Norwegian University of Life Sciences

Master's Thesis 2021   30 ECTS
The Faculty of Landscape and Society

Textile reuse in the circular economy: Motivations of Oslo residents to minimize textile waste

Dimitris Fougalas Sørensen

Master of Science in International Environmental Studies

Abstract

Norway is subjected to environmental changes that are affecting a sustainable future for the generations to come. This situation is further proliferated as per the ongoing global economic trends. The economy and environment have a direct relationship implying that more economic development would cause environmental pollution. After the EU initiated its environmental policy and initiatives, Norway also took the responsibility of a circular economy, coupled with saving the environment. Concerning this, the textile industry is involved in releasing toxins, chemicals, and harmful substances from the dyes and materials used during the production process. Hence, a sustainable transition in the textile industry is an immediate requirement of Norway. The prevalent neoliberal economy suggests that production and consumption are motivated by the demand and supply forces in an economy, leading towards excessive waste. However, a circular economy encourages reuse and recycling along with the production and consumption practices in the economy. This study examines the motivating factors in Oslo residents that promote textile waste reduction by buying and selling second-hand clothes. In doing so, this study conducted 10 online semi-structured interviews. Through a series of exploratory, descriptive, and explanatory question, the interviews investigated user discussion, motivation, and behavior. The data collected from these interviews went through data analysis techniques which helped identify five patterns, namely, "Environmental and Social Justice Concerns", "Economic Motivations", "Belief in Reuse", "Identity and Style", and lastly "Doing What is Right". Data analysis was done by applying the Value-Belief-Norm (VBN) theory, and concepts including Reduce, Reuse, and Recycle (3R) and waste hierarchy. Furthermore, the study has discussed the importance and significance of Norwegian policies regarding reuse and recycling that falls under the EU environment policy and framework. Lastly, another significant deduction from the analysis is the need to raise awareness towards the authorities to successfully implement an environment-friendly policy within a circular economy.

TABLE OF CONTENT

List of Figures

List of Abbreviations

AC:	Adverse Consequence
AR:	Ascribed Responsibility
CEAP:	Circular Economic Action Plan
CGCs:	Cleaner, Greener, and Climate-friendly policies
EEA:	European Economic Area
EU:	European Union
NAM:	Norm Activation Theory
NEA:	Norwegian Environment Agency
NEP:	New Environmental/Ecological Paradigm
NMC&E	Norwegian Ministry of Climate and Environment
NSD	Norwegian Centre for Research Data
PEB:	Pro-Environmental Behavior
PN:	Personal Norm
R&R:	Reduce and reuse
TRA:	Theory of Reasoned Action
UNEP:	United Nations Environment Program
VAT:	Value-added tax
VBN:	Value Belief Norm
WFD:	Waste Framework Directives
3R:	Reduce, Reuse, and Recycle

1 INTRODUCTION

By its literal meaning, a circular economy is meant to utilize products or commodities that have been produced in such a manner that something else is reproduced and that no material, during the entire process, goes to waste (Stahel, 2016). A circular economy, by definition, is the one that mirrors the efficiency of nature to replenish and regenerate (Korhonen, et al., 2018) and in which one can keep resources in productive use as many times as human ingenuity can conceive. Given the ongoing global economic trends, the economy and environment have a direct relationship, as the more economic development there is, the more environment is polluted.

After the upright stance of international and regional organizations, especially frameworks like the EU circular economy and climate change policy, Norway is working towards a circular economy (Rotevatn, 2020), coupled with saving the environment, to achieve green growth. Authorities involved can give impetus to the nation to utilize and save nature through many strategies, including minimizing textile waste. Textile is a growing industry, and its production and consumption process are perpetual, as it is also one of the oldest industries the human civilization has been utilizing. Since the industry itself is linked with several sectors, other than the domestic ones, the most prominent one is the fashion industry. Throughout the advancements and demands of these secondary fields, the textile industry and the clothing sector are highly affected by excessive production and waste patterns. Most of the fabric and raw materials are procured from the global south (Mohanty, et al., 2019).

Many production facilities release toxins, chemicals, and harmful substances from the dues and materials used during the production process (Kishor, et al., 2021). This amounts to water pollution and over-consumption, greenhouse gas (GHG) emission, and landfills (Drew & Yehounme, 2017). As per the EU's Reports (EEA 2019, EPRS 2017), 79 bn m^3 of water was utilized by the textile and clothing industry in 2015. Moreover, one study has revealed that 2,700 liters of water are required to manufacture one T-shirt, which is enough drinking water for one person for 2.5 years (Drew & Yehounme, 2017). Apart from this, problems like landfill and water pollution are increasing due to the mismanagement of textile wastes (Ütebay, et al.,

2020). Textile productions worldwide have endangered the land species and marine life, creating a burden on the environment to decompose excessive land waste (Gita, et al., 2017).

Researchers have pointed out the changing nature of the quality of the environment that is affecting the global environment (Meyers, 1975). Norway is no exception to that and has also been facing repercussions of environmental pollution. Apart from excessive rainfalls and threats of flooding in the future, the country's national food basket is also at risk, as climate change in such terrain will cause the food production patterns to fluctuate (Nie, et al., 2009; O'Brien, et al., 2004). Reducing textile wase through eco-friendly clothes, standardized technology for industrial production, and reintroduction of unwanted clothes back to the economy can help Norway to combat climate change (Sandin & Peters, 2018; European Parliament, 2020).

A circular economy paves the way to fulfill the two-pronged social problem the world faces, the environmental challenges, and the growing global economy. In its annual meeting of January 2020, World Economic Forum has discussed the future of the circular economy and termed the future of the global circular economy as "intentionally transparent" (Houten & Ishii, 2020). However, before understanding the circular economy, one must first analyze the prevalent economic system along with the factors that hurdle the growth and transition of a country towards a circular economy. The neo-classical economic perspective suggests that production and consumption are motivated by the demand and supply forces in an economy, leading towards waste. In contrast, a circular economy encourages reuse and recycle along with the production and consumption practices in an economy. Having contrast in the two economic systems, it is difficult to expect a smooth transition. However, being the leader in introducing and implementing climate change legislation, Europe has been advocating textile reuse that can serve as a helpful strategy in tackling the increasing environmental degradation and help conserve non-renewable energy resources. This course of action also offers the EU member states to shift from their previous economic systems to a circular one.

Numerous studies have been conducted on how consumer choice and behavior are inspired by the neorealistic motivations and the selfish motives of consumers (Filho, et al., 2019; Chivandi, et al., 2019; Vainikka, 2015). However, this research has focused on how values and beliefs become the most critical factors in motivating behavioral change amongst consumers. Moreover, it also ensures sustainable and long-term change, which taxes and subsidies have not achieved. Furthermore, this concept could be addressed on the national

level. Until reuse and recycle are not normalized in society, the concept would potentially be worthless. Brands and influencers would have to be absorbed in the entire process. Textile reuse could upcycle the original clothes into new ones, giving them a new life for a new consumer.

The circular economy and environment protection proponents have given impetus to how this process can be achieved. Various methods that are already being practiced worldwide include renting, swapping, trading, borrowing, and inheriting clothes facilitated by various sources such as second-hand shops, flea markets, garage sales, online markets, charities mobile applications, clothing libraries, and thrift stores. These methods are becoming widely popular among generation Z (Sczyka, 2020; Niinimäki, 2018), also projected from the conducted interviews, to ensure successful implementation of clothes' reuse in a circular economy. Furthermore, other ways of reusing clothes have been laid out in terms such as collaborative consumption, product-service systems, commercial sharing systems, and access-based consumption. These methods are not only low maintenance but also require less investment to be initiated. In the contemporary world of technology, devices, and e-commerce, the world has become interconnected on many levels. The phenomenon of globalization has made the opportunities of business wider. It also provides means and ways to gain customer trust and build a relationship of confidence between both the buyer and seller. The people could either profit from selling their clothes or give them away for free to the less privileged people in a community.

On a national level, the government or state could incentivize the people and the sector to contribute to the state's circular economy. This would motivate others to follow suit and let the homeless and poor get newer clothes at a lower price point. It has been mentioned above that the consumers are influenced by the neoliberal economic perspective within which they act in accordance to maximize their profit versus price value. Moreover, the national economic policies and the production trends are also based on the neoliberal economic system. On the contrary, this research has examined that motivation will come from norms and the sustainable legislation that aims to promote the evident threats of climate change.

This study focuses on human motivations and the contribution of norms in compelling Oslo residents to minimize textile waste through buying and selling used clothes online. It examines the importance of values, beliefs, and norms in a consumer's rational decision-making rather than traditional motivations. Additionally, the study aims to examine the textile

industry, primarily the reuse of clothes, and how they can be interpreted into a circular economy across Oslo. It will also incorporate the European Union's (EU) importance in leading the climate change front and Norway's Mission to the EU.

1.1 Research Questions

The research questions investigated in this study concerns the motivations that affect the Oslo residents to minimize textile waste through selling or buying used clothes. The primary motive to investigate textile reuse comes from the worsening environmental conditions across the globe and the role circular economy can play to mitigate them. Hence, reusing clothes can help to mitigate some of the textile industry's adverse side effects on the climate. Moreover, it is also worth mentioning that Oslo was chosen as the prime research area for this study because it is the capital city of Norway and the country's economic hub. Meaning hereby, that Oslo holds importance in formulating trade and industrial policies. Thus, this domain is helpful to gauge the impact of circular economy, second-hand cloth consumption, and reduction of textile waste.

Following are the research questions:

- What are the underlying values informing pro-environmental norms?
- How can the VBN theory be used to explain Pro-Environmental Behavior (PEB)?

2 Background

2.1 International Textile Industry and Trade

The textile industry has a significant share in terms of foreign trade. Clothing and apparel is the most dynamic sector of world trade and constitutes around 4 percent of the total exports in the world as of 2018 (Lu, 2019). In developing countries like China, Lesotho, Cambodia, Bangladesh, and Haiti, textiles, specifically clothing, serve as crucial manufacturing exports. Consequently, all these economies are highly dependent on clothing exports. Moreover, many countries that lie in the African region, such as Mauritius, Lesotho, and Madagascar, are also economically dependent on clothing exports (Keane & Velde, 2008).

Furthermore, with the boost in industrialization, especially in the post-globalization era, environmental pollution has also increased manifold (Sinha, 2010). This section will examine the global statistics on the textile life cycle, national figures on textile trade, facts regarding the textile wastes and reuse in Norway, and detailed evolution of Norway's national policy regarding textile resources management. Concerning the international textile trade of Norway, China holds the largest importing partner share, followed by Bangladesh, Turkey, India, and Germany as of 2018 (World Bank, 2018). Moreover, Sweden, Denmark, Lithuania, the UK, the US, and Germany are some of the largest exporting partners of Norway in the textile sector. This implies that Norway has a significant share in the international textile market, covering most of Asia and Europe in imports and exports, respectively.

One of the essential aspects of circular economy, in terms of textile, is maintaining the life cycle of a cloth. This can be determined by taking an overview of the Norwegian and global textile processes while manufacturing textiles. Expressly, cloth manufacturing processes incorporate various processing steps, whether it be ready-to-wear or tailor-made clothing. These manufacturing processes are physical, mechanical, and chemical, including fabric production, fabric selection, designing and pattern making, dyeing & marking, sewing, cutting, detailing, and inspection. Moreover, if the cloth being processed is ready-to-wear, it includes additional steps like sewing, ironing, folding, detailing, finishing, washing, and packaging (Nayak & Padhye, 2015).

From a global perspective, China, the European Union (EU28), Bangladesh, and Vietnam remained the world's top four largest exporters as of 2018, collectively amounting to up to 72.3 percent of world market shares. However, it was lower than 75.8 percent in 2017 and 74.3 percent in 2016, primarily due to China's declining market shares. On the other hand, the apparel export of both Vietnam and Bangladesh rose to 13.4 percent and 11.1 percent, respectively, in 2018; however, they made little difference in the collective evaluation (Lu, 2019). The top ten global exporters of clothing are demonstrated in figure 2.1.
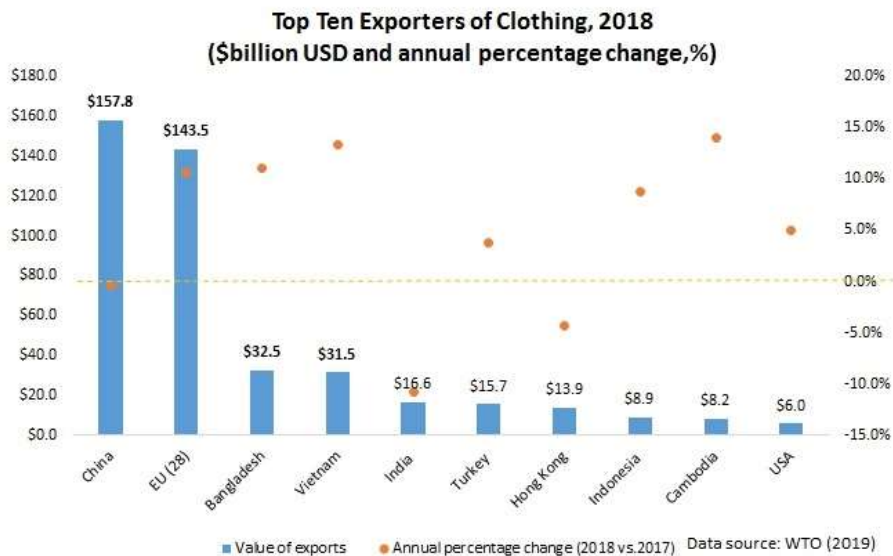
Figure 2.1: Top ten exporters of clothing in 2018 (Lu, 2019)

In regions of Europe and America alone, some 10 million tons of textile products are predicted to be disposed of, while the estimation for China is double the amount (Ütebay, et al., 2020). According to the recent research, "Textile Wastes: Status and Perspectives," the production of all apparels and textiles across the world amounts up to 110 million tons approximately while given the global trends, the textile sector is expected to represent a quarter of the world carbon budget, i.e., 26%, by 2050 (Ütebay, et al., 2020). Moreover, if the ongoing trends do not take a deviating path, the textile sector's non-renewable raw material usage will reach up to 300 million tons, and the amount of microplastic released to the oceans will reach up to 22 million by 2050 (Ellen MacArthur Foundation, 2017). Additionally, this particular industry, specifically clothes, has further proliferated the situation (Kemp, 2019). The waste and recycling industry represents the most significant part of the circular economy today, and it is estimated that more than 600 million tons of waste can be recycled or reused in Europe

(EC, 2015), which means hereby that the circular economy is key to both environmental preservation and sustainability.

The textile sector is responsible for wasting an excessive amount of freshwater consumption, global warming, environmental pollution, and increasing the number of landfills. The 'New Textile Economy Report' stated that the textile sector is responsible for extracting around four percent of the global freshwater, and the clothing alone utilizes above sixty percent of it (Ellen MacArthur Foundation, 2017). In addition, the textile sector is responsible for releasing nitrous oxide NOx and Sulphur oxide SOx apart from public electricity consumption, coal and gas burners, greenhouse gas (GHGs) emissions, and chlorofluorocarbons. All these activities are responsible for utilizing one trillion kilowatts of electricity per annum, three hundred million crude oil, and increasing the temperature up to 0.6 to 0.8 percent (Ellen MacArthur Foundation, 2017). However, the pace of recycling within the textile industry is relatively low (Watson, et al., 2020). Out of the hundred million tons of global textile consumptions, the rate of recycling amounts up to a mere thirteen percent of the total raw materials used within the production phase of the clothing life cycle (Ütebay, et al., 2020).

Adding more to this, only one percent of this thirteen percent becomes a part of the circular economy and helps re-production of the clothes (Ütebay, et al., 2020). The production and use of cotton are still better than the synthetic fibers such as polyester, which is responsible for damaging the environment manifold, not only during the cloth production phase, instead of during the use and disposal phase. Polyester is the leading synthetic fiber, which represents almost 90% of world filament production and 70% of world synthetic staple production (Ütebay, et al., 2020).

Other popular fibers are nylon, acrylic, and polypropylene, whose demand in global textile production increases with the decreasing share of natural fiber, i.e., cotton. As a result, the global textile and clothing market is currently prevailed by two types of fibers: synthetic fiber, i.e., polyester, and natural fiber, i.e., cotton. The production of synthetic filament has risen from twenty-six million tons to fifty million in a decade after 2008, which is almost double in size (Townsend, 2019). Moreover, polyester fiber production is estimated to increase three times more than cotton production, whereas cotton fiber production is expected to remain stable (Ütebay, et al., 2020).

2.2 Norwegian statistics

The textile flow in most of the Nordic countries includes the textile supply to households, from where the clothes, towels, and other apparels are sold at flea markets, given in charity or to second-hand shops, give away to friends and family, ends up as residual household waste, or treated as bulky waste at recycling (Laitala, et al., 2020). According to the Norwegian Ministry of Environment statistics, the total amount of textile waste was 113,000 tons in 2011, which is about 22 kg per capita per year and is doubled over the last twenty years (Palm, et al., 2014). Out of the total 23000 tons of used textiles, 1000 tons are reused within the country, 1000 tons of low quality are directed towards incineration, while 21000 tons are exported in global reuse markets (Laitala & Boks, 2012). However, studies have suggested that 25-30 percent of used textiles that end up in incineration, mixed municipal waste, and landfills could also be diverted towards reuse, given that Norway installs textile reuse and recycling facilities in the country. In Norway, Fretex AS and UFF Norge are responsible for the collection and sales of used textiles and textile wastes.

Regarding textile flow, the Norwegian Environment Agency held detailed research in 2019, focusing on Norwegian people's practices regarding used and wasted textile products (Laitala, et al., 2020). As under the revised regulations of the EU Waste Framework Directives (WFD), the Norwegian Environment Agency commissioned PlanMiljø (DK) and Ostfold Research (NO) in 2019 to make an in-depth, real-time, and accurate yearly evaluation of textile wastes (Watson, et al., 2020). This particular report outlined in 2019 focused on many details on the topic, including the annual purchase of the textile products by the general citizens, including households and other actors (Watson, et al., 2020). This realm also encompasses the information regarding the after-use and disposal methods of the citizens after they no longer use a particular product. As far as the purchase and consumption of the new textile products are concerned, the Norwegian Environment Agency reported that the Norwegian people's total consumption is long-lasting and steady around the figure of eighty thousand tons that amounts up to 15 kg per person, from over the last ten years. However, the case is slightly different with respect to the collection of used textile and clothing. According to a report by PlanMiljø and Østfoldforskning, Norway projected a 50 per cent increase in the collection of used textiles between 2011 and 2018. In 2018 alone, the collection of used textiles in Norway stood at 31,700 tons comprising clothing only (Watson, et al., 2020). Charitable organizations, municipal waste companies, and private collectors were also recorded to collect 79%, 13%, and 8% of separate collections, respectively (Watson, et al., 2020).

The Norwegian Environment Agency 2019 studies showed that out of the total Norwegian textile wastes, only three per cent of textile wastes was kept in the country for reuse, recycle, and incineration (Watson, et al., 2020). In comparison, the remaining 97 per cent of the textile wastes are directed outside the country for reuse and recycling, preferably in the other EU Member States with strict and responsible waste management policies (Watson, et al., 2020). Moreover, out of the total textile waste sorted inside Norway, some 550 tons are reused, 90 tons are recycled, and 357 tons are incinerated (Watson, et al., 2020). PlanMiljø and Østfoldforskning also established that reuse generates more profit than recycling. However, there exists an enormous amount of textile clothing that is not sold, and these items, in Norway, end up being recirculated into the economy as a source of reuse. However, the ratio of reusing unsold items stood at 45 per cent, by the retailers, in 2018 (Watson, et al., 2020). PlanMiljø and Østfoldforskning additionally sourced that some 600 tons of unsold textile products are donated to collectors under different conditions (Watson, et al., 2020). Most prominently, these products are only to be sold or donated in countries where the donor brand is not active. On the contrary, a large amount of textile waste and unsold textile still ends up being incinerated. The figures in Norway being 95 tons as of 2018 (Watson, et al., 2020).

PlanMiljø and Ostfold's research estimated that approximately 31,550 tons of textile are disposed of in the residual waste per annum (Watson, et al., 2020). The reuse of textiles does not recover this amount. The Norwegian market for reuse is relatively small, i.e., three percent of the total textile waste (Watson, et al., 2020). While reuse is the only eco-friendly practice one can indulge in with textile wastes, even this small market is vanishing steadily in Norway. Fretex has reported how this decrease barely covers their transportation costs. This would put increasing pressure on the collectors and project the chances of an increase in consumption of non-reusable textiles by 1.4 million tons per year after 2025 (Krauss & Alvsen, 2020).

Given the aforementioned facts, it is easy to gauge the consumption behavior of an average Norwegian citizen. However, the increasing amount of textile wastes can raise serious concerns and repercussions for the authorities concerned. According to the facts based on the clothing habits of Norway's citizens, an average citizen consumes 23.5 garments per year, while there is only one garment in an average citizen's cupboard purchased from a second-hand source (Laitala, et al., 2020). Meaning hereby, that if each Norwegian has 359 garments in its closet, including socks, undergarments, and sweaters, only one is supposed to be a second-hand piece of clothing (Laitala, et al., 2020). However, sometimes the number can increase up to 1.3 if inherited articles are also included. Moreover, as per research figures, almost 86 percent of

all garments in a Norwegian closet are new, while the population aged between 18 to 29 are the keenest to buy second-hand pieces of items of clothing (Laitala, et al., 2020). This age group has been found to have some 12 percent of their clothes to be sourced out through second-hand shops or inheritance. The research has also established that out of the 28 garments that are purchased per year by this age group, two of them are used garments (Laitala, et al., 2020).

This figure of purchased clothes remains the same up till the age of 59 (Laitala, et al., 2020). After this particular age, the older group is seen to consume and purchase fewer amount of clothes per year. Slightly used garments that are in a good enough shape to become second-hand cloth are mostly fit for reuse. This list mainly incorporates skirts and dresses. However, other garments like jackets, coats, tops, sweaters, shirts, and blouses rarely used by their owner are directly forwarded to the reuse section. Moreover, the Norwegian citizens who have adopted a reduction in garment consumption are utilizing 23 garments per year, i.e., five garments less than an average citizen (Laitala, et al., 2020).

As of 2018, a total of 10,000 tons of synthetic used textiles were exported from Norway for sorting (Watson, et al., 2020). As per the data provided in the PlanMiljø and Østfoldforskning's 2019 report more than 90 % of the textile waste is managed responsibly under strict codes of conduct, whereas after sorting, 72 % of the textiles is sold in global reuse markets that are free from micro-fiber wastes (Watson, et al., 2020). Concerning the recycling of textiles, 21.5 % is recycled using mechanical processes. This total includes the Norwegian wastes also. However, most of the recycling markets that are present in the Asian or Eastern European regions do not have efficient and environmentally friendly systems installed. Meaning hereby that the absence of systems like fiber capture makes the recycling process ecologically destructive and does not fulfil the Basel Convention's idea. This implies that not only the donor or sender state must prevent or reduce the exports of environmentally harmful materials, but the receiver state must also ensure the installation of efficient and eco-friendly technology (Watson, et al., 2020).

2.3 EU- Environmental Policy and regulations

While the EU Circular Economy Action Plan, which is the foundational stone of the European Green Deal focuses explicitly on the textile sector as under, "focus on the sectors that use most resources and where the potential for circularity is high such as… textiles…" (European Commission, 2018). The European Green Deal is a set of policy frameworks and strategies to lead a sustainable and environment friendly life in the EU. The EU Circular Economy Plan is one of the European Green Deal's policy frameworks. It is also the leading light towards Europe's sustainable lifestyle and the creation of a circular economy. Given the severe environmental impacts of all life cycle stages of the clothes, Norway is also adamant about following the European Union's EEA agreement, and according to the Mission of Norway to the EU, almost all EU environmental legislation is implemented in Norwegian law, including pollution control, water, air, chemicals, waste, environmental impact assessment, and genetically modified organisms. The 2019 restrictions of the Convention also encompass plastic wastes that are released into the environment by synthetic fibers. The majority of the textile wastes comprises microfibers that are released during the waste management and sorting techniques of textile wastes.

The EU, under its waste legislation, calls out its member states to separately source and collect the waste streams, allowing for most of the biologically active waste to be diverted from the residual waste (Simon, 2019). This legislation and regulation aim all the EU member states to completely become waste-free under its initiative, 'Zero Waste Europe.' For this purpose, both sorting and waste management are regulated under the EU waste management requirements and only take place in the EU Member States or in their controlled zones. However, the burden of duty on the EU Member States under EEA, including Norway, is to follow the EU's Plan for Circular Economic Action Plan (CEAP) and sort out the residual waste of all textile waste 2025. The EU Waste Framework Directive has laid down the basic waste management principles based on the waste hierarchy. In its classification of waste, the EU WFD has classified wastes into hazardous and non-hazardous types. It is further based on the classification and labelling of harmful and dangerous substances. These principles are applied on all the life cycle stages of the materials. Furthermore, concerning the classification of by-products, the EU states that any substance or object that is produced from or used in the production process of an object falls into this category. By-products include a huge variety with different environmental impacts. This classification of the waste and by-product from the EU helps create a clear perspective for the consumers while making their consumption choice. It

also clarifies the policy frameworks for the policy makers and bureaucrats that are appropriate in developing national policies to handle waste properly. (EU, 2008).

2.3.1 Norwegian Policy

The Norwegian Ministry of Climate and Environment (NMC&E) is responsible for leading the primary initiative of environmental policy and all related frameworks within the country. For this purpose, the NMC&E works through a series of departments and political staff. Additionally, the NEA supervises environmental conservation and preventing pollution. In this regard, the Norwegian municipal sector is playing its part under the Avfalls Plan 2020-2025 (Miljø-Direktoratet, 2019). It has been drafted under the WFD, laying down the foundation of reuse and recycling the country's wastes (Miljø-Direktoratet, 2019). It also addresses the need to introduce newer waste infrastructure (Miljø-Direktoratet, 2019). Moreover, it also assists the government through regulating the national objectives in achieving stable biodiversity, a toxic-free environment, clean air, and a stable climate (Miljø-Direktoratet, 2019).

Waste management in Norway is governed under the Pollution Control Act, chapter 5 (NMC&E, 1981) and the Waste Regulations (NMC&E, 2004). The origin of the waste defines governance of waste management: Commercial waste is the producer's responsibility. Household waste (Municipal Solid Waste) is the municipality's responsibility; the municipalities are responsible under the Pollution Control Act §30 (NMC&E, 1981) for providing collection and delivery services so that consumers can dispose of waste safely.

Currently, the Norwegian circular economy is aimed to be formulated and regulated, on the political front, as a means to an end. This aim is materialized under a White Paper presented to the parliament during 2016-17, focusing on a comprehensive circular economy that must encompass most if not all sectors of the society (Bauer, et al., 2020). The launch of the national strategy for the circular economy was due at the beginning of 2021 by The Ministry of Climate and the Environment. However, due to the pandemic, the strategy was postponed and needs further revision concerning the ongoing situation, due to which it has not been launched until now. However, the Norwegian circular economy has come a long way, and many stakeholders like The Association of Waste Management in Norway (Avfall Norge), Association of Norwegian Process Industries (Norsk Industri), and Process21 have been active in guiding the national strategy towards the right path (Bauer, et al., 2020). Various reports by these stakeholders reiterated the need and benefit of a national circular economy, which would

encourage utilizing the economy to its full potential, transforming consumer behavior, and a resilient system with a stable market (Circle Economy, 2020).

Textile, specifically clothing, is a critical societal need and thus must be efficiently managed within the national circular economy strategy. However, it is not the only crucial societal need. The Circularity Gap Report Norway 2020 enumerated seven essential societal needs where different sectors and supply chains must reformulate their strategies. Clothing and textile waste was categorized under "consumables," revealing that the textile sector utilizes various resources such as cotton, polyester, dye pigments, and chemicals. The consumables account for 26.6 million tons worth of resources (Circle Economy, 2020). Owing to this, the NEA has been actively working along with the Nordic Council of Ministers to investigate and gather a significant amount of information regarding waste prevention in priority areas (Miljø-Direktoratet, 2019). Moreover, until the launch of a national circular economy strategy for Norway, the country would have to operate with the already operational instruments in the country, such as the ongoing waste collection infrastructure, sorting, and waste-pickup schemes (Miljø-Direktoratet, 2019). However, as mentioned above, currently, the political front is lagging behind in promoting activities and campaigns promoting a circular economy, but the upcoming national strategy might change course. Nevertheless, steps taken by Statistics Norway (SSB), the Norwegian-EPD system, and research initiatives taken by other expert groups are commendable.

Moreover, according to the Norwegian Environmental Agency's report submitted by PlanMiljø and Østfoldforskning in 2019, barriers and solutions of textile-to-textile and fiber-to-fiber recycling must also be considered by the government so that the obstacles could be tackled at a national level (Watson, et al., 2020). This would also enable the country to gain recycled textile content while making the burden of textile waste on collectors less loaded. Some of the suggestions to the authorities concerned include economic research and development support, formulating a systematic mechanical and chemical recycling structure, increasing green public procurement on textiles, developing a structured network for textile collectors and municipal waste companies, and lastly, VAT and tax reduction on reuse, recycle, and repair activities.

Furthermore, various reasons have also been listed in the research concerning second-hand cloth consumption and why unsold items' recirculation has not been materialized to its utmost capacity (Laitala, et al., 2020). The most prominent obstacles are VAT Rules and less

practical options for reuse, which means the prominent figure of 31,550 tons of household-consumed textiles that are disposed to become a part of mixed waste could be diverted and incorporated into the Reduce, Reuse, and Recycle principle (Watson, et al., 2020).

3 Concepts and Theories

A conceptual framework forms the basis of a research by defining all the interconnected variables that of prime value within a social problem. This research paper focuses on the concepts and theories that help better understand the research arguments, its rationale and purpose. The main concepts include circular economy, waste hierarchy, norms, and the 3R principle. These concepts are vital in discussing why the research topic was chosen and determining the research objectives as a whole. The varying concepts and theories also focus on the narratives that are the foundation stone of the further research solution.

3.1 Concepts

3.1.1 Circular Economy

The first and foremost concept that forms the basis of this research paper is the circular economy approach. It serves as the systematic background that incorporates the concept of regeneration, re-production, and recycling which are largely absent from a linear economy. In a circular economy, the goal is to keep the economy running by regenerating products while ensuring zero per cent of raw material is wasted and the environment is kept safe from harmful landfills (Korhonen, et al., 2018). By definition, the circular economy is meant to utilize products or commodities that have been produced in such a manner that something else is reproduced and that no material, during the entire process, goes to waste (Korhonen, et al., 2018). The circular economy goes hand in hand with environmental conservation and the 3R principle. From a global perspective, landfills have proliferated the environmental pollution manifold across the world. This phenomenon has endangered the various marine species and amphibians and burdened the Earth to decompose excessive land waste (Korhonen, et al., 2018).

With a circular economy, let alone in the textile industry, the world can conserve water, reduce carbon emissions, avoid raw material waste, end the release of harmful wastes due to various chemical processes, and lastly, reintroduce clothes to the society. Furthermore, apart from the multi-faceted circular economy approach (figure 3.1), it is of significant importance to businesses because it supports various business models running parallel to environment

conservation. Lastly, the circular economy's broad concept also integrates with digital technology, advanced knowledge, and the vision of a sustainable future (Kirchherr, et al., 2017).
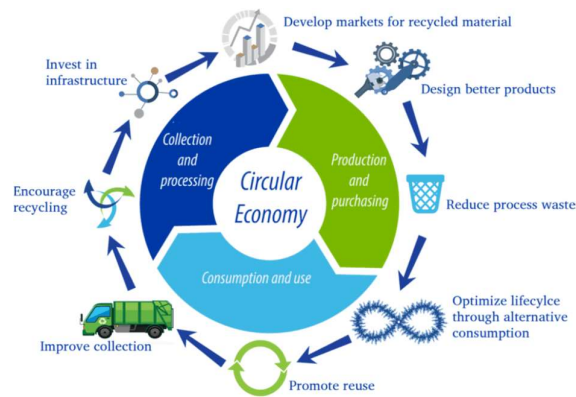
Figure 3.1: Multi-faceted circular economy approach (source: Sustainable Global Resources Ltd. Recycling Council of Ontario)

Moreover, the concept of waste hierarchy compliments the product life cycle as it also incorporates its eight stages through which the product moves within a life cycle. These includes raw materials, manufacturing, which also involves waste at this stage, moving the transportation, installation and use stages. After which the maintenance stage kicks in, increasing the utility of the product, and moves toward the disposal stage, from which it can be either re-purposed, reused or end up in a landfill. This lifecycle ends up in the stage of landfill, which is the least preferred choice in the waste hierarchy. A product life cycle can be envisaged through the following representation which is also explained in the section 3.1.2.

Figure 3.2: Product Life Cycle (Azizi, et al., 2014)

3.1.2 Waste Hierarchy

Waste Reduction Hierarchy consists of different measured but generally revolves around two options, namely least favored and most favored at the bottom and the top of the hierarchal triangle. The waste reduction hierarchy is then further bro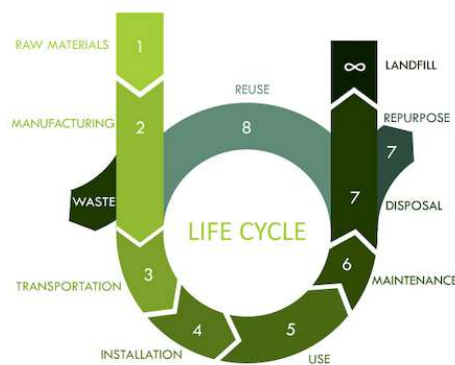ken down into three primary parts and six secondary ones. A waste management hierarchy generally consists of the following levels.

Figure 3.3: EU pyramid of waste hierarchy (European Commission, 2020)

Starting from the least favored option, the bottom of the triangle consists of disposal, which means management of all disposal options in the most environmentally responsible manner (Hultman & Corvellec, 2012). This level is also known as residual management (NSW Environment Protection Authority, 2017; Hultman & Corvellec, 2012; Gharfalkar, et al., 2015). Landfills are the most common waste disposal practice that has become an international norm more or less; hence, landfills are an important part of the integrated waste management system. Europe, in this regard, has been the leading way of making waste hierarchy practical (Gharfalkar, et al., 2015).

The fifth level above disposal is the waste treatment which falls into the category of 'resource recovery.' Under the EU Zero Waste Hierarchy, the waste treatment level falls under material and chemical recovery. This level consists of different chemical and material techniques to treat the waste, which is vital before disposal. Both the last levels are least preferred in the waste management hierarchy. Before disposal, treatment of waste helps reduce the level of toxicity and the volume of waste. Waste treatments can be physical, chemical, and biological such as anaerobic digestor, shredding, and incineration (EPA, 2017).

Above the treatment level lies reuse, recycle and recover levels. These are often treated as three different levels but are found to be characterized under a single level. The reuse, recycle, and recovery level is also a part of the primary level, i.e., resource recovery. However, treating them separately, the fourth level of the hierarchy is 'Recover Energy.' This level is also known as anaerobic digestion, recycling, composting, and energy recovery (Gharfalkar, et al., 2015; NSW Environment Protection Authority, 2017). As per the EU waste hierarchy, this stage should be the last option to retain materials in sustainable resource management, namely, to turn the separately collected waste into high-quality secondary raw materials (Gharfalkar, et al., 2015; NSW Environment Protection Authority, 2017). For instance, collecting avocado waste and scraps and creating bioplastic out of it that are easy to decompose, or in the context of this research paper, the upcycling of clothes, which is also known as repurposed clothing, reused clothing, recycled clothing, and upcycled garments (Omisakin, 2020). In the contemporary period, more and more brands have begun to adopt this practice and are normalizing the sale and use of upcycled clothes.

Moving onto the next level, 'recycle waste' which involves using the product in its original form or sometimes for another purpose. When a product, in its original form, is used for the same purpose, it is known as reuse. However, in the latter case, it is known as upcycling. For instance, when a slightly used t-shirt is used again as a t-shirt, this process is known as reuse with some repair. However, when a t-shirt, after some repair, is used as another piece of garment, it would be regarded as upcycling. This level is sometimes also called preparation for reuse. Some popular which people use to practice reuse include repairing the old or damaged items, purchasing second-hand goods instead of buying new ones and donating old items instead of throwing them away, buying products with reusable packaging like glass jars, biodegradable bags, or seed-infused bags, and last but not the least repurposing old items.

Moving onto the second most preferred option, i.e., reuse of waste. This level is also known as minimization, reduce and reuse (R&R). This stage prefers the reuse of material without further processing while the costs of energy and other resources required for recycling are reduced to a negligible level (Gharfalkar, et al., 2015; NSW Environment Protection Authority, 2017). It simply refers to the ways with which waste can be reduced. Some ways to reduce waste are to invest in multi-use or multi-purpose items or the current products that come without packaging. For instance, most brands are introducing edibles, cosmetics, and skin-care products that are without plastic packaging and encourages zero waste (Veleva, et al., 2017).

Lastly, the most preferred option that is at the top of the waste management hierarchy is 'Prevention.' This stage is also known as refuse, rethink, redesign, and source reduction. Although it is straightforward by its literal meaning, i.e., avoiding and reducing waste, this level is challenging to achieve, as it requires reducing waste at the source. Source reduction is the most environmentally preferred strategy, which incorporates many different forms, such as reusing or donating items, buying in bulk, reducing packaging, redesigning products, and reducing toxicity.

3.1.3 3R principle

As already discussed, the Reduce, Reuse, and Recycle (3R) principle are of significant value for the circular economy (Ütebay, et al., 2020). It is worthy to note that the waste hierarchy is in a contrasting notion with the concept of 3R in a circular economy. The reduce aims at minimizing and even avoiding any kind of waste, which can be achieved by source reduction techniques such as conservation of natural resources and energy, reducing pollution and air pollutants, reduce the toxicity of wastes, and saving money for consumers and businesses alike (EPA, 2017).While on the other hand, the second approach, reuse, as the name itself signifies the reuse of previous and old products by a new consumer, and sometimes with a different purpose (Ütebay, et al., 2020). Lastly, the recycling principle stresses on dismantling the entire product and making something new out of it (Ütebay, et al., 2020). These three Rs are precisely similar to those in the waste management hierarchy as they were also based on the same 3R principle, which means hereby that the 3R is already a component of the waste hierarchy concept. However, this research paper tends to address it separately, given its importance in the circular economy.

The small but crucial proportion of recycling of the textile waste in the said sector is worth mentioning here. The 3R principle could be employed in the textile sector to turn these wastes into raw materials to be used in producing future value-added products. The first principle, reduce, aims at minimizing and even avoiding any kind of waste, while the second approach, reuse, as the name itself suggests, signifies the reuse of previous and old products by a new consumer, and sometimes with a different purpose (Ütebay, et al., 2020). Lastly, the recycling principle stresses upon dismantling the entire product and making something new out of it (Ütebay, et al., 2020). Sustainable development in the textile sector suggests the implementation of the 3R principle, so that maximum output in the circular economy may be achieved (Ütebay, et al., 2020). Recycling is an easy process due to three main reasons, i.e.,

economic, social, and environmental (Ütebay, et al., 2020). The process of recycling is termed as an economic one because firstly, the recycling programs cost less than waste disposal programs, and secondly, it is more financially rewarding (Ütebay, et al., 2020). The high water, energy, and manufacturing consumption make it much cheaper to recycle than to produce some new textile products, and consequently, people can receive money for turning in certain recyclable products (Ütebay, et al., 2020).
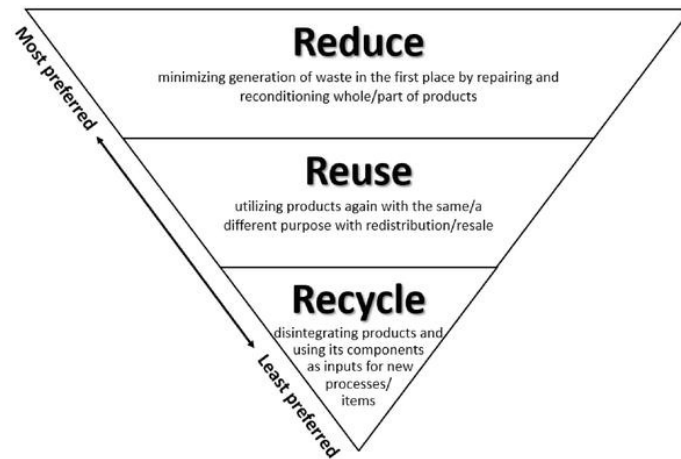
Figure 3.4: Textile waste treatment strategies 3R concept (Ütebay, et al., 2020)

3.2 Theoretical Framework

In a research paper, the theoretical framework aims to provide a structure to the research arguments, answer the research questions, and maintain rationality across the research's objective. Generally, a theory may be defined as a set of related ideas that generalize and condense our knowledge about the social world (Bryman & Bell, 2011). The theory or theories also form a conceptual framework for understanding any social phenomenon, which means that both conceptual framework and theoretical framework are directly linked to each other to explain the research problem under examination (Bryman & Bell, 2011). As the social world is too vast to comprehend, the theory helps people develop an understanding of the social issue. Specifically, theory can be defined as 'an explanation of observed regularities' (Bryman & Bell, 2011). In this research paper, the theories will serve as a tool or as a lens to view the research problem. Numerous concepts and theories exist on this research problem related to consumer choices, production regulations, circular economy, recycling, and environmental policies. They

undertake different variables that are vital in calculating the role of norms, values, and beliefs and how they motivate human behavior in a society. The theories that have been applied to this social problem are rational choice theory, consumer preference theory, norm-activation theory, Value-Belief-Norm theory, theory of planned behavior, and the theory of reasoned action. These theories explain the natural world's patterns by elaborating on why they take place and providing a categorical distinction between reality and perceptions (Bryman & Bell, 2011).

3.2.1 Rational Choice Theory

Adam Smith is regarded as the first theorist of the Rational Choice Model, laying down its main principles, as an economic model, in the late 1770s, in his book, 'An Inquiry into the Nature and Causes of the Wealth of Nations, (Smith, 1776) based on the idea of individual choices given by Thomas Hobbes in his famous work, i.e., Leviathan. This theory, often regarded as an economic model, describes the consumer's behavior and choices, which are based on their maximum utility after an in-depth cost and benefit analysis of different options. Its importance can be gauged by the fact that this theory helps the viewers understand how individuals or consumers decide. For which there are some predefined assumptions, and all of the assumptions depict a distinct factor. There are several assumptions this theory is based on, i.e., individual decision-making, preferences and choice, preferred choice, utility, restrictions on preferences, cost and benefit analysis, consumer behavior, and rational choice. All these assumptions are also the economic model components and are interconnected with each other, which collectively emphasizes rationality (Abell, 1991).

Individual decision-making is made on the choice and preference of the consumer (Abell, 1991). This choice is based on the utility maximization approach, which then incorporates the remaining factors, (Abell, 1991; Coleman & Fararo, 1992) i.e., restrictions on preference, cost and benefit analysis, and reward of the action. However, it is noteworthy that the Nobel laureate Herbert Simon rejected this assumption stating that no consumer can possess complete knowledge about any given scenario and hence, cannot make a rational choice based on the limited and fragmented information (Abell, 1991; Coleman & Fararo, 1992). Other theorists have criticized the theory based on its assumption of self-interest, individual choice, and preferences (Abell, 1991; Coleman & Fararo, 1992). They believe that not many people are thinking about themselves while making a specific choice about something (Abell, 1991; Coleman & Fararo, 1992). For instance, those who choose to go green are not thinking about themselves instead of the environment, packaging, use of plastic-free products, value for

money, and much more. Hence, any consumer's cost and benefit analysis cannot be accurate in making a rational decision. However, there are many pros of this theory; in elucidation, it helps us view the collective consumer behavior.

3.2.2 Theory of Reasoned Action

The Theory of Reasoned Action (TRA) is a prominent social psychology theory developed by Icek Ajzen and Martin Fishbein (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). The Reasoned Action theory describes human behavior and attitude, which, based on these two factors, predict the individual's future behavior (Ajzen & Fishbein, 1980). Any specific behavioral pattern of the individual is because of the motivation to perform it (Hale, et al., 2002). For instance, in our specimen, the Oslo residents' motivation to participate in the circular economy would result in their specific behavior of adopting a new practice. This theory puts the entire focus on the intentions of the individual.
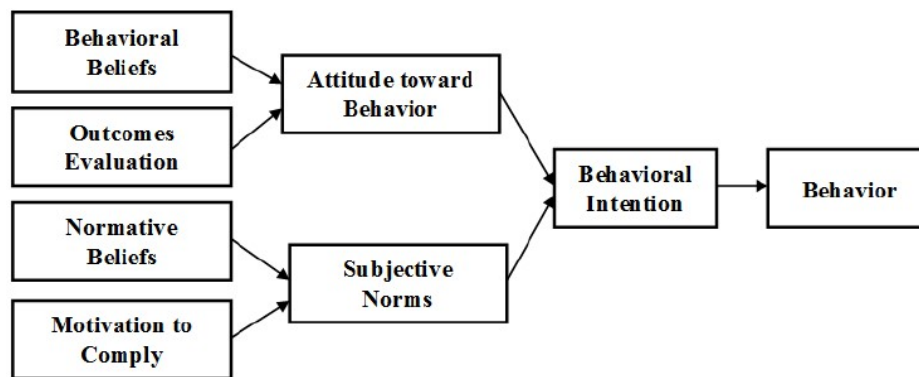
Figure 3.5: Model of the theory of Reasoned Action

As per the theory of reasoned actions, intentions are the best predictor of human behavior (Hale, et al., 2002). The theory of reasoned action suggests that intentions are the primary driver of behavior (Hale, et al., 2002). However, intentions are influences by the social environment surrounding a person and how much control the person holds on the behavior (Hale, et al., 2002). The central premise of this is that if one plans to do something, then one is more likely to do so. Intentions are the product of two independent processes, i.e., behavioral attitudes and (Fishbein & Ajzen, 1975) subjective norms (Hale, et al., 2002). Behavioral attitudes are the outcome of behavioral beliefs (Hale, et al., 2002). At the same time, normative beliefs back up subjective norms, and the perceived behavioral control is based on control beliefs, which means hereby that when an individual reaches the stage of intention, it is more

likely to act in the same way than the actual behavior (Hale, et al., 2002). For instance, if an individual intends to use recycled clothes due to behavioral attitude, subjective norms, and perceived behavioral control, then there are more chances that it would happen rather than the contrary, which means hereby that the stronger the intentions, the increased motivation for the individual to adopt a specific behavior. The behavior alone is dependent on four variables, including action, target, context, and time (Hale, et al., 2002). These four variables are responsible for a behavior to occur. However, it is noteworthy that is theory aims to predict the behavior with the help of three main assumptions and not to predict attitudes (Hale, et al., 2002). The attitude itself is a factor, equally vital in forming a behavior (Fishbein, 1979).

TRA also presents a limitation on the influence of attitude on behavior (Sheppard, et al., 1988). As per the theory's criticism, there are many questions raised on consumer behavior as this theory states that a consumer would consume a good because of its intention and not due to the need (Fitzmaurice, 2005). The intensity of intentions can sum up the Theory of Reasoned Action, the more the intensity, the higher the chances of change in behavioral actions (Sheppard, et al., 1988). TRA has frequently been utilized in diverse walks of life and consequently can be employed, in our case, to calculate the consumer behavior regarding brand loyalty (Sheppard, et al., 1988). For stable and accurate business strategies, an increasing number of start-ups in the circular economy is employing Reasoned Action's theory (Sheppard, et al., 1988). For the maximum success of a commodity as per the consumer behavior, the attitude and subjective norms are required to be consistent (Sheppard, et al., 1988). Meaning hereby, that if any of the two fluctuate in terms of levels, there is less chance of product, for instance, an upcycled t-shirt, to achieve a higher number of sales than its preceding month.

3.2.3 Norm Activation Theory

Norm Activation Theory (NAM), given by Shalom Schwartz in 1977 (Schwartz, 1977), is a psychological and environmental theory that focuses on three basic assumptions or variables, including Adverse Consequence (AC), Ascribed Responsibility (AR), and Personal Norm (PN). This theory increases the general understanding of pro-environmental decision-making. It further explains altruistic and environment-friendly behavior (Park & Ha, 2014). AC is sometimes also referred to as awareness of consequences and is the first step in Norm Activation (Park & Ha, 2014). At this point, an individual is not well aware of the environment-friendly course of actions and tries to connect to the scenario with his own behavior, implying

the awareness of his consequence (Park & Ha, 2014). The Adverse Consequence and Ascribed Responsibility helps in the formation of Personal Norms (Park & Ha, 2014). These Personal norms then form the behavioral intentions of the individual (Park & Ha, 2014). Personal norms include the normative beliefs and factors that either motivate or affect an individual to change his behavior (Park & Ha, 2014). These norms are responsible for creating a sense of responsibility amongst human beings to change their attitudes, as suggested by the environment-friendly policy (Park & Ha, 2014; Lauper, et al., 2016).
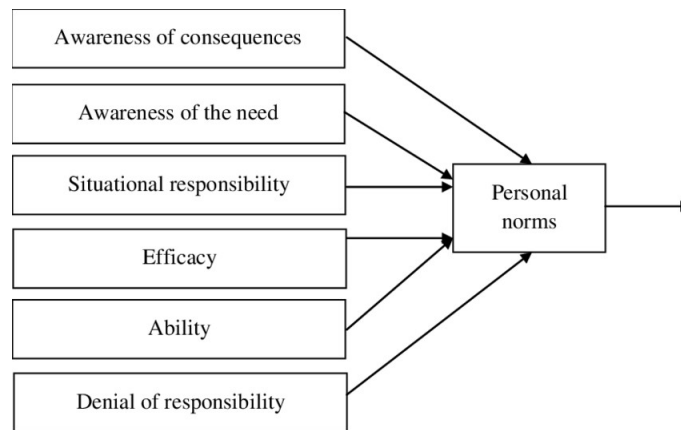
Figure 3.6: Norm Activation Theory

NAM theory is described as "a decision-making process through which personal and social norms mediate the influences of general values on altruistic and helping behavior" (Schwartz & Howard, 1981).This model further incorporates five stages: attention, motivation, evaluation, defense, and behavior (Lauper, et al., 2016). This theory's crux can be stated as the choice of priority of an individual consumer between personal interests and the environment, hence leading to an altruistic mindset and pro-social behavior.

3.2.4 Value-Belief-Norm Theory

Value Belief Norm (VBN) theory is an environmental theory formulated and proposed by theorists like Stern, which focuses on human behavior towards the environment that is influenced by the understood values (Chen, 2015). The VBN theory focuses on five main postulates that lead towards pro-environmental behavior (Chen, 2015). These include values, New Environmental/Ecological Paradigm (NEP), Awareness of Consequence (AC), Ascription of Responsibilities (AR), and Personal Norms (PN) (Chen, 2015).

This is how the Value Belief Norm chain helps in predicting the pro-environmental behavior of the individuals (Chen, 2015). It emphasizes the narrative that the objects that are valued are at risk, and the human involvement with the environment only makes the threat proliferate. Hence, various values are playing their part in changing the beliefs of individuals (Chen, 2015). These values lead a person to the next stage, i.e., Beliefs that begin with the new ecological paradigm (NEP). These values mainly comprise Altruistic values (Chen, 2015). However, Egoistic Values, Traditional Values, Openness to Change Values, and Biospheric Values are also part of this stage (Chen, 2015). The theory also supports the notion that awareness of Consequences (AC) and the Ascription of Responsibility (AR) could change the perils of environmental degradation (Chen, 2015). It also incorporates the features of Norm Activation Theory (NAM), i.e., the role of personal and moral norms in affecting human behavior towards the environment (Stern, et al., 1999). New Ecological Paradigm (NEP) is a view that suggests that human activities would create a negative impact on the environment, which in turn would result in the general acceptance of the narrative of the New Ecological Paradigm (NEP) through the rising green and environmental movements (Stern, et al., 1999). The NEP then advances into the adverse consequences of human geography onto the environment, which directly impacts human behavior and beliefs (Stern, et al., 1999). The VBN theory links the Norm Activation Theory, Personal Norms, and the New Ecological Paradigm through five elements, including altruistic values, beliefs, and personal norms (Stern, et al., 1999). The causal chain moves from central elements of personality and belief structure to more focused beliefs about human-environment relations, the threats they pose to valued objects, and the responsibility for action, finally activating a sense of moral obligation amongst the citizens to act in accordance with the principal and presumed notion, which means hereby, that the Values, Beliefs, and Norms series would directly affect the individuals to adopt a different course of action with regard to the behavior (Stern, et al., 1999). These actions may include pro-environmental activism, policy support, environmental citizenship, non-activist public sphere behaviors, private sphere behaviors, and organization behaviors (Stern, et al., 1999).
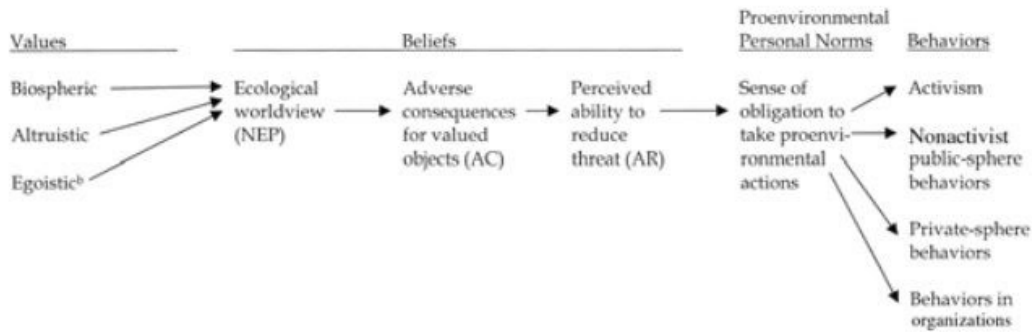
Values   Beliefs   Proenvironmental Personal Norms   Behaviors

Biospheric → Ecological worldview (NEP) → Adverse consequences for valued objects (AC) → Perceived ability to reduce threat (AR) → Sense of obligation to take proenvironmental actions → Activism

Altruistic → → Nonactivist public-sphere behaviors

Egoistic[b] → Private-sphere behaviors

Behaviors in organizations

Figure 3.7: Schematics representation of variables in the VBN theory of environmentalism

The VBN theory has been employed in different walks of life to predict the pro-environmental behaviors of people (Stern, et al., 1999). Stern and his colleagues utilized a regression model to indicate how Values, Beliefs, and Norms play a part in human behavior (Stern, et al., 1999). However, most of the theorists, in the recent trends, have focused on social norms, which, when incorporated in the VBN theory, formulates an extended VBN theory (Stern, et al., 1999). It suggests that people are more influences by the prevalent social norms than personal norms (Stern, et al., 1999). Hence both must be given equal importance in predicting Pro-Environmental Behavior (PEB) of the individuals (Stern, et al., 1999).

In summary, this research has built its arguments based on various concepts and theories mentioned above. The purpose was to employ these theories for research analysis aimed at giving a rational and empirical meaning to data and the research findings. In a detailed analysis of theories like Consumer Preference Theory, Rational Choice Theory, Theory of Reasoned Action (TRA), Theory of Planned Behavior, Norm Activation Theory (NAM), and the Value Belief Norm (VBN) theory, there emerged several roadmaps and strategies to form the basis of the methodology and research findings. Furthermore, these theories were also exercised to reflect the conclusion that utility maximization is not the only factor influencing behavior but values, beliefs and norms play an equally important role.

The consumer preference model can be employed in the qualitative data collection as it helps to gauge how much acceptance the Oslo residents would regard to the upcycled clothing and the extent to which the environment product would remain popular. On the other hand, the Rational Choice theory was supported by the argument that a consumer behavior is motivated by its rational decision making. However, it is worth mentioning that any consumer's cost and benefit analysis cannot be accurate in making a rational decision. Hence, the rational choice

theory is not eligible to form the structure of research finding. As far as the Theory of Reasoned Action (TRA) is concerned it suggests that intentions are the primary driver of behavior but, TRA rests on two main assumptions i.e., attitude and subjective norms. For the maximum success of a product, the speculations in attitude and subjective norms are required to be consistent (Sheppard, et al., 1988). Meaning hereby, that if any of the two, attitude and norms, fluctuate in terms of level, there is less chance of product to achieve a higher number of sales than its preceding month. Hence it is not a consistent method to be employed for research finding. The VBN theory has been employed in different walks of life to predict the pro-environmental behaviors through five postulates, and the Values, Beliefs, and Norms series directly affect the individuals to adopt a different course of action with regard to the behavior. After the in-depth breakdown and interpretation of the mentioned theories, I have deduced the conclusion that this research paper will apply the VBN theory in its theoretical framework as an essential structure in analyzing the PEB of the Oslo Residents participating in the circular economy. Implying that the VBN theory is exerted to reflect the conclusion that values, beliefs and norms are vital factor influencing the behavior of consumers.

4 METHODOLOGY

Methodology is generally regarded as the method or methods used to investigate any research question. Methodology includes the tools, techniques, and principles of research. Research methodology is one of the most vital parts of the research process as it plays a key role in determining the nature or type of the research. This research employs qualitative methodology, which is defined as empirical research in which most of the data is in the form of words (Bryman, 2015). However, it is worthy to note that for as long as researchers have been explaining qualitative research, they put most of their emphasis on the mere absence of numbers. This differentiation from quantitative research is by no means straightforward because qualitative research undertakes several diverse research methods that vary from one another. These quantitative research methods include participant observation, qualitative interviewing, discourse analysis, and qualitative analysis of text and documents (Bryman, 2015). Data, in both qualitative and quantitative methods, is evidence-based information that is collected through scientific methods.

The qualitative research methodology was chosen for this research because it helps to identify the patterns in social behavior of Oslo residents, through the lens of VBN theory. The collected data is then interpreted through a conceptual and theoretical framework followed by writing the findings and conclusion. Furthermore, the qualitative data has several data collection methods (Bryman, 2015). This research employs semi-structured interviews and content analysis (Bryman, 2015). This research is qualitative also because qualitative methods stick to assimilate reliability, validity, and generalizability (Bryman, 2015).

4.1 Research Design

This study is based on qualitative data collection, which is empirical and fulfills the explanatory research conditions. This thesis' research methods framework includes semi-structured interviews based on the pattern of VBN theory (Chen, 2015; Bryman, 2015). Both were aligned with the research context, i.e., the factors that motivate the Oslo residents to minimize textile waste through buying and selling used clothes.

The semi-structured interviews help collect accurate and relevant data as it is targeted towards the adult and digitally active citizens of Oslo, Norway. The pattern of VBN theory helps the research design to follow the interpretation and analysis of the qualitative research data. The VBN theory additionally may assist the researcher in predicting the future pro-environmental behavior of the respondents. The Values, Beliefs, and Norms theory may affect the individuals to adopt a different course of action concerning their previous or prevalent behavior.

4.2 Sampling

Sampling is an important stage in qualitative research concerning data collection (Bryman, 2015). It holds significance for its property of viewing the social problem from the eyes of the research participants (Bryman, 2015). The type of sampling employed in qualitative research is purposive sampling as it best suits the research questions of this thesis. The sampling set, considered for the generic purposive method, contains adult Oslo citizens active on digital platforms such as Tise and Finn.no as the prime research participants. The reason behind nominating this sample set was to fulfill the purpose of accuracy and reliability. The sample-set targeted for this study enables the researcher to achieve transferability to some extent, concerning the research problem, through the general applicability of VBN. This method positions the sample set at the core of the research, with which it becomes easier for the investigator to analyze accurate data (Bryman, 2015).

The sampling size for this research paper is settled at ten in number. As for the contextual level, I have chosen the residential area of Oslo, whereas for the sampling of participants, the adult citizens that use online platforms for sales and purchase of used clothes. The semi-structured interviews enabled me to gather qualitative data, which opened new areas of understanding the consumers' motivations, preferences and choices. Furthermore, the sampling set was subject to time and resources, due to which it was unable to engage with a larger segment of research participants. Due to the covid-19 pandemic, it was challenging to reach out to a larger audience which is why the sample set was narrowed down. The sample-set was further reduced due to the inclusion of consumers engaging on platforms like Finn.no and/or Tise, which promoted the sale and purchase of second-hand clothes. Because of the small sample size, the research findings cannot reflect or represent Oslo's residents' opinions and choices.

4.3 Data Collection

The qualitative data collection methods include research articles, surveys, national waste plans, review reports, and official documents from the Nordic Council of Minister. Along with the data collected from archives and official documents, this research has also employed online interviews to explore the motivations of Oslo residents to minimize textile waste through buying and selling used clothes. The interviews were conducted online via the video calling platform Zoom.

Furthermore, to address the research questions, this research has used a deductive qualitative research design that aims to explore the motivations and norms that affect the selected residents of Oslo. The qualitative research design employed in this research offers more influence by interpretivism, focusing on the individual's context to get a greater insight (Bryman, 2015). The design emphasizes the words gathered from semi-structured interviews rather than the quantitative research design, where the purpose is to quantify information (Bryman, 2015).

4.3.1 Semi-Structured Interviews

The semi-structured interview is a qualitative research method that does not necessarily follow a formal interview structure of questions. These interviews revolve around a domain; for instance, the interviews of this research follow the theme of consumer behavior regarding clothes and are aimed to target a specific audience. An interview guide with exploratory, descriptive, and explanatory questions were developed to inform the interviews (Appendix). The semi-structured interviews aim to answer the research questions that are a part of this project. Since the semi-structured interviews consist of both structured and unstructured questions, they help engage the interviewees in progressive discussion and debate. It further helps in accumulating qualitative data that is flexible, accurate, and reliable. While conducting the interviews, it was ensured that no participant leans toward reactive or reflective behavior. All the respondents shared their views on environmental degradation and their growing concerns to contribute back to the economy and environment. I also made the respondents aware of the concepts they knew less about, for instance, green growth and circular economy.

4.3.2 The Research Area, the Timeline, and the Interviewees units

The scope of this research is limited to Oslo, Norway. Oslo is the capital as well as the largest city of Norway. Oslo's municipality comprises over 1 million inhabitants as of 2021, with a population density of 1400 people per square kilometer (Statistisk Sentralbyrå, 2020). This research has prioritized only the adult residents of Oslo to determine their motivating factors to minimize textile waste from selling and buying used clothes.

During the entire data collection methods employed for this research, ten in-depth interviews were conducted with all the participants residing in Oslo. The entire interview process started from January till April 2021 during which all the respondents were booked, and other processes were finalized. However, all the interviews were conducted and finished within one week, starting from April 7, 2021, till April 12, 2021, with no external assistance to conduct the semi-structured interviews. All the interviews were conducted through the online platform Zoom. Overall, the complete process took two months and one week approximately to be fulfilled and transcribed. Half of the participants interviewed for this research study are working in the textile sector while the other half are employed in different sectors.

4.4 Data Analysis

The data analysis process employed in this research includes a series of analytical techniques to reach an accurate conclusion, also known as the research findings. The research has focused more on coding the interviewed text and reviewing the memos rather on discourse analysis to reach the research findings (Bryman, 2015). However, the qualitative data analysis consists of two primary approaches, i.e., analytic induction and grounded theory (Bryman, 2015). For this research, I have chosen a deductive approach. Data analysis begins from the first interview being conducted as it starts painting the picture of the findings and results. This research's data analysis emphasizes linking the contextual background with the conceptual and theoretical framework upon which data collection is dependent.

Data analysis begins with collecting all the interview findings and transcribing them into word files. Followed by reading all the transcripts to extract out the similarities, uniqueness, and most repeated opinions of the respondents. I used a color-coding technique on the data analysis based on three main categories, i.e., Values, Beliefs, and Norms. The study then progresses towards data analysis using the laddering technique to fit the respondents' answers into these categories. While doing so, I managed to draw out five main patterns that converge into five categories, i.e., Environmental concern, economic motivations, anti-fast

fashion motivations, identity, style, communication, and accomplishment motivation. It is vital to note that this research is based on the VBN theory, and all the interview transcripts were assessed and analyzed on the pattern parallel to VBN.

4.5 Data Quality

Data quality implies that the representation of data is accurate and reliable for the viewers and readers. Several important steps were taken during the research analysis to ensure the highest quality of data in research analysis. These measures include higher quality data as the basis of data analysis because it helps the researcher avoid reflexivity and reactivity biases during the semi-structured interviews and data analysis. Reflexivity occurs when the beliefs and perceptions of the researcher effect the study or research analysis in any way, or that the findings are influenced by the subjective beliefs of the researchers (Bryman, 2015). Next, reactivity occurs in research when the participants or the respondents change their behavior due to several reasons like gender, beliefs, and interview questions of the research (Bryman, 2015). Both reflexivity and reactivity were attempted to be avoided.

The first step includes ensuring that the data is accurately used to define the characteristics of high-quality data. I try to remain as neutral as possible in analyzing the data in this research. While coding the collected data, I used quote exact beliefs and views of the participants. The research findings included the significant patterns reflected in the perspective of respondents. I try to make sure that none of the belief or view is translated or transformed into another view by using vague vocabulary. I try to utilize credible, empirical, complete, and consistent data so that the research findings can maintain a high quality.

4.6 Ethical Consideration

Ethical considerations are significantly important in conducting the interviews physically in person or over a digital medium such as online platforms where video and audio interviewing can be conducted. Moreover, ethical consideration must also be observed in certain areas while conducting qualitative data collection, including the participants to be informed on the type of research, its duration and assuring the interviewees of keeping their identity and viewpoints confidential. Ethical consideration is also vital to assure the participants that the researchers would not invade their privacy at any cost. For this research thesis, all the

interviews were conducted by keeping in view the margins of both data quality and ethical consideration. The participants agreed to the informed consent referring towards the information collected; to conduct and compile the research. All the interviews were conducted after getting NSD approval from the Norwegian Research Council.

Moreover, in the interviews, it was ascertained that the participants are not made uncomfortable by any question, and if it was the case, they were free not to give any explanation or answer to the said question. Moreover, to remove any confusion, it was made clear that concerning the word textile, this research only raises concerns regarding clothing items and has excluded products like home textiles, semi-finished products, and others like carpets, curtains, upholstery, duvets and pillows, shoes, and other leather products. This research specifically focuses on the importance and relevance of non-traditional security concerns like environmental degradation. It furthermore highlights the significance of human actions and behavior within a circular economy model. With this research, the intent is to raise concerns regarding the environmental cost of the textile sector at the highest levels of authority.

4.7 Limitations

Given the ongoing situation of the global coronavirus pandemic, this research withstands some delimitations. The data collection methods include conducting semi-structured interviews with adult Oslo residents that sell or buy their clothes on Finn.no and/or Tise.no. Moreover, due to the lockdown situation globally, the research faced challenges in approaching people for interviewing. Due to this limitation, some research constraints emerged while aiming to conduct a large number of interviews. The available course to target the largest second-hand market in Norway was through the online marketing platform on Finn.no. In this research, the primary focus is targeted at data analysis. The information extracted from the literature review and qualitative data collection is assessed analytically. This research also aims to concentrate more on exploring the motivations of Oslo residents and descriptive analysis of textile waste and textile reuse in the circular economy. Moreover, the primary concentration is not only on the process of the problem, rather on the reason and resolution of the social problem. Furthermore, this research includes only a tiny portion of Oslo's population, and therefore the results cannot be generalized for other cities or countries.

5 Analysis

Research Analysis Techniques

This section identifies and examines the techniques employed in this research to analyze the data and produce findings. It highlights the importance of theoretical and conceptual frameworks, which lay the roadmap and strategy of analysis. Furthermore, it examines the scope and application of different theories and applied the Value, Belief, Norm theory as the basis of research analysis and findings.

Moreover, this chapter unveils the research findings that are procured after analyzing the collected data from ten semi-structured interviews. All the respondents have been active providers or consumers of second-hand clothes through online platform marketplaces. Furthermore, to keep the research findings distinct, it was made sure that half of the respondents are working in the clothing sector while the other half have occupations unrelated to the textile sector. This helped in gaining a more diverse review of the motivations affecting the behavior of Oslo residents concerning second-hand cloth consumption. Moreover, secondary data regarding Fretex interviews, taken from Anna Löfvenius, was also employed in this research paper. It is vital to note that the research analysis is based on the principles laid down by the VBN theory, which helped in extracting the five patterns identified as "Environmental and Social Justice Concerns", "Economic Motivations", "Belief in Reuse", "Identity, Style and Communication", and lastly "Doing What is Right". It was examined in the analysis that beliefs play a significant role in forming these patterns (Figure 3.7). As mentioned in section 3.1.2. the respondents need to understand when a cloth needs to be disposed and when reused. This can help shape their beliefs largely, as mentioned ahead in the patterns. Most of the beliefs recurring in the interviews were concerned with the better quality, style, and identity they can get from second-hand clothes. Therefore, beliefs can have a strong impact on norms, leading to forming a behavior (section 3.2.4).

As far as the data analysis technique is concerned, this study has employed a coding technique. Data coding, also known as the indexing process, consists of various steps that help a researcher analyze the collected data. Thus, data coding is a part of the data analysis. For this research study, I started coding by generalizing the items present in the collected data, for

instance, what the items represent in my data coding, how the data represent the research questions, and the extent to which the data collected aims to answer it. In doing so, I had to read them in an initial set of data transcripts from the semi-structured interviews conducted for this study. This step was repeated once again to ensure that every aspect of the data related to the research questions is highlighted and listed separately in the research findings. Lastly, all ten transcripts were reviewed based on the codes extracted from them. However, the initial coding can produce a large number of codes for which re-reading the transcripts and narrowing down the codes to a few important and prominent ones is essential. For instance, during the coding process for this study, I initially produced ten codes to work on. After reviewing them, I limited the codes up to those five, fulfilling the demands of this research. Most of the codes that were having commonality to some extent were, later on, merged and addressed under the same pattern.

Moving on, these five categories were then linked to the concepts and theories that are employed in this research. For instance, the utmost reason for coding the data was to align it with the multi-pronged view of environmental degradation (section 3.2.4) at one side and circular economy at the other. These two concepts were then analyzed on the lines of Value, Belief, and Norm theory. VBN theory, which has been employed to predict pro-environmental behaviors, works through five main postulates (Figure 3.7). The Values, Beliefs, and Norms series directly affect the individuals to adopt a different course of action regarding the behavior. After the in-depth breakdown and interpretation of the conceptual and theoretical framework, this research has identified five main paths based on the VBN theory to follow the interpretation and analysis of the qualitative research data.

Based on the principles laid down in the VBN theory, I have assessed my research analysis on the three stages of values, beliefs, and norms. As evident from the figure below, pattern number one explained in section 5.2 penetrates both Values and Beliefs. Following pattern number 2, explained in section 5.3, I have categorized the economic concerns in the "values" group. Because the consumer's concerns back the economic motivation for spending less, this can also be grouped as a significant self-interest value. Moving onto the third pattern under section 5.4, belief in reuse can be classified under both Values and Beliefs, given the significance of openness to change leading towards strong belief in NEP.

Similarly, the fourth pattern, i.e., identity and style, relate to the Norms group. This pattern is highly vital in gauging the behavior of the consumers as norms act as a milestone in

leading towards a PEB. Lastly, the fifth pattern, termed as Accomplishments/ Doing what is right, is explained in section 5.6, also falls under the Norms group as PN helps a consumer to act in a certain way that satisfies their moral self.
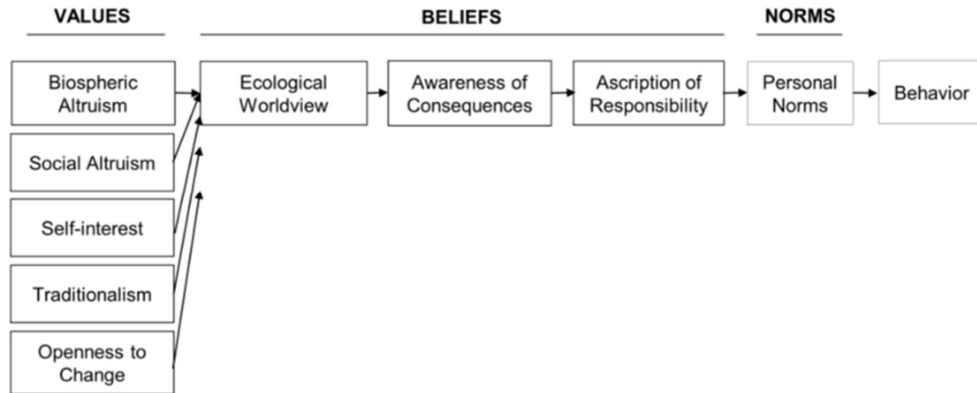

Figure 5.1: VBN Theory

5.1 Pattern 1: Environmental and Social Justice Concerns

The first and foremost coding pattern that was the most concurrent in all the interview transcripts was the environmental concern of the respondents. This pattern also incorporates the aspect of social justice in society. In this pattern, I have assessed how the respondents have engaged themselves in NEP, AC, and AR beliefs. At some points, I identified the amalgamation of beliefs and norms (Section 3.2.4). This, in turn, creates a single spectrum of environmental concerns, which motivates the Oslo residents while making the choices of cloth consumption. Hence, implying that the consumers are influenced by all three variables of the VBN theory, including Values, Beliefs, and Norms, are also responsible for motivating the consumers towards the New Ecological Paradigm (NEP) (Section 3.2.4). The VBN theory also helps explain consumer behavior in terms of transitioning towards environmentally friendly decisions. This transition starts off from the realization of altruistic and egoistic values that are coexistent among the consumers (Figure 3.7). Implying that even if the consumer is giving importance to the egoistic nature, influenced by the neoliberal economic system, he can simultaneously value the altruistic self. Such values shift the consumer from one stage to another by molding the beliefs (Section 3.2.4). Meaning hereby, that any belief on which the consumer relies on, for instance, used clothes are better forming a unique identity and style

statement, directly impacts the norms (Figure 3.7). It is also paramount to note that these norms are not a concrete set of rules or law but are generally perceived and followed. This value-belief-norm chain then leads the consumer towards forming the Pro-Environmental Behavior.

It must also be remembered that while interviewing the respondents, the questions initiated from a general introduction, building further into inquiring the behavior and motivations of each respondent towards buying and selling used clothes from online marketplaces. Most of the respondents answered in favor of environmental concerns and sustainability. Some others presented their views regarding economic concerns. Respondents 1, 2, 3, 4, 5, 6, and 10 acknowledged their motivations being pushed by playing their part in environmental conservation. Also, this motivation helped them save their wardrobe's monthly expenditure as well as save the environment.

"Because of environmental issues, I thought that would be one area where I could really do something. It's started out after like one new thing with my friends that were decided that we were going to try it for the environment for a year." – Respondent 1

From the aforementioned views of a respondent, it is visible that those respondents who are engaged in consuming second-hand clothes, are now shifting their priorities into buying and selling used clothes from online platforms. As per the beliefs of the majority of the respondents, it is worthy to note that environmental awareness is holding a considerable significance amongst the majority. Similar views can be seen from the conversation with Respondent 4:

"In general, first of all, this is better for environment … of course this will arise at least like if I do it, my neighbors do it, everyone starts doing it right… We have to take care of our planet, and you know that producing the clothing is using resources right on top of resources… it was just the thoughts in my head that you know that we have to take care of environment, and I think it does make a difference. I do believe it because everyone uses clothes." – Respondent 4

This research has focused on the multifaceted circular economy strategy and the environmental degradation from the textile sector. The data collected from the semi-structured interviews suggests that the respondents are moving towards Pro-Environmental Behavior, like Respondent 4 stated that one could motivate the surrounding people to act in accordance with the PEB.

Here, I shall also draw attention to the fulfilled methodology of applying the VBN theory to my research. As it is apparent from my respondents' views, after focusing on the altruistic values, they believe in the New Ecological Paradigm through awareness of AC and AR. This stage further evolves into a sense of moral obligation amongst the citizens to act in accordance with the principal and presumed notion that the VBN series would directly affect the consumers to adopt a different course of action with regard to the behavior. For instance, the views mentioned below project the same kind of behavior a consumer ought to have after analyzing the value-belief-norm series. A consumer can think of sustainability after accepting the concept of NEP and PEB.

"Yeah, I really that's (sustainability) one of my main goals so firstly I'm always trying to think what I can do before I throw something out" – Respondent 3

While inquiring about the altruistic values that motivate Respondent 3 in making cloth consumption choices, the respondent asserted that *"definitely because I'm aware of that [ethical reasons]. It can be of use to someone else. Or it can be reused. So that plain awareness motivates me to sell it. So, I would say the first and foremost is the pure awareness of garbage and of usefulness to other people or to other groups."* This conversation presented me with a united approach concerning the environment and values at the top of their priority while participating in the circular textile economy.

In summary, most respondents are familiar with environmentally friendly ways of consuming clothes. Only three out of the ten respondents were not entirely inclined to the environmental concerns of contributing to the Norwegian circular economy, whereas seven out of the total respondents were reusing and selling used clothes mainly to encourage sustainable patterns of consumption.

"I can't, I can't tell you the right numbers, you probably have more info about that, but I can only presume, how many tons of plastic materials we throw away into the sea or into rivers or wherever. Just by not recycling most. And it is not just the factory; it's factories. It is not just the producer says it's also everyday people. So, I really think that that sort of circular economy where people would sell their own stuff that you're not using could actually help a lot." – Respondent 4

Moreover, it is also noteworthy that through the practice of selling and buying used clothes online, some of the respondents started gaining pleasure, making this habit not purely

environmental but a source of fashion choice. For example, one respondent initial intentions of selling and buying clothes on online marketplaces were purely environmental. However, after about one year of performing this practice, the respondent started enjoying doing it, making it a necessary fashion choice. The respondent of this research also mentioned that used clothes are unique and not available in traditional stores or elsewhere. The respondent also appraised that people get more chances to buy used branded items that otherwise were very costly for average citizens through the online platforms of buying used clothes. Hence, this pattern identifies that the most popular rationale of engaging oneself in buying and selling used clothes online is purely environmental, accompanied by the reduced cost considerations compared to the original stores. Most of the respondents also presented their views regarding second-hand cloth consumption, that they get to shop online, reach out to the seller, and then try out the article. This way, they also get to experience an economical as well as an environment-friendly consumption pattern.

"It is nice saving the environment as well, so it's back to good things that go hand in hand. And I think, had it been the same price, of course, could consider buying it second-hand to save the environment as well. And sometimes it's more convenient because if someone lives very close by, it can actually be more convenient than going to the store." – Respondent 5

However, while interviewing my respondents, I investigated their perspectives regarding the circular economy and green growth. Most of them presented with a positive view. For instance, Respondent 6 mentioned the future of green growth in the words quoted below. It is quite interesting to proceed with this particular perspective as it views green growth holding equal importance to the economic factor. Nevertheless, the concept of a sustainable economy is in the nascent stage as many of the clothing brands have yet to explore it, and it will likely only happen after they see a notable increase in the sales of sustainable clothing brands.

"Everything is about business and money at the end of the day, and I think where we are at now, green growth, it can't be like 100% green growth, but what I really like is when the companies are quite transparent about like, we want to get there, there have like an ambition in the future." – Respondent 6

5.2 Pattern 2: Economic Motivation and Less Buying / Consumption Practices

The second prominent pattern of this research is the economic motivation of the consumers to choose second-hand cloth consumptions from online platforms like Finn.no or Tise.no. Many people favor a budget-friendly shopping routine, and second-hand online shopping provides all to experience such comfort. Such incentives motivate the consumers and relatively new users to engage more with reused clothes. Similarly, VBN theory suggests that the altruistic values motivate the people towards beliefs like NEP. This pattern can be helpful in predicting collective behavior of the people. However, it is important to note the logical foundations behind this collective behavior, or even value and norm. Consumers are utility maximisers and prefer the options that fulfil their needs accurately. However, after conducting this research based on the VBN principles, it was found that there exists other values or motivations among the consumers. They tend to recognize the altruistic values along with the egoistic ones (Figure 3.7). Although both values are contradictory to each other, they can coexist with one another. This cannot be claimed in every consumer around the world, or every region, but only for the limited sample set taken from Oslo for this research study (section 3.2.4). Most of the respondents expressed their top motivation for shopping used clothes to be the economic aspect. Respondent 4 articulated their views regarding economic motivations, expressing how a person can help others by donating their unwanted clothes to the less privileged.

"This was the first thought that came to my mind like of course the economical aspect as well... many families are struggling, right, like for example my husband's mother and we used to have friends who like she knows that they struggle economically, so it basically makes it easier for them, right, like the clothing are good so yeah." − Respondent 4

However, for others, the same practice helps save much money compared to shopping physically, especially when searching for a branded article. One can instead look for the same item on such platforms, and if the seller has it in good condition, pay a reduced price for the same but used article and enjoy it till needed.

"It's actually the best because there are sometimes like I need something then. And I need something like let's say I need a jacket or for new season. So, I look online, or what I

more or less what I want and how much that would cost as new. And then when I know what I want, then I go to the surfing and check if there's something like that, cheaper so I can get it cheaper, and if there's something I found and like then, I get it from there. So, I bought clothes from Finn, and it was more than half price than I would have to buy a normal." –
Respondent 2

Moreover, some consumers were more concerned with the quality of an item than its lower price. For instance, if one wants to buy a branded shirt and stay on the budget, they will first ensure the quality versus the offered price point. Respondent 3 elucidated in their interview that while shopping for second-hand clothes, quality must not be compromised. This is also why I have ranked the economic factor after the environmental one, because even if the respondents gave both factors equal value in motivation, the economic factor consisted of various other influences. Meaning hereby, even if the respondents would come across a very cheap item, let us suppose a branded item, they would still consider its quality before buying. Hence, low-priced clothing is not necessarily the most motivating factor for consumers to buy used clothes.

"Um, well, Well, I think it's a nice way to save money as well. So, for example, usually, I am not gonna buy something. If it is something second-hand if it's too expensive. If I like the price for the quality, I would buy it because usually the stores online or the new clothes you buy. They are overpriced. It doesn't make sense." – Respondent 3

Similarly, Respondent 2 mentioned that it is better to sell an item of clothing that is in good shape but not utilized by the owner. This would fetch some money for that item and support the transition towards a circular economy in Norway. However, it could only be achieved if the people are recognizing the importance of altruistic and biospheric values. However, in motivating reuse practices in a consumer, the biospheric values and utility maximization are independent (Section 3.2.4).

"Yeah, probably mostly to save money and to buy cheaper and sell some that I don't need, but they are already good. On a "good day," or they are worth some more money, so it is wise for me to throw something out that's, I paid a lot of money, so it's better to sell it, cheaper, but still get something out of it." – Respondent 2

Furthermore, some respondents expressed their motivations to engage themselves in second-hand cloth consumption because of the affordability of branded items that are economical and accessible for the average citizens on such platforms. While analyzing this pattern, I deduced that better quality is the most common economic cause for the consumers.

"I remember very well first time I used it because it was a very popular belt from freezing (clothing brand) company that I really wanted, but I couldn't afford it, the more I saw this on him. And then I discovered, like the possibility to buy the used stuff." –
Respondent 1

Similarly, Respondent 1 enunciated their motivations to opt for second-hand cloth consumption in Oslo because of the economic factor.

"First of all, it's cheaper. And so, let's see what I've bought on Finn, for example, some biking shoes and clothes, and those are significantly cheaper price and same now." –
Respondent 5

While most of the respondents focused on how the economic factor can initiate their motivations to indulge in second-hand cloth consumption, they simultaneously opined how this factor had evolved their motivations throughout the process. Meaning hereby, while the economic factor is an important step towards entering into the circular economy, it moves further to transform the consuming practices of the respondents. Respondent 3 mentioned how donating and giving away clothes has become a habit in their life.

"Through the years, I've been aware of garbage. So, so, every action of practicing anything, it has to end up somewhere. So, I became aware of it, so I cannot, like it sounds weird, but I can't really sleep at night if I know I've thrown two kilos of clothing that could have actually being used somewhere else. There are so many people and children that need clothing, so the easiest thing to do, for example, is just to donate it. And it is at least in Oslo in Norway. It's actually all over the world there are organizations that collect clothing." –
Respondent 3

Likewise, many respondents pointed towards the importance of changing consumption habits towards sustainability. What initially started from economic motivations had now become a way of living a sustainable life and has contributed to altering their consumption

practices. Most of the respondents have started buying very little from the physical marketplaces and instead prefer second-hand clothing from online marketplaces.

"But I said like I tried to buy as little as possible and I really like to think whether I need it or not from sustainability perspective. Also, like kind of cost management perspective not trying to waste money on your Android to save the environment from healthy purchases or habits." – Respondent 5

5.3 Pattern 3: Belief in Reuse

The third pattern prevalent in the research findings is the strong belief of the consumers in practicing reuse of second-hand clothes, practiced by most of my interview respondents after becoming a regular consumer of second-hand clothing. Most of the respondents have talked about quality and long-lasting clothing, as mentioned before, with which they aim to implement sustainability. Implying that although values and PEB are quite significant modifiers in motivating the Oslo residents, personal norms play an equally vital role. The majority of respondents also favored less amount of shopping and preferred quality items so that they do not have to buy clothes very often.

"First of all, I think this thought of not buying new all the time because like there's so many stores that mass-produce clothing of bad quality. It is better to like if you, you buy new or someone buys new clothing like better quality and then just resell it right to others. It got gets cheaper with features basically. But it is like, durability, I guess it's called of the clothing." – Respondent 4

Also, others focused on how the quality of a used product plays a vital role in advancing the reuse attitude. If a second-hand item is durable, not only does this help break the chain of fast fashion, but this also strengthens the belief of consumer to adopt reusing clothes.

"But the second thing is that people rather sell something that is still in a good shape, so I don't have to buy new things, and they are still good quality so there's no point in buying some so much more so. Better not to buy new stuff so that can be sell us, those that are already made… but now my mindset is kind of different because I feel like it's better to buy something like one thing that is better quality and it's more expensive but I can still use it for longer it's going to be ruined after one wash or something, so it's no better for me to buy

something that is more expensive but I see the quality is better, and I can use it for some time and then if I'm bored with that I don't have to throw it out I can sell it or give it away somewhere. So yeah, that's kind of how close I think that mindset is onto that." – Respondent 2

This practice then forms a habit and keeps on motivating the consumers to follow suit. Many respondents also expressed how the series of patterns have built on one another and transformed the consumption behavior altogether. Except for a few clothing items such as socks and other private garments, the consumers are highly motivated to buy and sell second-hand clothes.

"I became even more welcoming and because I experienced that it works. So, I managed to sell everything I wanted I managed to buy most of the things I wanted. Maybe that's like intimate garments that I don't buy second-hand but like this kimono, for example, is bought second-hand. So, like, so it works, and then it gives me more motivation. And the thing that people are really involved in many people like more and more people are starting to sell and buy online and it broadens the offer. And it just keeps you more motivated to continue." – Respondent 3

However, there is a huge competition taking spur in the textile markets. Since most people are moving towards more sustainable options, clothing brands have also started to change their marketing strategy and started taking advantage of the concepts like circular economy and green growth. Moreover, it was revealed that it is quite difficult for the consumers to ensure whether the process is entirely sustainable or is just advancing through greenwashing due to indeterminate marketing strategies.

"I do think that the manufacturers are becoming increasingly aware that they need to change in order to stay relevant, and that kind of consumer demands it, but I do also think that every company now sees, understand that they need to be sustainable in order to be relevant, and that is becoming a hygiene factor. What is difficult, though, is that everyone is claiming to be sustainable. So, in a world where everyone claims that it is very difficult for consumers to navigate and orientate to choose between young or old brands, claiming that and I think if it turns out to be true, then that's great but I think there's also a lot of greenwashing." – Respondent 5

5.4 Pattern 4: Identity and Style

Another set of patterns identified in this research was the advocacy, acceptance, and affirmation received from the respondents regarding the consumption of second-hand clothing. Moreover, some respondents also revealed how comfortable they have become with consuming second, third, and even fourth-hand clothes. As long as the item is usable and up to their mark, they showed their utmost willingness to buy or sell used clothes. This had become the respondents' identity and style and a way for them to communicate in this progressive cause. The data suggests that the consumers have progressed from values to beliefs and are now contented with norms as a whole. They have transitioned themselves not only to consume but to use second-hand items as a way to communicate their identity and style. Moreover, the respondents did not view reusing clothes as second-hand items, rather new ones. One respondent presented their views regarding how they feel when buying from a second-hand marketplace.

"I love to have new clothes, and let them see like, not just throw it away or leave within the cluster to get like a new purpose a new person that can be happy with it. So that's been good motivation, and also for me to like to do a bit of cheaper shopping. Yeah, scrolling through Tise is a bit cheaper and then also you can like, like the item, wait for it the other offers, and everything." – Respondent 6

Also, the respondents were happy to recall how they got the chance to buy items in excellent conditions that can typically cost an average consumer much money. This reflects how the user identifies themselves as a "separate entity" from those buying similar clothing from the physical store instead of second-hand.

"Second of all, it's "gold", more than pieces you can find second-hand. Or maybe you don't look like everyone else who are buying clothes in a store buy it's pretty uniform (common) nowadays even if you buy second hand." – Respondent 3

Another respondent also shared how she would manage to use second-hand clothing and refrain from disposing of it even if it required some sort of repairing. She would instead fix it and use it for a more extended period.

"If something rips or I get the hole in something, I'll always find my needle and fixed it. Guess it is a quick and easy fix, and then it can live for a lot longer. So, I tried to repair, as much as possible as well." – Respondent 5

While focusing on the identity part, I mention how the respondents have turned second-hand consumption into part of their lifestyle and how it helps them stand out and play their part in environmental conservation.

"I think because now I feel like I'm quite conscious of it… Actually, other than more stuff that I want being available a second time. Because if I find something attractive for example that is used but looks new. Yeah, I would be very happy to buy it second-hand for a lower price."
– Respondent 5

Moreover, turning the unwanted clothes into something that fits the style in a new way or can be reused for some other purpose is another way for the consumers to communicate their cause. For instance, a respondent shared how she gives away her unwanted clothes to her sister, who then modifies them into something innovative and useful. However, if such is not the case, the respondent declared to give it to Fretex.

"Two things so first one I tried to ask my sisters, or my friends if they want any of the clothes, I have a sister that really loves to renew the design of clothes and cut them and do everything, so she gets to look at it first. And if no one wants to do that now give it away for free to like Fretex or other organizations like that… when you, you give it like a second chance. The item in the way and also when I give it to Fretex when I said the nation part of the face. I feel like they also take good care of the item because sometimes you don't know where to like throw away clothes as I've tried differently than you can give it there so it's not just being burnt up." – Respondent 6

5.5 Pattern 5: Accomplishments / Doing What is Right

The last pattern identified in this research is accomplishments. This section investigates how the previous patterns have helped the respondents accomplish Pro-Environmental Behavior and how they manage to practice what they believe to be the right path. It is useful to understand that I refer to the circular economy, green growth, and sustainability by the right path. This section also focuses on how the accomplishment of one respondent varies from that

of the other. Moreover, it would also examine how all the respondents are simultaneously focusing on sustainability along with ethical motivations. For instance, Respondent 2 prefers to sell or even give away any used cloth if it is in a better state.

"I sell the clothes that I don't use anymore but they're in good shape. As if there's something that is like damaged or something that I throw them out, but rather the better brands, I put them out to sell but of course when I give out to friends or to friends or whatever... It's kinda sustainable for the environment and will not throw it out. After using just give it back to somewhere else so less waste, and sustainable." – Respondent 2

The respondents were more or less aware of the circular economy concept. One respondent disclosed that sharing her unwanted clothes and introducing them into the circular economy keeps her motivated to continue selling and buying used clothes to strengthen the national circular economy. The viewpoints of Respondent 3 provide more insights into this research aspect.

"Definitely because I'm aware of that. It can be of use to someone else. Or it can be reused. So that, that plain awareness makes me, motivates me to sell it. So, I would say the first and foremost the pure awareness of garbage and of usefulness to other-to-other people or to other groups." – Respondent 3

It is also worth noting how the participants addressed the overall research study with a positive viewpoint. All the respondents gave an optimistic approach during the interviews. The last pattern mentioned similarly reflects how all the previous patterns, i.e., environmental concerns, economic motivations, anti-fast fashion motivations, and identity and mode of communication, helps the consumer to develop a positive approach upright stance. They feel motivated to do what is right and also motivate others with actions like donations and giveaways. While mentioning some of the motivations that pushed Respondent 1 into second-hand cloth consumption, he mentioned that both environment and slavery are the two most important factors against which one must act. Moreover, it is nothing less than an accomplishment that the consumer can improve two adverse implications of one of the most important sectors.

"For some reason I kind of, it is, it's one thing for me, the environmental issues, and the slavery issue. I know it is two separate cases, but most of the clothing industry is so bad at

both aspects. So, for me it is, it's a combination definitely… Yes, I would definitely embrace it

[circular economy]. And I think that's very important factor for it to be embraced by the

population of Oslo is that it is trendy, it's hype, which I think is possible and even likely that

people are going to think about it. Yeah, so I think it's a good time to do it." – Respondent 1

Another respondent mentioned that accomplishment involved receding the consumption of artificial or synthetic fiber and other plastic materials, which means that in one way another, the aforementioned pattern of motivations keeps on pushing the consumer to progress towards green growth. Another finding is that despite most of the respondents were unaware of the literal meaning of green growth, they were all eager to learn about it and even introduce it into their sustainable way of life. In fact, many were already promoting green growth. For example, Respondent 5 mentioned her reluctance to utilize textiles made up of synthetic fibers, promoting sustainability and green growth.

"Trying to reduce nylon and other plastic made material and I am more into cotton

wool or other more sustainably." – Respondent 5

6   Discussion

This section investigates the research questions concerning the factors that motivate Oslo residents to minimize their textile waste by buying and selling used clothes. As previously addressed in chapter 5, the respondents' motivations that affect their behavior can be classified into five patterns. The patterns are classified as environmental and social concerns, economic motivations, belief in reuse, identity and style, and accomplishment, as explained in sections 5.2, 5.3, 5.4, 5.5, and 5.6. These five patterns provide valuable insight into answering the two sub-research questions. The VBN theory has been employed in all these sections to examine the values that push the respondents towards PEB and how they engage in buying and selling second-hand clothes.

The thematic analysis suggests that the environmental concern elucidated by the respondents is significant for understanding the motivations of Oslo residents to minimize textile waste. The research analysis and findings section has shed light on the top five patterns of the respondents that have aided them in buying and selling second-hand clothes constantly. Upon questioning the respondents about their motivations for the reuse of clothes, the

respondents' answers included determinant factors such as environmental concerns, economic relief, anti-fast fashion motivations, identity, style, mode of communication, and accomplishments. Many respondents had moved from one pattern to another while forming a cycle of adopting PEB.

The findings suggest that the VBN concept of behaviors can be usefully employed to extend our understanding of motivations because the data collected has led to reaching the motivating factors that are either a part of Value, Belief, or Norm. All three elements of the VBN, in a respondent, can be understood after examining both the egoistic and altruistic nature of a consumer (section 3.2.4). Consumer behavior is governed by rational decision-making and utility-maximizing factors (section 3.2.1). However, some consumers may consider their altruistic nature when making a 'reuse' choice. Meaning hereby, that the respondents that are buying and selling second-hand clothes may not know or understand the concept of NEP or even PEB, but they can recognize and acknowledge the logic behind NEP and PEB (section 3.2.4).

PlanMiljø and Østfoldforskning's report (Watson, et al., 2020) has suggested that the Norwegian government adopt a series of measures to help reduce the lifecycle environmental impacts. This includes textile-to-textile recycling but targeting the most preferred level of the waste hierarchy, i.e., waste avoidance and reduction. To achieve waste prevention, the government can either regulate the Norwegian textile market to produce or provide high quality and durable textiles; introduce economic business plans that can help in achieving a higher lifetime of their products; or motivate the consumers to adopt sustainable behavior through influencing practices like quality and care of the product. This would enable the establishment of a systematic collection of textile waste, after which regular and accurate data on the reused and recycled textile could be accumulated (Watson, et al., 2020). This will allow the collection and recirculation of textiles to contribute to the targets for recycling and preparation for reuse of municipal waste under the 2018 amendments of the WFD for Norway.

The themes derived from the semi-structured interviews helped explain the correlation between pattern one and pattern two by suggesting that all consumers support participating in the circular economy due to its two-sided benefits. These motivations are derived from the three-fold concept of the VBN theory. Consumers must pay a lower price for a good piece of clothing that is otherwise costly or even unaffordable from the physical markets. Moreover,

they also communicate their desire to be more environmentally friendly by using and selling second-hand clothing.

Another part of the research findings focused on the methods and means through which the textile consumers act in accordance with their motivations to buy and sell used clothes. When asked about their methods to satisfy their motivations, the interview participants responded with answers like a giveaway to Fretex, donations, and online platforms like Finn.no and Tise.no. None of the respondents encouraged disposing clothes except for some personal garments that are not eligible for reuse. One of the respondents even shared that she would use cloth until it has reached an unrepairable stage. Even then, she or her sister would manage to upcycle it and make something new out of it.

Moving on, participating in the circular economy is beneficial not only for the practitioners alone but also for other members of society, as suggested by the altruistic values of the VBN theory. Consumers of used clothes can help formulate norms for others to practice sustainable consumption. This can be linked back to pattern four, i.e., identity, style, and way of communication. Identity and style are also contributing factors in motivating second-hand cloth consumption among the respondents. The unique style found in second-hand clothes and the communication channel of the circular economy that a used piece of cloth can give the respondents were also the main contributors to motivating second-hand consumption. This relates to the beliefs from VBN (section 3.2.4). Moreover, it can also be implied that a consumer can make the used clothes its identity and means of communication after believing and understanding the logic behind NEP, which motivates them to act in a Pro-environmental Behavior (Figure 3.7).

Furthermore, the findings suggest that the interview participants choose to purchase second-hand clothes as a description of social responsibilities they have inflicted upon themselves. The VBN theory indicates that personal norms play a significant role in forming and motivating human behavior (section 3.2.4). This is why personal norms, coming at the last of the VBN chain, suggest that they are responsible for emerging a sense of obligation in the individual to take pro-environmental actions, leading towards the actual behavior (Jansson & Dorrepaal, 2015). This relates to the last pattern of this research, i.e., doing what is right. All the respondents have admitted that initially, their motivations might be purely economic; however, after reaching a certain level of consumption, they now think of it as their responsibility to buy used clothes, as anything otherwise would simply be wrong. This aspect

of the research study can be connected back to Value-Belief-Norm Theory. Some of the participants actively use PEB by the awareness of consequences and ascription of responsibility they link to fast fashion clothes and mass production. As a result, they oblige themselves to behave in a way that is beneficial to the environment. The finding also shows that the dislike towards fast fashion brands and their business model has motivated the respondents to avoid purchasing their clothes from such brands and rather visit online second-hand markets.

Another considerable deduction worth mentioning is the need to raise awareness towards the authorities. Some participants reiterated that they would like the Norwegian authorities concerned with the textile industry to create a framework or a national roadmap for businesses and the locals to expedite the transition towards the circular economy. This could be helpful for the successful implementation of an environment-friendly policy within a circular economy in a controlled and systematic manner. National regulations, awareness campaigns, and incentives like subsidies could further promote policy implementation. To achieve this, it could be helpful for authorities to analyze the values, beliefs, and norms prevalent among the citizens so that the policy frameworks can provide better and quick solutions.

Another study concerning Motivations for second-hand consumption: A study of second-hand consumers in Oslo (Löfvenius, 2020) stated that the primary motivation for consuming second-hand clothes in Oslo came from the VBN factors, while secondary motivation can be regarded as economic concerns. Concepts such as social justice, identity, and PEB are prompted by either value, belief, norm, or all three factors (Löfvenius, 2020). Moreover, the study also exhibited a precise application of the VBN theory, focusing on the impact of norms in changing behavioral patterns. Yet, beliefs like awareness of consequences and ascription of responsibilities are liable for inducing the consumer with environment-friendly behavior.

In other applications of the VBN theory, researchers employed the VBN to understand sustainable behavior among college students and revealed a strong impact of altruistic and biospheric values on students (Whitley, et al., 2018). Furthermore, other researchers have used the VBN framework to understand responsible post-consumption behavior in consumers (Dursun, et al., 2017), revealing that the self-transcendent value is the most significant factor amongst others to motivate PEB. Furthermore, other applications of the VBN can be seen in understanding consumer decision about green hotels (Choi, et al., 2015), electric vehicles

(Nordlund, et al., 2016), support for social movements (Stern, et al., 1999), and environment-friendly drone food delivery services (Hwang, et al., 2020).

Lastly, the analysis of this research study of buying and selling second-hand clothes and the impact of VBN on the respondents relates to the national strategy of the circular economy of Norway and its Waste Plan 2020-2025. The Waste Plan is an important step forward for Norway to minimize textile waste through policy and regulations. Financial instruments and direct regulations suggested by the Waste Plan 2020-2025 can probably help minimize textile waste. From this empirical study, I found that norms can motivate behavior categorized as PEB, enabling people to act upon those norms, which can help minimize textile waste. Hence, this research can add another element in understanding the Norwegian regulations on textile waste along with Oslo municipality's responsibility to implement the Waste Plan 2020-2025 (Miljø-Direktoratet, 2019; 2020).

7 Conclusion

The research aimed to investigate the factors motivating Oslo residents to buy or sell second-hand clothes. For this purpose, ten in-depth interviews were conducted with adult Norwegian citizens. In conclusion, the research findings suggest that the circular economy's environmental and economic concepts can be a useful facilitator for investigating motivating factors because they provide a comprehensive overview of the initial factors urging individuals to use second-hand clothing. The findings in this research show a blend of various patterns that form the basis of motivation for the respondents. After data analysis, the five major patterns are environmental concerns, economic motivations, anti-fast fashion motivations, identity, style, and mode of communication.

A key finding of this research for the VBN theory is the environmental factor, also known as Pro-Environmental Behavior in theory. It is worth noting that after assessing the views of the respondents regarding the VBN theory, it was deduced that most of the consumers are trying to choose the best possible option between the Values, Beliefs, and Norms, based on the utility maximization model. However, despite this rational decision, the respondents reflected their environmental concerns, making them morally and socially responsible for following these norms. From this empirical study, I found that norms can motivate behavior categorized as PEB, enabling people to act upon those norms, which can help minimize textile waste. The environmental concern remains the top motivation for the consumers to buy and sell second-hand clothes. The majority of the respondents expressed their satisfaction and the pleasure they seek after reusing second-hand clothes. This pattern has also encouraged the respondents to minimize textile waste by buying and selling used clothes, increasing their clothing donations, avoiding using clothing with artificial or synthetic fibers, and reducing their average number of new textile purchases.

The concept of acceptability has strongly conformed with the VBN's concept of responsible and pro-environmental behavior. It suggests that after realizing the excessive human activities that are creating a negative impact on the environment, the consumers would, in turn, develop a general acceptance of the narrative of the New Ecological Paradigm. They would then encourage and practice sustainable consumption methods and support the rising green and environment-friendly businesses. This relates to the next pattern, i.e., feeling of

revulsion towards the fast fashion trends and mass production system in the textile sector. Because of this, the second-hand cloth consumers interviewed have significantly reduced their consumption of fast fashion clothes.

This research demonstrates that most respondents rank environmental conservation above economic incentives. Next, respondents may be more concerned with the quality of an item than the price point it offers. For instance, if one wants to buy a branded jacket and not pay the extra price at the original store, they will choose the option of buying a second-hand branded jacket to stay on the budget. However, staying on the budget is not enough. While answering the interview questions, the respondent described that they would first ensure the quality of a product versus the price point being offered.

Another contribution of this research is environmental conservation within the circular economy through minimizing textile waste. Every other pattern just kept adding to the perks of eco-friendly life choices. This implies that the pattern of style and identity is not directly related to the environmental concern of any respondent but rather is achieved due to his/her environmental concerns. Furthermore, the motivation for finding something unique and the positive emotions produced as a result that the product reflects one's style statement has a deep impact on the respondents for seeking second-hand consumption. This can be elucidated by many examples, shared by the respondents, of finding good quality branded items on second-hand platforms, and such instance has further motivated the respondent to come back and look for more used items.

Overall, this study has certain limitations that should be acknowledged. The sampling approach and the study's research design had limitations during the procedure that may affect its validity and reliability. The study has only a limited number of respondents. Despite the relatively small sample size, it still aims to give an as clear and comprehensive understanding as possible of the prominent motivational factors for buying and selling second-hand clothes. It may also contribute to other studies within this field. Mainly, it can provide a better understanding of the power of norms to motivate PEB and complement the strategy for the circular economy and the Waste Plan 2020-2025.

Finally, it is proposed that future research should concentrate or not rely so much on only interviewing the citizens that belong to a particular field; instead, it should try and incorporate a larger sample of respondents from all walks of life. Based on the findings

generated by this study, it is concluded that transitioning towards a circular economy can be the way forward to minimize textile waste through the reuse of clothes.

Bibliography

Abell, P. (1991). *Rational Choice Theory.* Edward Elgar Publishing.

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior.* Englewood Cliffs, N.J.: Prentice-Hall.

Azizi, A., Love, T., Michalski, W., & Tice, L. (2014). *A Solar Decathlon Materials Selection Study.* Worcester, Massachusetts: WORCESTER POLYTECHNIC INSTITUTE. Retrieved from https://digital.wpi.edu/downloads/h128nd96g

Bauer, B., Svendsen, N. L., Borgman, E., Sepponen, S., Luoma, P., & Hansen, O. J. (2020). *Pre-study: Indicators on circular economy in the Nordic countries.* Copenhagen: Nordic Council of Ministers.

Bryman, A. (2015). *Social Research Methods.* Oxford University Press.

Bryman, A., & Bell, E. (2011). *Business Research Methods.* New York: Oxford University Press Inc.

Chen, M.-F. (2015). An examination of the value-belief-norm theory model in predicting pro-environmental behaviour in Taiwan. *Asian Association of Social Psychology*, 145-151.

Chivandi, A., Samuel, M. O., & Muchie, M. (2019). Social Media, Consumer Behavior, and Service Marketing. IntechOpen. doi:10.5772/intechopen.85406

Choi, H., Jang, J., & Kandampully, J. (2015). Application of the extended VBN theory to understand consumers' decisions about green hotels. *International Journal of Hospitality Management, 51*, 87-95.

Circle Economy. (2020). *The Circularity Gap Report Norway.* Circle Economy.

Coleman, J. S., & Fararo, T. J. (1992). *Rational Choice Theory: Advocacy and Critique.* Sage Publications.

Drew, D., & Yehounme, G. (2017). *The Apparel Industry's Environmental Impact in 6 Graphics.* World Resources Institute.

Dursun, I., kabadayı, E. T., & Tuger, A. T. (2017). Application of Value-Belief-Norm Theory to Responsible Post Consumption Behaviors: Recycling and Reuse. Turkey: Conference: International Congress of the New Approaches and Technologies for Sustainable Development.

Ellen MacArthur Foundation. (2017). *A NEW TEXTILES ECONOMY: REDESIGNING FASHION'S FUTURE.* Ellen MacArthur Foundation. Retrieved from http://www.ellenmacarthurfoundation.org/publications

EPA. (2017). *Sustainable Materials Management: Non-Hazardous Materials and Waste Management Hierarchy.* United States Environmental Protection Agency.

EU. (2008). *Waste Framework Directive*. Retrieved from European Commission: https://ec.europa.eu/environment/topics/waste-and-recycling/waste-framework-directive_en

European Commission. (2018). *EU Circular Economy Action Plan: A new Circular Economy Action Plan for a Cleaner and More Competitive Europe.* European Commission.

European Commission. (2020). *Waste prevention and management*. Retrieved from European Commission website: https://ec.europa.eu/environment/green-growth/waste-prevention-and-management/index_en.htm

Filho, E. J., Cardoso, B. L., & Barboza, M. N. (2019). Intention of green consumption in the context of the selfish or altruistic features of the product versus the user's environmental consciousness. *Cadernos EBAPE.BR, 17*(2), 414-434.

Fishbein, M. (1979). A theory of reasoned action: Some applications and implications. *Nebraska Symposium on Motivation*, 65–116.

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research.* Reading, MA: Addison-Wesley.

Fitzmaurice, J. (2005). Incorporating consumers' motivations into the theory of reasoned action. *Psychology & Marketing*, 911-929.

Gharfalkar, M., Court, R., Campbell, C., Ali, Z., & Hillier, G. (2015). Analysis of waste hierarchy in the European waste directive 2008/98/EC. *Waste Management*, 305-313.

Gita, S., Hussan, A., & Choudhur, T. G. (2017). Impact of Textile Dyes Waste on Aquatic Environments and its Treatment. *Environment & Ecology*, 2349—2353.

Hale, J. L., Householder, B. J., & Greene, K. L. (2002). The theory of Reasoned Action. In J. P. Dillard, & M. Pfau, *The Persuasion Handbook: Developments in Theory and Practice* (pp. 259-286). SAGE Publications, Inc.

Hiratsuka, J., Perlaviciute, G., & Steg, L. (2018). Testing VBN theory in Japan: Relationships between values, beliefs, norms, and acceptability and expected effects of a car pricing policy. *Transportation Research Part F: Traffic Psychology and Behaviour, 53*, 74-83.

Houten, F. v., & Ishii, N. (2020). *The world needs a circular economy. Help us make it happen.* World Economic Forum.

Hultman, J., & Corvellec, H. (2012). The European Waste Hierarchy: From the Sociomateriality of Waste to a Politics of Consumption. *Environment and Planning A: Economy and Space*, 2413-2427.

Hwang, J., Kim, W., & Kim, J. J. (2020). Application of the value-belief-norm model to environmentally friendly drone food delivery services: The moderating role of product involvement. *International Journal of Contemporary Hospitality Management, 32*(5), 1775-1794.

Jansson, J., & Dorrepaal, E. (2015). Personal Norms for Dealing with Climate Change: Results from a Survey Using Moral Foundations Theory. *Sust. Dev., 23*(6), 381-395.

Keane, J., & Velde, D. W. (2008). *The role of textile and clothing industries.* Overseas Development Institute.

Kemp, L. (2019). Here's how a circular economy could change the world by 2030. *World Economic Forum*.

Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, Conservation and Recycling*, 221-232.

Kishor, R., Purchase, D., Saratale, G. D., Saratale, R. G., Ferreira, L. F., Bilal, M., . . . Bharagava, R. N. (2021). Ecotoxicological and health concerns of persistent coloring pollutants of textile industry wastewater and treatment approaches for environmental safety. *Journal of Environmental Chemical Engineering*, 105012.

Korhonen, J., Honkasalo, A., & Seppälä, J. (2018). Circular Economy: The Concept and its Limitations. *Ecological Economics*, 37-46.

Krauss, K. V., & Alvsen, I. L. (2020, August 8). *Norge ikke rigget for tekstilsortering.* Retrieved from Aftenposten Innsikt: https://www.aftenposteninnsikt.no/klimamilj/norge-ikke-rigget-tekstilsortering

Laitala, K., & Boks, C. (2012). Sustainable clothing design: use matters. *Journal of Design Research*, 121-139.

Laitala, Klepp, K., & Grimstad, I. (2020). *Klær og miljø: Innkjøp, gjenbruk og vask.* Oslo: Forbruksforskningsinstituttet SIFO .

Lauper, E., Moser, S., Fischer, M., & Matthies, E. (2016). Explaining Car Drivers' Intention to Prevent Road-Traffic Noise: An Application of the Norm Activation Model. *Environment and Behavior*, 826–853.

Löfvenius, A. (2020). *Motivations for second-hand consumption: A study of second-hand consumers in Oslo.* Norwegian University of Life Sciences.

Lu, S. (2019). *WTO Reports World Textile and Apparel Trade in 2018.* University of Delaware.

Meyers, C. J. (1975). An Introduction to Environmental Thought: Some Sources and Some Criticisms. *Indiana Law Journal*.

Miljø-Direktoratet. (2019). *Avfallsplan 2020-2025 Status og planer for avfallshåndtering, inkludert avfallsforebyggingsprogram.* Oslo: The Norwegian Environment Agency. Retrieved from https://www.regjeringen.no/contentassets/c6a9a384d90c4af18bfd8458f3167708/avfallsplan-2020-2025.pdf

Miljø-Direktoratet. (2020). *Circular economy*. Retrieved May 29, 2021, from https://www.miljodirektoratet.no/ansvarsomrader/avfall/sirkular-okonomi/

Mohanty, S. K., Franssen, L., & Saha, S. (2019). *The power of international value chains in the Global South.* Geneva: International Trade Centre, Research and Information System for Developing Countries (RIS).

Nayak, R., & Padhye, R. (2015). *Garment Manufacturing Technology.* Woodhead Publishing.

Nie, L., Lindholm, O., Lindholm, G., & Syversen, E. (2009). Impacts of climate change on urban drainage systems – a case study in Fredrikstad, Norway. *Urban Water Journal*, 323-332.

Niinimäki, K. (2018). *Sustainable Fashion in a Circular Economy.* Finland: Department of Design, Aalto University.

NMC&E. (1981). Act on protection against pollution and on waste (Pollution Act). Oslo, Norway: Lovdata. Retrieved May 29, 2021, from https://lovdata.no/dokument/NL/lov/1981-03-13-6/KAPITTEL_5#KAPITTEL_5

NMC&E. (2004). Regulations on recycling and treatment of waste (Waste Regulations). Oslo, Norway: Lovdata. Retrieved May 29, 2021, from https://lovdata.no/dokument/SF/forskrift/2004-06-01-930?q=avfallsforskriften

Nordlund, A., Jansson, J., & Westin, K. (2016). New Transportation Technology: Norm Activation Processes and the Intention to Switch to an Electric/Hybrid Vehicle. *Transportation Research Procedia, 14*, 2527-2536.

NSW Environment Protection Authority. (2017, September 21). *The waste hierarchy*. Retrieved from NSW Environment Protection Authority: https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/warr-strategy/the-waste-hierarchy

O'Brien, K., Sygna, L., & Haugen, J. E. (2004). Vulnerable or Resilient? A Multi-Scale Assessment of Climate Impacts and Vulnerability in Norway. *Climatic Change*, 193–225.

Omisakin, J. (2020, April 19). *Recycled and Upcycled Clothing Brands To Know in 2020.* Retrieved from Compare Ethics: https://compareethics.com/9-recycled-and-upcycled-clothing-brands-you-shouldnt-pass-in-2018/

Palm, D., Elander, M., Watson, D., Kiørboe, N., Salmenperä, H., Dahlbo, H., . . . Rydberg, T. (2014). *Towards a Nordic textile strategy: Collection, sorting, reuse and recycling of textiles*. Copenhagen: Norden.

Park, J., & Ha, S. (2014). Understanding Consumer Recycling Behavior: Combining the Theory of Planned Behavior and the Norm Activation Model. *Special Issue: The Significance of Community to Individual and Family Well-being*, 278-291.

Rotevatn, S. (2020). Visions and ambitions for a circular economy in Norway. *The 4th Norwegian Circular Economy Conference 2020.* Norway: Ministry of Climate and Environment. Retrieved from https://www.regjeringen.no/en/aktuelt/visions-and-ambitions-for-a-circular-economy-in-norway/id2740057/

Sandin, G., & Peters, G. M. (2018). Environmental impact of textile reuse and recycling – A review. *Journal of Cleaner Production*, 353-365.

Schwartz, S. H. (1977). Normative Influences on Altruism. *Advances in Experimental Social Psychology*, 221-279.

Schwartz, S. H., & Howard, J. A. (1981). A normative decision-making model of altruism In J. P. Rushton & R. M. Sorrentino (Eds.). *Altruism and helping behavior*, 189-211.

Sczyka, J. (2020). *Circular business models in the fashion industry: A consumer perspective on renting everyday clothes.* Uppsala: Department of Earth Sciences, Uppsala University.

Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research. *Journal of Consumer Research*, 325–343.

Simon, J. M. (2019). *A Zero Waste hierarchy for Europe.* Zero Waste Europe. Retrieved from https://zerowasteeurope.eu/2019/05/a-zero-waste-hierarchy-for-europe/

Sinha, D. R. (2010). *THE ENVIRONMENTAL KUZNETS CURVE HYPOTHESIS AND LEGACY POLLUTION: A GEOHISTORICAL ANALYSIS OF THE ENVIRONMENTAL CONSEQUENCES OF INDUSTRIALIZATION IN WORCESTER, MASSACHUSETTS (USA).* 1-18: The Industrial Geographer.

Smith, A. (1776). *An Inquiry into the Nature and Causes of the Wealth of Nations.* MetaLibri.

Society, European Parliament. (2020, December 29). *The impact of textile production and waste on the environment (infographic).* Retrieved from European Parliament: https://www.europarl.europa.eu/news/en/headlines/society/20201208STO93327/the-impact-of-textile-production-and-waste-on-the-environment-infographic

Stahel, W. R. (2016). The circular economy. *NATURE*, 435–438.

Statistisk Sentralbyrå. (2020). *Population and land area in urban settlements.* Statistisk Sentralbyrå. doi:https://www.ssb.no/en/befolkning/statistikker/beftett

Stern, P. C., Dietz, T., Abel, T. D., Guagnano, G., & Kalof, L. (1999). A Value-Belief-Norm Theory of Support for Social Movements: The Case of Environmentalism. *Human Ecology Review, 6*, 81-97.

Townsend, T. (2019). *Natural Fibres and the World Economy July 2019.* Discover Natural Fibres Initiative.

Ütebay, B., Çelik, P., & Çay, A. (2020). *Textile Wastes: Status and Perspectives.* IntechOpen.

Vainikka, B.(2015). *PSYCHOLOGICAL FACTORS INFLUENCING CONSUMER BEHAVIOUR.* Kokkola, Finland: CENTRIA UNIVERSITY OF APPLIED SCIENCES .

Vatn, A. (2016). *Environmental Governance Institutions, Policies and Actions.* Norway: Edward Elgar.

Veleva, V., Bodkin, G., & Todorova, S. (2017). The need for better measurement and employee engagement to advance a circular economy: Lessons from Biogen's "zero waste" journey. *Journal of Cleaner Production*, 517-529.

Watson, D., Trzepacz, S., Rubach, S., & Johnsen, F. M. (2020). *Kartlegging av brukte tekstiler og tekstilavfall i Norge.* Kråkerøy, Norway: NORSUS AS.

Whitley, C. T., Takahashi, B., Zwickle, A., Besley, J. C., & Lertpratchya, A. P. (2018). Sustainability behaviors among college students: an application of the VBN theory. *Environmental Education Research, 24*(2), 245-262.

World Bank. (2018). *Norway Textiles and Clothing Imports by country in US$ Thousand 2018*. Retrieved from World Integrated Trade Solution: https://wits.worldbank.org/CountryProfile/en/Country/NOR/Year/LTST/TradeFlow/Import/Partner/by-country/Product/50-63_TextCloth

Appendix

Interview Guide

The purpose of the interviews is to find out what motivates Oslo residents to reintroduce their unwanted clothes back to the economy in the form of selling or buying second-hand clothes via the online marketplaces Finn.no and/or Tise. All participants will be adults, live in Oslo, and use or have used the online platforms Finn.no and/or Tise to sell or buy their unwanted clothes. The interviews will take place online via video calling platforms (Zoom, Microsoft Teams, Skype, etc.). The duration of the interviews will be approximately one hour. The interviews will be held by me, asking the questions provided below in sequential intended order. I assure you that all participants' answers will remain confidential and kept anonymous in my research project. If you have any further questions regarding the interview, let me know.

Interview guide questions

1. What part of the city do you live in?
2. How old are you?
3. Where do you come from?
4. What is your profession? or How would you describe your work situation?
5. What is your educational level/background?
6. Do you use other platforms to sell clothes?
7. What kind of clothes do you sell?
8. How often do you sell clothes on Finn or Tise?
9. What else do you do with clothes you do not want to keep? (donate, recycle, dispose)
10. Why did you start using Finn or Tise to sell or buy your clothes?
11. What do you think is important when you sell or buy your clothes online?
    - Why?
12. What motivates you to sell or buy clothes online?

13. Have your motivations changed as you continue to use Finn or Tise?

- Why?

14. What does selling or buying second-hand clothes online mean to you?

15. What influences your choice to sell or buy clothes online?

- Why?

16. Do you ever keep clothes even if you do not wear them?

- Why?

Acknowledgements

I want to express my appreciation to my primary supervisor Lars Kåre Grimsby and co-supervisor Ole Jørgen Hanssen for their valuable and constructive feedback and guidance. Furthermore, I wish to express gratitude to my partner Cecilie for the inspiration and encouragement she gave me to tackle the various challenges I faced during the writing process. Moreover, I want to thank all the participants for their valuable time and for making my research possible via video calls, especially during the pandemic restrictions. Finally, I want to thank my family for their support and belief in me throughout the entire thesis process.