practices (Ellen Macarthur Foundation, 2017a; Lehmann et al., 2019). For their part, policymakers and governments have their share of responsibilities, and their involvement is necessary to ensure the economic success of the circular economy (Armstrong et al., 2015; Bontoux, Boucher and Scapolo, 2017; Lehmann et al., 2019; Šajn, 2019). Through regulations, incentives, or by coordinating efforts they have an important role to play. If industry players, NGOs or policymakers are key in overcoming the challenges of transitioning from a linear fashion industry to a circular one, the end consumer holds a big responsibility in the success of this enterprise. Consumers’ behaviors and education is indeed a critical point: consumers buying practices, their usage of the garment and the end-of-life choices they make have a big social and environmental impacts.
Changing practices, adopting new way of consuming is a real challenge for consumers as the big majority have been used to a careless and fun clothing consumption through the fast-fashion retailing model. In addition, in the recent years, the consumer is becoming increasingly important to decision makers and its influence is growing. Consumer’s choices and values weight more than ever before on industry player’s decision-making, practices and on the final product. This shift of power from producer to consumers is described by Cooperstein et al. (2013) as the “Age of the consumer”. Therefore, for a circular fashion economy model to overcome the traditional fast-fashion one, getting consumer on board with the changes is key. There is the need to design solutions that fit the consumer needs, practices and education (Ozaki, 2010, Šajn, 2019).

2. Review of the variables influencing eco-fashion consumption

a) Variables influencing fashion consumption

When investigating variables influencing fashion consumption researchers found various important factors to the field. The different findings can be divided in two main sections: the variables influencing fashion consumption and the outcome of fashion consumption. First, the variables influencing fashion consumption can then be categorised under five main topics: the influence of the shopping environment (Dittmar and Drury, 2000; Kivetz and Simonson, 2002; Pookulangara and Shephard, 2013), the external factors influencing the consumer (O’cass, 2000b; Niinimäki, 2010; Niinimäki, 2009), the consumer self-identity (Kim and Damhorst, 1998; Darley, 1999), the influence of hedonism in fashion consumption (Darley, 1999; Niinimäki, 2010) and the influence of the garment characteristics (Rajagopal, 2006). Second, researchers have underscored several effects of fashion consumption. Purchasing garments has been identified as providing hedonic benefits to the consumer (Knutson et al., 2007; Hartmann and Apaolaza-Ibáñez, 2012). Fashion consumption also provide several social benefits to the individual (Kaur and Anand, 2018).

All the different factors that influence fashion consumption and the outcomes have been summarized in Figure 1 below. The relationship between the factors and fashion consumption will be further detailed below Figure 1.
The retailing environment has been found to contribute to overconsumption by favoring impulse buying (Pookulangara and Shephard, 2013). Atmospheric cues (merchandising, scent, music, lightning) influence consumer's purchase decisions, make him feel good and acting on emotions (Madhavaram and Laverie, 2004, 2004). Marketers play on the neural predictors of consumers to increase sales (Knutson et al., 2007). This phenomenon has been increasingly observed in the fast-fashion retail environment (Lertwannawit and Mandhachitarra, 2012; Colucci and Scarpi, 2013). Similarly, the online retail environment favor fashion consumption and overconsumption. Marketing cues are used to push sales with incentives such as free deliveries, free returns or special discounts (Dawson and Kim, 2010). Time spent in-store also influences fashion consumption, it has been found that the more time the consumer spends in physical store, the more likely he is to buy (Adelaar et al., 2003).

Demographic variables influence consumer’s perception of fashion. In a 2005 study, Rocha, Hammond and Hawkins (2005) found that age, gender, and national factors affect perception of fashion. Income has also been found to influence fashion consumption behavior and price consciousness (Kumar, Lee and Kim and Karpova, 2009). Because of the social component
of fashion consumption (Jenkins, 1973), social acceptance and the perceived image are important variables influencing fashion related behaviors (Niinimäki, 2010). Thus, subjective norm influence consumer’s fashion consumption (Kang, Liu and Kim, 2013). Correspondingly, Kim and Damhorst (1998) found group conformity to be an important construct of fashion consumption. Another external factor is the effect of fashion and trends on consumer’s perception of garments and its decision making. Fashion and trends have conscious or subconscious influences on consumer’s choices and attitudes (Arnold and Reynolds, 2003; Niinimäki, 2009). Society values, and especially materialism impact consumer behavior. It is also true in fashion, where consumption is driven by materialistic ambitions (Dittmar, 1992; O’Cass, 2004).

Various studies agree that self-identity is an important dimension of fashion consumption. Pan et al. (2015) argue that fashion is an emblem of self-identity. Buying clothes is viewed as way of expressing personal identity and therefore shape self-identity (Dittmar, Beattie and Friese, 1996; Michaelidou and Dibb, 2006). Niinimäki (2010) identified the individual need for vanity as a driver of consumption. The search of beauty to the individual is partially achieved when consumer buys clothes. Fashion consciousness of an individual, it is to say, his involvement toward fashion has important effect on fashion consumption (Stephen Parker, Hermans and Schaefer, 2004; Casidy, 2012). Fashion consciousness increase willingness to spend more (Wan, Youn and Fang, 2001, Kwan, Yeung and Au, 2004), variety and novelty seeking behaviors (Sprotles and Kendall, 1986), clothing appreciation (WALSH, MITCHELL and HENNIG-THURAU, 2001) and purchase decision-making (Lee et al., 2009). McCracken (1988) analyzes clothing as a high involvement good that consumers buy to get closer to their desired lifestyle.

When buying clothes, consumers seek pleasure. Affect is a determinant construct of fashion consumption. Emotions and desires influence purchasing decisions (Niinimäki, 2010). Darley (1999) argues that the pleasure of acquiring product information is a motivator of fashion shopping behaviors. Searching for new products and new brands has a significant impact on consumers (Babin, Darden and Griffin, 1994). Consumer’s need for novelty also help him to have his clothes matching his mobile self (Simonson, 1990). Another aspect of hedonistic motivations is the influence of boredom on shopping behaviors. Different studies spotted the positive influence of boredom on fashion consumption, shopping clothes is a way to avoid boredom (Arnold and Reynolds, 2003; Ming Law, Zhang and Leung, 2004). Boredom is a driver of consumption on impulse, especially online (Guy and Banim, 2000). Boredom increases the frequency of impulse purchase (Sundström, Hjelm-Lidholm and Radon, 2019). Impulse buying is a response to emotions in the fashion consumption context (Lidholm et al., 2017) and it is of great influence in fashion retailing (Khan et al., 2015).
If many variables influence fashion consumption, garment characteristics also matter to the consumer. His appreciation of the garment is influenced by his knowledge, objective or subjective one (Bettman and Park, 1980). Style is a significant dimension of fashion, the consumer’s projections of the garment style appreciation by his peer impact his purchase intention (Kaiser, 1990). Nonetheless, brand, originality and price are important aspect of the garment that the consumer weighs during the decision-making process (Joergens, 2006; Pitombo Cidreira, 2009). Quality of the garment is also a significant characteristic of a garment appreciation (Mafini, Dhurup and Mandhlazi, 2014).

Fashion consumption provides different social benefits to the consumer buying clothes. It has a strong impact on the identity building of the individual (Niinimäki, 2009). Consuming and wearing clothes is a mean of self-expression: values, beliefs and personality are expressed through clothing style (Darley, 1999). Fashion helps the individual to differentiate himself from others (Roach and Eicher, 1973). Clothes are viewed as a non-verbal communication code (Stets and Burke, 2000; Sorrentino, Seligman and Battista, 2007). Fashion does not only allow individuals to differentiate themselves, it is also a medium of participation in social group and class. Dress codes help identify and fit within a group (Kim and Damhorst, 1998; Fernandez, 2009). Thus, fashion may be consumed to gain or claim a status in the society (Kaur and Anand, 2018). Furthermore, fashion consumption also rewards the buyer with hedonistic benefits. Researchers have shown that fashion consumption, and especially finding a desirable piece of cloth or getting a bargain, triggers specific pleasure areas in the brain (Knutson et al., 2007). Similar mechanisms have been underscored online. When the consumer finds the right product, makes a good deal or adds product to his basket, he experiences a “kick of pleasure” (Sundström, Hjelm-Lidholm and Radon, 2019). To another extend, a larger outcome of fashion consumption is its relevance in reflecting civilization. Fashion is linked to history, culture and values (Geczy and Karaminas, 2012). And the evolution of fashion choices or trends reflect changes in societies (Davis, 1994).

b) Variables influencing sustainable consumption

The relationship between behavior and sustainability is a vast but well researched field. There are two distinguished types of sustainable behaviors. The first one concerns sustainable behavior in general, like recycling, saving electricity or living conscious and engaged lifestyles. Such behaviors have been called environmentally responsible behavior (ERB) (Borden and Schettino, 1979). The other type of sustainable behavior deals with specific sustainable or ethical consumption behaviors. The latter is the most relevant to our study because eco-
fashion consumption is a sustainable consumption behavior. On a theoretical analysis, Haanpää (2007) found three different categories of factors influencing green consumption. When reviewing the existing literature, this categorization seems consistent with the different findings, even if specific context may change variables influence. In her dissertation, the three categories of variables identified as main predictors of conscious consumption are the contextual factors, the individual factors and the personality factors. Contextual factors include the social, cultural and economic resources of an individual as well as the normative influence. While the decision-making style, routines and habits, demographics, economic factors and other situational factors form the individual factors. Finally, personality factors have been found to be influenced by the individual’s attitudes, his needs and his intentions, along with the individual’s worldviews, his beliefs and values. This categorisation is illustrated below in Figure 2.

Across different studies many barriers toward sustainable consumption behavior have been identified. Those barriers can be categorized in 4 categories: the high product performance incertitude, the low perceived effectiveness or sustainable improvement of the product, the low perceived behavioral control from the consumer and the selfish barriers to eco-consumption.

Consumers buy products to satisfy a need (Deaton, 1992). Accordingly, product performance incertitude is a barrier to consumption. In the case of a different consumption behavior than the traditional pattern, this incertitude might be important for some consumers. Indeed, perceived product performance have been found to be an important barrier to eco-
consumption (Pickett-Baker and Ozaki, 2008). Furthermore, different studies point out that consumers are not willing to sacrifice product performance for the sake of the environment or for social benefits (Meyer, 2001; Grolleau and Caswell, 2005; Auger et al., 2003; Devinney, Auger and Eckhardt, 2010). A study conducted for NYU Stern reveals that in the case of consumer goods consumption, consumers buy more sustainable products when the product belong to a category of good with low perceived functionality or efficacy (Kronthal and Whelan, 2019). For example, sustainable characteristics are more valued when purchasing bottled juices than when choosing a floor cleaner. Similarly, product quality is an important decision-making criteria and barrier to consumption of more sustainable products (Peattie, 2001, Loureiro and Lotade, 2005). When buying, consumers perform a cost to value analysis. Thus, perceived value of a product also impacts sustainable purchasing (Loureiro and Lotade, 2005; Hira and Ferrie, 2006). Price is another significant barrier to sustainable consumption, a too high price can be a discriminant (Mandese, 1991, Mainieri et al., 1997).

One major motivator of green consumption is the social or environmental benefits of the product compared to a traditional one. When there is a low perception of those benefits, consumer is less likely to buy eco-products. Low perceived consumer effectiveness has been identified as major obstacle to eco-consumption (Peattie, 2001, Sima, 2014). Trust in claims may also influence the consumer’s perception of the green product’s benefits (Yan, Hyllegard and Blaesi, 2012). Green washing practices lower the trust in product claims.

Consumer’s perceived behavioral control (PBC) is defined as the perception of the difficulty in performing a behavior (Ajzen, 1991). If consumer perceived green consumption as difficult to perform, it reduces the chances that he performs it. Different variables influence this perception. Consumer knowledge is one of them, if consumers can differentiate products, understand labels, he feels more confident in buying eco-products (Mandese, 1991, Mainieri et al., 1997). Consumer confusion toward eco-labels, materials or ingredients used is an obstacle of green consumption (Thomas, 2008). Identifying sustainable or ethical brand might be a challenge for consumers (Yan, Hyllegard and Blaesi, 2012). Product availability, as well, influences perceived behavioral control, if more responsible products are harder to find, it is likely that less people will buy them (Loureiro and Lotade, 2005; Hira and Ferrie, 2006).

Another important category of obstacles to eco-consumption is the internal barriers. Consuming better products may represent an effort for the consumer that he may not be willing to do in different in certain situations. Shopping discomfort lower green purchasing (Mainieri et al., 1997, Niinimäki, 2009). Similarly, if buying a sustainable product involves inconvenience for the consumer it lower purchase intention (Carrigan and Attala, 2001). The cultural or
religious context has also been identified as influencing beliefs and green consumption (Doran, 2008).

The different barriers aforementioned are illustrated in Figure 3 below.

![Figure 3 Barriers toward sustainable consumption](image)

c) **Variables influencing eco-fashion consumption**

Following the same methodology as in the to the two previous sections, this one is dedicated to expose the different variables influencing eco-fashion consumption. The list may not be exhaustive but try to cover most of the ideas found in the literature. There are influencing variables impacting eco-fashion purchase intention as well as benefits from the actual consumption. Six categories of variables have been created to organize the different
influencing variables: fashion considerations, knowledge, beliefs, external factors, self-identity and garment characteristics. Similarly, two categories of benefits were identified: the external benefits of eco-fashion consumption and the internal ones. The Figure 4 below illustrates the findings.

One category of variables of primary importance to eco-fashion consumption, is fashion considerations. When buying eco-fashion products, the consumer is buying a fashion item. Thus, the influence of fashion decision-making mechanisms is strong. Different studies argue that the sustainable or ethical characteristic of a garment is just a plus, an extra motive to choose this garment against another (Meyer, 2001; Adomaviciute, 2014). For Niinimäki (2010), “the eco-aspects give the final reason to buy the garment”. Thus, traditional fashion considerations matter. The need for variety positively influences eco-fashion purchase
intentions (Kim and Rölkens, 2018). Consumers seek newness and eco-fashion may represent a new type of garment. The newness of eco-fashion to most consumers positively influences consumer affect and his attitude toward eco-fashion. As well as its willingness to pay premium for eco-clothing (Fu and Kim, 2019). When considering eco-fashion products, style of the garment matters. It has long been a common belief that eco-fashion was not stylish and that clothes design were often outdated or irrelevant to the latest trends (Meyer, 2001; Joergens, 2006; Niinimäki, 2010; Eder-Hansen et al., 2012; Carey and Cervellon, 2014; Achabou and Rink, 2014). This negative image dampens consumer attitude toward eco-fashion. Aesthetic considerations and expectations are highly valued in fashion (Beard, 2008). Research among male consumers found that sustainable branding of an eco-garment weakens purchase intention (D’Souza, 2015b). If poor aesthetic can be critical and reduce hedonistic motivations toward eco-fashion consumption (Meyer, 2001), wearing eco-fashion products has also been found to give more pleasure to its owner compared to wearing traditional clothes (Abraham, 2011). To Niinimäki (2009), it is desire that pushes toward eco-consumption, not guilt. Findings about fashion involvement impact on eco-fashion purchase intentions are mixed. Consumer fashion consciousness has not been found to have an impact on eco-fashion attitude among American consumers (Fu and Kim, 2019). Whereas it does for Pakistani consumers (Razzaq et al., 2018). Social norms have been suggested to have a negative impact on eco-fashion purchase intention, eco-clothing common beliefs lower purchase intention (Connell, 2011).

Regarding more conscious ways of consuming fashion, it is to say, consuming less, buying second-hand clothes or repairing old garments, the perceived emotional sacrifices is an important barrier to eco-fashion purchase in such conditions (Fisher et al., 2008).

Consumer knowledge about eco-fashion is of different kind. Knowledge about eco-fashion as well as knowledge about the environmental or social issues positively influence eco-fashion purchase intention. Knowledge can be of two forms, subjective knowledge, what the individual thinks he knows, and objective knowledge what the consumer actually knows (Brucks, 1985). General consumer knowledge about fashion is knowledge about trends, styles, brands, where to shop, how to assess quality or to use efficiently garments. Consumer fashion knowledge is corelated to the consumer fashion involvement (O’Cass, 2004). No studies found general consumer knowledge about fashion to influence eco-fashion purchase intention. But eco-fashion consumer knowledge effects consumption, a low level of knowledge is a barrier to eco-clothing consumption (Connell, 2011). The consumer lack of awareness about eco-fashion is an obstacle to eco-fashion adoption (DIIESES, 2007; Eder-Hansen et al., 2012; Achabou and Rink, 2014). Regarding eco-fashion, the consumer lacks information and get confused by the different eco-labels (Meyer, 2001; Niinimäki, 2010; Cotelle, Nury and Terrisse, 2011). Eco-fashion products seem to have low visibility among consumers, only the more concerned ones
look for information and seek more sustainable garments (Niinimäki, 2010). Consumers feel that they lack information to evaluate eco-aspects of a garment (Joergens, 2006; Cotelle, Nury and Terrisse, 2011). In France, when consumers where asked to define ethical fashion, ethical fashion was for the majority fashion that do not harm animals. Very few respondents associated ethical fashion to the environmental protection, or sustainable consumption (Achabou and Rink, 2014). Consumer knowledge impact consumer self-efficacy to perform a behavior (Bandura, 1986; Pajeres, 2002). Kang, Liu and Kim (2013) found that consumer knowledge about eco-fashion affect subjective norm and behavioral control, and thus impact eco-fashion consumption. Knowledge about issues due to traditional fashion consumption is also positively correlated with eco-fashion purchase intention. Consumer environmental knowledge indirectly influence eco-fashion purchase because it is correlated to the consumer self-identity. Environmental and social knowledge increase environmental and social concern (Brosdahl and Carpenter, 2010).

Different beliefs also impact intention by affecting consumer’s perception of eco-fashion. Such beliefs influence perceived effectiveness of the eco-aspects of a garment as well as attitudes toward eco-fashion or toward eco-garment characteristics. Probably because of the lack of awareness of consumers and the wide definition of what can be eco-fashion, sometimes called ethical, sustainable, responsible, eco-friendly fashion; the perception of eco-fashion varies among consumers (Achabou and Rink, 2014; Lehmann et al., 2019). Those different perceptions of eco-fashion influence consumers attitude (Joergens, 2006). Regarding sustainable clothing in the luxury sector, the use of recycled textile has a negative influence on consumer attitude (Achabou and Dekhili, 2013). The perceived effectiveness of the social or environmental benefits claimed by sustainable garments influences consumer intention toward eco-fashion (Meyer, 2001; Ozcaglar-Toulouse, Shiu and Shaw, 2006). Consumers are more concerned about the impact of the claims when claims have a direct effect on their health. Consumers are keener to buy eco-labelled or organic food than eco-fashion (Joergens, 2006; The sustainability imperative, 2015). Trust issues about the claims impact eco-fashion purchase intention. Consumer’s confusion, lack of information, and its experience with traditional industry practices lower trust and eco-fashion may be perceived as greenwashing (Achabou and Rink, 2014). Consumers may also consider that it is not to them to make an effort. That the situation is of the responsibility of brands, retailers and regulators. That they should improve their practices (Shaw and Tomolillo, 2004; Dickson, 2001; Joergens, 2006).

Elsewhere, there are external variables influencing consumer purchase intention. Fashion industry practices have an impact on consumer behavior. By not being transparent nor
communicative about their practices, industry players have valued careless consumption over a conscious one (Cobbing and Vicaire, 2016). The retail environment, in physical store as in online ones, is built to push consumption and values aesthetic and emotional decisions over quality or durability-based ones (Connell, 2011; Ellen Macarthur Foundation, 2017a). Eco-fashion purchase intention depends of in-store availability of eco-clothing. Limited style and the lack of choice regarding eco-fashion is an obstacle to purchase intention (Meyer, 2001; Legoeul, 2006; Carey and Cervellon, 2014). To some consumers, eco-fashion does not appear as a viable consumption alternative (Joergens, 2006). When asked, most of Finnish consumers declared that they wished to find eco-clothing in supermarkets or specialized shops (Niinimäki, 2010). Furthermore, the availability of cheap clothing produced at low-cost in Asian country lower eco-fashion purchase intention. It confuses consumers, prices are so low that it affects their choices (Joergens, 2006; Bontoux, Boucher and Scapolo, 2017). The individual’s economic resources also influence its intention toward eco-fashion: low resources make the sustainable attributes less considered (Connell, 2011; Ethnicity, 2016). Society values, and especially materialism, dampen better consumption practices (Maxwell and van der Vorst, 2003). Moreover, consumption as a leisure is valued, and consumer’s responsibility lowered by marketing practices (Dittmar, 1992; Niinimäki, 2009). The informative and educative role of media has a positive impact on eco-fashion possible success. The increase communication around fashion issues from specialized and generic media help raise awareness (Kim and Rölkens, 2018). In addition, technological innovation in the fashion industry is a variable positively influencing eco-fashion consumption. Thanks to process improvements eco-fashion becomes more price-competitive and breaks technical barriers such as recycled clothes of similar quality than ones with virgin fibers (Ellen Macarthur Foundation, 2017a; Kim and Rölkens, 2018).

Different variables related to the consumer self-identity influence eco-fashion purchase intention. Cross-cultural researches have spotted attitudinal differences toward eco-fashion or better consumption practices (Kim and Rölkens, 2018). Cultural specificities affect consumer intention toward eco-fashion. For example, group conformity is particularly strong among Chinese consumers (Chan and Lau, 2002). In Europe, German, Austrian, Dutch and Scandinavian are more aware of ethical fashion and more interested in such products than other Europeans (Vautard, 2013). Individuals that buy eco-fashion seem to make fashion purchase decisions differently from the average consumer (Chan and Wong, 2012). The need for cognition is a stronger predictor of eco-fashion purchase intention than affective considerations (Fu and Kim, 2019). Moreover, the environmental and social consciousnesses of the individual have been identified as predicting variables of eco-fashion purchase intention (Fu and Kim, 2019). Environmental and social consciousnesses influence environmental and
social concern. A research among male consumers found that environmental concern and sustainable commitment are predictors of eco-fashion purchase intention (D'Souza, 2015).

When buying fashion, garment characteristics are valued by the consumer (WALSH, MITCHELL and HENNIG-THURAU, 2001). Garment characteristics also have an impact on eco-fashion consumption. Because eco-clothing can be more expensive than traditional garments (Niinimaki, 2010; D'Souza, 2015b), price has been identified as an important variable negatively influencing eco-fashion purchase intention (Meyer, 2001; Joergens, 2006; Fletcher, 2008; Niinimäki, 2010). Consumer’s willingness to pay premium for eco-clothing positively influence eco-fashion purchase intention (Ottman, Stafford and Hartman, 2006; D'Souza, 2015b). The perceived comfort and durability of eco-garments also influence consumer purchase intention (Achabou and Rink, 2014). Many researches have underscored that quality of the garment is an important decision-making variable (Gupta and Hodges, 2012). Consumer expect eco-fashion to be of high quality (Niinimäki, 2010), even though consumer may consider eco-garment of lower quality (Ottman, Stafford and Hartman, 2006). Among male consumers, D'Souza (2014) found that quality has a low influence on purchase intention. Other garment characteristics were found to have little or no influence on eco-fashion purchase intention. Brands and eco-labels seem to have little effect (Achabou and Rink, 2014). Environmental features of an eco-garment, like the use of organic cotton or recycled textile were not found to be considered by South African women when buying eco-fashion (Momberg, Jacobs and Sonnenberg, 2012).

Internal and external benefits arise from eco-fashion consumption. Choosing eco-fashion over traditional fashion can reduce the individual cognitive dissonance by matching his behavior to his values and identity, therefore reducing discomfort (Fu and Kim, 2019). Eco-clothing is also a way to for an individual to differentiate himself while keeping his need for standing out and his need to be integrated balanced (Sorrentino, Seligman and Battista, 2007). Consuming eco-fashion also provides external benefits. It provides social benefits to the people involved in the manufacturing process or the local populations as well as environmental benefits (Ferguson, 2014). Eco-garments have a reduced impact on resources, water and soils (Marek, 2018). Because of the better impacts of eco-fashion, consuming eco-fashion is also beneficial to the economy, on a long-term basis (Ferguson, 2014).

If many predictors of eco-fashion consumption have been identified in researches. Different factors were identified as having a negative influence on eco-fashion consumption. We have categorised those obstacles under 3 different categories, plus one variable. Perceived behavioral control, low perceived benefits, internal barriers and the garment price.
Consumers may not perceive eco-fashion positive impact. Some fear that sustainable claims are only green washing techniques without practical benefits, built on the trend pledging for more sustainability (Bain, 2019). They may not feel that eco-fashion has a positive impact on the fashion industry issues (Dickson, 2001). The fact that consuming eco-fashion has no direct concrete benefits for the consumer, on his health for example, may dampen eco-fashion purchase intention (Joergens, 2006). The perceived consumer effectiveness is a barrier to eco-fashion consumption, consumers do not clearly perceive the benefits (Meyer, 2001; Achabou and Dekhili, 2013).

Another category of obstacles to eco-fashion consumption is the ones that lower the perceived behavioral control. Consumers get confused by the different eco-fashion labels and find them hard to understand (Piguet and Bougherara, 2008). Similarly, they can feel that they are not in position to judge practices in other countries because it is not the same culture as in western countries (Joergens, 2006). Low awareness about the industry issues and the eco-fashion offering dampens the eco-fashion consumption (Eder-Hansen et al., 2012; Achabou and Rink, 2014). This low awareness is worsened by the lack of information about fashion consumption impacts (Meyer, 2001; Niinimäki, 2010). The low eco-clothing availability and shopping convenience make it harder for consumers to be confident in being able to purchase eco-fashion (Joergens, 2006; Legoeul, 2006).

Different internal barriers have also been underscored by researchers. First, eco-fashion has carried for a long time a bad image of poor style and not fashionable garments. This negative image influence consumers attitude and its intention toward eco-fashion (Achabou and Rink, 2014). The eco-garment style has often been pointed out as a major issue for consumers (Meyer, 2001; Beard, 2008; Eder-Hansen et al., 2012). The ethical or sustainable dimension of a piece of clothes does not attract much of the consumer attention. There is a lack of interest from the consumer about the issues surrounding fashion consumption (Jin Gam, 2011; Achabou and Rink, 2014). When buying clothes, the consumer is not interested in the production standards nor the production process (Ritch and Schröder, 2012). Child labor scandals, degrading working conditions or industry pollution have had little effect on many consumers. Despite consumer acknowledgment, brand and product like is stronger than negative information (Joergens, 2006).

d) Variables influencing consumer’s adoption of BFC models

Improving the fashion industry impact is not only improving how the clothes are made and under which conditions. To reduce the impact of the industry, a systemic change is needed.
Changing the consumption model can be done via shifting from traditional linear business models to business model that serve circular economy. Swapping, renting, reselling, recycling as well as repairing or adjusting clothes are solutions to move to a circular fashion consumption model. These business models are called better fashion consumption (BFC) models in this study. However, consumer intention to use such solutions is influenced by different factors. From the existing literature, 4 categories of obstacles to BFC adoption have been identified: product incertitude, resource barriers, low perceived benefits, internal barriers.

When evaluating consumer acceptance of product-service system in the fashion industry, Armstrong et al. (2015) found different practical considerations influencing consumer’s decision. Quality, durability and maintenance are the main difficult drags toward adoption of better consumption models (Rexfelt and Hiort af Ornäs, 2009).

Consumer resources also influence consumer adoption of such business models. Time investment is compared to the monetary benefits of changing of consumption model. The consumer performs a cost-benefit analysis where the two main variables are time consumption and financial considerations (Fisher et al., 2008; Niinimäki, 2009).

For consumers to adopt more circular business model, they need to perceive the benefits of those practices. Consumer do not easily perceive the positive outcomes of changing of consumption model (Armstrong et al., 2015). The lack of clarity in service delivery, with clear and easily available information about the process and liabilities, dampens BFC models’ adoption (Armstrong et al., 2015). Understanding the company motives is an important aspect for the consumer, he may not understand what the economic interest for the company is and feel distrustful toward it (Rexfelt and Hiort af Ornäs, 2009).

e) Relevance and limitations of considering intention as an indicator of behavior

Intention have been identified as a strong predictor of behavior and used in many studies as an indicator of behavior (Lee, 2017). Ajzen has shown that intention is an influential predictor of behavior (Ajzen, 1991). Purchase intention is also a strong predictor of actual purchasing behavior (Ajzen, 1991; Kim and Thorndike Pysarchik, 2000). Regarding behaviors related to sustainability, similar findings make the measure of intention in place of actual behavior a coherent methodology (Chan and Lau, 2002; Beckford et al., 2010; Ramayah, Lee and Mohamad, 2010).
However, researches on behaviors related to eco-fashion consumption have underscored the existence of a gap between what the consumer says and what he actually does. This gap not only exists in the sustainable clothing field but concerns all behaviors linked to sustainability. Different studies have shown weak relationship between attitudes or intentions and the effective behaviors (Chan and Lau, 2002; Devinney, Auger and Eckhardt, 2010). This gap exists when researching recycling behaviors (Vining and Ebreo, 1990; Oskamp et al., 1991). A survey of 30 000 consumers in 60 different countries, from Nielsen (2015), shows that 26% of respondents want more eco-friendly products but only 10% say that they would purchase eco-friendly products. Self-reporting has been criticized for increasing this gap, respondents tend to answer more accordingly to what is socially desirable than their actual thoughts (Pervin and John, 1992). In France, a report indicates that if 80% of French people declare being willing to adopt more responsible practices, less than 25% of them actually change their behavior (Achabou and Dekhili, 2015). Difference between attitudes, intentions and practice have been identified as well in the eco-clothing field (Solomon and Rabolt, 2009). Consumer believes that the environment should be considered when buying clothes, but they do not consider it in practice (Butler and Francis, 1997).

C. Theoretical framework

This section aims to give an illustrated overview of the context of the study. From discussions done in previous sections and from additional literature the Figure 5 was created. The environment around fashion consumption is changing and that creates a favourable environment for better ways of consuming fashion to capture industry’s stakeholder interest. Six main factors have been identified to fuel this opportune context.

- Modern societies are facing big sustainability challenges at scale. And one of the most detrimental industry, the fashion industry, does not avoid such effects. The pledge for a systemic change is growing (Kim and Rölkens, 2018).
- Regarding fashion consumption, NGOs are playing a significant part in driving changes. Their efforts to shift from a harmful fashion consumption to a cleaner and softer one are starting to pay off (Lehmann et al., 2019).
- In addition, awareness about the social and environmental issues inherent in the current industry fast-fashion model is rising, and it starts to make the difference (Kim and Rölkens, 2018).
- Despite its economic success, the fashion industry is facing different challenges that question the traditional way of selling clothes and must adapt (Kim and Rölkens, 2018).
• On his part, the consumer is also changing. Under the influence of different variables, his expectations and goals are evolving (Nielsen, 2018).

• Influenced by NGOs, individuals and industry players, regulators are also changing to a more proactive approach (Šajn, 2019).

Investigating eco-fashion consumption and consumer attitude toward BFC models in such a new context appears necessary. And the main variables affecting consumer behavior start to appear.
Figure 5 Theoretical framework of the study: Recent changes that influence eco-fashion consumption and better fashion consumption models adoption
D. Definitions & delimitations

1. Definitions

For the sake of understanding and considering the field researched it is important to clarify the different concepts developed in this study. And most importantly, a complete definition work is needed concerning the concept of eco-fashion where no common definition is accepted by researchers (Jackson, 2008; Razzaq et al., 2018).

**Fashion industry:**
The fashion industry is the overall economic activity resulting of the production of clothes, shoes, bags, jewelry and other accessories (Enterprise & Industry Magazine, 2013).

**Sustainability:**
Sustainability can be defined as the quality of being in line with a sustainable development strategy. It is to say, sustainability is the quality of performing a behavior without compromising the ability of future generations to meet their own needs (United Nations General Assembly, 1987). The idea of sustainability is developed in three pillars: environmental, social and economic sustainability (Adams, 2006).

**Circular economy:**
Circular economy is an economic model that “aims to redefine growth, focusing on positive society-wide benefits. It entails gradually decoupling economic activity from the consumption of finite resources and designing waste out of the system. Underpinned by a transition to renewable energy sources, the circular model builds economic, natural, and social capital”. The circular economy is based on three principles: design out waste and pollution, keep products and materials in use and regenerate natural systems (Ellen MacArthur Foundation, 2017b).

**Eco-product:**
An eco-product is a product that fulfills the same function as a conventional product (Mohr and Webb, 2005) while having a low or no impact on the environment and benefiting to the society (Fu and Kim, 2019; Chouhan et al. 2013).
Self-identity:
Based on researches done by Sparks and Conner and Armitage (1998; 2000), Ries et al. (2012) define self-identity as “the salient and enduring aspects of one’s self-perception and it reflects the extent to which a person sees him- or herself as fulfilling the criteria for any societal role”.

Eco-fashion:
The practical definition of eco-fashion used in this study can be found in blue at the end of the exhaustive definition of eco-fashion.

On the theoretical side, different definitions of eco-fashion have been proposed by researchers, they present many common elements. First, consuming fashion in a sustainable way implies less purchasing (Niinimäki, 2009). Eco-fashion is a production system where the garment is designed for a long lifetime use (Joergens, 2006; Fletcher, 2008; Niinimäki, 2009) and keep its highest value during use (Ellen Macarthur Foundation, 2017). Clothes are designed to be produced in an ethical and ecological production system (Fletcher, 2008; Niinimäki, 2010), ideally regionally (Niinimäki, 2009). Pollution and harmful substances for the environment or health are phased out of the process (Henninger, Alevizou and Oates, 2016; Ellen Macarthur Foundation, 2017a). The raw materials used are renewable resources and energy is ethically sourced (Henninger, Alevizou and Oates, 2016; Ellen Macarthur Foundation, 2017a). Recycled materials or certified fabrics are used as feedstock (Niinimäki, 2009; Lehmann et al., 2019). Human rights are observed, workers are provided with good working conditions and fair wages in all part of the value chain (Henninger, Alevizou and Oates, 2016; Ellen Macarthur Foundation, 2017a). Eco-labels are used to certify processes and audit practices according to social and environmental standards as well as informing the end-consumer (Niinimäki, 2009; Henninger, Alevizou and Oates, 2016).

Such garment production system has little or no environmental impact (Joergens, 2006; Fletcher, 2008; Niinimäki, 2010). The natural capital is regenerated, the production process is restorative and regenerative by design (Ellen Macarthur Foundation, 2017a). Producing the garment have little or negative social impact (Fletcher, 2008; Niinimäki, 2010).

According to the Ellen Macarthur Foundation (2017a) vision of the ideal fashion industry. Eco-fashion should provide benefits for businesses, society and the environment. It should aim to build an inclusive and distributive system, where a growing world population is provided “with access to high-quality, affordable, and individualised clothing”, and value circulate among enterprises of all sizes in the industry. Ultimately, eco-fashion takes part in a circular economy
model where clothes never go to waste but re-enter the economy after use (Ellen Macarthur Foundation, 2017a).

On the practical side, after reviewing different industry practices, Henninger, Alevizou and Oates (2016) argue that sustainable clothing is subjective for the industry players. No common definition, regulation or certification create standards for what may be claimed sustainable clothing. According to Choi et al. (2011), the fashion industry uses eco-fashion as a brand extension strategy to lower its environmental and social impacts, as well as improving public opinion and to maintaining high profits.

The definition of eco-fashion strictly speaking is rigorous, few brands comply with it (Textile recycling toolbox, 2018), but most brands and retailers now start to call their clothes sustainable when they are only using organic cotton instead of traditional one (eg. H&M, Zara, C&A, Monoprix). Even if the use of organic cotton instead of traditional one makes a big difference on the environmental impact of the garment (Textile exchange, 2018), it only improves a small share of the actual issues of the fashion industry (Lehmann, Tärneberg and Tochtermann, 2018). Still, such shift may be regarded as a first step toward a more sustainable fashion industry. In the eyes of the average consumer it is indeed a new thing (Kim and Rölkens, 2018).

Our focus on consumer intention toward eco-fashion in this study, make us consider a loose definition of eco-fashion adapted to the consumer. Therefore, will be considered in this study as eco-fashion the type of fashion that sell or promote sustainable fashion. We consider of sustainable fashion all fashion items that use better feedstock, such as recycled materials, organic cotton or less resource consuming fabrics like linen, hemp, viscose. Better practices such as improved process performances, improved quality, circular initiatives or ethical improvements are extra in our definition of sustainable clothing. The words eco-fashion, ethical fashion, sustainable fashion will be used in an interchangeable way. Similarly, eco-garment, eco-clothing will be used to designate garment, shoes and accessories made in a sustainable way.

2. Delimitations

This study focusses on understanding eco-fashion purchase intention and attitude toward BFC models among the French population. For several reasons the French market is indeed an interesting environment to investigate. France is the only country in the European Union (EU) having an extended producer responsibility (EPR) regulation in the clothing sector (Ellen
Macarthur Foundation, 2017a). This regulation is in place since 2006. Brands and retailers are accountable for collecting or recycling used clothes. In practice, clothing collection is organized by the state accredited organization Eco TLC and brands and retailers pay a membership fee to the organization to cover part of the operational costs (Eco TLC, 2019). In other EU countries it is based on voluntary initiatives lead by major retailers such as H&M that collect clothes and invite consumer to return them to the store (Šajn, 2019). France is also considered pioneer in developing the fair-trade cotton supply chain (DIIESES, 2007). However French consumers have shown a lack of interest for eco-fashion over the years, different eco-fashion brands have closed during the 2008-2013 period and an ethical fashion show originally organized in France had to be moved to Germany (Achabou and Dekhili, 2015). In the recent years and months, the interest for sustainable fashion seemed to increase in France. The ethical and responsible shoe manufacturer Veja recent success may be an indicator of this growing interest (Carefood, 2018). In September this year, a first edition of Impact a sustainable fashion trade show, a side event of the Who’s next professional trade show, held his first edition in France and promotes sustainable and slow fashion (Impact, 2019; Guinebault, 2019). Furthermore, public authorities have started to tackle fashion industry issues, Macron, the French president missioned Francois-Henri Pinault the CEO of Kering, to mobilize the biggest industry players toward more sustainability (Garnier, 2019). Compared to other EU countries such as Germany or Netherlands, fair-trade and organic food consumption was slow to take off in France, but ultimately exceeded many other EU markets (Giovannucci, 2003; Ozcaglar-Toulouse, Shiu and Shaw, 2006; Nielsen, 2018). French fashion market is changing, and this new environment seems to align with a growing interest for fashion sustainability from French consumers.

To capture a good picture of French consumers, eco-fashion purchase intention and their intention toward more sustainable business models in the fashion sector, at first, respondents of all age and gender were invited to take the online survey. But, from reviewing the data collected, the study limitation was reframed to a smaller sample for both analyses.

Therefore, the population sampled to evaluate eco-fashion purchase intention was reframed to the Millennials, also called generation Y. Millennials are a homogeneous convenience sample. There are the individuals born between 1980 and 2000 (Smith and Nichols, 2015). Millennials are confident and optimistic (Kowske, Rasch, & Wiley, 2010) and at ease with technology (Kaifi et al., 2012). Homogeneous convenience samples are considered to “have clearer generalizability relative to conventional convenience samples” (Jager, Putnick and Bornstein 2017). It is therefore easier to highlight valid and reliable relationships.
The population sample analyzed to study attitude toward BFC model had more homogenous results. Therefore, more responses were included. Only the oldest respondents, of 70 years old or above, were not selected in order to homogenize slightly the convenience sample.

E. Research methodology

This section aims to provide a concise overview of the research methodology used to investigate consumer eco-fashion purchase intention and consumer attitude toward BFC models. More detailed explanations and justifications will be provided in the “Research design and methods” chapter.

1. Questionnaire and instruments

This study uses the existing literature to gather theoretical and practical insights. The consequent number of researches available provide a solid theoretical basis. Despite this strong theoretical basis, it is needed to provide an up-to-date empirical investigation of consumer behavior toward sustainable fashion consumption. To match its ambitions, this study adopted a causal approach to investigate the effects of different factors on consumer behavior (Stevens, 2006, p.27). To gather measurable data that can be compared to previous studies done few years ago in France (Achabou and Rink, 2014) or to compare it with any other relevant studies, a quantitative data collection method was preferred. Quantitative data fits researches that intend to “establish, confirm, or validate relationships” (Leedy and Ormrod, 2001, p. 102).

From the literature review, the theory of planned behavior (TPB) was identified as a relevant theory to explain sustainable consumption (Ozcaglar-Toulouse, Shiu and Shaw, 2006) and eco-fashion consumption (Bong Ko and Jin, 2017; Kang, Liu and Kim, 2013). However, several researchers argued that adding additional constructs to the traditional TPB is a successful strategy (Hagger and Chatzisarantis, 2006, Ries et al., 2012). The original TPB is indeed argued to miss the effects of the social context and to underscore the effects of routine and habits on consumer behavior (Dobers and Strannegård, 2005; Mylan; 2015). Regarding the analysis of eco-fashion purchase intention. In accordance with the literature, an extended version of TPB model was used to model eco-fashion purchase intention (Rise, Sheeran and Hukkelberg, 2010). Three constructs were added to the original TPB constructs: environmentally and socially conscious (ESC) self-identity, perceived consumer effectiveness (PCE) and fashion consciousness.
In the second analysis investigating consumer attitude toward BFC models, the researcher used the existing literature to propose a theoretical model explaining consumer attitude. The model included 4 constructs ESC self-identity, fashion consciousness, intention to purchase eco-fashion and attitude toward BFC models.

A single questionnaire was designed to gather data for both analyses because of the overlapping constructs and the common thematic. It was designed to have no General Data Protection Regulation issues, and answers were nameless. The questionnaire was designed to be quickly answered by respondents (less than 6 minutes) and included 33 questions. The questionnaire was in French as it aimed to gather answers from French respondents. A translation is however provided in the Appendix 1. Most of the scales used in the questionnaire were adapted from previous researches. But the scale for ESC self-identity evaluation and measurement of consumer's attitude toward BFC model had to be designed by the researcher. All questions related to constructs used in the analyses are evaluated via 7-point Likert scales. Further details about the scales are provided below.

Regarding the original constructs of the TPB model intention, attitude, subjective norm and perceived behavioral control, beliefs were measured based on the scale proposed by Ajzen (2006). Behavioral intention was defined as intention to purchase eco-fashion when considering buying clothes (Ajzen, 1991). It was measured using 3 items evaluating the respondent's likeliness to purchase eco-fashion based on a 7-point Likert scale (1: very unlikely; 7: very likely). Attitude toward eco-fashion was defined as the sum of behavioral belief evaluations about eco-fashion consumption (Ajzen, 1991). It was measured using 3 items based on a 7-point Likert scale (1: very bad/not trendy at all/extremely unpleasant; 7: very good/very trendy/extremely pleasant). Subjective norm was defined as the sum of normative belief evaluations about how eco-fashion consumption is perceived among the consumer's peer (Ajzen, 1991). It was measured using 3 based on a 7-point Likert scale (1: strongly disagree; 7: strongly agree). PBC was defined as the sum of control belief evaluations about the respondent’s ability or self-efficacy to purchase eco-fashion (Ajzen, 1991). It was measured using 3 items based on a 7-point Likert scale (1: strongly disagree; 7: strongly agree).

PCE was measured using 2 items based on a 7-point Likert scale (1: strongly disagree; 7: strongly agree). The scale was adapted from Roberts (1996). The measures focused on a specific PCE. It is to say, if the individual perceived eco-fashion as truly beneficial for the environment and for the society.

Fashion consciousness was measured using 3 items based on a 7-point Likert scale (1: Not important at all/Strongly disagree/Extremely low; 7: Very important /Strongly agree/Extremely
high). This scale was adapted from Bakewell, Mitchell and Rothwell (2006). It measured consumer’s involvement in clothing.

ESC self-identity was measured using 4 items based on a 7-point Likert scale (1: Not important at all; 7: Very important). This scale was designed by the researcher and aimed to evaluate respondent's concern for social issues, environmental issues, social and environmental issues in the fashion industry and his daily involvement in pro-environmental behaviors.

Regarding BFC models, attitude toward BFC models was measured using 5 items based on a 7-point Likert scale (1: Not interested at all; 7: Very interested). This scale was designed by the researcher and each item evaluated consumer interest toward a proposed BFC model (rental, swapping, second-hand, subscription, repair & customization).

In addition, 3 more single-choice questions were included to control for the preferred place of purchase (in physical store, on internet or both), the frequency of purchase (every week, every month, every 6 months, every year) and experience with eco-fashion (never, one time, several times). Preferred place of purchase was identified by Niinimäki (2010) as an obstacle to eco-fashion consumption. Frequency of purchase was found to influence fashion consumption behavior (Stephen Parker, Hermans and Schaefer, 2004; Bakewell, Mitchell and Rothwell, 2006). And experience with sustainable consumption was identified as a strong predictor of sustainable purchase intention (Ozcaglar-Toulouse, Shiu and Shaw, 2006).

2. Sample

Quantitative data was collected through a self-administrated online questionnaire. The online survey was shared on social media and among peer students. In total, 404 responses were collected. Millennials were the focus of the investigation of eco-fashion purchase intention. Accordingly, 343 respondents aged from 17 to 39 years old were retained for this first analysis. Among the sample population, 55.1% were female and 44.9% were males. Regarding consumer attitude toward BFC models, 394 respondents aged from 17 to 66 years old were selected. Among the sample population, 56.6% were female and 43.4% were males.

3. Data analysis

Data collected through the online self-administrated questionnaire will be sequentially processed in three steps. First, by conducting an exploratory factor analysis (EFA) to check for
consistency between theory and findings. Second, a confirmatory factor analysis (CFA) will be conducted using Amos Graphics 21 to test the validity and reliability of the measurement model. Finally, a structural equation modelling (SEM) using Amos Graphics 21 will be conducted to test the hypotheses previously formulated. Other statistical tests are performed with SPSS Statistic 21.

F. Structure of the thesis

To answer the two main research questions, this thesis will be structured around 4 main axes. First, the theoretical part will justify the theories adopted in this study and provide deeper understanding of the relationships at stake between the different constructs. Both the theory followed to explain consumer eco-fashion purchase intention and the theory underlying the study and analysis of consumer attitude toward BFC models, will be detailed. In total, 20 hypotheses will be formulated and justified. 14 regarding eco-fashion purchase intention and 6 regarding consumer attitude toward BFC models.

Then, in a second chapter, research design and analysis methods will be detailed to expose the relevance of the methodology used in the context of the study. Reliability and validity tests will be justified as well as the approach used to answer the research questions.

Thereafter, empirical analyses and findings will be detailed to provide useful information about data processing, the different adjustments made and the final validity and reliability of the findings. In this chapter, the different hypotheses will be tested. This part will be divided into two sub-sections, each one dedicated to present the analysis and findings of the two different models tested.

Finally, the empirical results will be further explained and discussed. The aim is to answer all the questions risen by the study and to discuss the contribution of the study to the field. In this chapter, the limitations of the study and the opportunities for further researches will also be examined.
II. Theory literature review

A. The different constructs influencing eco-fashion purchase intention

1. The relevance of the theory of planned behavior in the context of eco-fashion consumption

In the TPB, the individual’s intention to perform a behavior is predicted by his attitude toward the behavior, the social pressure he feels about this behavior and difficulties he perceives about performing this behavior. Therefore, the TPB aims to explain the performance of a specific behavior by an individual through four constructs. Three constructs influence the behavioral intention of an individual to perform the behavior: the attitude of the individual toward this specific behavior, the perceived behavioral control (PBC) on conducting this behavior and the perceived subjective norm concerning this behavior. The fourth construct, behavioral intention, then shapes the individual’s behavior (Ajzen, 1991). Behavioral intention is viewed as an immediate antecedent of behavior (Ajzen, 2002). Each of the three constructs are summed products of the individual’s specific beliefs.

Attitude toward a specific behavior is the summed product of the different individual’s behavioral beliefs about the outcomes of the behavior by its evaluation of these beliefs. Subjective norm is the summed products of the different individual’s normative beliefs about what others think the individual should or should not do by its motivation to comply with these beliefs. PCB is the sum of the different individual’s control beliefs, namely, perceived facilitators or obstacles to the behavior performance (Ajzen, 2001). The individual’s behavioral intention is an indicator of his willingness and readiness to perform a specific behavior (Ajzen, 1991).

![Diagram of the theory of planned behavior](image)

*Figure 6 The theory of planned behavior*
The TPB has been found to explain behaviors better than other models when studying behaviors that are performed under volitional control, it is to say, behaviors that the individual chooses and commits to conduct (Armitage et al., 1999). When the individual has control over the behavior, the TPB is adequate (Ajzen, 1991). However, the TPB is argued to only be successful in explaining planned and intentional behavior, it does not perform well in explaining habitual behaviors (Steg and Vlek, 2009).

Fashion consumption results of a volitional control. The consumer chooses to buy now or later a specific garment and chooses this garment over another one. Fashion items are usually considered as high involvement goods because of the symbolic meaning of a garment (Solomon, 1986). Buying fashion apparel is considered hedonistic, a mean of self-expression and of identity building for the consumer (Niinimäki, 2009; Hartmann and Apaolaza-Ibáñez, 2012; Sundström, Hjelm-Lidholm and Radon, 2019). Even if recent changes in the fashion industry altered consumer involvement toward fashion goods, the social purpose of fashion consumption makes it remains a high involvement good. Price decrease or marketing campaigns, pushing careless consumption, lowered consumer involvement toward fashion goods, financial resources or “real” needs are less considered. Such phenomenon may especially be observed among younger generations (Valaei and Nikhashemi, 2017), but younger generations are also more emotionally involved in fashion consumption (Skem News, 2015).

In social research, the TPB (Ajzen and Fishbein, 1980) is widely applied to explain and predict behaviors. TPB suits well certain types of behaviors by giving a comprehensive representation of its measurable antecedents (Kidwell and Jewell, 2003). When investigating behaviors linked to social or environmental issues, researchers have successfully applied the TPB to green purchasing behaviors (Chan and Lau, 2002), energy saving (Gadenne et al., 2011), organic food consumption (e.g. Vermeir and Verbeke, 2008) or fair-trade grocery shopping (Shaw et al., 2000; Ozcaglar-Toulouse, Shiu and Shaw, 2006). Razzaq et al. (2018) argue that in the context of environmental consumer behaviors, most of the researches are based on the TPB. Buying eco-fashion involves traditional fashion consumption mechanisms as well as environmentally and socially conscious aspects of consumption. When studying traditional fashion, TPB seems to not be the most efficient theory to predict behaviors as it may fail to capture the social dimension of fashion consumption (Niinimäki, 2010). Still it has proven efficient in predicting specific fashion consumption behavior toward specific products or services, like consumer attitude toward counterfeits (Kim and Karpova, 2009) or behavior regarding luxury goods (Jain, Khan and Mishra, 2017). TPB has also been proved to be efficient in explaining sustainable apparel consumption (e.g. Halepete et al., 2009; Kang, Liu and Kim, 2013; Bong Ko and Jin, 2017). Attitude, subjective norm and PBC have been found
to have an impact of eco-fashion purchase intention. Researchers in the context of eco-fashion have not converged toward the use of a single theory. Different approaches exist. And the TPB appears to be a successful approach in various context. The present study will therefore contribute to investigate validity of the TPB in explaining eco-fashion purchase in France.

In certain contexts, the historical TPB model has been criticized by different researchers for omitting important variables influencing behavior. Thus, not capturing a comprehensive enough overview. Different authors criticized the fact that the attitude-behavior approach fails to capture the importance of lifestyle and daily routine on the individual’s behaviors (Spaargaren, 2003; Dobers and Strannegård, 2005; Mylan, 2015). An individual evolves according to certain patterns that have a latent influence on his behavior. The social context in which the individual is, should not only be considered as an external variable that has a one-way influence on behavior but more as factor that has a back and forth relationship with the individual (Armstrong et al., 2015). When researching behavior in sustainability, the individual appears inconsistent (Spaargaren, 2003). He may act according to conscious considerations on certain context while not even considering environmental or social aspects on another. For example, a study of Diekmann and Preisendoerfer (1992) found out that the most environmentally concerned individuals were the one driving the most, a singularity probably caused by the better economic conditions of those individuals leading to better education in sustainability but also to more travels.

Therefore, in the context of eco-fashion it seems necessary to build a comprehensive model that would capture wider insights that the traditional four-construct TPB. Different studies on sustainable consumption behaviors have used a similar approach. Ozcaglar-Toulouse, Shiu and Shaw (2006), when studying ethical consumer decision making about fair trade grocery shopping, found that adding self-identity and ethical obligation to the three traditional constructs influencing intention was a significant improvement on the original TPB. However, he also noted that significant amount of information remained unexplained (Ozcaglar-Toulouse, Shiu and Shaw, 2006). Similarly, Han and Kim (2010) found that adding Overall image, Frequency of past behavior and customer satisfaction to the original TPB model considerably improved the explanation of green hotel revisit intention. After reviewing literature and theory about eco-fashion consumption, this study will propose an extended model of the TPB, including environmentally and socially concerned self-identity and fashion consciousness as two more constructs influencing eco-fashion purchase intention.
2. The effect of ESC self-identity on eco-fashion purchase intention

The main issues of the fashion industry are the social and environmental damages done from an intensive and cost oriented production. The consumption rate of environmental and social resources raises important sustainability challenges (Cobbing and Vicaire, 2016; Lehmann, Tärneberg and Tochtermann, 2018). Eco-fashion positions itself as offering a way of improving this situation. Its goal is to produce garments from less natural resources and with care about the human capital involved at all steps of the production. Eco-fashion is one, among others, improvement step toward a more sustainable fashion industry.

Jiménez Sánchez and Lafuente (2010) define, environmental consciousness as “a multidimensional behaviour-oriented concept (i.e., the propensity to engage in pro-environmental behaviours)”. Social consciousness is defined as “consciousness shared by individuals within a society. It essentially means to be conscious or aware of the problems within a society or community” (Questia, 2019). Both concepts refer to 2 of the 3 pillars of sustainability: environmental and social sustainability (Adam, 2006). And both concepts are bonded with the claims of eco-fashion for workers and environment protection. Therefore, environmental and social consciousness appears connected with eco-fashion consumption.

Self-identity is associated with self-perception (Sparks, 2000) and reflects how an individual sees himself as conducting a societal role (Conner and Armitage, 1998). Using the existing definitions and merging the concepts of environmental consciousness, social consciousness and self-identity we create and define the construct of environmentally and socially conscious self-identity as the salient and enduring aspects of one’s self-perception as aware of the existing social and environmental problems within the society while feeling engaged in pro-environmental or pro-societal behaviors. For the sake of clarity, we will from now on refer to environmentally and socially conscious self-identity by the acronym ESC self-identity. The concept of ESC self-identity is limited to the individual’s perception of his relationship with environment and social justice, it does not refer to its self-perception in general, in fashion nor to its status in within a group or the society.

In the existing literature, different authors have underlined the necessity of considering self-identity when investigating consumption behaviors. For Spaargaren (2003), consumption should be examined as process. Doing so highlights needs, ambitions and interactions in a given social context, and provides useful insights to the researcher.

Self-identity is important to understand today’s consumption mechanisms. With the advent of materialism and consumerism, we buy what we are, and we are what buy (Dittmar, 1992). According to the cognitive dissonance theory, an individual experiences mental discomfort
when he has contradictory beliefs or when his acts contradict his beliefs (Festinger, 1962). The individual will therefore try to harmonize his beliefs, his value and his behavior. Similar mechanisms are observed in consumption behavior and are conceptualized under the theory of self-congruity (Dolich, 1969). To enhance or strengthen his self-identity the consumer is likely to purchase goods that match or improve his self-concept (Das, 2015). This phenomenon seems to be especially true regarding environmental or social beliefs of behaviors. Self-identity and product relevance have been identified as influencing variables of sustainable consumption attitude and behavior (Pickett-Baker and Ozaki, 2008; Ozaki, 2010; Kang, Liu and Kim, 2013). Self-identity is a key driver for consumers that often buy fair trade grocery (Ozcaglar-Toulouse, Shiu and Shaw, 2006). The individual aspires for a balanced life story and tries to harmonize his self-image with his conception of an ideal world. Sustainable or ethical consumption is a way to converge toward this idealization of himself or of the society (Giddens, 1991; Spaargaren and van Vliet, 2000). The process of identity creation is important to understand sustainable consumption, over traditional considerations investigating the effect of the place of purchase (Dobers and Stannegård, 2005).

Regarding clothing consumption and fashion related behaviors, self-identity importance has been underscored in various ways. The clothes we buy and what we wear showcase our personality and our behaviors (Pan et al., 2015). Clothes have a material symbolism and express social and personal identity (Dittmar, Beattie and Friese, 1996). Among many researchers, fashion is viewed a communication code that serves as a mean of self-expression for individuals or groups (Stets and Burke, 2000; Michaelidou and Dibb, 2006; Fernandez, 2009). Another theory, the optimal distinctiveness theory, conceptualized the individual's need to balance his will to stand out and his need to be accepted by his peers (Sorrentino, Seligman and Battista, 2007). In fashion, self-identity is viewed as a predicting variable of consumption (Stets and Burke, 2000). Fashion is a mean of identity building and of satisfaction of the desire for originality (Pitombo Cidreira, 2009; Niinimäki, 2010). Different researchers found a positive effect of self-identity on fashion attitude (Piacentini and Mailer, 2004; Michaelidou and Dibb, 2006; Khallouli and Gharbi, 2013). Gender identification is an important construct of self-identity. And gender has a great influence on fashion behaviors (Rocha, Hammond and Hawkins, 2005). Women are more involved in fashion than men (Browne and Kaldenberg, 1997; Auty and Elliott, 1998). Even though the behavior gap between women and men behavior regarding fashion consumption has narrowed in the recent years thanks to society changes like the appearance of fashion male magazines in the 80’s or the rise of fashion male icons (O’Cass, 2004; Bakewell, Mitchell and Rothwell, 2006).
Hence, self-identity is an important dimension of consumer consumption, and even more relevant to sustainable consumption. Likewise, in fashion consumption, self-identity is an important dimension of consumer beliefs and behaviors. In sustainable clothing, self-identity is relevant as well. It has been found to influence eco-fashion consumption. Hustvedt and Dickson (2009), found that consumers purchasing organic cotton apparel had strong self-identities as socially and environmentally conscious consumers.

Various researchers advocate for including self-identity dimensions in the TPB. Sparks and Shepherd (1992) found that self-identity explained more green consumption that the other TPB original constructs. The addition of internal ethical obligation dimension improved the explanation of behavioral intention (Gorsuch and Ortberg, 1983). Ozcaglar-Toulouse, Shiu and Shaw (2006) found similar results when studying fair trade grocery consumption. Rise, Sheeran and Hukkelberg (2010) conducted a meta-analysis on the relevance of self-identity for TPB model and highlighted that across different studies self-identity alone captured 6% additional variance in intention in extended TPB models. It raised to 9% if past behavior was controlled (Rise, Sheeran and Hukkelberg, 2010). Including self-identity is also a way to mitigate the often-low effect of subjective norm on intention. And somehow to correct the lack of understanding of the social context (Ries et al., 2012). Subjective norm is indeed argued to lack predictive validity in the TPB by not capturing a deep understanding of the different relationships of the individual with the context he evolves in (Hagger and Chatzisarantis, 2006; Chatzisarantis et al., 2009). To Ozcaglar-Toulouse, Shiu and Shaw (2006), the original TPB is too focused on the “selfinterested concerns of individuals” and lacks comprehensiveness in the case of sustainable consumption.

ESC self-identity is a construct based on the personal beliefs, values and behavior of consumers regarding environmental and social issues. In the literature, direct relationships between environmental concern and eco-product purchase intention have been established (Kim and Damhorst, 1998). Kaman Lee (2010) underscored the stronger effect of specific environmental concern over general one on green purchase intention. The positive effect of environmental concern on eco-fashion purchase intention has also been highlighted (Brosdahl and Carpenter, 2010; D'Souza, 2015). Similar findings found that social concerns affect green consumption (Anderson & Cunningham, 1972; Jin Gam, 2011). For Niinimäki (2009) social orientation, ideals and ideology influence consumer’s decision-making when considering ethical purchasing. However, some studies mitigate the effect of environmental concern on intention (Vermeir, 2008). It seems that social and environmental concern do not always translate into more sustainable consumption choices. It has been observed in overall green
consumption (Butler & Francis, 1997; Domina and Koch, 1998), as well as in sustainable clothing consumption (Ritch and Schröder, 2012). Despite these mitigations, the theory and previous findings indicate that environmental and social concern would positively influence eco-fashion purchase intention. Therefore, the following hypothesis will be tested:

- H1: ESC self-identity has a positive effect on consumer intention to buy eco-fashion items when controlling for experience with eco-fashion, frequency of purchase, preferred place of purchase and age.

In the existing literature, less information is available on the effect of social and environmental concerns on the attitude toward eco-fashion consumption. However, environmental concern is found to influence attitude toward sustainable consumption. De Groot and Steg (2007) found environmental concern to be related to behavioral beliefs. Moreover, environmental concern influenced behavior-specific attitudes. Eco-fashion consumption is a better consumption alternative than traditional fashion consumption. It has a better impact on the environment and society. It can be considered as a better behavior that buying regular clothes. Such effect would probably appeal to conscious consumers searching to improve their impact. With a similar reasoning than for purchase intention it can be theorized that environmental and social concern would have a positive effect on attitude toward eco-fashion. Thus, the following hypothesis is formulated:

- H2: Environmentally and socially conscious self-identity has a positive effect on consumer attitude toward eco-fashion when controlling for experience with eco-fashion and frequency of purchase.

As for the effects of individual’s identity on attitude, few studies have evaluated this effect on PCB and subjective norm in the context of sustainable consumption. However, a meta-analysis of 13 studies using self-identity as a construct in addition to the original TPB conducted by Rise, Sheeran and Hukkelberg (2010) found through a two-step hierarchical regression analysis that self-identity had only small to medium correlation with subjective norm and PCB. These findings suggest that self-identity is “conceptually and empirically distinct from attitude, subjective norm, PBC”. But the correlation’s significance also suggest that self-identity is somehow related to PCB and subjective norm. A recent study from Gkargkavouzi, Halkos and Matsiori (2019) investigating environmental behavior in a private sphere context found that self-identity moderates the relationships between biospheric values and attitudes, subjective norm, and perceived behavioral control. Self-identity seems to have a significant influence on PCB and subjective norm. It can be assumed that individuals with a strong ESC self-identity are used to perform pro-environmental consumption behaviors. Thus, they are more
experienced and knowledgeable about sustainable consumption (Lin & Chang, 2012). Even if pro-environmental behaviors are not consistent, it is to say, one can recycle while not caring about energy saving (Mainieri et al., 1997). Related pro-environmental behaviors are performed more consistently (Hines, Hungerford, and Tomera, 1987). In the case of sustainable consumption, ESC people tend to buy more sustainable products (Hustvedt and Dickson, 2009). It is also true for eco-fashion (Valaei and Nikhashemi, 2017). Experience and knowledge about sustainable consumption may increase the perceived behavioral control over eco-fashion consumption for individuals with a strong ESC self-identity. Knowledge, experience, preferred shopping location and reference group effects may also increase peer pressure on individuals with a strong ESC self-identity to improve their fashion consumption or to buy green fashion products (Bong Ko and Jin, 2017). Therefore, high ESC self-identities may have stronger normative beliefs about eco-fashion consumption as well as more motivation to comply than others. Consequently, two hypotheses will be tested:

- **HID3**: Environmentally and socially conscious self-identity has a positive effect on PBC when controlling for experience with eco-fashion and frequency of purchase

- **HID4**: Environmentally and socially conscious self-identity has a positive effect on Subjective norm when controlling for experience with eco-fashion and frequency of purchase

It is commonly accepted that attitude is a direct predictor on intention (Ajzen, 1991). This positive relationship has been underscored in various studies investigating pro-environmental or pro-societal behaviors (Alwitt and Pitts, 1996; Diamantopoulos et al., 2003; Ozcaglar-Toulouse, Shiu and Shaw, 2006; Nabsiah, Elham and Tan, 2011; Mei, Ling and Piew, 2012; Kang, Liu and Kim, 2013). The affective response of the consumer toward eco-fashion should drive consumer purchase intention. The following hypothesis will be tested:

- **Hatt**: Attitude toward eco-fashion has a positive effect on consumer intention to buy eco-fashion items when controlling for experience with eco-fashion, frequency of purchase, preferred place of purchase and age
3. The effect of PCE on eco-fashion purchase intention

Perceived consumer effectiveness is defined by Ellen, Wiener and Cobb-Walgren (1991) as “a domain-specific belief that the efforts of an individual can make a difference in the solution to a problem”. In sustainable consumption it can be formulated as a belief held by the consumers that his green consumption choice over a traditional product will improve current environmental or social issues (Roberts, 1996; Choi and Kim, 2005). Perceived behavioral control and PCE are two connected concepts in the field of sustainability (Rothbaum, Weisz and Snyder, 1982). Not the most researched construct in the field of sustainability, PCE appears as an important dimension to consider. The belief of an individual that his choices will have real consequences may empower the consumer and enhance his beliefs and attitude about sustainable consumption (Ellen, Wiener and Cobb-Walgren, 1991). Through PCE, the self-evaluation of the consumer has a greater importance (Gilg, Barr and Ford, 2005). Indeed, researchers found that PCE affects behavior. However, the findings concerning the effect of PCE differs on the nature of PCE effect on behavior. Kinnear (1974) considered that PCE moderates the effect of attitude on intention (Kinnear, Taylor and Ahmed, 1974). PCE was found to have a significant effect on consumer consumption (Choi and Kim, 2005; Verhoef, 2005). In some cases, PCE also has a direct effect on consumption behavior (Ellen, Wiener and Cobb-Walgren, 1991), or when associated with faith in other (Berger and Corbin, 1992). Furthermore, other more recent researches have found PCE effect on behavior to be mediated by attitudes (Kang, Liu and Kim, 2013). PCE was found to be mediated by attitude in a sustainable purchasing context (Choi and Kim, 2005; Wesley, Lee and Kim, 2012). Kang et al. (2013) have studied the effect of PCE on the three-original constructs of the TPB influencing intention toward sustainable apparel consumption among consumers from the US, South Korea and China. The results indicated that PCE was a significant antecedent of attitude and behavioral control. However, PCE had no significant influence on subjective norm (Kang, Liu and Kim, 2013). The existing literature converges toward the idea that PCE has a significant impact on attitude and intention. Especially regarding sustainable consumption (Wesley, Lee and Kim, 2012; Kang, Liu and Kim, 2013). Thus, we developed the following hypotheses:

- H PCE1: PCE has a positive effect on consumer attitude toward eco-fashion when controlling for experience with eco-fashion, frequency of purchase and place of purchase
- H PCE2: PCE has a positive effect on Intention when controlling for experience with eco-fashion, frequency of purchase, preferred place of purchase and age
PCE and PBC are two related concepts, that evaluate individual's beliefs about performing a specific behavior (Ellen, Wiener and Cobb-Walgren, 1991). PCE indicates the individual belief that his behavior will lead to consequences. And PBC indicates the perceived difficulty of the individual to conduct this behavior. PCE can therefore be considered as a preliminary step before the creation of PBC. Kang, Liu and Kim (2013) found that the greater the PCE was, the lower the PBC became. This relationship effect is due to the fact that if the individual believes he has an important impact he will feel less confident about his abilities to perform a behavior. The evaluation of the consequences impacts the perceived feasibility. Accordingly, we conjecture that:

- **H PCE3**: PCE has a negative effect on PBC when controlling for experience with eco-fashion and frequency of purchase

Subjective norm represents the social pressure an individual feels about a specific behavior. If the consumer perceives this specific behavior as leading to positive consequences, he may therefore experience guilt or anxiety of choosing to not perform it and choosing another worse behavioral option. Eco-fashion consumption is a better consumption option compared to traditional fashion. If the consumer sees benefits in buying sustainable clothes over traditional ones, he may experience cognitive dissonance or social pressure for not behaving accordingly. Results from Hang et al. (2013) did not support the positive effect of PCE on subjective norm but following literature and because this study focusses on the French market, it seems a plausible relationship. As previously developed, France has experienced a recent growing interest for eco-fashion, and consumer may feel more peer pressure. The following hypothesis has been developed:

- **H PCE4**: PCE has a positive effect on subjective norm when controlling for experience with eco-fashion and frequency of purchase

4. **The effect of fashion consciousness on eco-fashion purchase intention**

Kaur (2018) defines fashion consciousness as “an individual's degree of involvement with styles or fashion of clothing”. Fashion conscious consumers keep up to date with fashion trends and new styles (Mafini, Dhurup and Mandhlazi, 2014). This category of consumers is highly involved in fashion and clothing is important to their lives and identities (Bloch, Commuri and Arnold, 2009). Consumer’s involvement in fashion depicts clothing consumption behaviors and
outline the individual's interest in physical appearance (Kaur and Anand, 2018). Fashion consciousness is a construct important to understand consumer behavior toward garments. Different researches have found that women are more fashion conscious than men (Tigert, King and Ring, 1980; Browne and Kaldenberg, 1997; Auty and Elliott, 1998). This difference is explained by the historical social context where fashion should belong to women (Bakewell, Mitchell and Rothwell, 2006). However, influenced by recent society changes and a more diverse and inclusive definition of gender, gender differences regarding fashion involvement has been blurred (Lam and Yee, 2014). Age has also been identified as an important variable influencing fashion consciousness. Younger people tend to care more about their physical appearance and to be more involved in fashion than others (Fairhurst, Good and Gentry, 1989; O'Cass, 2000; Auty and Elliott, 1998). Only O'Cass (2004) found contradictory results about the influence of gender and age when studying Australian consumers. Fashion conscious consumers have often attracted researcher's interests and different element of fashion-conscious consumer personality have been highlighted. Consumers highly involved in fashion are innovative, adventurous and seek attention from others. They are also more self-confident, brand conscious and health conscious than the average consumer. Their clothes are a mean of self-expression and fashion is a nonverbal language (Kaur, 2013).

To maintain their image, fashion conscious consumers buy clothes more frequently than others. Seeking novelty and renewed style seems in apparent contradiction with sustainable consumption (Solomon and Rabolt, 2009). Enjoying ever faster turnarounds, new styles and trends associated with an increased number of collections per year conflicts with being aware of the social and environmental issues of the fashion industry (Kim and Damhorst, 1998). Fashion mechanisms support variation and novelty (Solomon and Rabolt, 2009). Nonetheless, fashion conscious consumers quest for novelty, challenges and originality makes them possible candidates for eco-fashion consumption. Eco-fashion may be considered as a brand extension strategy used by the industry to improve its performances (Choi et al., 2011; Fu and Kim, 2019). Brand extension strategy are common in the fashion industry, it allows brand to diversify and test the market at lower risk (Eren-Erdogmus, Akgun and Arda, 2018). Therefore, if fashion-conscious consumers perceive eco-fashion as an emerging trend, they may embrace it. Recent indicators in France such as the growing political interest for the issues linked to the fashion industry (Garnier, 2019), launches of sustainable collections from retailers like the H&M conscious collection (H&M, 2019) or climate strikes (France 24, 2019), seems to indicate a general trend toward more sustainability in the fashion industry. Consumers involved in fashion have acknowledged those changes because they like to keep aware of the recent fashion-related information (Kaur, 2013). Another factors that may influence this type of consumer to form a positive attitude or intention toward eco-fashion consumption is the fact
that fashion-conscious consumers have a different decision-making style compared to other consumers (Kucukemioglu, 1999; Lee et al., 2009). This segment of consumer spends more money in fashion (Kwan, Yeung and Au, 2004; Wan, 2011), and values quality over quantity (Sprotles & Kendall, 1986; Walsh, Mitchell and Hennig-Thurau, 2001; Wesley, LeHew and Woodside, 2006). Quality is a strong decision-making criterion for eco-fashion consumption as well (Ottman, Stafford and Hartman, 2006; Gupta and Hodges, 2012). And sustainable fashion is in general more expensive than traditional one (Niinimäki, 2010). Despite some findings indicating a bad perception of recycled textile in the luxury segment (Achabou and Dekhili, 2013), we see that a potential match exists between fashion conscious consumers and eco-fashion. One of the main issues of eco-fashion and important to fashion conscious consumer, the style of the garment, has reduced over years with big industry players starting to launch sustainable collections. Fu and Kim (2019) in their Cognitive-Experiential approach of eco-fashion purchase intention did not found any influence of fashion consciousness when studying 657 US respondents. But because of the aforementioned reasons, the lack of other research findings and the specific case of France, this study has viewed relevant to investigate fashion consciousness impact as an additional construct that capture part of the routine and habits of consumers, as suggested by in other researches (Niinimäki, 2009). In line with our reasoning we developed the following hypotheses:

- H FC1: Fashion consciousness has a positive effect on attitude toward eco-fashion when controlling for experience with eco-fashion, frequency of purchase and place of purchase
- H FC2: Fashion consciousness has a positive effect on consumer intention to buy eco-fashion items when controlling for experience with eco-fashion, frequency of purchase, preferred place of purchase and age

Regarding fashion, consumer knowledge can vary a lot (O’Cass, 2004). In the literature, various obstacles to green fashion consumption have been underscored. Many of which are related to the control beliefs of the consumer on eco-fashion purchasing. An obstacle to eco-fashion consumption found across different study is the lack of awareness of such products from consumers (Cotelle, Nury and Terrisse, 2011; Momberg, Jacobs and Sonnenberg, 2012; Achabou and Rink, 2014). In addition to the lack of awareness, the higher price of eco-garments has also been pointed out to lower intention to buy (Meyer, 2001). A third important element to consumption is product availability. Sustainable fashion has for a long time been only a niche market, first only available through specialized mail-order magazines and then through specialized website. Thus, consumers had to have the knowledge about where to find
eco-garments, to find brands they like offering this type of product and then to be able to successfully purchase them. Consuming eco-fashion command a higher consumer knowledge (Legoeul, 2006). Niinimäki (2009) found that 37.9% of the Finnish respondent wished to find eco-fashion in hypermarkets, and 24.7% in special shop. Besides, there are not only barriers about where to find eco-fashion. Consumer knowledge and confidence about how to choose eco-garments and not fall for green washing is an obstacle to purchase intention (Connell, 2011; Bain, 2019). Consumers reported being confused by the existing labels related to eco-fashion (Piguet and Bougherara, 2008; Cotelle, Nury and Terrisse, 2011).

Fashion conscious consumer are consumers with a greater knowledge about fashion trends and styles but also about brands and shops (Kaur, 2013). They are keener to shop through less common distribution channels to find the perfect match. They also spend more money than the average consumer. And this category of consumer is more experienced with the technical aspects of garments. Such experiences, knowledge and habits would facilitate shopping sustainable garments and therefore increase the perceived behavioral control over shopping eco-fashion. Accordingly, we hypothesize that:

- **H FC3**: Fashion consciousness has a positive effect on PBC when controlling for experience with eco-fashion, frequency of purchase and place of purchase

As previously exposed, fashion involvement increases consumer knowledge about fashion. It increases trend awareness, product knowledge, brand awareness but also general knowledge about the fashion industry (Kaur, 2013). With the current interest of media and social media for sustainable fashion, it can be assumed that fashion conscious consumer is more aware about the sustainability issues of the fashion industry than the average consumer (Fu and Kim, 2019; Lehmann et al., 2019). This increased knowledge and the social aspect of fashion consumption where peer and family approval are important may strengthen the social pressure fashion-conscious consumers feels for buying eco-fashion. The following hypothesis will be tested:

- **H FC4**: Fashion consciousness has a positive effect on Subjective norm when controlling for experience with eco-fashion and frequency of purchase
5. The effect of PBC on eco-fashion purchase intention

Various researches have investigated barriers to eco-fashion consumption to try to explain why eco-fashion consumption stayed a marginal behavior. Several of the obstacles highlighted by these studies are related to a low PCB for the consumer. Consumers feel that they do not have enough knowledge to successfully choose a more sustainable garment (Connell, 2010). They are easily confused by the available information such as eco-labels (Piguet and Bouherara, 2008). Product availability and variety has also been pointed out as an important problem for consumers (Meyer, 2001; Legoeul, 2006). Eco-fashion initiatives or brands have not enough visibility among the average consumers to raise the public interest (Jin Gam, 2011; Achabou and Dekhili, 2015). Such beliefs make part of consumers believing that eco-fashion is not a viable alternative or relevant to them (Joergens, 2006). Individuals that do not experience those barriers would more likely have a greater intention to consume sustainable fashion. Hence, the following hypothesis is proposed:

- H PBC: PBC has a positive effect on subjective norm when controlling for experience with eco-fashion and frequency of purchase

B. The different constructs influencing attitude toward BFC models

In addition to uncovering different factors influencing French consumers intention to buy eco-fashion, this study ambitions to explore possible factors that would affect consumer’s attitude toward better fashion consumption models (BFC models). To do so, we first use the existing literature to build 5 different business models that offer to consume fashion in a more circular system. In a second phase, we will build six hypotheses and a suggested model to evaluate consumer attitude toward BFC models.

1. Developing more sustainable fashion consumption models is needed

Building a sustainable fashion industry cannot be done by only lowering the impact of clothing production. To solve, at least, the environmental issues caused by the industry, a shift from a
linear consumption model to a circular one is needed (Ellen MacArthur Foundation, 2017a; Šajn, 2019; Lehmann et al., 2019). Today, clothes are produced with an intensive use of virgin resources (Cobbing and Vicaire, 2016). And the loop is not closed because of the cradle to grave approach. Garment mainly ends up in landfill or incinerated (Ellen MacArthur Foundation, 2017a). In addition to the soil, water and air pollution the end of life generates, this is a loss of value (Payne, 2014). It is estimated that USD 100 billion worth of materials used to produced clothes are lost each year (Ellen Macarthur Foundation, 2017a). To solve the problem of the end of life of clothing, a great solution would be to recover most of the value through recycling. Unfortunately, recycling is not yet a viable option for the industry (Textile recycling toolbox, 2018). Today, at a global scale only 20% of clothing waste collected is reused or recycled. And this is for waste that is collected (Lewis, 2015). Less than half of used clothes is actually collected (Šajn, 2019). Collection system is one issue, the technological challenges for recycling are another. Today, no recycling technologies are economically viable to be scaled (Cobbing and Vicaire, 2016; Textile recycling toolbox, 2018). Different technologies are in development process and bring hope for a more circular fashion in the future (Circle economy, 2016; Šajn, 2019). But recycling needs to rely on efficient collection systems and efficient support systems to become a viable solution (Textile recycling toolbox, 2018). It will take time and combined efforts to make recycling a viable alternative. Facts are that today less than 1% of used clothes are recycled into new yarn and reused in textile of an equivalent quality (Ellen MacArthur Foundation, 2017a). For now, to really solve the issue of the fashion industry, only one alternative remains: reducing consumption. An effective way to do this is by extending clothing utilization (Cobbing and Vicaire, 2016; WRAP, 2017; Ellen Macarthur Foundation, 2017a).

Extending clothing utilization is one of the easiest ways to improve fashion industry’s environmental impacts (Ellen Macarthur Foundation, 2017a). Garments’ lifetime has been halved in 15 years (Kim and Rölkens, 2018). Our need for novelty reduces the lifetime of our clothes. A survey conducted among British consumers showed that one in three young women consider clothes “old” after having worn them once or twice. Some clothes are thrown away after only seven to ten wears (Skem News, 2015). Underutilization of clothing is a phenomenon especially observed in developed countries where the throw away culture is more present. But newly emerged countries are catching up quickly with such practice. Over the last 15 years, clothing utilization has decreased by 70% in China (Ellen Macarthur Foundation, 2017a). To counteract this trend, it is needed to promote and develop practices that extend clothing utilization. However, consumers perceive the limitation of their fashion consumption as a strong emotional sacrifice, and most are not willing to give up on their habits easily (Fisher et al., 2008; Niinimäki, 2010; Mylan, 2015).
The recent development of the sharing economy has impacted consumer attitude toward ownership and product utilization. Based on a service triad system, the sharing economy service (SES) companies serve as intermediary through an online platform between the end consumer and the service provider (Apte and Davis, 2019). Mainly driven by economic motivations, users maximize the value of underutilized resources (Philp, 2015). The size of the sharing economy is still small compared to the overall traditional economy, but it has impacted the way traditional businesses operate and consumer behavior too (Apte and Davis, 2019).

Among other factors, the rising concern about the negative impact of fashion consumption, the development of the sharing economy and the trend toward an increased digitalization have driven consumer and businesses to consider new ways of consuming fashion. The boom of collaboration platforms challenges the old way of selling clothes and open new opportunities in for the industry (ETP Fibres Textiles Clothing, 2016). Innovative companies have started to capitalize on those changes soon to transform the industry. This increased servitisation of the fashion industry has a strong potential to improve the industry sustainability. Different business models are starting to revive or develop practices such as recycling, upcycling, rental, subscription, pay-per-use, exchange, customization, refurbishment, repair (Hvass, 2014). All have a sustainable potential by increasing clothing utilization (Kim and Rölkens, 2018). Such practices are still marginal ways of doing business in fashion but have the potential to transform the overall industry (Pedersen and Netter, 2015). Acknowledging those trends, traditional brands and retailers started to experiment these new ways of selling fashion (Pedersen, Gwozdz and Hvass, 2016). For example, Euratex, representing the textile and clothing industry in Europe said in 2017 to engage in the “the exploration of new business models that could be widely and easily disseminated in [the] industries” (Huneke, 2017). In their annual analysis about the state of the fashion industry, Kim and Rölkens (2018) forecasted that “the number of brands getting into the rental, resale and refurbishment business will increase markedly”. Especially for the “rental native” brands that focus on rental or subscription models (Kim and Rölkens, 2018). Adding service to clothing consumption to improve consumer long-term use of clothing and engagement with garments could greatly improve the industry sustainability while preserving part of the thrill and passion existing in fashion consumption (Armstrong et al., 2015). In 2014, Ellen MacArthur Foundation analyzed that renting and sharing business models could capture €20 billion per year of untapped value (Toward the circular economy, 2013).

Acknowledging this on-going transformative change in clothing retailing, it seems important to get a preliminary overview of what is the consumer’s attitude toward such business models that are only starting to emerge. New generations are increasingly interested in sustainability issues and seek meaning in consumption while being more opened toward innovative
consumption models (Remy, Speelman and Swartz, 2018). Better fashion consumption (BFC) models hold great potential for the fashion industry to bring closer consumption and sustainability. Only very few studies have researched consumer perception of more sustainable fashion business models. However, an important study from Armstrong et al. (2015) has aimed to understand the evaluation process of fashion-conscious women from the US and Finland of three use-oriented product-service systems (PSS). Through focus group interviews and questionnaire researchers aimed to understand motivation and barriers of these female consumers toward three concepts: clothing consultancy, renting and swapping.

Following a similar methodology, this study proposes to model consumer attitude toward BFC models by evaluating consumer interest for five fashion consumption concepts built on the existing literature and actual existing business examples. Below, the five tested concepts will be formulated. Later, hypotheses and the evaluated model will be built.

2. The 5 BFC models

The five BFC models that go toward extended garment lifespan or increased clothing utilization are:

**Rental model**

In this model, the user rents one or several garments of his choice for a chosen period. Rental can be done online or in-store. The price is attractive compared to the cost of a new garment. If he desires, the user can purchase the garment at the end of the rental period.

**Swapping model**

In this model, the user can swap one or several garments that he no longer wants with one or several garments that another user also wish to swap. Swapping cost is low or free and the exchange can be done physically or remotely.

**Subscription model**

In this model, the user receives clothes at a pace he chooses (for example, each week or each month). Clothes are his for the previously defined period, then the user returns the clothes while receiving new ones. The user chooses the style and the number of garments he wants
to receive but not a specific model. It is up to the provider to present new pieces of clothe each time. The user can also buy the garments he wishes to keep.

**Second-hand model**

In this model, comparable to the concept of a thrift shop or of the application Vinted (buy and sell platform for used clothes), the user can resell its old clothes and buy new ones resold by other users.

**Refurbishment and customization model**

In this model, the user can have his old clothes repaired, adjusted or customized by a professional. So that it extends the garments' lifetime.

For reasons of time and feasibility, constructs derive from the same survey used to model consumer intention toward eco-fashion. The survey had been initially designed to connect with both aspect of this study. Nevertheless, this study of consumer attitude toward BFC model do not include an exhaustive set of constructs as other factors than the one evocated below would also have been a good choice to include (Armstrong et al., 2015).

3. **The effect of ESC self-identity on attitude toward BFC models**

A main driver of consumption behavior is the beliefs held by individuals (Ajzen, 1991). Consuming fashion in other ways than following the traditional retailing pattern imply that this type of consumer held different beliefs regarding fashion consumption than most consumers (Sprotles and Kendall, 1986; Mafini, Dhurup and Mandhlazi, 2014). Despite recent changes, conscious consumer has long been perceived as a specific consumer segment by researchers (Peattie and Belz, 2010). And it seems to still be true today (Lehmann et al., 2019). Conscious consumers behavior is influenced by the ethical or sustainable beliefs they have formed about social justice, the environment or consumption in general (Moisander, 1991). ESC self-identity has been found to favor environmentally responsible behaviors. In consumption this translates into more interest from this type of consumer in sustainable products like organic food or faire trade consumer packaged goods, and sustainable fashion as well (Hustvedt and Dickson, 2009). Conscious consumer interest and knowledge about social and environmental issues
push him to change his consumption pattern and he is more willing to make efforts to improve his impact. Whether these are financial, psychological or convenience-related efforts (Anderson & Cunningham, 1972; Jin Gam, 2011). For individuals to improve their consumption impact, they have the choice of consuming better products and consuming less through a better use of their existing material possessions (Cobbing and Vicaire, 2016). The different concepts evoked in this section are concepts that match these criteria through less owned clothes, better clothing utilization and extended product lifespan. This congruence between ESC consumers’ ideology and the offering of BFC models let forecast that ESC consumers will be more likely than others to form a positive interest in BFC models. Therefore, we propose the following hypothesis:

- **H1**: Environmentally and socially conscious self-identity has a positive effect on attitude toward other ways of consuming fashion norm when controlling for frequency of purchase, place of purchase and age

As discussed in the previous section about factors influencing eco-fashion purchase intention. We maintain the following hypothesis:

- **H2**: Environmentally and socially conscious self-identity has a positive effect on intention to buy eco-fashion when controlling for experience with eco-fashion, frequency of purchase, preferred place of purchase and age

Fashion conscious consumers embrace fashion mechanism and express a strong materialism (O’Cass, 2004). To be involved in fashion, to keep up with trends and to care about physical appearance appears to be contradictory with pro-environmental beliefs or behaviors (Razzaq et al., 2018). Fashion mechanisms favoring over consumption, impulse purchase and aesthetic motivations over practical considerations, real needs and care environmental impact (Solomon and Rabolt, 2009). Beliefs held by fashion-conscious consumers and beliefs held by environmentally and socially conscious consumers appear contradictory. Thus, we hypothesize:

- **H3**: ESC self-identity has a negative effect on fashion consciousness when controlling for frequency of purchase and age
4. The effect of fashion consciousness on attitude toward BFC models

As previously exposed, fashion conscious consumers are a category of consumer that is more involved in fashion, that likes to keep up with styles and trends and that values physical appearance more than others (Solomon and Rabolt, 2009; Kaur and Anand, 2018). Degree of fashion consciousness has been found to influence consumer decision-making (Kucukemiroglu, 1999; Lee et al., 2009). Individuals highly involved in fashion seek more variety and novelty in fashion consumption than most. They feel pleasure and excitement when doing performing new behaviors (Sprotles and Kendall, 1986). To satisfy their hedonic desires and feed their need for novelty, fashion conscious consumers are often willing to spend more money, to spend more time, to conduct more research in fashion consumption than the average consumer (Kwan, Yeung and Au, 2004). Shopping clothes becomes a highly enjoyable experience. Buying clothes makes the consumer feel less ordinary. Sometimes, shoppers shop on impulse just to avoid boredom (Mano, 1999; Arnold & Reynolds, 2003). The BFC models offers a fashion consumption experience different from the traditional consumption pattern. The originality and newness of such business models may appeal to the more fashion-conscious consumers, the ones who are bored of traditional shopping and want to stand out by being more innovative, more different (Kim and Rölkens, 2018). BFC models are also a way to experience fashion consumption at a faster pace without requiring more resources from consumers. It can even turn out to be cheaper. Rental or subscription models offers a wide range of clothes, often renewed, that the user can have for a short period of time, then he can change or keep them. Such convenience offers the thrill of receiving new clothes, self-chosen or curated by a stylist on a regular basis (Chen et al., 2018). The user can browse for the items he wants, try new things, experiment without the inconvenience of owning the garment. He can keep up with latest trends easily, never being outdated. The other BFC models proposed offers to extend the lifespan of garments, to modify them, to sell them and buy new one. It offers a playful way to experiment and consume fashion. Theses aspects of the BFC models seem to well match the purpose fashion conscious consumers seek in fashion consumption. They match their novelty and originality needs regarding fashion. Thus, the present hypothesis will be tested:

- H FC1: Fashion consciousness has a positive effect on attitude toward other ways of consuming fashion when controlling for frequency of purchase, place of purchase and age
The following hypothesis is taken from the previous section, where it has been justified. It will also be test in this model.

- H FC2: Fashion consciousness has a positive effect on eco-fashion purchase intention when controlling for experience with eco-fashion, frequency of purchase, preferred place of purchase and age

5. The effect of eco-fashion purchase intention on attitude toward BFC models

BFC models are a way of consuming fashion with less environmental impact than the traditional purchasing pattern. It offers an alternative to the fast-fashion model that favor overconsumption and poor garment quality (Cobbing and Vicaire, 2016). Garment are more used, have a longer lifespan and may more easily be collected or transformed at the end of their initial life. BFC models are facilitators of the circular economy (Ellen Macarthur Foundation, 2017a). Even if BFC models are not directly related to eco-fashion they serve directly or indirectly the same purpose, they improve the impact of the fashion industry and offer an alternative to improve the current issues without killing fashion consumption (Kunz, Karpova and Garner, 2016). There can be several motivations to purchase eco-fashion: to improve the social and environmental impact of the fashion industry, to stand out from the traditional consumption pattern, to match beliefs and identities, to satisfy a need for variety and novelty, and more. If conscious consumption behaviors express the individual’s identity and social values (Moisander, 1991), it can be assumed that people intending to buy eco-fashion have specific motivations to do so. It appears that the aforementioned motivations to consume eco-fashion are in line with some of the outcomes of using BFC models. The variables influencing eco-fashion consumption are also found to be in line with the ones favoring the use of BFC models. Moreover, consuming eco-fashion and using BFC models is not contradictory in nature. Repair, swapping and second-hand models suits eco-fashion garment as traditional ones, and even though it is not common yet, rental and subscription models could also concern eco-fashion garments (Armstrong et al., 2015). Therefore, the individual does not have to choose between purchasing eco-fashion and using BFC models. He can do both. It is especially true if we consider the amount of clothing purchased per capita. The congruence between using BFC models and purchasing eco-fashion lead to conjecture that individuals prone to buy eco-fashion would also be interested in using BFC models. Ergo, the following hypothesis has been formulated:
- H Int: Intention to buy eco-fashion has a positive effect on attitude toward other ways of consuming fashion when controlling for frequency of purchase, place of purchase and age

III. Research design and methods

This chapter will justify the choices made regarding the design and methods used in this study. The research will use a deductive reasoning to conduct a causal research using quantitative data. Data will then be analyzed using an exploratory factor analysis followed by a confirmatory factor analysis and finally a structural model to test the different hypotheses. Because of the dual nature of the study, two different analyses will be conducted.

A. Case description

1. A deductive reasoning

When designing a study, researchers can adopt an inductive or a deductive approach. These two different approaches do not suit the same research goals. Inductive approach aims to generalize and theorize specific observations. Going from observation to theory (Burney, 2008). When following an inductive approach, the researcher does not base his reasoning on theory, he first tries to let existing theories aside to highlight new theories or implications without trying to prove a point (O'Reilly, 2009). In the other hand, deductive approach aims confirm or invalidate existing or context-adapted theories. This “top-down” approach builds hypotheses based on the theory, then tests these hypotheses regarding to specific observations. Ultimately, the deductive approach draws conclusion from the hypotheses’ results that will influence the theory. With the deductive approach, statements or hypotheses are either valid or invalid whereas in the inductive approach implication are either strong or weak (Herms, 1984).

The aim of this research is to model consumer eco-fashion purchase intention using an extended version of the TPB and to evaluate the influence of certain factors on consumer attitude toward BFC models. Based on the existing theory, the study merges concepts and
theories to formulate different hypotheses that will be tested thanks to the analysis of respondents’ answers. This study intents to confirm and push forward the existing theory in the specific context of eco-fashion in the French market. Thus, this study adopts a deductive approach.

2. A causal research

When conducting a marketing research, different factors influence the choice of research design. The goal of the study is of great influence but other variables such as the type of behavior studied, the amount of financial or time resources available influence the choice of how to conduct the research. To guide decision-making, three types of research design have been conceptualized: the exploratory research, the descriptive one and the causal research, the latter is also called explanatory research (Stevens, 2006, p.27).

- Exploratory research: this type of research focuses on gathering new ideas and insights. The information gathered is broad and the goal is to get a better understanding of the subject investigated. This research design is adapted for preliminary studies and defines the key issues or elements. Open ended questions are a commonly used in exploratory studies (Kotler and Armstrong, 2006, p.122).

- Descriptive research: this type of research focuses on collecting data relevant to a specific issue or context to provide a more precise framework to the researcher. It may be used to describe a population, a phenomenon or an event. Descriptive studies are quantitative by nature, they measure different variables. This research design is adapted to study the covariance of two variables or to characterize a specific consumer segment (Stevens, 2006, p.27).

- Causal research: this type of research focuses on testing the effect relationship between 2 or more variables. It is to say, to which extent a change in variable A effects a variable B or C. This type of research is more complex and time consuming than the previous ones but provides deeper understanding of the underlying mechanisms in a specific context. In most cases, hypotheses are tested, and results cannot easily be generalized (Stevens, 2006, p.27).
The double purpose of this study, to understand better eco-fashion purchase intention and interest toward BFC models drove this research to adopt a causal research design. Different hypotheses are tested, and the goal is to understand the effect relationship between the different constructs through structural modelling. However, because of the need to understand the French market and the lack of existing data about consumer behavior toward eco-fashion, a descriptive part has been included in the study. The goal is to provide deeper understanding to the researcher and to provide new hints for future researches. When conducting a causal experiment, Stevens (p.42, 2006) argues that research must be concerned with three elements: manipulation of the variables, measure of the variables and control of the variables. Therefore, this study also aims to measure different controls derived from the existing literature. Controls will be further discussed in the following section.

3. A quantitative study

A researcher can choose to collect two different type of data: quantitative data or qualitative ones. The goal of the study and the established research strategies influence the type of data collection. Quantitative researches aim to describe a why something occurs while qualitative studies aim to explain how it occurs (Creswell, 2006, p.13). Quantitative and qualitative approaches differ beyond the way data are gathered, in quantitative ones the researcher uses numbers and statistical analysis of collected data to draw conclusion whereas in qualitative ones the researcher uses the words or images gathered to conduct his analysis (Creswell, 2006, p.19). For Leedy and Ormrod (2001, p.102) “Quantitative researchers seek explanations and predictions that will generate to other persons and places. The intent is to establish, confirm, or validate relationships and to develop generalizations that contribute to theory”.

Our study’s aim to evaluate and test the different variables influencing eco-fashion purchase intention and interest toward BFC models is based on a deep review of the existing literature to highlights the important concepts. This review of literature was broad and tried to capture a good understanding of the transformative changes relevant to the topic that are going on. The availability of a consequent literature on fashion consumption, green consumption, eco-fashion consumption and attitude toward business model innovation has enabled us to gather a good set of secondary data and to understand the different mechanisms at stake. Therefore, the question of how the different constructs impacted one another was not as relevant as the question of quantifying the effect of the different variables influencing intention or interest. On the field of eco-fashion different qualitative studies have grasped insights on who are the consumer interested in eco-fashion (Niinimäki, 2010), what are the barriers and motivations to eco-fashion consumption (Joergens, 2006; Achabou and Rink, 2014). As well as the barriers
and motivation toward BFC models (Armstrong et al., 2015). To provide more useful insights to researchers and marketers, the author has chosen to mainly collect quantitative data in this study. Quantitative studies can indeed be viewed as follow-ups to qualitative studies. In qualitative studies the issue is understood in its specific context but not measured and validated with larger samples (Hague et al. 2016, p.47). The case of eco-fashion consumption in France is indeed worth investigating through measurable constructs to be able to compare it to similar studies done in different countries or in another timeframe (Bong Ko and Jin, 2017). In the first decade of the century different pioneer researchers have investigated if sustainable fashion would become a wider consumption behavior (Joergens, 2006) and if eco-fashion had a future (Niinimäki, 2009). Later, when the 2009 financial crisis effects lowered, several studies have investigated the effect of additional relevant variables (Kang, Liu and Kim, 2013; Achabou and Rink, 2014). More recently, fewer ones have kept on investigating consumptions behavior in eco-fashion (Fu and Kim, 2019; Razzaq et al., 2018). This research process has created an interesting timeline to refer to and to compare with. Quantitative data are an effective and measurable way to do so.

However, as previously explained, the fast-changing environment of the eco-fashion business has created a new research context that would be worth investigating with a quantitative approach as well, to check if the important variables identified 10 years ago are still important today. Acknowledging this dimension, this study also included 1 open-ended research question and different questions about the purchase barriers to check for new elements and be able to suggest hints and possible controls for future researches.

The development design of a quantitative study can be of two types: cross-sectional and longitudinal. A cross-sectional study compares results between two different groups under the same conditions to draw conclusion. Whereas, a longitudinal study compares different cohorts or measure the evolution of a phenomena over time (Williams, 2007). Even if specific cohorts are not defined in this study, age accounts as one of the control variables. Therefore, this study’s design tends toward a longitudinal research design.

4. Research design

Apparent changes have been going on over the last years and started transforming business practices, consumer attitude and policymaker actions. From the rising number of sustainable capsule collection, sustainable fashion brands and call-to-action to change fashion consumption practices in France, we can foresee opportunities in the sustainable fashion market. It has become increasingly important for marketers and other stakeholders to gain
practical information about French consumers attitude, intention and behavior toward eco-fashion. These elements influenced the research design of this study. Consequently, the research chose to adopt a deductive approach to conduct a causal research by gathering and processing mainly quantitative data. Nonetheless, few descriptive aspects have been included in the survey, as well as few qualitative inquiries.

5. Data collection methods

When designing a research, researchers need to decide how to collect data. If secondary data were collected from previous researches on the field, primary one need to be collected by the researcher from first-hand sources (Hox and Boeije, 2005). To collect primary data different strategies can be used. Let us quickly review the different collection methods relevant to a quantitative study to further justify the researcher’s choice to collect data from an online self-administrated survey.

Quantitative research differs from qualitative research. Unlike qualitative researches, quantitative ones aim to gather objective data, independent of the researcher (Creswell, 2003). Thus, strategies of inquiry also differ. According to Creswell (2003), there are two main strategies of inquiry: experiments and survey. True experiments and quasi-experiments are two sub-category of research inquiry that belong to the experiment strategy where subject’s behavior is observed under specific conditions. The first one uses randomized design whereas the latter do not. Survey is the other type of strategy. Surveys are questionnaires or structured interviews used to collect data. True experiment and quasi-experiment researches treat subjects in a controlled environment while surveys do not treat subjects.

Even though experiments are better strategies to study cause and effect relationships while achieving a better internal and external validity than surveys, they often require more resources to be conducted. Conducting experiment takes time and may require payment for the participants as well as implying the need of an experimental laboratory environment (Nardi, 2018). For these practical motives, such strategy was not a feasible solution to conduct this master thesis. Therefore, a survey was adopted.

According to Creswell’s classification (2006), surveys include quantitative questionnaires and structured interviews. Structured interviews use standardized questions to gather data. Such method allows the researcher to clarify questions if needed or to explore new leads in case of unanticipated answers. But because of the need of a person conducting the interview this method can be highly time consuming and requires training to conduct the interview properly.
There is also the possibility that the interviewer characteristics (race, age, sex, style) may bias answers (Nardi, 2018). Questionnaires are a more convenient solution to collect primary data. They can address different topics in the same questionnaire, the respondent can take time to answer questions properly. Moreover, questionnaires may avoid some biases when dealing with personal or sensitive subjects because they can guarantee anonymity and the respondent does not feel pressured by a physical presence. Nonetheless, questionnaires are not the perfect solution. Various limitations must be considered (Nardi, 2018). First, depending on the respondent, some may experience difficulties to read or to properly understand questions. Especially for close-ended questions that may frustrate or restrain the respondent. Second, the questionnaire design is important as respondents may experiment difficulties in understanding questions. Questionnaires are easy to overlook. An uninvolved respondent may skip questions, give random answers or misunderstand questions. Finally, it is less easy to obtain reliability and validity from questionnaire than with other methods. A gap between what respondents report and what they actually are likely to do. Especially for sensitive topics such as pro-environmental behavior (Vining and Ebreo, 1990; Solomon and Rabolt, 2009).

Acknowledging the aforementioned benefits and limitations of the different methods, it was chosen to conduct an online questionnaire to study eco-fashion purchase intention and interest toward BFC models among the French population. With the rise of connectivity and of the usage of internet, online survey became an interesting opportunity for researcher to reach a wider audience at lower cost (Van Selm and Jankowski, 2006). The goal of this study is to gain a significant understanding of the population’s attitude and intention. Therefore, it is needed to gather answers from a large sample group. To do so, online surveys are the best option (Van Selm and Jankowski, 2006). Fashion and sustainability are two common concepts that are not new among the studied population. With proper explanations and conscious questionnaire design the meaning and implications of eco-fashion are not difficult concepts to digest. Even for a non-insider. Thus, the rigidity of the online survey format should not be an important concern.

However, investigating eco-fashion consumption behaviors through an online survey raises concern about the significance of the answers gathered. It will need to be considered when interpreting the results. Indeed, a gap between respondent’s answers and actual behaviors has been observed with the use of questionnaires in general. But this concern has also been raised by different researchers about self-reporting of pro-environmental behavior (Oskamp et al. 1991). Notably in the field of sustainable fashion consumption (Solomon and Rabolt, 2009).
Respondents tend to report themselves more positively when asked about dimensions considered socially desirable (Pervin and John, 1992).

6. Data analysis methods

Data collected through the online self-administrated questionnaire will be sequentially processed in three steps. First, by conducting an exploratory factor analysis (EFA) to check for consistency between theory and findings. Second, a confirmatory factor analysis (CFA) will be conducted using Amos Graphics 21 to test the validity and reliability of the measurement model. Finally, a structural equation modelling (SEM) using Amos Graphics 21 will be conducted to test the hypotheses previously formulated.

Exploratory and confirmatory factor analyses existed since the early days of the 20th century thanks to the works of Spearman (1904) and Pearson (1901) on personality theory. However, it is only with the development of computers and modern statistical software that these analyses started being commonly used (Kieffer, 1999, p. 75). Today, factor analysis is a frequently used method. “Factor analysis can be used to determine what theoretical constructs underlie a given data set and the extent to which these constructs represent the original variables” (Henson and Roberts, 2006). The researcher defines constructs based on the existing theories, then, the factor analysis measures the validity of the measures based on these constructs and further contributes to improve and complete the literature.

a) EFA

EFA’s role is to “identify the factor structure or model for a set of variables” (Bandhalos, 1996, p. 389). Through EFA, a large set of variables is reduced to a smaller set of latent factors (Henson and Roberts, 2006). Such analysis allows the researcher to study the internal structure of a set of variable and therefore highlighting an underlined theory (Pedhazur and Schmelkin, 1991, p.66). Despite not being necessary, conducting an EFA is relevant to this study for different reasons. First, this study proposes a revised version of the TPB. In addition to the original constructs, 3 more were added: PCE, ESC self-identity and Fashion consciousness. Even though, these changes on theory are based on a synthesis of different successful practices found in the sustainable consumption field, such study has never been
conducted before. Therefore, we cannot be sure of what information the results will provide. Secondly, new measurement scales were developed. If literature has been reviewed and adapted to build these scales, the researcher recent experience and skills to design such scales do not confer confidence enough to skip EFA and jump directly to CFA. The refinement of theory suggested by EFA may lead to small changes to increase data reliability and validity. Finally, conducting EFA provides useful information about the covariation observed among the variables, an important aspect in multivariate statistical data analysis (Watkins, 2018).

b) CFA

“Confirmatory factor analysis (CFA) is a type of structural equation modeling (SEM) that deals specifically with measurement models, that is, the relationships between observed measures or indicators (e.g., test items, test scores, behavioral observation ratings) and latent variables or factors” (Brown, 2014). CFA are usually performed after an EFA and before the construction of an SEM model. Based on theory, the researchers have designed constructs built from a set of variables. Through data collection, the researcher measure theses variables. The EFA may give the researcher suggestions to refine or adjust his constructs but CFA is needed to see if variables load as predicted on the constructs or factors. CFA allows the researcher to verify if the number of factors measured matches theoretical expectations. CFA also allows to measure the loading of the measured variable on the researcher-designed constructs (Malhotra, Baalbaki and Bechwati, 2013, p. 893). Performing a CFA provides researchers with important information about the validity of the modelling and relationships between factors. According to Brown (2014), there are different motivations to perform a CFA: to perform a psychometric evaluation of test instruments, to validate constructs, to measure method effects and to evaluate the measurement invariance.

Conducting a CFA to process the data collected via the online questionnaire is a necessary step of SEM to be able to check for reliability and validity before modelling. Accordingly, a CFA will be performed in this study.

c) SEM models

Structural equation modeling SEM is a form of causal modeling, it allows the researcher to evaluate the relationship between two or more constructs through a set of processes. Structural equation models are a type of econometric model that studies the causal links
Variables load on theoretical constructs that are used to determine the influence of each variable. Building a structural equation model is a way for researchers to weigh latent constructs, it is to say constructs that are not directly observable and measurable (Aaker and Bagozzi, 1979). SEM method is commonly used in marketing research, in consumer or business-oriented studies (Iacobucci, 2009). With SEM, researchers can test various types of hypotheses and build complex models (Bagozzi and Yi, 2012).

Using SEM has several benefits. It allows researchers to assess measurement reliability and constructs validity, to use multiple-item constructs and to test the causal links (Kline, 2005). In addition, this method accounts for different types of errors and is therefore more reliable than others (MacKenzie et al, 2005).

Recognizing the benefits of SEM and because it is a logical step after CFA, this study will use structural equation models to test the different hypotheses formulated. Two different models will be built and assessed. One to explain eco-fashion purchase intention, one to explain consumer's attitude toward BFC models.

7. Reliability and validity

Reliability and validity are two different concepts that go together in assessing the quality of the measurements methods and instruments used in a study. If measurement errors can prevent researchers to find significant results it can also lead them to draw poor interpretations and conclusions (Fairchild, 2003). Reliability and validity are preconditions for a study to be valuable (Thompson, 2003). In this section we will quickly define reliability and validity and then describe the different analyses conducted in this study to assess its reliability and validity.

“Reliability involves the consistency, or reproducibility, of test scores. That is, the degree to which one can expect relatively constant deviation scores of individuals across testing situations on the same, or parallel, testing instruments” (Fairchild, 2003). Reliability concerns internal consistency of the findings, stability over time of the observations and their equivalence in other contexts (Drost, 2011).

Validity however focuses on assessing the extent to which observations are really measuring what they are claiming to do (Gregory, 1992, p.117). According to Dost (2011), researchers should assess validity through four types of validity: statistical conclusion validity, internal validity, construct validity and external validity. These four validities evaluate different aspects of the study.
In this study, reliability will be assessed through different tests. In the EFA, the researcher’s concern is to check the reliability of each set of variables. It is to say, if each set of variables properly load on the same factor. To check for reliability in EFA, the researcher needs to compute Cronbach’s alpha for each factor and to compare the results to the thresholds defined on the literature. To compute Cronbach’s alpha, each factor needs at least 2 variables, 3 or more being ideal. A common threshold to evaluate the reliability of a set of variables is Cronbach’s alpha > 0.7 (Costello and Osborne, 2005). In the CFA, reliability is evaluated through the measure of composite reliability (CR). CR need to be above 0.7 (Hair et al., 2010). If factors pass reliability checks, and model-fit parameters are matched, then a causal model can be built.

Validity will also be controlled at different level. During the EFA, variables must load significantly on the different factors. This convergent validity depends of the sample size, sufficient factors loading for a sample size of 50 is 0.75. For a sample size of 350 it is 0.30. Discriminant validity is also evaluated. Factors must be sufficiently distinct and uncorrelated. Variables possible cross-loadings need to be lower than the main loading by 0.2 or more. And correlations between factor should be less that 0.7 (Shaffer, DeGeest and Li, 2016). A last type of validity check conducted in the EFA is face validity. The researcher needs to control if the findings from the EFA are logically consistent with the questions. A set of variables loading on one factor needs to have a common meaning (Hancock and Mueller, 2001). In the CFA, validity concerns are evaluated as well. Through measures of the average variance extracted (AVE), maximum shared variance (MSV), and average shared variance (ASV) (Malhotra and Dash, 2011). AVE measures convergent validity. To get convergent validity AVE should be to be equal or greater than 0.5 and lower than MSV. And ASV, the mean of the squared correlation coefficients between latent constructs, needs to be greater intra-construct than between variables from different constructs (Hair et al., 2010). In addition, during the CFA a common method bias (CMB) check will be conducted to control for the existence of such bias. If findings have a CMB it means that a single factor explains the majority of variance and this bias need to be considered before building the causal model (Podsakoff and MacKenzie, 2003).

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</tr>
</thead>
<tbody>
<tr>
<td>Chi-square/df</td>
<td>&lt; 3</td>
</tr>
<tr>
<td>p-value for the model</td>
<td>&gt; 0.90</td>
</tr>
<tr>
<td>CFI</td>
<td>&gt; 0.95</td>
</tr>
<tr>
<td>GFI</td>
<td>&gt; 0.95</td>
</tr>
<tr>
<td>AGFI</td>
<td>&gt; 0.80</td>
</tr>
<tr>
<td>SRMR</td>
<td>&lt; 0.09</td>
</tr>
<tr>
<td>RMSEA</td>
<td>&lt; 0.05</td>
</tr>
<tr>
<td>PCLOSE</td>
<td>&gt; 0.05</td>
</tr>
</tbody>
</table>

*Table 1 Model-fit thresholds. Adapted from Hu and Bentler (1999)*
In addition to reliability and validity checks, model-fit parameters must be met both in the CFA and with the causal model for the results to have a significance. Model fit indicates how well the tested model explains the causal links between the different variables. Model-fit thresholds depend of the number of variables, but common good model fit thresholds can be found in Table 1 above. Other adequacy measures will be performed in the EFA and CFA. In the EFA, first, skewness and kurtosis will be controlled to check for variables normality. Then, KMO and Bartlett’s test of sphericity will be performed to check if variables significantly relate to one another. In the CFA, additional checks for multicollinearity will verify that the variables are not redundant. To do so we will control for tolerance and VIF. Tolerance need to be above 0.100 and VIF under 3 (Hair et al., 2010).

IV. Analysis and findings

This section will be divided in two parts. Because of the duality of this research, two different models will be tested. The first one aims to explain eco-fashion purchase intention. The second one aims to explain consumer attitude toward BFC models. Therefore, analysis and findings will be done twice, once for each model. Each part will sequentially present analysis then findings. First, the analysis processes, implications and results will be exposed. The objective is to demonstrate the validity and reliability of the findings. Second, the hypotheses will be tested, and results reported in the Findings subsection.

A. Analysis & Findings: eco-fashion purchase intention

1. Analysis

   a) Data screening

In this analysis, answers from 343 respondents were collected. The median age is 24, and women (55.1%) are slightly more represented than men (44.9%) (Table 2 & Figure 7). Age goes from 17 to 39, only generation Y was retained for this analysis.
(1) **Case screening**

The online survey required participants to answer all questions to validate the questionnaire, therefore no missing data were found in the dataset. After checking for unengaged responses, no respondents appeared unengaged. Comparably, no outliers were identified as the survey designed did not permit it. Thus, 343 responses were used in this analysis.

(2) **Variable screening**

An initial normality test was performed to verify variables’ repartition, skewness and kurtosis of each variable were analyzed. According to Brown (1997), a regular threshold for kurtosis statistic is 2, in absolute value. Concerning skewness statistic, the same threshold will be held. Value for skewness and kurtosis are available in Appendix 2. No variables were found abnormally distributed. Except for Age, that had a kurtosis statistic of 5.419 and a skewness statistic of 2.103. These values are explicable by the way data were collected; most of the possible respondents reached are of similar age to the researcher.

b) **EFA**

After screening data, an EFA was performed. The dimension reduction method used was maximum likelihood because of its adequacy when a CFA is further performed using Amos. And the Promax rotation method with Kaiser normalization was employed to evaluate cross-
loadings. This method is adapted for large data set. During this EFA, two variables, PCB1 and SN2, were removed because of poor loading and cross-loading issues. One variable initially designed to control for the individual willingness to pay premium for eco-fashion (Bar1) appeared to load significantly on Intention and was therefore include in this construct. A decent pattern matrix, available in Appendix 3, was obtained. Adequacy tests calculated a middling KMO statistic of 0.785 and a non-significant Bartlett’s test of sphericity (significance: 0.00 < 0.05) attested that the matrix found in EFA was an identity matrix. Accordingly, to the sample size of 343 significant factor loadings were expected to be higher than 0.30. Convergent validity was met with a lowest factor loading score of 0.457 for SN1. A test of discriminant validity was then performed using the correlation matrix available in Appendix 3. For the model to achieve discriminant validity, correlation between factors need to be lower than 0.7. All factors met this requirement with the highest correlation score being between Attitude and PCE (0.629). At last, factors' reliability was evaluated with the measurement of Cronbach’s alfa (α). Results are presented below in table 3. A common threshold for Cronbach’s alfa is α ≥ 0.70 (Cortina, 1993). However, Cronbach’s alfa is dependent on the number of variables loading on a factor, therefore in some cases values above 0.450 are “acceptable” (Taber, 2017). Few items (2) load on PCE, Subjective norm and PCB and their α value is relatively low. Even if all α are acceptable, they do not express a strong factor validity that will need to be considered further in the analysis.

<table>
<thead>
<tr>
<th></th>
<th>Cronbach’s alfa</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESC self-identity</td>
<td>.670</td>
<td>4</td>
</tr>
<tr>
<td>Fashion consciousness</td>
<td>.863</td>
<td>3</td>
</tr>
<tr>
<td>Attitude</td>
<td>.638</td>
<td>3</td>
</tr>
<tr>
<td>PCE</td>
<td>.525</td>
<td>2</td>
</tr>
<tr>
<td>Subjective norm</td>
<td>.582</td>
<td>2</td>
</tr>
<tr>
<td>PCB</td>
<td>.584</td>
<td>2</td>
</tr>
<tr>
<td>Intention</td>
<td>.802</td>
<td>3</td>
</tr>
</tbody>
</table>

*Table 3 Cronbach’s alfas – eco-fashion*

c) CFA

Moving to CFA, several changes had to be done to achieve a decent validity and reliability of the model. First, even if no multigroup assumptions were made, to be able to explore possible differences between female and male respondents, different measures of the model invariance across both gender groups were made. Configural, metric and scalar invariance tests had been performed to measure the model invariance. Configural invariance was verified as evidenced
by good model fit measures when estimating the groups freely. Metric invariance was also successful as evidenced by a non-significant chi-square difference test between the fully constrained and unconstrained model (p-value = 0.560 > 0.05). However, scalar invariance test failed to verify model invariance (measurement intercept p-value = 0 < 0.05). Partial scalar invariance could not be achieved, because more than two variables per factor were not scalar invariant. We therefore conclude that the model is not invariant for gender.

To achieve decent validity and reliability, different variables had to be removed because of the high amount of shared variance they expressed with factors other than the one they were assigned to. PCE, Subjective Norm and PCB had to be transformed into 1-item constructs because they were not enough initial variables to achieve validity and reliability otherwise. The importance of multi-item constructs had been underlined in the literature (Kline, 2005; Bergkvist and Rossiter, 2007). Single indicators are argued to be often biased and highly dependent of the measurement scale (Churchill, 1979). It is hard to verify that the 1-item construct properly measure a phenomenon (Hair et al, 2010) One issue is that no Cronbach’s alpha can be calculated to assess the reliability of the scale. Another important concern is about the measurement error. Single indicators may have a high measurement error that can become a problem when estimating the structural model (Hayduk, 1987). With 1-item constructs, specific error or measurement error cannot be calculated (Bollen and Curran, 2006). However, despite this reliability and validity issues, the use of single indicators in SEM can be acceptable under certain circumstances (Drolet and Morrison, 2001). Researchers may use 1-item factors in cases where only one loading variable is available or when including different items on one construct is problematic (Anderson and Gerbing, 1988; Iacobucci, 2010).

Single indicators can achieve significant reliability, especially test-retest reliability and internal consistency (Fuchs and Diamantopoulos, 2009). In a meta-analysis, Petrescu (2013) found that single indicators can have several advantages in some case and achieve decent reliability and validity. One-item construct are good to express concrete constructs that can be easily understood by the respondent (Hair et al, 2010). Petrescu (2013) declares that “ In our analysis of single-items use in marketing research, we saw successful uses of such measures for concrete concepts, such as sales, expenditures or interaction frequency, but also for behavioral constructs, such as repeat purchase intention, supervisor-rated performance and affecting response to waiting”. When using a single-item construct in SEM that is not error-free different authors recommend adopting precautionary values. \(\lambda\) parameters should be equal to 0.95*variance of the loading variable. And error variance should be equal to variance of the loading variable*(1-scale reliability estimate) (Sorbom and Joreskog, 1982. Anderson and Gerbing, 1988). To estimate the scale reliability, researchers can use the reliability value found
in previous studies if it exists (MacKenzie, 2001). In case no reliability value can be found, Joreskog and Sorbom (1982) recommend using a value of 0.85.

Because validity and reliability issues where observed in the CFA, different items were dropped. In some case, single indicators were used because they were evaluating constructs easy to understand and because of the lack of other alternatives. Despite being acceptable, it is worth noting that such actions may impact the study overall validity and reliability (Grapentine, 2001). \( \lambda \) parameters value were equal to variance of the loading variable*0.95. Error variances were equal to variance of the loading variable*0.15 because no existing reliability value can be found. PCE1 was the single item loading on PCE construct, SN3 was the single item loading on Subjective Norm construct and PCB2 was the single item loading on PCB construct. The questions these items refer to are available in Appendix 1. In addition, two more variables have been removed because of the validity and reliability issues: Att1 and ID1. The final constructs are presented below in Figure 8.

![Figure 8 Item loadings CFA](image)

Reliability and validity values obtained in the CFA are presented below in Table 4. Reliability threshold of \( CR > 0.7 \) was met in all except two constructs. Attitude and PBC obtained a CR
value above 0.6 and under 0.7. These two variables may present reliability issues, but their CR score is close enough to 0.7 to keep them. The same two variables have also convergent validity issues with AVE < 0.5. This difference with the threshold is relatively low (less than 0.1) and therefore the constructs will be kept. These measures indicate that Attitude and ESC self-identity are less reliable and valid than the other variables.

Table 4 CFA reliability and Validity

<table>
<thead>
<tr>
<th></th>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>MaxR(H)</th>
<th>Intention</th>
<th>FashionC</th>
<th>Attitude</th>
<th>PCE</th>
<th>SubNorm</th>
<th>PBC</th>
<th>SelfIdentity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intent</td>
<td>0.811</td>
<td>0.681</td>
<td>0.261</td>
<td>0.836</td>
<td>0.769</td>
<td>0.825</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FashionC</td>
<td>0.865</td>
<td>0.681</td>
<td>0.026</td>
<td>0.791</td>
<td>0.049</td>
<td>0.825</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>0.849</td>
<td>0.895</td>
<td>0.260</td>
<td>0.791</td>
<td>0.506</td>
<td>0.129</td>
<td>0.697</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCE</td>
<td>0.850</td>
<td>0.850</td>
<td>0.260</td>
<td>0.850</td>
<td>0.343</td>
<td>0.313</td>
<td>0.510</td>
<td>0.922</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SubNorm</td>
<td>0.850</td>
<td>0.850</td>
<td>0.158</td>
<td>0.850</td>
<td>0.398</td>
<td>-0.020</td>
<td>0.266</td>
<td>0.105</td>
<td>0.922</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>0.850</td>
<td>0.850</td>
<td>0.013</td>
<td>0.850</td>
<td>0.020</td>
<td>0.056</td>
<td>0.092</td>
<td>0.112</td>
<td>-0.053</td>
<td>0.922</td>
<td></td>
</tr>
<tr>
<td>SelfIdentity</td>
<td>0.686</td>
<td>0.423</td>
<td>0.261</td>
<td>0.693</td>
<td>0.511</td>
<td>-0.162</td>
<td>0.438</td>
<td>0.321</td>
<td>0.278</td>
<td>0.025</td>
<td>0.650</td>
</tr>
</tbody>
</table>

Then, a common method bias test was performed to evaluate external bias influencing the measures. This study used a common latent factor (CLF) to express the common variance among variables. When comparing the unconstrained common method factor model to the fully constrained common method factor (CMF) model, the chi-square test revealed significant (Chi-square difference: 44.6; degree of freedom difference: 14; p-value: 0 < 0.05). Therefore, the model had significant shared variance. Consequently, we retained the CMF. To facilitate manipulation and reliability, factor scores were then imputed and 7 new constructs where created. They all keep the same name as previously but now account for the shared variance.

Final model with the CMF included express a good level of model fit. All parameters were met except for chi-square p-value that was significant. Values are available in Table 5 below. Chi-square p-value is sensitive to sample size and model complexity. If the model express good fit otherwise it is not considered an issue to have a significant p-value (Barret, 2007). Thus, the researcher can move on to the structural model analysis.

Table 5 Final model fit CFA – eco-fashion

<table>
<thead>
<tr>
<th>Model fit</th>
<th>Threshold</th>
<th>Value model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cmin/df</td>
<td>&lt; 3</td>
<td>1,459</td>
</tr>
<tr>
<td>P-value</td>
<td>&gt; 0,05</td>
<td>0,025</td>
</tr>
<tr>
<td>CFI</td>
<td>&gt; 0,90</td>
<td>0,985</td>
</tr>
<tr>
<td>GFI</td>
<td>&gt; 0,95</td>
<td>0,874</td>
</tr>
<tr>
<td>AGFI</td>
<td>&gt; 0,80</td>
<td>0,939</td>
</tr>
<tr>
<td>SRMR</td>
<td>&lt; 0,09</td>
<td>0,0264</td>
</tr>
<tr>
<td>RMSEA</td>
<td>&lt; 0,05</td>
<td>0,37</td>
</tr>
<tr>
<td>P_CLOSE</td>
<td>&gt; 0,05</td>
<td>0,875</td>
</tr>
</tbody>
</table>
In this analysis a full latent variable structural model was built to test its model fit and the different hypotheses. After having imputed CMF to the existing factors. The researcher checked for any outliers or influentials using the Cook’s distance. No issues were found, results are available in Appendix 5. Then a linear regression was done to establish VIF and tolerances values for the 6 different factors affecting Intention. Results are available in Table 6 below. With thresholds of VIF < 3 and tolerance > 0.1, no multicollinearity issues were found. Factors are not overlapping in the portion of variance they explain. It is worth noting the relatively high VIF for Attitude and PCE, values consistent with the previous AVE issues in the CFA.

<table>
<thead>
<tr>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>SelfIdentity</td>
<td>.347</td>
</tr>
<tr>
<td>PBC</td>
<td>.780</td>
</tr>
<tr>
<td>PCE</td>
<td>.570</td>
</tr>
<tr>
<td>SubjNorm</td>
<td>.769</td>
</tr>
<tr>
<td>Attitude</td>
<td>.392</td>
</tr>
<tr>
<td>FashionC</td>
<td>.890</td>
</tr>
</tbody>
</table>

Table 6 VIF & tolerances – eco-fashion

The structural model's fit index indicated a very good fit. Values are available in Table 7 below. It can be observed that all thresholds are met, even the most rigorous ones. Table 9 present the final measurement properties. Looking at the modification indices, no misfit issues appeared. R-squared measures are reported in Table 8. The model explained 60% of the data variance for eco-fashion purchase intention. Thus, we can now test the hypotheses. This will be done in the following subsection.

<table>
<thead>
<tr>
<th>Model fit</th>
<th>Threshold</th>
<th>Value model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cmin/df</td>
<td>&lt; 3</td>
<td>0.849</td>
</tr>
<tr>
<td>DF</td>
<td>&gt; 1</td>
<td>4</td>
</tr>
<tr>
<td>P-value</td>
<td>&gt; 0.05</td>
<td>0.494</td>
</tr>
<tr>
<td>CFI</td>
<td>&gt; 0.90</td>
<td>1</td>
</tr>
<tr>
<td>GFI</td>
<td>&gt; 0.95</td>
<td>0.998</td>
</tr>
<tr>
<td>AGFI</td>
<td>&gt; 0.80</td>
<td>0.97</td>
</tr>
<tr>
<td>SRMR</td>
<td>&lt; 0.09</td>
<td>0.0114</td>
</tr>
<tr>
<td>RMSEA</td>
<td>&lt; 0.05</td>
<td>0</td>
</tr>
<tr>
<td>PCLOSE</td>
<td>&gt; 0.05</td>
<td>0.804</td>
</tr>
</tbody>
</table>

Table 7 Final model fit (Structural model) – eco-fashion

<table>
<thead>
<tr>
<th></th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBC</td>
<td>0.142</td>
</tr>
<tr>
<td>SubjNorm</td>
<td>0.162</td>
</tr>
<tr>
<td>Attitude</td>
<td>0.552</td>
</tr>
<tr>
<td>Intention</td>
<td>0.599</td>
</tr>
</tbody>
</table>

Table 8 R-squared results – eco-fashion
2. Findings

This subsection is dedicated to the testing of the hypotheses. On the 14 hypotheses, 10 were supported, 2 not supported and 3 with opposite effects compared to initial conjectures. Results and fit statistics are presented on table 10 below. Overall structural model test and results of the hypotheses are illustrated in Figure 9. Each hypothesis results will be further detailed.

### Table 9 Final measurement properties – eco-fashion

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Indicators</th>
<th>Mean</th>
<th>SD</th>
<th>EFA loading</th>
<th>CFA loading°</th>
<th>CR (t-value)</th>
<th>SE</th>
<th>Cronbach’s alfa</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESC self-identity</td>
<td>ID4</td>
<td>4,525</td>
<td>1,13</td>
<td>.330</td>
<td>.39</td>
<td>3,075***</td>
<td>.0345</td>
<td>0,57</td>
</tr>
<tr>
<td></td>
<td>ID2</td>
<td>6,426</td>
<td>0,77</td>
<td>.999</td>
<td>.61</td>
<td>2,265***</td>
<td>.076</td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>At2</td>
<td>5,111</td>
<td>1,30</td>
<td>.279</td>
<td>.44</td>
<td></td>
<td>0,545</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At3</td>
<td>5,927</td>
<td>1,02</td>
<td>.574</td>
<td>.89</td>
<td>5,14***</td>
<td>.0312</td>
<td></td>
</tr>
<tr>
<td>PCE</td>
<td>PCE1</td>
<td>5,662</td>
<td>1,22</td>
<td>.329</td>
<td>.92</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fashion consciousness</td>
<td>FC1</td>
<td>3,933</td>
<td>1,66</td>
<td>.810</td>
<td>.86</td>
<td>14,917***</td>
<td>.0087</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FC2</td>
<td>3,895</td>
<td>1,69</td>
<td>.698</td>
<td>.83</td>
<td>14,97***</td>
<td>.0085</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FC3</td>
<td>3,711</td>
<td>1,45</td>
<td>.634</td>
<td>.76</td>
<td></td>
<td>0,863</td>
<td></td>
</tr>
<tr>
<td>Subjective norm</td>
<td>SN3</td>
<td>2,924</td>
<td>1,32</td>
<td>.999</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention</td>
<td>Bar1</td>
<td>4,991</td>
<td>1,58</td>
<td>.448</td>
<td>.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Int1</td>
<td>4,262</td>
<td>1,68</td>
<td>.579</td>
<td>.72</td>
<td>10,206***</td>
<td>.0116</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Int2</td>
<td>4,519</td>
<td>1,55</td>
<td>.924</td>
<td>.75</td>
<td>9,265***</td>
<td>.0122</td>
<td></td>
</tr>
</tbody>
</table>

°Standardized estimates. SD: standard deviation; CR: critical ratio; SE: standard error. ***P<0.001

### Table 10 Hypothesis testing and fit statistics (eco-fashion) - Estimates are Standardized estimates

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Construct 1</th>
<th>Construct 2</th>
<th>Estimate</th>
<th>Standard error</th>
<th>Critical ratio</th>
<th>P-value</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>H ID1</td>
<td>SelfIdentity</td>
<td>Intention</td>
<td>-0,276</td>
<td>0,144</td>
<td>-4,735</td>
<td>***</td>
<td>Contrary</td>
</tr>
<tr>
<td>H ID2</td>
<td>SelfIdentity</td>
<td>Attitude</td>
<td>0,509</td>
<td>0,064</td>
<td>11,268</td>
<td>***</td>
<td>Supported</td>
</tr>
<tr>
<td>H ID3</td>
<td>SelfIdentity</td>
<td>PBC</td>
<td>0,433</td>
<td>0,091</td>
<td>6,941</td>
<td>***</td>
<td>Supported</td>
</tr>
<tr>
<td>H ID4</td>
<td>SelfIdentity</td>
<td>SubjNorm</td>
<td>-0,288</td>
<td>0,104</td>
<td>-4,364</td>
<td>***</td>
<td>Contrary</td>
</tr>
<tr>
<td>H Att</td>
<td>Attitude</td>
<td>Intention</td>
<td>0,651</td>
<td>0,097</td>
<td>11,801</td>
<td>***</td>
<td>Supported</td>
</tr>
<tr>
<td>H PCE1</td>
<td>PCE</td>
<td>Attitude</td>
<td>0,274</td>
<td>0,032</td>
<td>6,096</td>
<td>***</td>
<td>Supported</td>
</tr>
<tr>
<td>H PCE2</td>
<td>PCE</td>
<td>Intention</td>
<td>0,265</td>
<td>0,056</td>
<td>5,815</td>
<td>***</td>
<td>Supported</td>
</tr>
<tr>
<td>H PCE3</td>
<td>PCE</td>
<td>PBC</td>
<td>-0,148</td>
<td>0,045</td>
<td>-2,377</td>
<td>0,017</td>
<td>Supported</td>
</tr>
<tr>
<td>H PCE4</td>
<td>PCE</td>
<td>SubjNorm</td>
<td>0,325</td>
<td>0,049</td>
<td>5,25</td>
<td>***</td>
<td>Contrary</td>
</tr>
<tr>
<td>H FC1</td>
<td>FashionC</td>
<td>Attitude</td>
<td>0,142</td>
<td>0,019</td>
<td>3,738</td>
<td>***</td>
<td>Supported</td>
</tr>
<tr>
<td>H FC2</td>
<td>FashionC</td>
<td>Intention</td>
<td>0,097</td>
<td>0,038</td>
<td>2,233</td>
<td>0,026</td>
<td>Supported</td>
</tr>
<tr>
<td>H FC3</td>
<td>FashionC</td>
<td>PBC</td>
<td>0,099</td>
<td>0,032</td>
<td>1,614</td>
<td>0,106</td>
<td>Not supported</td>
</tr>
<tr>
<td>H FC4</td>
<td>FashionC</td>
<td>SubjNorm</td>
<td>0,048</td>
<td>0,034</td>
<td>0,803</td>
<td>0,422</td>
<td>Not supported</td>
</tr>
<tr>
<td>H PBC</td>
<td>PBC</td>
<td>SubjNorm</td>
<td>0,204</td>
<td>0,058</td>
<td>3,825</td>
<td>***</td>
<td>Supported</td>
</tr>
<tr>
<td>X</td>
<td>PBC</td>
<td>Intention</td>
<td>0,241</td>
<td>0,065</td>
<td>6,213</td>
<td>***</td>
<td>Valid</td>
</tr>
<tr>
<td>X</td>
<td>SubjNorm</td>
<td>Intention</td>
<td>-0,102</td>
<td>0,062</td>
<td>-2,547</td>
<td>0,011</td>
<td>Valid</td>
</tr>
</tbody>
</table>

Table 10 Hypothesis testing and fit statistics (eco-fashion) - Estimates are Standardized estimates
Figure 9 Structural model test and results of the hypotheses – eco-fashion

H ID

This set of hypotheses investigated the influence of ESC self-identity on different factors. ESC self-identity had a significant positive influence on Attitude ($\gamma = 0.509$, $P < 0.05$) and PCB ($\gamma = 0.433$, $P < 0.05$). Therefore, $H_{ID2}$ and $H_{ID3}$ are supported. However, despite being significant the influence of ESC self-identity was found negative on Intention ($\gamma = -0.276$, $P < 0.05$) and Subjective norm ($\gamma = -0.288$, $P < 0.05$). Thus, hypotheses $H_{ID1}$ and $H_{ID4}$ are not supported. Nonetheless, the influence of ESC self-identity is still statistically significant on Intention and Subjective norm.

H Att

As conjectured, Attitude toward eco-fashion had a significant positive effect on eco-fashion purchase intention ($\gamma = 0.651$, $P < 0.05$). Consequently, $H_{Att}$ is supported.

H PCE

This set of hypotheses tested the effects of PCE on Attitude, Intention, PBC and Subjective norm. In accordance with the initial conjectures, PCE was found to have a significant positive influence on Attitude ($\gamma = 0.274$, $P < 0.05$), Intention ($\gamma = 0.265$, $P < 0.05$) and a significant negative influence on PBC ($\gamma = -0.148$, $P < 0.05$). Thus, $H_{PCE1}$ $H_{PCE2}$ and $H_{PCE3}$ are
supported. However, contradictory to what was conjectured, PCE was found to have a significant negative effect on subjective norm (γ = 0.325, P < 0.05). Accordingly, H PCE4 was not supported, yet PCE have a statistically significant influence on subjective norm.

H FC

This set of hypotheses tested the influence of Fashion consciousness on Attitude, Intention, PBC and Subjective norm. In line with the initial conjectures, Fashion consciousness was found to have a significant positive influence on Attitude (γ = 0.142, P < 0.05) and Intention (γ = 0.097, P < 0.05). Therefore, H FC1 and H FC2 are supported. However, no statistical significance was found concerning the influence of Fashion consciousness on PCB (γ = -0.099, P > 0.05) nor on Subjective norm (γ = 0.048, P > 0.05). Accordingly, H FC3 and H FC4 are not supported.

H PBC

This study initially hypothesized than PBC had a positive effect on Subjective norm. This relationship is confirmed by the significant statistical values (γ = 0.204, P < 0.05). Therefore, H PBC is supported.

Valid paths

In addition to the 14 initial hypotheses two relationship paths deriving from the original TPB model were included in the structural model. Both paths were found to be statistically significant. PBC had a significant positive effect on eco-fashion purchase intention (γ = 0.241, P < 0.05). Subjective norm, however, have a significant negative effect on Intention (γ = -0.102, P < 0.05).
B. Analysis & Findings: attitude toward BFC models

1. Analysis

   a) Data screening

In this analysis, answers from 394 respondents were collected. The median age is 24, and women (56.6%) are slightly more represented than men (43.4%) (Table 11 & Figure 10). Age goes from 17 to 66.

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
<th>Median age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>171</td>
<td>43.4</td>
<td>24</td>
</tr>
<tr>
<td>Female</td>
<td>223</td>
<td>56.6</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>394</td>
<td>100</td>
<td>24</td>
</tr>
</tbody>
</table>

Table 11 Gender & age statistics – BFC models

Figure 10 Age repartition – BFC models

   (1) Case screening

The online survey required participants to answer all questions to validate the questionnaire, therefore no missing data were found in the dataset. After checking for unengaged responses, no respondents appeared unengaged. Comparably, no outliers were identified as the survey designed did not permit it. Thus, 394 responses were used in this analysis.

   (2) Variable screening

An initial normality test was performed to verify variables' repartition, skewness and kurtosis of each variable were analyzed. According to Brown (1997), a regular threshold for kurtosis statistic is 2, in absolute value. Concerning skewness statistic, the same threshold will be held.
Value for skewness and kurtosis are available in Appendix 6. No variables were found abnormally distributed. Except for Age, that had a kurtosis statistic of 3.511 and a skewness statistic of 2.112. These values are explicable by the way data were collected; most of the possible respondents reached are of similar age to the researcher.

\[a) \quad \text{EFA}\]

The same dimension reduction method was used than in the previous analysis. During this EFA, BFC1, BFC4 and BFC5 were dropped because of their poor loading with the theoretical construct Attitude toward BFC. BFC1 concerned consumer attitude toward Rental business model. BFC4 was evaluating consumer attitude toward the Subscription model. And BFC5 was evaluating consumer attitude toward Refurbishment and Customization model.

A decent pattern matrix, available in Appendix 6, was obtained. Adequacy tests calculated a middling KMO statistic of 0.747 and a non-significant Bartlett’s test of sphericity (significance: 0.00 < 0.05) attested that the matrix found in EFA was an identity matrix. Accordingly, to the sample size of 394, significant factor loadings were expected to be higher than 0.30. Convergent validity was met with a lowest factor loading score of 0.269 for ID3. A test of discriminant validity was then performed using the correlation matrix available in Appendix 6. For the model to achieve discriminant validity, correlation between factors need to be lower than 0.7. All factors met this requirement with the highest correlation score being between ESC self-identity and Intention (0.538). At last, factors’ reliability was evaluated with the measurement of Cronbach’s alfa (α). Results are presented below in Table 12. A common threshold for Cronbach’s alfa is \(\alpha \geq 0.70\) (Cortina, 1993). However, Cronbach’s alfa is dependent on the number of variables loading on a factor, therefore in some cases values above 0.450 are “acceptable” (Taber, 2017). Only ESC self-identity does not meet the most rigorous threshold of 0.7. This factor will have to be watched further in the CFA.

<table>
<thead>
<tr>
<th></th>
<th>Cronbach's alpha</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESC self-identity</td>
<td>.666</td>
<td>4</td>
</tr>
<tr>
<td>Fashion consciousness</td>
<td>.865</td>
<td>3</td>
</tr>
<tr>
<td>AttBFC</td>
<td>.745</td>
<td>2</td>
</tr>
<tr>
<td>Intention</td>
<td>.808</td>
<td>3</td>
</tr>
</tbody>
</table>

*Table 12 Cronbach’s alfas – BFC models*
b) **CFA**

In the CFA, one variable had to be removed to achieve a decent validity and reliability of the model. First, even if no multigroup assumptions were made, to be able to explore possible difference between female and male respondents, different measures of the model invariance across both gender groups were made. Configural, metric and scalar invariance tests had been performed to measure the model invariance. Configural invariance was verified as evidenced by good model fit measures when estimating the groups freely. Metric invariance was also successful as evidenced by a non-significant chi-square difference test between the fully constrained and unconstrained model ($p$-value = 1 > 0.05). Scalar invariance test was also successful to verify model invariance (measurement intercept $p$-value = 1 > 0.05). We therefore conclude that the model is invariant for gender.

Because validity and reliability issues were observed in the CFA, ID1 and ID3 were dropped. Reliability and validity values obtained in the CFA are presented below in table 13. Reliability threshold of CR > 0.7 was met in all except for ESC self-identity. CR value of ESC self-identity approximated 0.6. This variable may present reliability issues, but the CR score is close enough to 0.7 to keep it. The same variable has also convergent validity issues with AVE < 0.5. This difference with the threshold is relatively low (less than 0.1) and therefore the construct will be kept. These measures indicate that ESC self-identity is less reliable and valid than the other variables.

<table>
<thead>
<tr>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>MaxR(H)</th>
<th>FashionC</th>
<th>AttBFC</th>
<th>IntentionEF</th>
<th>Selfidentity</th>
</tr>
</thead>
<tbody>
<tr>
<td>FashionC</td>
<td>0.868</td>
<td>0.686</td>
<td>0.025</td>
<td>0.872</td>
<td>0.828</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AttBFC</td>
<td>0.771</td>
<td>0.635</td>
<td>0.047</td>
<td>0.868</td>
<td>-0.115</td>
<td>0.797</td>
<td></td>
</tr>
<tr>
<td>IntentionEF</td>
<td>0.817</td>
<td>0.604</td>
<td>0.335</td>
<td>0.890</td>
<td>0.001</td>
<td>0.217</td>
<td>0.777</td>
</tr>
<tr>
<td>Selfidentity</td>
<td>0.598</td>
<td>0.427</td>
<td>0.335</td>
<td>0.599</td>
<td>-0.157</td>
<td>0.208</td>
<td>0.579</td>
</tr>
</tbody>
</table>

*Table 13 CFA reliability and Validity – BFC models*

Then, a common method bias test was performed to evaluate external bias influencing the measures. This study used a common latent factor (CLF) to express the common variance among variables. When comparing the unconstrained common method factor model to the fully constrained common method factor (CMF) model, the chi-square test revealed significant (Chi-square difference: 24.3; degree of freedom difference: 10; $p$-value: 0.007 < 0.05). Therefore, the model had significant shared variance. Consequently, we retained the CMF. To facilitate manipulation and reliability, factor scores were then imputed and 4 new constructs were created. All four constructs keep the same name as previously but now account for the shared variance.
Final model with the CMF included express a good level of model fit. All parameters were met except for chi-square p-value that was significant. Values are available in Table 14 below. Chi-square p-value is sensitive to sample size and model complexity. If the model express good fit otherwise it is not considered an issue to have a significant p-value (Barret, 2007). Thus, the researcher can move on to the structural model analysis.

<table>
<thead>
<tr>
<th>Model fit</th>
<th>Threshold</th>
<th>Value model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cmin/df</td>
<td>&lt; 3</td>
<td>1.72</td>
</tr>
<tr>
<td>DF</td>
<td>&gt; 1</td>
<td>19</td>
</tr>
<tr>
<td>P-value</td>
<td>&gt; 0.05</td>
<td>0.026</td>
</tr>
<tr>
<td>CFI</td>
<td>&gt; 0.90</td>
<td>0.99</td>
</tr>
<tr>
<td>GFI</td>
<td>&gt; 0.95</td>
<td>0.984</td>
</tr>
<tr>
<td>AGFI</td>
<td>&gt; 0.80</td>
<td>0.955</td>
</tr>
<tr>
<td>SRMR</td>
<td>&lt; 0.09</td>
<td>0.263</td>
</tr>
<tr>
<td>RMSEA</td>
<td>&lt; 0.05</td>
<td>0.43</td>
</tr>
<tr>
<td>PCLOSE</td>
<td>&gt; 0.05</td>
<td>0.657</td>
</tr>
</tbody>
</table>

Table 14 Final model fit CFA – BFC models

c) Structural model

In this analysis a full latent variable structural model was built to test its model fit and the different hypotheses. After having imputed CMF to the existing factors. As in the previous analysis, the researcher checked for any outliers or influences using the Cook’s distance. No issues were found, results are available in Appendix 9. Then a linear regression was done to establish VIF and tolerances values for the 3 different factors affecting Attitude toward BFC models. Results are available in Table 15 below. With thresholds of VIF < 3 and tolerance > 0.1, no multicollinearity issues were found. Factors are not overlapping in the portion of variance they explain.

<table>
<thead>
<tr>
<th></th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>SelfIdentity</td>
<td>.825</td>
<td>1.212</td>
</tr>
<tr>
<td>FashionC</td>
<td>.764</td>
<td>1.308</td>
</tr>
<tr>
<td>IntentionEF</td>
<td>.679</td>
<td>1.472</td>
</tr>
</tbody>
</table>

Table 15 VIF & tolerances – BFC models

The structural model’s fit index indicated a very good fit. Values are available in Table 16 below. It can be observed that all thresholds are met, even the most rigorous ones. Table 18 presents the final measurement properties. Looking at the modification indices, no misfit issues
appeared. R-squared measures are reported in Table 17. The model explained 20% of the data variance for Attitude toward BFC models. Thus, we can now test the hypotheses. This will be done in the following subsection.

### Table 16 Final model fit (Structural model) – BFC models

<table>
<thead>
<tr>
<th>Model fit</th>
<th>Threshold</th>
<th>Value model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cmin/df</td>
<td>&lt; 3</td>
<td>1,828</td>
</tr>
<tr>
<td>DF</td>
<td>&gt; 1</td>
<td>4</td>
</tr>
<tr>
<td>P-value</td>
<td>&gt; 0,05</td>
<td>0,12</td>
</tr>
<tr>
<td>CFI</td>
<td>&gt; 0,90</td>
<td>1</td>
</tr>
<tr>
<td>GFI</td>
<td>&gt; 0,95</td>
<td>0,993</td>
</tr>
<tr>
<td>AGFI</td>
<td>&gt; 0,80</td>
<td>0,959</td>
</tr>
<tr>
<td>SRMR</td>
<td>&lt; 0,09</td>
<td>0,0016</td>
</tr>
<tr>
<td>RMSEA</td>
<td>&lt; 0,05</td>
<td>0,46</td>
</tr>
<tr>
<td>PCLOSE</td>
<td>&gt; 0,05</td>
<td>0,476</td>
</tr>
</tbody>
</table>

### Table 17 R-squared results – BFC models

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Indicators</th>
<th>Mean</th>
<th>SD</th>
<th>EFA loading</th>
<th>CFA loading°</th>
<th>CR (t-value)</th>
<th>SE</th>
<th>Cronbach’s alfa</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESC self-identity</td>
<td>ID4</td>
<td>4,569</td>
<td>1,16</td>
<td>0,732</td>
<td>0,56</td>
<td>0,73</td>
<td>0,56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ID2</td>
<td>6,454</td>
<td>0,75</td>
<td>0,692</td>
<td>0,85</td>
<td>1,854</td>
<td>0,47</td>
<td></td>
</tr>
<tr>
<td>Fashion consciousness</td>
<td>FC3</td>
<td>3,650</td>
<td>1,43</td>
<td>0,758</td>
<td>0,87</td>
<td>0,87</td>
<td>0,87</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FC1</td>
<td>3,812</td>
<td>1,68</td>
<td>0,825</td>
<td>0,84</td>
<td>14,917***</td>
<td>0,082</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FC2</td>
<td>3,792</td>
<td>1,68</td>
<td>0,801</td>
<td>0,82</td>
<td>14,97***</td>
<td>0,079</td>
<td></td>
</tr>
<tr>
<td>Attitude BFC models</td>
<td>BFC2</td>
<td>4,464</td>
<td>1,94</td>
<td>0,789</td>
<td>0,75</td>
<td>0,75</td>
<td>0,75</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BFC3</td>
<td>5,221</td>
<td>1,79</td>
<td>0,806</td>
<td>0,96</td>
<td>2,621***</td>
<td>0,548</td>
<td></td>
</tr>
<tr>
<td>Intention eco-fashion</td>
<td>Bar1</td>
<td>5,053</td>
<td>1,59</td>
<td>0,687</td>
<td>0,65</td>
<td>10,206***</td>
<td>0,24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Int1</td>
<td>4,297</td>
<td>1,70</td>
<td>0,718</td>
<td>0,66</td>
<td>10,206***</td>
<td>0,24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Int2</td>
<td>4,576</td>
<td>1,57</td>
<td>0,808</td>
<td>0,58</td>
<td>9,265***</td>
<td>0,255</td>
<td></td>
</tr>
</tbody>
</table>

°Standardized estimates. SD: standard deviation; CR: critical ratio; SE: standard error. ***P<0.001

### Table 18 Final measurement properties – BFC models

This subsection is dedicated to the testing of the hypotheses. On the 6 hypotheses, 5 were supported and one was found contradictory to the empirical results. Results and fit statistics are presented in Table 19 below. Overall structural model test and results of the hypotheses are illustrated in figure 11. Each hypothesis results will be further detailed.

2. **Findings**

This subsection is dedicated to the testing of the hypotheses. On the 6 hypotheses, 5 were supported and one was found contradictory to the empirical results. Results and fit statistics are presented in Table 19 below. Overall structural model test and results of the hypotheses are illustrated in figure 11. Each hypothesis results will be further detailed.
This set of hypotheses investigated the influence of ESC self-identity on different factors. ESC self-identity had a significant positive influence on Attitude toward BFC models ($\gamma = 0.13$, $P < 0.05$) and eco-fashion purchase intention ($\gamma = 0.33$, $P < 0.05$). ESC self-identity had a significant negative influence on Fashion consciousness ($\gamma = -0.10$, $P < 0.05$). Therefore, H ID1, H ID2 and H ID3 are supported.
H FC

This set of hypotheses tested the influence of Fashion consciousness on Attitude toward BFC models and eco-fashion purchase intention. In line with the initial conjectures, Fashion consciousness was found to have a significant positive influence on eco-fashion purchase intention ($\gamma = 0.48$, $P < 0.05$). However, Fashion consciousness was conjectured to have a significant positive effect on attitude toward BFC models. Empirical results show that FC has a significant negative effect on attitude toward BFC models ($\gamma = 0.29$, $P < 0.05$). Therefore, H FC2 is supported but H FC1 is not.

H Int

This study initially hypothesized than eco-fashion purchase intention had a positive effect on attitude toward BFC models. This relationship is confirmed by the significant statistical values ($\gamma = 0.38$, $P < 0.05$). Therefore, H Int is supported.
C. Barriers toward eco-fashion consumption

In addition to the two analyses performed, it is relevant to include a small descriptive part to understand the different barriers toward eco-fashion consumption identified in this study. In this subsection the sampled population is enlarged to all the responses gathered in through the online survey. In total, 404 responses were collected. Figure 12 below presents the different barriers underlined by the respondents. The question asked was “If I do not purchase eco-fashion, it is because of”. 6 pre-coded answers were included (A lack of information on the subject; The style; The price; I do not have faith in eco-fashion; I am not interested; None of this reasons), and the respondent had the possibility to answer openly as well. Open-answered questions were encoded in categories.

![Figure 12 Barriers toward eco-fashion consumption](image)

<table>
<thead>
<tr>
<th>Barriers toward eco-fashion</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of this reasons</td>
<td>267</td>
<td>66%</td>
</tr>
<tr>
<td>Lack of information on the subject</td>
<td>204</td>
<td>50%</td>
</tr>
<tr>
<td>Price</td>
<td>118</td>
<td>29%</td>
</tr>
<tr>
<td>Style</td>
<td>15</td>
<td>4%</td>
</tr>
<tr>
<td>I am not interested</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>I prefer second hand/swapping</td>
<td>3</td>
<td>1%</td>
</tr>
<tr>
<td>Availability</td>
<td>3</td>
<td>1%</td>
</tr>
<tr>
<td>I do not have faith in eco-fashion</td>
<td>25</td>
<td>6%</td>
</tr>
<tr>
<td>Quality/comfort</td>
<td>3</td>
<td>1%</td>
</tr>
<tr>
<td>Lack of choice</td>
<td>2</td>
<td>1%</td>
</tr>
</tbody>
</table>
V. Discussion and Conclusions

This study aimed to provide a better understanding of consumer behavior in the context of a more sustainable fashion consumption. The research was dual and investigated two aspects: consumer eco-fashion purchase intention and consumer attitude toward better fashion consumption (BFC) models. The data gathered from an online survey was analyzed according to this double purpose. Results from each investigation will be presented in two different sections. The first section will present the results of the analysis of consumer’s eco-fashion purchase intention. The second, the results of the analysis of consumer attitude toward BFC models.

A. Main findings: eco-fashion purchase intention

The first objective of this study was to answer the following question: Which factors influence consumer’s eco-fashion purchase intention in France?

To do so, this section will sequentially answer the different sub research questions.

1. The effect of attitude on eco-fashion purchase intention

Attitude toward eco-fashion was found to have an important effect on eco-fashion purchase intention. Of all the influential factors of intention, attitude was the strongest predictor, as it can be seen in Figure 8. A positive attitude toward eco-fashion will increase purchase intention. Such finding is consistent with the previous literature findings using an attitude-behavior approach. The more favorable attitude is, the stronger is behavioral intention (Ajzen, 1991). Regarding the influence of attitude on purchase intention, this positive relationship has also been observed across many studies (Wu, Ning and Qi, 2010; Jin, Gavin and Ji Hye, 2012). In the context of fashion consumption similar relationship has been described (Summers, Belleau and Xu, 2006; Valaei and Nikhashemi, 2017). Correspondingly, in the context of sustainable consumption attitude toward product is a strong predictor of purchase intention (Alwitt and Pitts, 1996; Vermeir, 2008; Mei, Ling and Piew, 2012). Finally, this finding is consistent with the literature investigating eco-fashion purchase intention (Kang, Liu and Kim, 2013; Cowan and Kinley, 2014). What the consumer feels about eco-fashion, and how he perceives predict eco-fashion purchase intention.
2. The effect of ESC self-identity on eco-fashion purchase intention

To study the influence of self-identity on eco-fashion purchase intention a theoretical construct called ESC self-identity was built by the researcher. This concept aims to evaluate the individual interest and involvement in social or environmental issues. In this study, a strong ESC self-identity, meaning a strong concern for environmental and social issues, was found to have a relatively strong negative influence on purchase intention. This result is surprising if we consider that eco-fashion appears as one solution, or at least an improvement, to the damages done by the traditional fashion consumption. Thus, it could be assumed that a conscious consumer prefers to buy eco-fashion over traditional fashion to improve his impact. Such finding echoes contrasted findings about the effect of self-identity on intention. Different studies measured a significant effect of self-identity on intention. Self-identity positively effects intention to practice physical activity (Ries et al., 2012). In fashion consumption self-identity has been found to influence purchase intention. Consumers buy clothes that are relevant to their selves or represent their ideal (Piacentini and Mailer, 2004; Khallouli and Gharbi, 2013). However, a recent study on generation-Y consumers found no influence of social-identity, a composite of self-identity, on traditional fashion purchase intention (Valaei and Nikhashemi, 2017). Other findings assessed the role of self-identity in green consumption (Sparks and Shepherd, 1992). However, regarding sustainable food consumption self-identity was found to have no effect on purchase intention (Robinson and Smith, 2002). In this study the influence of self-identity on purchase intention is supported. However, it is the negative effect of a pro-social and pro-environmental self-identity on eco-fashion purchase intention that is surprising. A plausible explanation is suggested by the open answers to the question “If I don’t buy eco-fashion it is because of:” included in the online survey (see figure 11). Such a negative effect of ESC self-identity on purchase intention might be because the most conscious consumer already have adopted other conscious consumption behaviors: buying less, focusing on quality over quality, buying more from second-hand shops. This type of consumer tries to buy less and more differently rather than buying new eco-garments. Another possible explanation is the higher price commanded by eco-fashion products, majority of the sample population are students, students are known for being more price conscious than other consumer segment (Kumar, Lee and Kim and Karpova, 2009). Therefore, they may prefer to care for social justice and the environment in less expensive ways. A high ESC self-identity predicts a positive attitude toward eco-fashion but not necessarily translates into purchase intention.
ESC self-identity was also found to have a negative effect on subjective norm. Instead of feeling more normative pressure high ESC consumers feel less pressure regarding eco-fashion consumption. This result seems to correlate with the negative effect of ESC self-identity on intention. Similarly, Kang, Liu and Kim (2013) found that consumer knowledge about eco-fashion had a negative influence on subjective norm. The relationship observed in our study might be due to decision-making style differences. ESC self-identities are more independent and autonomous than the average consumer. They perceive themselves already as different from most individuals. And thus, care less about their judgment. Another explanation is that more conscious consumers prefer to take other actions than buying eco-fashion to reduce the impact of their fashion consumption. The lack of existing literature on the effect of ESC self-identity on eco-fashion purchase intention and subjective norm may have also led the researchers to make wrong explorative assumption.

If the negative effect of ESC self-identity on intention and subjective norm may be unexpected, the influence of self-identity on other factors was substantially high, as predicted by the review of literature. ESC self-identity had a strong positive influence on PCB. Conscious consumers appear more confident in their ability to purchase eco-fashion than others. Probably because of their higher experience with specialized distribution channels (Niinimäki, 2010). ESC self-identity also positively influences eco-fashion attitude; conscious consumers tend to view eco-fashion more positively. It is consistent with the idea that eco-fashion is a better consumption alternative than traditional fashion consumption for the environment and the people it impacts.

3. The effect of fashion consciousness on eco-fashion purchase intention

Fashion consciousness, it is to say consumer’s involvement with fashion, was found to have a positive influence on eco-fashion purchase intention. This finding is relatively new to the field. Only few researches investigated the role of fashion consciousness on sustainable fashion consumption. For Niinimäki (2010) and Joergens (2006), the outdated style of eco-fashion was a strong obstacle for fashion conscious consumers. Fu and Kim (2019), found the relationship between fashion involvement and eco-fashion purchase intention not supported. From our analysis this influence is supported. Fashion consciousness increases purchase intention as well as attitude toward eco-fashion. The quest for variety and novelty and the willingness to pay more of fashion-conscious consumers (Sprotles and Kendall, 1986) may be influential aspects toward eco-fashion consumption. Eco-fashion that suffered a bad image of poorly designed or outdated garments, now benefits of the overall trend for more sustainability. As
well as of the growing interest of the fashion-industry to polish its image a gain popularity through green marketing actions (Kim and Rölkens, 2018).

The relationships between fashion consciousness and subjective norm and PCB were however not supported in this study. Fashion conscious are opinion-leaders and do not feel pressured by others to purchase eco-fashion. Their higher clothing consumption does not appear to be a badly perceived by their peer. A rational to this is that only few people are conscious of the issues of intensive fashion consumption (Šajn, 2019). Eco-fashion is an optional choice in the public mindset, not a necessity. Regarding the absence of supported relationship between fashion consciousness and PCB, it can be conjectured that even if fashion conscious consumers have more fashion knowledge (O’Cass, 2004), they do not necessarily feel to have knowledge about where and how to shop for eco-fashion.

4. The effect of PCE on eco-fashion purchase intention

PCE was a successful improvement to the TPB in the context of eco-fashion. PCE predicted several factors influencing eco-fashion purchase consumption. All of the 4 influence paths proposed were supported. First, PCE has a positive influence on attitude and intention. The more an individual perceives eco-fashion as beneficial to the environment, the better his affect about eco-fashion will be and the greater the purchase intention. These results are consistent with the findings of the literature. PCE was found to positively influence sustainable food consumption (Joergens, 2006). PCE was also identified as a strong predictor of green purchase intention and attitude toward green consumption (Balderjahn, 1988; Emekci, 2019). And a low PCE was identified as an important barrier toward eco-fashion consumption (Meyer, 2001; Achabou and Dekhili, 2013). Sustainable consumption over regular one is a choice. To motivate these choices that often imply higher cost and lower shopping convenience for the consumer, due to the lower availability of sustainable products, the consumer needs to see other benefits. Regarding sustainable food consumption, the effectiveness is more easily perceived as it directly affects the health of the individual. Regarding sustainable fashion consumption the benefits are less obvious. Consumers that perceive eco-fashion as efficient to tackle the fashion industry social and environmental issues are more eager to purchase eco-fashion.

Furthermore, as conjectured, PCE was found to have a negative effect on PBC. This finding is consistent with the precedent findings of Kang, Liu and Kim (2013) in the context of eco-fashion consumption. This result may be explained by the idea that the more an individual believes his
behavior has consequences, the less confident he will feel about how to perform the behavior right.

Nonetheless, PCE had a significant negative influence on subjective norm that was not predicted. In this study, if a consumer holds strong beliefs about the impact of his actions, he will feel less normative in performing it. This relationship may be explained because the more an individual is aware of his behavioral impact the more self-responsible, he will feel. And therefore, be less dependent from others’ opinions or acceptance. Similarly, Cialdini (1993) found that the more knowledgeable a consumer is the less he will feel normative pressure. The growing interest and communication around sustainable fashion consumption appears to have not translated into normative pressure to purchase eco-fashion. This may be due to the low amount of eco-fashion consumption compared to traditional one (Luchs et al., 2010). The vast majority of people do not purchase eco-fashion, partly because they are not aware of its benefits. The individuals who perceives them identify themselves differently and make consumption choices according to different criteria. In this context, they are more original and knowledgeable than others.

5. The validity of subjective norm and PBC in predicting eco-fashion purchase intention

One of the objectives of the study to examine if the inclusion of subjective norm and PBC in the structural model was relevant in the context of eco-fashion purchase intention. Both constructs showed a significant relevance in the model. These results are in line with the TPB (Ajzen and Fishbein, 1980). PBC had a relatively strong positive influence on purchase intention. This finding is consistent with other findings regarding green consumption intention. PBC has been identified as a strong predictor of sustainable food consumption intention (Ozcaglar-Toulouse, Shiu and Shaw, 2006; Vermeir, 2008). However, this study contradicts the results found by Kang, Liu and Kim (2013), that found no significant influence of PBC on eco-fashion purchase intention. The more self-efficacy an individual feel, the more he will intend to purchase eco-fashion. Eco-fashion is still incipient, not easily available and with confusing claims and information. In this context, if an individual feels he is knowledgeable about where to find and how to shop eco-fashion it increases its intention to purchase it. Subjective norm also revealed significant in predicting intention in this study. Subjective norm had a negative influence on eco-fashion consumption. It is to say that the normative pressure weakens the intention to purchase eco-fashion. This result is consistent with the findings of Connell (2010) on eco-conscious apparel acquisition. As well as with the findings of Kang, Liu
and Kim (2013). But also, with findings in the context of sustainable food consumption (Ozcaglar-Toulouse, Shiu and Shaw, 2006; Vermeir, 2008). Individuals consume sustainably because of other motives than the normative pressure. They are performing an act that goes against the main consumption pattern and they claim it. The results suggest that this originality feeling drives eco-fashion purchase intention.

In addition, another finding was that PBC positively influences subjective norm. It is to say that the more control the individual thinks he has over eco-fashion consumption, the more he will feel normative pressure to perform this behavior. In other words, the consumer has less excuses to not buy eco-fashion and therefore feel more pressured.

6. The role of experience with eco-fashion and clothing consumption frequency in this model

Among the different controls included in the analysis of eco-fashion purchase intention, previous experience with eco-fashion was the most relevant one. It had a significant influence on attitude, subjective norm and intention. If a consumer has already bought eco-fashion, he is keener to form a positive attitude toward eco-fashion as well as to have a greater purchase intention. This finding is consistent with the effect of product experience on sustainable consumption underscored by (Ozcaglar-Toulouse, Shiu and Shaw, 2006). Experience with eco-fashion was also found to increase subjective norm effect. The more an individual has experienced eco-fashion the more normative pressure he feels. This can be explained by the fact that having bought eco-fashion once or several time he has made a statement about his values and consumption style among his peer. Therefore, he has more motivation to be consistent with his previous behavior.

In addition, frequency of clothing consumption was found to influence two factors in the model: subjective norm and intention. The more often a consumer buys clothes the less subjective norm influence he will experience. This result can be interpreted with the idea that the consumers who often buy clothes do it not just because of a need but because of their interest in clothing. They consume fashion and sustainable fashion for themselves above the others. A high frequency of purchase also lowered intention to buy eco-fashion. Several ideas can correlate this finding. First, eco-fashion is more expensive, therefore harder to purchase on a high frequency basis. Second, eco-fashion is supposed to be of better quality, lasting longer. This might not be a valued aspect for people interested in regular turnover and newness. Third, buying clothes often expresses a high degree of materialism, a value contradicting care for the environment or social justice. Finally, the limited availability of eco-fashion may dampen
purchase intention for individuals buying fashion often. They would have to concede an unwanted effort that would lower their other consumption options.

The other controls included in this model were not found to have a significant influence. Age and preferred place of purchase did not influence factor’s scores.

B. Main findings: BFC models

The second spectrum of this study was to provide a better understanding of consumer attitude and interest toward better fashion consumption models. Regarding this goal, the formulated research question was: Which factors influence consumer attitude toward more sustainable business models in the fashion industry?

To answer this question the different sub research questions will be answered sequentially.

1. The effect of eco-fashion purchase intention on attitude toward BFC models

Eco-fashion purchase intention was found to have a significantly positive effect on attitude toward BFC models. In the proposed model it is the strongest predictor of attitude. Despite the lack of existing literature on factors influencing attitude toward BFC models. The apparent convergence between intending to buy eco-fashion and wanting to use other, better ways of consuming fashion to shop out of the main consumption pattern, led the researcher to conjecture a positive relationship between sustainable fashion purchase intention and attitude toward BFC models. The empirical results correlate the idea that the individual’s identity and social values expressed via eco-fashion consumption correlates with some of the values motivating to use BFC models. It is consistent with the idea that consumption choices reflect individual’s identity (Moisander, 1991).

2. The effect of ESC self-identity on attitude toward BFC models

In the proposed structural model, all influential paths drawn from ESC self-identity were verified. ESC self-identity has a relatively weak positive effect on attitude toward BFC models. The individual’s identifying themselves as conscious consumers will be keener to use BFC
models. This result is not directly comparable with other studies because no quantitative studies of this kind were found. Nonetheless, Armstrong et al. (2015) noted that consumer education and consumer willingness to make efforts to improve his consumption was important variables influencing attitude toward BFC models. In addition, ESC self-identity was found to negatively affect fashion consciousness. This result is consistent with the logical reasoning opposing pro-environmental attitude and high fashion consciousness (Razzaq et al., 2018). A conscious individual tends to be less materialistic and is less likely to consume fashion for hedonistic purposes (O’Cass, 2004).

In contradiction with the findings from the analysis of the factors influencing eco-fashion purchase intention, ESC self-identity was found to positively influence eco-fashion purchase intention in this structural model. This may be due to the difference in sample population. Respondents aged from 40 to 70 were included. It can also be due to the difference between the variable loading on the construct. In this model, the pro-social aspect of ESC self-identity had to be dropped. Only the pro-environmental dimension was retained in the CFA.

3. The effect of fashion consciousness on attitude toward BFC models

Unlike the initial predictions, fashion consciousness was found to have a relatively strong negative effect on attitude toward BFC models. It was hypothesized that the strong need for novelty and variety coupled with the adventurous personality inherent to most fashion-conscious consumers would drive them toward using BFC models (Summers, 1970; Sprotles and Kendall, 1986). However, it appears that fashion conscious consumers are not interested in BFC models. Possible explanation could be that consumer involved in fashion do it for hedonic motivations, as a leisure (Arnold and Reynolds, 2004). They love the aesthetic aspects in fashion consumption (Bakewell, Mitchell and Rothwell, 2006). And they are not willing to make concessions on shopping experience, on the lack of ownership (Armstrong et al., 2015). BFC models are not common and they are just starting to grow with the increased digitization, the interest in sustainability and the influence of the sharing economy (Kim and Rölkens, 2018). Most of this new business models have started in the USA and only few are present in France. The newness, the lack of awareness and the low proof of concept may be obstacles to adoption, even for the most fashion-conscious consumers. Another relevant aspect is that fashion consciousness has a negative impact on the relationship between economic motivation and sharing intention (Zhang, Wang and Shi, 2019). Fashion-conscious consumers are materialistic and value comfort and pleasure over economic motivations (O’Cass, 2004).
Fashion conscious consumers are not interested in using BFC models. However, in this structural model, fashion consciousness was found to be an important predictor of eco-fashion purchase intention, over ESC self-identity. Individuals involved in fashion appear interested in eco-fashion and interested in consuming such products. The needs for variety and novelty as well as a higher knowledge about fashion may fuel such relationship. Purchasing eco-fashion preserves more the hedonistic reward of consumption sought by fashion conscious consumers than the use of BFC models.

4. The role of experience with eco-fashion and clothing consumption frequency in this model

Four different controls were included in this model. Three were found to have a statistical significance on several constructs. The frequency at which consumer purchases clothes influenced fashion consciousness very strongly. This finding is consistent with the literature and the definition of fashion consciousness. Buying clothes often is related to being involved in fashion (Kaur and Anand, 2018). But frequency of purchase was also found to have a positive effect on attitude toward BFC models. Consumers buying clothes often are more interested in using this innovative of consuming fashion. Probably because of the convenience they can bring once the adoption barrier is overcome. Frequency of purchased confirmed its the previously discussed negative effect on intention to purchase eco-fashion. And experience with eco-fashion confirmed its positive influence on eco-fashion purchase intention.

Furthermore, the control variable age had a significant effect on attitude toward BFC models. The older an individual is, the less he will perceive BFC models positively. Younger generations, young millennials and generation Z, are more innovative and opened to change (Accenture, 2017). Older people are less keen to change their consumption pattern.

The preferred place of purchase had no effect on any of the constructs of the model.

C. Theoretical contributions

This study had several significant theoretical contributions. First, it confirms the validity of the TPB in the context of eco-fashion. Attitude, PBC and subjective norm all had a statistically significant effect of eco-fashion purchase intention. The relevance of the TPB has been questioned by different researchers (Steg and Vlek, 2009; Chatzisarantis et al., 2009), and
many argue in favor for a more comprehensive theory (Granberg and Holmberg; 1990; Sparks and Shepherd, 1992; Ozçaglar-Toulouse, Shiu and Shaw, 2006). Second, extending the TPB to PCE, ESC self-identity and fashion consciousness was a successful strategy in this study. The proposed extended TPB model was able to capture 60% of the variance on purchase eco-fashion purchase intention. Such level of variance explained is high for the field and more important than the average of 35% for TPB models extended with self-identity (Rise, Sheeran and Hukkelberg, 2010). Including 3 more constructs was found relevant in the context of eco-fashion consumption. The association of fashion consciousness, PCE and self-identity in addition to traditional TPB constructs is a first. The structural model of eco-fashion purchase intention expressed a very good fit. After attitude, self-identity and PCE had the strongest influences on the different constructs of the model. If fashion consciousness only influenced attitude and intention, it still strongly improved the model fit. The positive effects of fashion consciousness on consumer attitude and intention toward eco-fashion contrast with older studies. Moreover, this study adds practical knowledge and empirical results to the field of eco-fashion consumption behavioral research. A field that thicken over the year but still lack empirical proofs and predominant theories. This study successfully brought new and up-to-date insights in a fast-changing environment. Results from this research echo the last research on eco-fashion consumption in the context of the French market, conducted by Achabou in 2013. The inclusion of a question about the perceived barriers to eco-fashion consumption brought interesting information to push forward the different theories, acknowledging what consumers value regarding eco-fashion. Another theoretical contribution concerns the analytical process. This study also contributes to demonstrate the feasibility of structural model testing with single-item factors. Even if this choice was more sudden than planned, it helped increasing the validity and reliability of the results. Regarding the exploration of factors influencing attitude toward BFC model, this study successfully pioneers in building a structural model. The four-construct model explained only 20% of the variance of attitude toward BFC models but highlighted the effect of ESC self-identity, fashion consciousness and eco-fashion purchase intention on attitude toward BFC models. These findings are important for future research considerations. In addition to the different theoretical contribution, this study highlighted the importance of different variable on a more sustainable ways of consuming fashion. The controls variable included it the two models revealed that experience with eco-fashion and the frequency of clothing purchase were very relevant to the field. Age however only influenced attitude toward BFC models. Finally, this study has gathered a large amount of knowledge on the field. The primary data gathered comes from a wide spectrum of sources. From academical sources to NGOs’ reports. The efforts made to unify knowledge on the field of eco-fashion is a useful contribution to the field. With more than 200 references and different
D. Practical implications

This study has practical implications for marketers, policymakers and NGOs. To leverage eco-fashion consumption, it is capital for marketers to understand the market, consumer’s motivations and barriers to purchase. The stronger predictors of eco-fashion purchase intention are attitude (β weight: 0.65), ESC self-identity (β weight: -0.28), PCE (β weight: 0.27) and PBC (β weight: 0.24). Recognizing these results, it is primordial for marketers to ensure that targeted consumers have a positive attitude toward eco-fashion. A prerequisite to attitude formation is for the consumer to be aware of this product category. 66% of respondents stated that the lack of information was a barrier to eco-fashion purchasing. Such high value reveals the need to increase communication and information campaigns to educate the consumer. This improvement path was already identified by different researchers over the year (DIIESES, 2007; Eder-Hansen et al., 2012; Achabou and Rink, 2014). If eco-fashion is becoming increasingly popular in traditional media and in social media, such efforts must be pursued because of the remaining high share of population lacking information.

In addition, ESC self-identity appeared as a barrier to eco-fashion consumption. The main takeaway from this information is that marketers should not market eco-fashion especially to this type of segment. It seems that eco-fashion should appeal to moderately concerned consumers, not the most pro-environmental ones. Eco-fashion products should not look different from traditional fashion (Niinimäki, 2010). Moreover, only 5% of respondents said they were not interested in eco-fashion; this make 95% of respondents potentially interested by eco-fashion, it is a largely untapped market that has great potential for the future. Regarding the brand strategy, a focus on fashion conscious consumer can even be successful as fashion consciousness positively influence eco-fashion purchase intention. To do so, improvement on style should be made as 29% of respondent still identify style as a consumption barrier.

Furthermore, to develop eco-fashion, it is important to leverage the effectiveness of choosing eco-fashion over traditional fashion. The strong influence of PCE on intention reveals that if consumer perceived the benefits of their purchase, they will perform it more. To leverage PCE, marketers should provide information to consumers, through information campaign, eco-labels or specific classification for example. It is important to emphasis trust and reliability as a substantial amount of respondent declared not having faith in eco-fashion. Eco-fashion should
not be green washing otherwise it will fail. Improving consumer information, product availability and competitiveness of eco-garments has also the advantage of improving the PCB. And PCB increases the effect of subjective norm. Facilitating consumer’s access to eco-fashion can leverage a change in the fashion consumption mindset with eco-fashion becoming the norm.

Finally, if the consumer perceives that purchasing eco-fashion do not requires much more efforts than purchasing traditional fashion, he will be much more prone to intend purchasing. To do so, marketers should focus on improving product availability and shopping comfort. Improving the price competitiveness should also be a keystone for marketers. 50% of respondents view price as a consumption barrier. Because, eco-fashion command a higher price than traditional garment (Niinimäki, 2010). Marketers can find innovative ways of retailing clothes at lower prices or justify this higher price by clearly explaining why it is more expensive. Previous experience with eco-fashion has been found to be an important predictor of eco-fashion purchase intention. Getting the consumer to try eco-fashion can therefore be a successful strategy to overcome the barriers to its adoption.

To sum up, marketers need to offer original and stylish eco-garments that are not directly marketed to a pro-environmental consumer segment. Their communication needs to be clear and informative, with a specific focus on the benefits of eco-fashion over traditional fashion. While working on making the product easily available and easily differentiable. Coupling eco-fashion with innovative BFC models could be a successful strategy as evidenced by the strong effect of eco-fashion purchase intention on attitude toward BFC models. Consumers buying eco-fashion are also interested in using more sustainable ways of consuming fashion. Nonetheless, in the case of a BFC model offering eco-fashion products, marketers should not try to appeal to the most fashion-conscious consumers and more to the one concerned by social and environmental issues.

Other practitioners like policymakers or NGOs can also benefits from these findings. Specialized NGOs should keep campaigning to inform consumers about the benefits of eco-fashion, especially by comparing it to traditional fashion consumption. Working on consumer education and awareness is key to change fashion consumption behaviors (Šajn, 2019). However, using social pressure and guilt to drive consumers toward eco-fashion consumption appears to be a bad strategy (Niinimäki, 2010). For the French market, it is relevant as well. Normative beliefs were found to weaken eco-fashion purchase intention. This research provides useful information to policymakers as well. To lower the impact of fashion consumption policymakers can favor BFC models through incentive measures. Making new or one-time-used clothes more expensive compared to shared or second-hand ones. Lowering taxes on multiple-usage fashion business models can boost economic motivation and change
behaviors. Similar measures can be taken to favor sustainable fashion made from recycled or organic materials. Offering financial incentive to purchase eco-fashion products over regular ones can lower the price barrier. Through taxes on high-impact garments for example. Moreover, policymakers can encourage initiatives favoring a more sustainable fashion consumption by offering public exposure to innovative and sustainable brands. That would help warding the lack of awareness off. Dedicated spaces for clothes repairing or swapping, as well as promoting eco-fashion through fair or events, would increase availability and perceived control.

E. Limitations and future researches

1. Limitations

If this study provides several significant findings, it also has various limitations that must be considered. First, this thesis has mainly sampled students. Students are an interesting group to research because of their homogeneity and their awareness about new trends or technologies. New generations also influence behaviors of the older ones (Tang and Chan, 2017). However, findings found among student groups are harder to generalize to other consumer categories. Second, this study collected data via a self-administrated online questionnaire. Survey have several drawbacks that may biased answers. Respondents may not understand or take enough time to understand questions or concepts as they have limited and rigid information. In surveys, hidden bias may also influence responses. In this study the presence of a common method bias indicates that variables where somewhat correlated and that this correlation was not fully captured by the constructs. Therefore, results should be interpreted and generalized with caution. Survey may also lead to uninvolved responses. Even if basic checks have been performed to uncover such bias it is possible that some issue remains. Another important consideration is that with survey respondents tend to give more positive answers. It is especially true in the context of socially desirable attitude where several researchers have underscored the tendency of respondents to give more positive answer than their actual thoughts (Mainieri et al., 1997). Furthermore, an important limitation regards reliability and validity. In this study, two constructs have low reliability and validity. Indeed, attitude and ESC self-identity had CR and AVE slightly under the thresholds. This limits the generalization of the results. Moreover, the use of single-item constructs has also been identified in the literature as a source of statistical error (Mackenzie, 2001). Especially when single items represent complex concepts. It is also important to acknowledge that results of
the two different analyses in this study are not fully comparable. The sample size differs, and ESC self-identity is not represented by the same items in both models. Regarding the methodology used. Structural equation modelling has several advantages but also has drawbacks. Indeed, SEM highly relies on the validity of initial theory. The findings are only relevant if the theory is properly used. It is argued that SEM results are independent of the direction of the arrow drawn when building the causal model (Nachtigall et al., 2003). Therefore, a bad theory could lead to statistically valid results however devoid of logical meanings. If a consequent work has been done to avoid such errors, the novelty of the model and the explorative aspect of some hypotheses need to be considered. A final consideration is the gap identified in the literature in the context of eco-fashion between intention and actual behavior. It has been underscored that consumer interest and intention toward eco-fashion may not lead to actual purchasing behavior (Solomon and Rabolt, 2009).

2. Future researches

The findings of this study suggest several interesting paths to explore. First, the addition of fashion consciousness, PCE and self-identity brought more explanatory power to the study than the original TPB model. Self-identity and PCE especially had important influence on attitude and intention in the context of eco-fashion consumption. Therefore, future researches should aim to test again these results to verify their relevance. An important work needs to be done to design scales adapted to the context to avoid the reliability and validity issues experienced in this study. This study did not include several constructs that could have been relevant as well. An interesting construct to explore in relation with the ones proposed in this model is the role of knowledge, consumer knowledge and environmental knowledge on eco-fashion consumption. Kang, Liu and Kim (2013) found that consumer knowledge was an important variable predicting eco-fashion purchase intention. Adding consumer knowledge to the proposed model may provide interesting insights. This study tried to improve the predictive efficiency of the TPB by adding constructs and controls to capture more of the social dimension of eco-fashion consumption as well as the impact of routine and habits. The strong effects of experience and frequency of purchase highlight the need to push forward the theory to include more of these dimensions. Future researches should also investigate the relationship between eco-fashion purchase intention and actual behavior. In the field of sustainable fashion, intention does not necessarily imply behavior. Therefore, it is important to gather more recent findings about this relationship to deeper understand sustainable fashion consumption.
Furthermore, the negative influence of self-identity on eco-fashion purchase intention suggests a possible u-shaped effect of ESC self-identity on intention. ESC self-identity could have a positive effect on eco-fashion purchase intention until a certain point. Beyond this point, the most conscious consumers will tend to reject this consumption pattern because they may see eco-fashion as a too soft solution. Investigating this relationship could provide new leads. From the analysis and the results, it seems that grouping pro-environmental and pro-social self-identity was not optimal. The two aspects do not necessarily corelate. It appears necessary to conceptualize further these pro-environmental and pro-social dimensions in the context of eco-fashion.

Regarding consumer attitude toward BFC models, the findings suggest that all 3 constructs (ESC self-identity, fashion consciousness and eco-fashion purchase intention) have a significant influence. However, a high proportion of variance (80%) remains unexplained. Identifying additional factors influencing BFC adoption is therefore necessary. BFC models are quite new to the consumer and other type of researches may be needed to understand better the field.

A last recommendation, for future researches is to try adopting a common denomination for eco-fashion. Several terms can be found in the literature such as sustainable fashion, ethical fashion, responsible fashion, eco-clothing, eco-fashion. Such a large range of possible name for a similar phenomenon makes searching for relevant literature a complex task. Harmonizing the vocabulary used in the eco-clothing field as well as building a common definition of eco-fashion would facilitate future researches.
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APPENDICES

Appendix 1: Questionnaire & variable encoding

Questionnaire design

1. Introduction and definition of an eco-garment

2. Questions

Gender
Are you? A woman / A man / Other

Age
How old are you?

ESC self-identity
ID1: I consider social and environmental issues linked to clothing consumption as
   Not important at all / Extremely important
ID2: To me, protecting the environment is
   Not important at all / Extremely important
ID3: To me, social justice is:
   Not important at all / Extremely important
ID4: My day to day engagement in the protection of the environment is
   Extremely low / Extremely strong

Fashion consciousness
FC1: Being aware of trends is for me
   Not important at all / Extremely important
FC2: I care more about my clothing style than most
   Strongly disagree / Strongly agree
FC3: Compared to an average consumer, my spending in clothing is
   Extremely low / Extremely strong

Routine & habits
Frequency of purchase: I buy clothes

Every week / Every month / Every six months / Once a year

Preferred place of purchase: Most of the time, I buy my clothes

In store / Online / Both equally

Preferred brands: I buy clothes

From big well-known brands
Small brands most of the time unrecognized
It doesn’t matter

Experience with eco-fashion: I already bought eco-clothing (or sustainable shoes)

No, never
Yes, once
Yes, several times

Attitude

Att1: Buying eco-fashion is

Very bad / Very good

Att2: Buying eco-fashion is

Not trendy at all / Very trendy

Att3: In a near future, buying one or several pieces of eco-clothing would be

Extremely unpleasant / Extremely pleasant

PCE

PCE1: Consuming eco-fashion makes a real difference for the environment

Strongly disagree / Strongly agree

PCE2: Consuming eco-fashion makes a real difference for the employees involved in its production

Strongly disagree / Strongly agree

Subjective norm

SN1: People I care about think I should change my clothing consumption and consume more eco-fashion

Strongly disagree / Strongly agree

SN2: People I care about would approve my eco-fashion purchase

Strongly disagree / Strongly agree

SN3: Most of the persons like me purchase eco-fashion
Strongly disagree / Strongly agree

PBC
PBC1: When I choose a garment, I am able to determine if it is more or less sustainable than another

PBC2: It is entirely up to me that I purchase eco-fashion in the coming months

PBC3: If I wanted to purchase eco-fashion, I am confident I would succeed

Intention
Int1: I intend to purchase an eco-garment in the coming months

Int2: During my next clothing purchase, I will consider their environmental and social impacts

Int3: I am willing to pay a bit more for eco-fashion

Barriers
Barriers: If I don’t buy eco-fashion it is because of

Lack of information / Price / Style / I don’t have faith / I don’t care / None of this / Other(fill)

BFC models
In this section, the goal is to evaluate your interest in the different business models presented below.

BFC1: Rental model
In this model, the user rents one or several garments of his choice for a chosen period. Rental can be done online or in-store. The price is attractive compared to the cost of a new garment. If he desires, the user can purchase the garment at the end of the rental period.

Extremely uninterested / Extremely interested
BFC2: Swapping model

In this model, the user can swap one or several garments that he no longer wants with one or several garments that another user also wish to swap. Swapping cost is low or free and the exchange can be done physically or remotely.

Extremely uninterested / Extremely interested

BFC3: Second-hand model

In this model, comparable to the concept of a thrift shop or of the application Vinted (buy and sell platform for used clothes), the user can resell its old clothes and buy new ones resold by other users.

Extremely uninterested / Extremely interested

BFC4: Subscription model

In this model, the user receives clothes at a pace he chooses (for example, each week or each month). Clothes are his for the previously defined period, then the user return the clothes while receiving new ones. The user chooses the style and the number of garments he wants to receive but not a specific model. It is up to the provider to present new pieces of clothe each time. The user can also buy the garments he wishes to keep.

Extremely uninterested / Extremely interested

BFC5: Refurbishment and customisation model

In this model, the user can have his old clothes repaired, adjusted or customised by a professional. So that it extends the garments' lifetime.

Extremely uninterested / Extremely interested
**Appendix 2: Skewness & kurtosis, eco-fashion purchase intention**

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*Skewness & kurtosis eco-fashion purchase intention*
### Results EFA, eco-fashion purchase intention

#### Appendix 3: Results EFA, eco-fashion purchase intention

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### Variance totale expliquée

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Méthode d'extraction : Maximum de vraisemblance.

### Factor scores & variance explained
Appendix 5: Cook’s distance eco-fashion purchase intention

Plotting of Cook’s distance eco-fashion purchase intention
Appendix 6: Skewness & kurtosis, attitude toward BFC models

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Skewness & kurtosis attitude toward BFC models
Appendix 7: Results EFA, attitude toward BFC models

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Méthode d'extraction : Maximum de vraisemblance.

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Méthode d'extraction : Maximum de vraisemblance.

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Méthode d'extraction : Maximum de vraisemblance.
Méthode de rotation : Promax avec normalisation de Kaiser.

### Variance totale expliquée

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<td>97,987</td>
</tr>
<tr>
<td>12</td>
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<td>2,013</td>
<td>100,000</td>
</tr>
</tbody>
</table>

Méthode d'extraction : Maximum de vraisemblance.

### Factor scores & variance explained
Appendix 9: Cook's distance, attitude toward BFC models

Plotting of Cook's distance eco-fashion purchase intention