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Exploring and overcoming barriers to implementing circular business model for small businesses in Swedish fashion industry

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1. Abstract

Background: Despite the increasing identification of the sustainability importance in the fashion industry and small businesses especially in countries like Sweden; there is a minimal implementation of the circular business models. The country encounters challenges in the implementation of circular business models. The considerable challenges are lack of resources. Insufficient expertise and awareness, complicated supply chain and behavior patterns of consumers, prioritizing trend-driven and affordability consumption over sustainability.

Purpose: The aim of this research is to investigate how small businesses in the Swedish fashion industry adopt the circular business model by particularly stressing on gaining insights into the barriers. The examination of these barriers allows the research to offer insights into the encountered challenges by small business in shifting to circularity and recognizing potential approaches to overcome such hurdles.

Method: In this research, qualitative research method has been employed. Primary and secondary sources both for the collection of the relevant data as it makes sures an extensive understanding of the research problem and topic. Semi-structured interviews have been chosen for this research as it is the best method for capturing rich, insights from the participants. It has formulated interview questions comprised of 15 open-ended questions. The total sample size

for interviews is 5. As this research is completely relied on collecting qualitative data from primary and secondary sources, it has adopted thematic analysis technique.

Conclusion: This mixed research evaluated barriers fashion companies can shift to CBMs from linear model. To be switched from linear into circular business models (CBMs). These barriers lie in technical unpreparedness, circularity cost, market unfamiliarity, financial shortage, and knowledge gaps. Despite the different regional issues that may exist, like the case of a start-up versus vulnerabilities of fashion section are considerable barriers. Whist, approaches like soliciting financial accompanying mechanisms, advocating for regulatory reforms, facilitating knowledge sharing and collaboration, educating and engaging consumers, and building focus on innovation and technology implementations will be a way to minimize the barriers in the future.

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2. Introduction:

This section introduces the research topic presenting research objectives, problem statement, aim and objectives, research rationale and justification for this research. This section builds the basis of the research.

2.1.Background

The fashion industry is a prominent and influential sector throughout the world that involves a number of activities from the production of textile and retail (Ünay & Zehir, 2012). It is a multibillion-dollar industry devoted of making and selling clothes. Fashion is simply defined to encompass the design, manufacture, marketing, retailing and the promotion of all types of apparel including men's, women's and children's clothes (Valerie & John, 2024). The fashion production put a high demand on natural resources and land use. Not to mention that materials used in the fashion industry require high water use (Condénast, 2022). Within fast fashion, the number of clothing production and the thrown away has boomed. Nevertheless, the constant provision of new styles and low prices has an impact on the environment (Elizabeth,2019). Its conventional linear model, classified by the "take-make-dispose" technique that has profound ecological and social outcomes such as resources depletion, exploitation of labour and pollution (Skawińska & Zalewski, 2021). The linear model ensures extracting resources, using product goods, and disposing wastes at the lifecycle end. Each step, from fossil fuel extraction to chemical-laden manufacturing and waste disposal, presents environmental hurdles. These unsustainable practices worsen climate change, harm ecosystems, resource depletion and endanger human well-being. Statistically, the textile production contributes to water pollution as it has been estimated to be responsible of 20% of water pollution throughout the world, it is estimated to be responsible of 10% of the carbon emissions globally and at least less than of half used clothes are recycled or reused, only 1% are recycled into new clothes (European Parliament, 2024). Contrary to this, a circular economy works at redesigning the contemporary system by keeping materials and products in use for longer period (De los Rios & Charnley, 2017). This lays the foundation to gain understanding for the usefulness of shifting to circular approach to deal with social, financial and ecological challenges.

Circular business model are particular approaches and strategies adopted by businesses within the circular economy framework to operationalize the principles of circularity (Urbinati et al., 2017). It intends to redesign business processes, value chain and products for maximum

resource efficiency. Circular Business Model is defined as an economic approach aimed at maximizing the use of resources and minimizing waste by designing products, services, and systems that promote longevity, reuse, repair, refurbishment, and recycling (Lüdeke-Freund et al., 2019). It aims to create a closed-loop system where materials are continuously cycled back into the production process, reducing the need for new resources and minimizing environmental impact (Sassi, 2008). As per Voulvoulis (2022), a circular economy intends to decouple financial growth from the consumption of resource by encouraging approaches like prevention, repair, recycling and reuse. In response to these environmental challenges, the concept of the circular economy has gained traction within the fashion industry. By transitioning from linear to a circular model in fashion industry means materials and products are kept is use to a greater extent through different approaches.

This thesis will offer circular business model as a solution on how small businesses in Swedish fashion industry become more sustainable and reduce the harmful impact they have on the environment. The model minimizes ecological influence by reshaping the way businesses operate. It prioritizes the resources use efficiently, waste generation minimization and circular materials flow promotion; such models ensure business can deal with their ecological footprint along with ensuring innovation, prolonged sustainability and resilience within the industry.

Despite the increasing identification of the sustainability importance in the fashion industry and small businesses especially in countries like Sweden; there is a minimal implementation of the circular business models. Statistically, the Sweden market size of clothing retailing is worth €6.1bn in 2024. From 2023 to 2024 the Sweden clothing retailing has increased by 0.8% (IBISWorld, 2024). Nevertheless, Brydges (2021) claimed that the fashion sector of Sweden overlooks resources wastage, environmental impacts and sustainability. As shown by a life cycle assessment conducted Hvass (2016), end-of-life waste accounts for the lowest share of the Swedish fashion industry's carbon emissions. The country encounters challenges in the implementation of circular business models. The considerable challenges are lack of resources. Insufficient expertise and awareness, complicated supply chain and behaviour patterns of consumers, prioritizing trend-driven and affordability consumption over sustainability. Small enterprises in the Swedish fashion sector encounter a variety of obstacles in while adopting circularity in their operations (Jonsson et al., 2020). Regulatory obstacles appear to be comparatively large since the rigorous requirements and standards generally hold back the translation of these business models into a real practice (Hartwell et al., 2021).

In line with above, the compliance poses enormous problem to SME companies as they have to observe the wide range of regulations systems including those related to environmental standards and labour laws, they strain significantly as they do not have abundant financial and technical resources. Also, financial problems exacerbate the challenges faced by small businesses as they try to transition to circular models. Ma et al. (2021) noted that utilizing sustainable technologies and infrastructure act as a deterrent for several enterprises. Sustainable project funding as a capital point can be more daunting, as traditional financial institutions often show hesitancy for funding novel business models that may turn out to be innovative. Additionally, studies identified market barriers as another obstacle in embracing circularity in the fashion sector. Despite enhanced awareness related to green/sustainable fashion, a market for such goods still struggles to be fully formed or enter large-scale production, thus limiting the size of customer base and the revenue earning opportunities. Consequently, small businesses in Sweden seldom struggle to adopt and incorporate circular practices into their operations hurdling progression towards more sustainability in fashion sector (Salmi, 2021). For instance, Swedish brands like Filippa or H&M have implemented innovative environmental approaches; yet they face problems related to workforce, overall energy, and other resource consumption. Therefore, there is a pressing need to reinvent the practices among the stakeholders to spark a transition to Circular Economy (CE). This is indeed extremely important to focus on small businesses of Sweden in the fashion sector for their reputation as leaders in sustainability and innovation. Their relevance contextually within the ecologically conscious and consumer-driven market contextually offers insights into opportunities and challenges of executing circular business models.

2.2.Problem

Clothing apparel industry plays roles in about 10% of the utmost carbon emissions globally that has elevated attention to this industry to make it more sustainable. The alarming statistic demands increasing attention to make the industry more sustainable. To achieve this transition in context of Swedish fashion industry, there is a need to change its linear model towards circular business model innovation (Fidvi et al, 2022). Nevertheless, the transition demands basic changes in the production and consumption practices, especially in regions having a powerful fashion presence including Sweden. By adopting circularity, the fashion sector can overcome its ecological footprint, deal with the impacts of climate change and develop a more sustainable future (Palm et al., 2021). Studies show that business model innovation acts as a useful enabler of the circular economy shift in fashion sector by accelerating structure changes

in how businesses can create, delivery and acquire value. Thus, the Sweden fashion sector can become more sustainable by its prominent contribution to worldwide carbon emission.

To effectively transition towards a circular economy, several critical areas require substantial changes (Tukker, et al, 2010). Existing rules, regulations, and governmental laws must be re-evaluated and adapted to incentivize circular practices and discourage linear consumption patterns (European Commission, n.d.). Additionally, businesses need to overhaul their processes and operations to align with circular principles, emphasizing resource efficiency, waste reduction, and product longevity (Kirchherr, et al 2017). Embracing new technologies is imperative, as they can streamline production processes, facilitate material reuse, and enable closed-loop systems within business models (Geissdoerfer, et al, 2017).

Consequently, addressing these multifaceted challenges is essential for fostering the widespread adoption of circular economy principles across various sectors and the key for changing how the business functions is implementing Circular Business Model instead of old business models. There are several barriers to implementing this on both the organizational, consumer level and on the governmental, regional level. To solve these barriers each stakeholder must be investigated at their specific level.

The implementation of circular business models (CBMs) presents various challenges, some of which extend beyond the control of individual businesses. While organizations play a crucial role in driving the transition to circularity, certain barriers require collaboration with stakeholders at different levels. For instance, regulatory frameworks, policies, and government interventions are essential for creating an enabling environment conducive to circular practices (European Commission, 2020). Moreover, overcoming financial constraints and investment barriers often requires external support mechanisms and funding initiatives (Ellen MacArthur Foundation, 2021). Thus, the successful adoption of CBMs demands a holistic approach, involving collaboration and engagement among various stakeholders at both micro and macro level. Such collaboration is integral to deal with systemic challenges, establishing knowledge sharing, and aligning incentives and interests throughout the value chain. In wake of the challenges, it is imperative to analyse how small businesses in Sweden can deal with the challenges of shifting to circular business models and ensure progress towards more resilient and sustainable future.

Studies have presented number of keys like collaboration among stakeholders, financial support mechanisms, and regulatory framework for developing extensive approach advocated

for shifting towards circularity (Owojori & Okoro, 2022; Salmi, 2021). However, this thesis specifically intends to discuss and evaluate the roles of these keys in dealing with barriers and facilitating embracing SBM in fashion industry of Sweden. Similarly, studies (Scipioni et al., 2021; Dragolea et al., 2021) have identified barriers (lack of awareness, regulatory challenges and financial limitations) to gain insights into the challenges and issues encountered by SMEs in CBM implementation. By recognising and dealing with such barriers, this thesis intends to offer insights to overcome hurdles to circularity. Besides, this thesis evaluates different contexts and scales within circularity such as micro-level factors (like individual small businesses) and macro-level factors (societal norms and government policies). Such understandings aid to devise effective approaches to promote circularity and deal with complicated transition to CBM.

Notably, circular business model is an industry-wide solution as many cases show the successful application of this business model in different industries. This, for instance, may include the automotive industry manufacturing parts that can be dissembled fully and remanufactured, or materials recycled into a closed-loop system thus minimizing waste and resource utilization (Andersen et al., 2023). On a similar note, the electronics industry has put a lot of effort in the programs and the design for disassembly systems to increase product lifecycle and promote resource recovery (Gray, 2023). Such examples motivate the application of CBM in fashion industry in this thesis.

2.3. Purpose

The aim of this research is to investigate how small businesses in the Swedish fashion industry adopt the circular business model by particularly stressing on gaining insights into the barriers. The examination of these barriers allows the research to offer insights into the encountered challenges by small business in shifting to circularity and recognizing potential approaches to overcome such hurdles. This research intends to achieve the following research objectives:

- To identify and analyse the particular barriers encountered by small Swedish companies operating fashion industry as shift to CBMs from linear model
- To identify key strategies and approaches that Swedish SMEs in the fashion industry can use to deal with the identified hurdles to shift to CBMs
- To offer insights into the perceived effectiveness of proposed strategies to deal with the barriers to shifting CBMs among SMEs in the Swedish fashion industry

2.4. Research Questions

1. What are the unique barriers faced by small companies in the Swedish fashion industry as they endeavour to adopt Circular Business Models (CBMs)?

2. How can small companies in the Swedish fashion industry overcome these barriers?

2.5. Delimitations

The thesis is limited to small businesses in the Swedish fashion industry serves theoretical and practical purposes that enable for a focused study, yielding insights meaningfully and contributing to practical implications and scholarly discourse. It also targets small firms within the fashion industry of Sweden, which guarantees a focused evaluation of the distinctive situations and SMEs needs, distinct from larger enterprises having more resources and abilities. This research is only restricted to conducting interviews for collecting data so it will not include different calculations of impact on the environment in monetary terms or sustainability metrics for the impact on the environment. Interestingly, it considers the impact of consumer behaviour on hurdles to embracing circular business models. Nevertheless, it delimits the analysis to the small businesses perspectives rather than evaluating consumer behaviour directly.

3. Frame of Reference:

A frame of reference has been formed using the "Literature review methods" considering the course in "Research Design and Implementation". This primarily helped us to carry out the literature review effectively. The literature review steps begin with recognizing related studies deals developing a theoretical framework and other relevant studies related to the considerable research topic. Review of literature has been done separately using relevant articles. Each author made their notes on the relevant information in each article. The findings for different articles were compared to get an idea of the existing information that is present on this research topic.

For this, a structured search approach has been developed to recognize studies related to the formulated research questions. It deals with the identification of keywords and search terms regarding main themes and concepts. The adopted key terms were "circular business models," "fashion industry," "small businesses," and "sustainability". Also, the adopted academic databases were Web of Science, Business Source Complete, Google Scholar, Scopus and University Library. These databases provided scholarly articles, reports and conference papers.

3.1. Circular Economy

The transition from the traditional economic of "linear" production and consumption patterns followed by extraction of resources to the Circular Economy (CE) has been the focus of the recent global debate as a prospective alternative for the existing economic system dependent on ceaseless growth through intensified resource use. The adoption of closed-loop product systems, at a larger scale, is among the cardinal areas emphasized by CE in regard to resource efficiency, which is primarily intended to drive efficiency of waste management, with emphasis on urban and industrial waste, in devising a more balanced and sustaining link between the ecology, the economy and the society (Ghisellini et al., 2016).

In March 2020, the European Commission adopted the Circular Economy Action Plan (CEAP), which represents a vital part of the European Green Deal and helps in developing a sustainable development within the European Union. The aim of the EU's conversion to a circular economy is to decrease pressure on natural sources and simultaneously encourage sustainable economic growth and job creation (European Commission, 2020). While the literature may introduce various terms and models, the essence of Circular Economy (CE) is to substitute the above-

mentioned linear economy in which it takes, make and the dispose. This linear model results with the higher rates of disposal and less resources recycled (Abad-Segura et al., 2020). On the other side, the CE works to circulate resources cyclically through options such as reusing, recycling and other sustainable practices. The resources will remain flow and instead of throwing them away they could be reused.

According to Korhonen et al., (2018), the main objective is to maximize the resources value and extend their lifecycle as much as it is possible. The principle of the Circular Economy (CE) is developed upon a sustainability guide which some elements have been illustrated as follows. They bring vision to the practical solution of CE and introduce principles at the macro level and micro level. Out of these practices, a very popular domain is the "R" principles, which are picked by the literatures more often (Barros et al., 2020).

A company wishing to adopt circular economy in its business model may choose different strategies allowing it to be more or less circular in its implementation (Lewandowski, 2016). It could also mean choosing from among various alternatives or levels to capture maximum value from the information presented and reach circularity goals. Elaborating this, some studies focused on the implementation of circular model on small business. As per Awan & Sroufe (2022), in the world of small business, the circular business model is based on the principles of the circular economic model that are a perfect tool to bring the sustainable and social conscious environment by minimization of wastes and negative social environmental impacts. However, the circular business model act as a backbone to combat carbon emissions by contributing immensely to extending the products life, minimizing waste and optimizing resource use throughout the product's lifecycle (Dahiya et al., 2020).

3.2. Framework for Organizational level/Company level

3.2.1. The linear business models/ Business model Canvas

A linear business model is defined as a traditional way about business operating. It generates value by providing products or services to customers via a supply chain (Gennaro, 2024). Contrary, the business model canvas is a strategic management that allow you to describe, design and challenge the business model (Strategyzer, 2024). The business model is a framework that show up on how a business linear should be designed. The Business Model Canvas (BMC) gives a clear snapshot of a business without getting bogged down in details, unlike traditional business plans.

The emphasis on business models acts as exploring how diverse business models can play roles in shifting to a circular economy within the fashion sector. With reference to Teece (2010), business models can profoundly contribute to construct how resources are employed designed and value is created and distributed. In this manner, this thesis intends to understand the relationship between the circular economy and business models to recognise opportunities for sustainability and innovation. Also, this examines the business model's contribution in facilitating the circular practices adoption becomes useful in modernizing sustainability purposes within fashion sector.

3.2.2. Business Model Innovation

Sustainable business models' innovation is about changing the way a firm operates in order to create a positive impact and reduce negative effects on the environment and the society (Rosaria and Rosario, 2022). Sustainable business model innovation is in general term defining as a conceptualisation and an implementation of sustainable business models. This can include the development of entirely new business models or the diversification into additional business models. Moreover, the sustainable business model consists of eight iterative phases, these phases are:

Ideation: The first step involves defining the purpose of the business model innovation and identifying key stakeholders. This phase focuses on brainstorming the value proposition and generating initial conceptual ideas.

Concept design: After ideation, a preliminary conceptualization of the most important business model elements is developed and documented. This step involves describing the basic components of the business model.

Virtual Prototyping: Various prototypes are created and refined to further develop and communicate the business model concept. Benchmarking against existing solutions and concepts from other units is also carried out during this phase.

Experimentation: Assumptions and concept variables are tested through simulations and field experiments, with a preference for randomized controlled trials to validate key aspects of the business model.

Detailed design: A comprehensive analysis and detailing of all business model elements and their interactions is carried out to ensure a thorough understanding of the model's operation.

Piloting: A limited business model version is tested in a part of the target market to evaluate its profitability and effectiveness under real conditions.

Launch: After successful piloting, the business model is rolled out across all relevant organizational units and the target market.

Adjustment and diversification: The business model undergoes evaluation based on initial expectations of plans and strategic fit. Adjustments and diversifications are made accordingly, and if significant changes are required, the entire innovation process can be repeated (Sustainable business model, 2024).

Notably, sustainable business model is different from circular business model. However, they both share some similarities on the account of overcoming ecological and societal influences. Every business should be responsive to changes in the environmental- and society--related issues. Such companies incorporate circular principles which involve the principles of creating a positive impact and reducing negative effects on the environment and the society (Mies & Gold, 2021). Concern circular economy models differ tremendously and are specially based on circularity of resources as their goal is to reduce waste and improve resource efficiency by making products, services and system, those are created for longevity, reuse, repair and refurbish or recycle. As such, circular models of business which are among others committed to the circular dimension could be considered as one of the elements of their approach (Lewandowski, 2016). Indeed, circular business models in a broader sense have a clear aim of closing the source loops and promoting circular practices across the supply chain (Hofmann, 2019).

3.2.3. Circular business model

Businesses and different stakeholders in the present time have realised that these models tend to focus on the immediate needs and desires of customers, emphasizing transactions and profit maximization over long-term sustainability and societal well-being. Traditional business models often neglect the broader systemic impacts of their operations, leading to negative externalities such as pollution, resource depletion, and social inequality. (Hart & Milstein,

2003). Implementing it is a vast process and requires focus in different aspects. Increasing the level of Circular economy needs the change not just in business but change of behaviour of business Stakeholders (Sterev, 2019). Businesses must embrace a broader perspective that considers the interconnectedness of economic, social, and environmental factors (Porter,et al., 2011). Circular business model can be defined as A circular business model is an economic system designed to overcome waste and increase the efficiency of resource by keeping materials and products in use for as long as possible through strategies such as recycling, reusing, and refurbishing. (Ellen MacArthur Foundation, 2024). This tells us that CBM primarily focus on addressing the ecological aspect of the triple bottom line, which includes social, environmental, and economic considerations. As this thesis already discussed the use of business model canvas as an effective frame, we can deduce that a circular business model can be developed by starting with the foundation of the Business Model Canvas and then integrating circular principles by applying a circular perspective to each aspect of the canvas. This entails incorporating strategies that prioritize resource efficiency, waste reduction, and sustainable practices into the traditional business framework. (Ellen MacArthur Foundation, 2024).

3.3.Barriers to Circular Business Model

The Literature review indicates that obstacles to innovating circular business models are present across various socio-technical levels. Primarily, companies encounter the most barriers at the organizational level, followed by challenges within the value chain, employee engagement, and, to a lesser extent, market dynamics and institutional frameworks. (Guldmann & Huulgaard, 2020)

3.3.1. Organizational, consumer level barriers for small businesses

At the organizational level, barriers include institutional inertia, inadequate infrastructure, and financial constraints. Companies may face resistance to change from established norms and practices, making it difficult to introduce new circular initiatives (Ghisellini et al., 2016). Moreover, companies lack the necessary infrastructure to support circular practices, such as recycling facilities or reverse logistics systems, which can hinder implementation (Boons et al., 2013). Financial constraints may also pose a barrier, as investments in new technologies or processes required for circularity may be perceived as risky or costly (Geissdoerfer et al., 2017). Small businesses struggle to navigate the complexities of circular supply chains, reverse logistics, and sustainable design without access to specialized guidance and support (Woolridge & Carroll, 2017).

At the consumer level, barriers can include lack of awareness, perceived inconvenience, and resistance to sustainable products. Consumers may be unaware of the environmental and social benefits of circular products and may prioritize convenience and affordability over sustainability (Bocken et al., 2016). Additionally, there may be a stigma associated with second-hand or recycled products, leading to consumer reluctance to adopt circular consumption patterns (Lüdeke-Freund et al., 2018). Organizations may face challenges in understanding the principles and practices of circularity and may lack the expertise or resources to implement them effectively (Korhonen et al., 2018).

Studies focusing on fashion sector as a sphere of small businesses has revealed that the transition to circular business models has distinctive pros and cons too. Its hurdles, like quick fashion culture, supply chain complexity and consumer behavioural are the biggest concern the fashion industries face in trying to make the concept of circularity work (Franco, 2017). Small and medium enterprises (SMEs), in particular, face several other challenges consisting of many limitations in human resources, economies of scale, and credit and technological access facilities (Abdullahi et al., 2016). Although the effort may be significant, small businesses are in an advantageous position to innovate and drive the transition to circularity with their ability to be flexible, move fast and build strong relationships with their customers (Brown et al., 2019).

3.3.2. National level barriers for small businesses

The barriers to implementing the CBM are present at all levels and they each play their part to hinder in the process of the implementation of CBM. Small businesses face regulatory barriers that impede the transition to circular business models. Regulations related to waste management, recycling, and product standards can create compliance challenges and increase operational costs (Bocken et al., 2016). Inconsistent regulations related to waste management, product standards, and environmental protection create barriers for small businesses seeking to adopt circular practices (Ranta et al., 2018). National governments are not able provide adequate support for small businesses to transition to circular business models. This could include a lack of funding for research and development, training programs, or infrastructure investments (European Commission, 2020). Macroeconomic policies may not provide sufficient financial incentives for small businesses to invest in circular practices. This includes tax breaks, subsidies, grants to support the transition to circular business models (D'Amato et al., 2017). Macroeconomic instability also deters small businesses from making long-term

investments in circularity, as they prioritize short-term survival and financial stability (Ellen MacArthur Foundation, 2019)

3.4.Drivers for Transition to Circular Business Models:

3.4.1. Resource Scarcity:

Resource scarcity, especially of non-renewable commodities such as minerals, metals, and fossil fuels, that induces the need for firms to shift to circular business models (CBMs) (Frei, 2022). The reality of diminishing natural resources and the similar risks of supply chain disruptions, companies search for alternative solutions of extracting purposes and recycling. Circular economy strategy can be a good response to resource scarcity problem (Velenturf, A. P., & Jopson, 2019). The practices like reuse, recycling and remanufacturing can help companies to reduce the negative effects which are related to resource scarcity and increase their resilience.

3.4.2. Regulatory Pressures:

With environmental issues be more sophisticated and sustainability becoming more incentivized, industries started adopting circular business models instead of linear options (Oghazi & Mostaghel, 2018). Governing bodies in various parts of the globe are the ones dictating the policies and rules which either promote or compel companies to lower the amount of waste that they create, minimize pollution, and transition to a circular move (Peleg Mizrachi & Tal, 2022). As an example, EPR (extended producer responsibility) schemes, landfill bans, and eco-design regulations make companies bear responsibility for the whole lifecycle of their products, whether they are only use or reuse, subsequently investment into circular solution (Lambert, 2012).

3.4.3. Consumer Demand for Sustainable Products:

Consumers interest and desire for eco-friendly goods over the years have exerted substantial pressure on companies to adopt the circularity (Chwialkowska & Lipka, 2024). Consumer groups, especially millennials and the Generation Z, are today increasingly focusing upon the social and ecologic determinants while buying products (Dragolea et al., 2021). Consequently, the firms are struggling to have eco-friendly and circular products which also meet the tastes of environmentally conscious consumers is crucial (Kulshreshtha et al., 2019). The firms that are able to align their products and services with consumer values and preferences can expand their base of loyal customers, and customers will not only stay with them but also recommend their products and services to others. This can help the firms to surpass their competitors (Kulshreshtha et al., 2019).

3.4.4. Cost Savings and Competitive Advantage:

The circular business model brings opportunities such as cost-saving and competitive edge by employing resource efficiency, waste reduction and resources to resource innovation (Fedele & Formisano, 2023). Closing material loops enables companies to reduce purchase of raw material resource, reduce production cost and waste disposal fees (Nussholz, 2018). Also, adopting circularity leads to innovations in product design, manufacturing processes and business models, further opening up new markets and revenue channels for companies including ones that might have struggled with these in the past (Hopkinson et al., 2018). Through the implementation of the circular tactics, businesses can achieve results like increasing profitability, developing competitive edge, and ensuring long-term survival in the tight resource environment as well as in the market where environmental concerns become extremely important.

3.5.Transition Management of Circular Business Model Innovations:

3.5.1. Organizational Learning:

Organizational learning is a crucial instrument that speed up the process of meeting the conditions for the adaption of circular business models (CBMs) by giving firms the needed knowledge, skills and abilities (Scipioni et al., 2021). Through development of training sessions, seminars, and knowledge-sharing activities, companies will equip their employees with the necessary knowledge to understand circularity principles, identify the sources of new solutions, and efficiently apply circular practices based on the need (Zhang et al., 2021). Additionally, loyalty to a culture of self-supervision, curiosity and continuous improvement will lead to an increase in the employees who will search for new ideas, challenge originated thinking and adapt change to efficiency (Morrissette, 2021). Through learning in an organization, corporations will achieve enhanced adaptability, resilience, and capacity to cope with complexities while going through a circular transformation.

3.5.2. Stakeholder Engagement:

Successful stakeholder engagement plays a vital part in moving towards circular business models and socializing circular innovation initiatives on the same terms (Gupta t al., 2019). Through interacting with stakeholders, including but not necessarily limited to employees, customers, suppliers, policymakers, and CSOs, companies can comprehend what concerns them, to what degree the needs and desires cope with circularity issues, and where improvements are needed (Hansen & Revellio, 2020). Through the participation of the

stakeholders in the decision-making process, problem creation and engagement, organizations can earn the trust that is needed for successful circular innovation to be accomplished (Brown et al., 2021). Similarly, another (Lüdeke-Freund et al., 2019) noted that the firm can have the opportunity to work with external stakeholders thus it can gain access to various key resources and expertise available so as to quicken the transition.

3.5.3. Strategic Alignment:

Strategic orientation includes the alignment between the organizational objectives, values and activities with the principles and objectives of circularity (Uvarova et al., 2023). Companies need to bring circularity throughout their development plan and vision mission, in order to have a more consistent approach (Puglieri et al., 2022). In this way, firms can develop goals, KPIs and reporting standards as far as the realization of circularity is concerned, as well as implementation of organizational methods through their decision-making processes based on circular principles, and distribution of resources and structure of incentives for circular innovations. Besides this, developing leadership commitment, identifying sustainability champions, and integrating circularity into organizational ethos are factors playing the part in maintaining momentum and catalysing change at the same time (Bertassini, 2023).

3.6.Experimentation and Iterative Improvement:

The processes that are iterative and trial/error ones are requisite for the pragmatic management of the transition to circular business models (Hofmann & Jaeger-Erben, 2020). The future of work is in progress, and companies need to proceed with experiments of some kind of new business models, technologies and processes and find a way to learn from failures and successes of the experiments and take necessary actions to adapt their strategies according to what the experiments have shown. The adoption of the culture of agility, risk-taking and innovation, firms can deal with resistance to change, recognize effective circularity effectiveness and accelerate persistent improvements and innovation (Zwiers et al., 2020).

3.7.Literature Gaps

A critical review of the past studies related to circular economy principles, it has been found that there are considerable literature gaps exist. Literature has discussed circular economy principles and practices; however, there appears to a considerable void in research particularly dealing with the encountered challenges by small businesses in the fashion sector in Sweden. Majority of past studies have stressed on larger corporation and industries generally so there is an insufficient attention given to the distinctive challenges faced by small fashion industries.

Moreover, past studies have mentioned organisational and consumer level challenges and hurdles briefly to executing circular business models yet there is an instant need for more in-depth analysis and evaluation of such barriers. Gaining insights into the challenges encountered by small fashion businesses including financial limitations, awareness of consumers, and institutional inertia, an imperative insight can be generated to develop targeted solutions. Doubtlessly, studies have focused on national-level challenges including financial limitations; however, there is an insufficient extensive detail on regulatory issues.

More studies are required to develop particular policies and regulations, which hurdle adopting circular business models by small fashion businesses from Sweden context.

Another considerable gap has been identified in consumer behaviour and awareness related to sustainable fashion; however, it is needed to develop extensive research in the area. Gaining insights into the attitudes, preferences and motivations of consumers towards circular fashion along with effective approaches to involve consumers can be useful for small fashion businesses that intend to execute circular business model.

4. Research Methodology

This section includes all the research methods, approaches, and techniques employed in this research to achieve the research aim and objectives. It also provides sufficient justifications and rationale for the selection of the specific method.

4.1.Research philosophy

As this research is descriptive in nature, interpretivism research philosophy has been selected, which emphasizes the subjective meanings and interpretations that people attribute to their experiences. As per Holmes-Watts (2024), interpretivism philosophy is an integral philosophy in social research as it presents complexity of human behaviour and reaffirms the context as the key to the development of their actions. Considering this research related to the adoption of circular business models from the perspective of small businesses of Swedish fashion sector, interpretivism is the theoretical approach corresponds with the idea of exploring the individual cases of the challenges and experiences faced by these enterprises (Fidvi & Vargas Orellana, 2022). Integrating the interpretivist point of view, it is possible to move from the context-specific causes of organisational and macro-level barriers to the study of the issue extension and dissimilar views of the actors (stakeholders) regarding strategies to overcome the barriers.

Interpretivism proceeds with the thought that each individual perceives the world in their way shaping their meanings and experiences for them (Schwandt, 1994). Researchers can conduct interviews and uncover these subjective beliefs in order to have insights on how people investigate the barriers and priorities of relevant circular business models. Also, interpretivism stresses the usefulness of context in constructing perspectives and behaviours of individuals (Ormston et al., 2014). Interviews with the experts enable the researchers to understand dynamics of the circular economy drive its implementation within the Swedish fashion industry as it can be various limitations offered by public governance, market equilibrium, or culture of organization. Interpretivist method deals with qualitative analysis tools that have thematical and narrative analysis (Ormston et al., 2014). Interestingly, these techniques help in revealing the patterns, themes, and symbolic meaning hidden amid the thoughts of the research subjects, which eventually leads to interesting findings and well-informed conclusion. Also, Pervin & Mokhtar (2023) claimed that interpretivism recognizes the contribution of the researcher in the creation of the research process and results. This approach should lead to self-reflection, with a questioning of researcher's bias, preconceptions, and assumptions, which may cause an

influence on the research process. Through this self-reflexivity, researchers are able to add to the depth and accuracy of their representations.

4.2.Research Approach

The research has adopted inductive and deductive approach both. Inductive approach relies on starting with specific details or data and moving to generalization and theories (Shaffer, 1989). As this research focuses on specific challenges which are experienced by small scale businesses in the fashion industry of Sweden moves to adopt a circular approach. Through the use of experiences and opinions of the key stakeholder, the research will collect specific information and feedback that the barriers of access (Pandey, 2019). Through the process of evaluation and integration of the knowledge learned, the research is able to discover complex patters, motives and theoretical models that can explain the barriers and the backgrounds (Armat et al., 2018). For this, an inductive approach enables to form theories or conceptual models from the collected data, this provides understandings from a bottom-up perspective about the investigated phenomenon.

On the other hand, deductive approach dealt with beginning with current theories derived from already published studies and then testing such theories in light of empirical data gathered through primary source (Armat et al., 2018). In this research, the process started with reviewing existing literature extensively related to circular business models, different theoretical frameworks. Aftermath, different frameworks are used for guiding the interview questions and analysis of data.

4.3.Research Method

In this research, qualitative research method has been employed. Vasilescu (2018) explained qualitative research as a method that delves into the subjective experiences, perceptions and behaviours of the people in a non-statistical and text-based manner. This means that it can offer extensive and detailed text-based information related to circular business models in relation to the Swedish fashion industry. With respect to Murray et al. (2011), qualitative research method can allow the rich and detailed data collection, which can collect details on under-studied research problems. For instance, this research presents details related to barriers encountered by small business and the approaches employed for overcoming such hurdles. Furthermore, qualitative research is also suitable for this research as it better identifies the complex

interaction mechanisms of organizational parameters, policy, customer patterns, and market conditions, which results in shaping of the circular economy business models. Substitution of this study with the qualitative method can help in to analyse issues and opportunities of circular practices in the fashion industry. Thus, the selection of qualitative approach can contribute to both theory and practice.

4.4.Data Collection Method

This research has adopted primary and secondary sources both for the collection of the relevant data as it makes sures an extensive understanding of the research problem and topic. The use of primary source offers rich and relevant data (Guest et al., 2013). Whilst, secondary sources can contribute to understand current theoretical framework and details that aid in contextualizing and validating the research findings from primary sources. Thus, the integration of primary and secondary sources can elevate the research depth and breadth so that the analysis enriched while a well-informed conclusion drawn.

4.4.1. Primary Source: Semi-structured Interviews

Semi-structured interviews have been chosen for this research as it is the best method for capturing rich, insights from the participants (Bearman, 2019). Also, it provides some flexibility for exploration and investigation. As per Blandford (2013), semi-structured interviews have the ability to strategically handle the inherent complexities and diversities of views among other related issues. In the light of the complexities related to the circular business models obstacles within the Swedish fashion industry, interviews with stakeholders can be taken as an effective form of investigation. These can be carried out in one-on-one and open-ended manner to uncover the successful experiences, limitations, and difficulties experienced by the different participants. With such a flexibility, it is possible to investigate both planned and unexpected obstacles, which leads to more comprehensive and qualitative research findings on the impact of circularity on the adoption of different practices (Adeoye-Olatunde & Olenik, 2021).

Also, semi-structured interviews also contribute to building rapport between the participants fostering the atmosphere of conversation in which the respondents express their thoughts freely (Adeoye-Olatunde & Olenik, 2021). Through employing open-ended questions, researchers can encourage the participants to answer the interview questions, thus, becoming more aware

of views and experiences better. This method is also designated to discover various aspects and also facilitate the triangulation of the findings, which makes a study more reliable. Finally, semi-structured interviews' strength lies in their flexibility to enable the adjustment in the structure of questions which may happen as the researcher comes across new factors/themes or personal insights which are unexpected. Consequently, the researcher can discover findings that would not have been initially presented.

Procedure: Conducting semi-structured interviews, the research has formulated interview questions comprised of 15 open-ended questions. All the participants are given an opportunity to answer as long as they want. Both online and offline interviews are conducted as per the participants' preferences. Participants are asked to provide informed consent to ensure their participation voluntarily. The total interview duration is 30-40 minutes longs.

Sampling: Sample of this research is participants from Swedish fashion industry who have small businesses. These participants are chosen based on multiple selection criteria such as the type and scale of the business, location, and the adoption intensity of circularity practices. The total sample size for interviews is 5. All the participants must be of 25-50 years so they have relevant and recent experience of implementation of circular model. There are no selection criteria based on the participants' gender. The selected sampling technique is purposive sampling, and this technique enables the researcher to choose participants on the grounds of presence of the relevant insights and experiences that can link to the study's objectives (Magaldi & Berler, 2020). This method ensures that all the respondents belong to those people who are able to give detailed and extensive opinions about the challenges of adopting circular business models and how these challenges are overcome in a Swedish fashion industry context.

4.4.2. Secondary Sources

Secondary sources are considered as second-hand sources that offers informed from already published books, journals, articles, government documents, trade magazines, and online databases. The secondary sources aid researchers to have views of the theoretical frameworks, the empirical findings, best practices, and the cases studies associated with circular economy, business entrepreneurs or owner challenges, governing environments, consumer preferences, and sustainability practices in the fashion industry (0.
Schmidt, 2004). Also, secondary sources serve as a basis for the formulation of research questions, the hypotheses. Besides that, secondary sources present the areas that are not yet developed, required more insights and in-depth studies to fill the academic void.

Search Strategies: Different search strategies have been employed in this research as appropriate use of secondary sources rely on the adoption of the right search strategies. For this research, the adopted key-terms are "implementing circular business models," "small businesses," “Sweden” "Swedish fashion industry”. The use of such key-terms makes it possible to narrow down the search to studies and articles particularly related to the circular business model adoption on the account of small businesses that operate in the fashion industry of Sweden, with respect to Gusenbauer & Haddaway (2021). Besides, another adopted strategy is using different academic databases. For instance, this research uses PubMed, Scopus, Web of Science, and Google Scholar as electronic search engines. They are employed for searching for research papers, articles and journals that are peer-reviewed, scholarly, and authentic. In addition to this, particular databases regarding sustainability, business and management and fashion (like JSTOR, Emerald Insights, and Business Source Complete) are also helpful as they provide access to wide range of reports, scholarly studies and peer-reviewed journals. Thus, all these resources become valuable to conduct extensive review of existing literature.

Inclusion and Exclusion: The inclusion criteria for this research include papers, journals reports and study articles that specifically focused on the adoption of circular business models across small businesses operating within the context of the Swedish fashion market. Those resources must offer details on barriers that exist in small business and possible ways for them to overcome those barriers. Also, peer-examined articles and conference papers, books and official reports published within the last 10 years (2014-2024) are considered. It has been ensured that all the selected studies published in English language. Contrary to this, the research has also formulated exclusion criteria. For instance, this research has not considered the sources that fail to relate directly to the research topic. Those literature that fail to offer significant insights into barriers and solutions for the implementation of circular business models in the fashion industry of Sweden have also been omitted. Also, literature focuses on large organizations or other industries except fashion sector are also excluded. Non-peer-reviewed sources including opinion pieces, blog posts, and promotional advertisements may also be omitted from the literature as a need for assuring the reliability and validity of the material.

Screening: Literature screening represents a form of investigative work where mandatory literature is examined using the established topic and inclusion criteria. It is usually the starting point of a process that is followed by the initial screening titles and abstracts to identify potentially suitable publications. Then, chosen sources undergo a considerable and complete

assessment on the basis of the full-texts for confirming their eligibility for inclusion in the research. There will be elimination of irrelevant and olds sources of data during screening and retaining the only those resources that meet criteria are used for further analysis of the data. Such iterative process contributes to the reliability on the quality and present studies that play roles to acquire research aim and objectives.

4.5.Data Analysis technique

As this research is completely relied on collecting qualitative data from primary and secondary sources, it has adopted thematic analysis technique. The thematic analysis method is the suitable data analysis technique as it offers a comprehensive analysis of the data grabbed from interviews and secondary sources. The qualitative nature in thematic analysis helps the researcher to see patterns, themes, and the meanings that within the collected data, which corresponds to the research purpose of identifying and trying to understand barriers to implementing circular business models in the Swedish fashion industry. The data analysis is then manifested through the process of thematic analysis, which ensures that the most crucial insights are being captured and analysed accurately. The followed procedure of using thematic analysis deals with familiarization with the data, themes and sub-themes development meaningfully, themes refinement and review, relevance and coherence, and themes definition and naming according to the collected data from both primary and secondary sources. A qualitative data analysis using thematic analysis allows the researcher to understand the thematic complexities of the research topic that makes it a robust technique so that rich insights from the collected data driven without imposing preconceived frameworks or categories, which may manipulate the derived conclusions.

4.6.Research Validity and Reliability

Validity and reliability of the research should be ensured to maintain the findings credibility and integrity. For this study, validity means how reliable or accurate the research findings are, whereas reliability simply refers to the results getting to be capable of being reproduced or repeated when desired (Kimberlin & Winterstein, 2008). Validity is achieved in this case through the use of research methodology, for instance, by using triangulation where data is gathered from different sources or different methods to validate the results (Kaman & Othman, 2016). Also, among the techniques which validity of research can be ensured, is the endurance of consistency with the objectives and the theoretical framework. Reliability can be ensured by

the use of standardized rules for data collection and methods. In addition, implementing structured interview guidelines and giving interviewers clear instructions such as asking specific questions in predefined sequence makes the data collection more consistent (Moser & Korstjens, 2018). Furthermore, there is also the notion of sustaining consistency in data analysis processes like performing theme analysis can contributes to the reliability of the research findings.

4.7.Ethical Consideration

It is of utmost importance that ethical issues on both secondary and primary research are considered in the first place. Quoting the original work should be accredited to the author by accurate citation and acknowledgement in order to prevent what is known as plagiarism as well as to respect intellectual property rights (Masic, 2014). Moreover, questioning the literature and testing of the criteria to be considered as a reliable source is necessary for avoiding any deceptive practices, misinformation or incorrect data. The researcher has kept its personal views and opinions aside to present only the research findings presented by the original authors. The research has only included unpaid articles rather than using any deceptive practice.

While conducting interviews, participants are asked to give the informed consent so as to understand what research is, what their rights are and the confidentiality of their responses. Participants are given the liberty to withdraw from the study at any point. However, anonymity of data and confidentiality is maintained throughout the research in order to shield the subjects of this research. Also, the data must be stored securely, and used ethically so the unauthorized people cannot access the data and misuse the data collected. The researcher has not pressurized the participants to answer each question; however, they are motivated to answer in polite and non-threatening manner.

5. Results and Findings

This section offers the interpretation of raw data extracted from both primary and secondary sources. For the interpretation of data, thematic analysis has been used presenting different themes and subthemes.

5.1.Findings from Survey

A survey has been performed by recruiting SMEs from Sweden operating in the fashion sectors. The participants' company names were Fabriken, Ashour Brud and Fest, BJ fashion, Cissi

agnetun and Carlefreds. The interviews were conducted from March 2024 to May 10, 2024. Both online and offline interviews were performed, and each participant has shared their experiences in transitioning to CBM from linear model.

5.1.1. Challenges and Obstacles encountered by Fashions firms while Adopting Circular Business Models in Sweden Fashion Industry

The participants were asked related to challenges and hurdles they witnessed while adopting CBM. Majority of participants (P1, P2, and P3) identified encountering challenges, particularly in the initial stage. As per P1, "When I first started my business, the beginning is always difficult, first two to three months but later I didn't really face difficulties because the business has moved forward perfectly." The statement showed that SMES overcome the business challenges while the progression. The participants further noted that redesigning the products and circularity acceptance along with consumer behaviour change and dispensing of the effective reverse logistics among others were the considerable challenges.

Moreover, some participants further presented the need for regulation, promotion and education for facilitating towards circular business models. It has been elaborated by P2 who claimed, "To make these changes happen, there should be active promotion of the transition, regulatory support, and education of the consumers on the various benefits of the circular economy." This indicated the usefulness of external factors to transitioning towards CBM. Similarly, P5 further endorsed the issue of lack of education among consumers, particularly related to sustainable materials. P5 stated,'

"One challenge we've faced is sourcing sustainable materials and suppliers while balancing costs... educating customers about the importance of circular fashion and changing consumer behaviour has been a hurdle", P5.

Interestingly, P4 identified pricing pressures and differentiation as a considerable issue for SMEs in the adoption of CBM. The participant stated, "*Well, one significant challenge revolves around differentiation...Competing with larger entities that can offer lower prices due to their scale poses a significant challenge.*"

5.1.2. Regulatory Limitations to Circular Practices Shift

The participants were asked related to regulatory challenges and limitations associated with the shifting to CBM. Participants P2 and P5 explained challenges regarding the need for regulation

compliance. P2 mentioned, "Among the main challenges is moving through the regulations that can be restrictive or are biased towards the linear economic models." Likewise, P5 elaborated, "Dealing with complex regulations regarding waste management and product labelling has been challenging." Contrary to this, P3 demonstrated an insufficient influence from regulatory limitations, quoting, "We haven't really had to take part in these laws... It's nothing that we've come across that isn't really strange."

Yet, majority of participants have identified the usefulness of supporting schemes and policies. Especially, P2 and P5 stressed the supportive policies usefulness by stating, "Implementing producers' supporting schemes is absolutely necessary for the promotion of recycling and waste reduction." Following the similar note, P5 further added, "We strive to stay informed and compliant while advocating for policies that support sustainable initiatives in the fashion industry." However, Participant P4 focused on the absence of regulatory constraints and policies affecting their sustainability practices.

5.1.3. Impact of Financial Constraints on the Ability of Companies to invest in Infrastructure and Technology for Circularity

Through analysing the responses provided by the participants regarding the impact of financial constraints on their company's ability to invest in necessary infrastructure and technology for circularity, several key themes emerge from the responses. Participants P1 and P2 both acknowledged initial financial constraints that may hinder investments in infrastructure and technology for circularity during the early stages of business. P1 stated, *"In the beginning it was a bit hard... Your concerns are always how to be more productive, and you don't care about updating your infrastructure and technology*." Likewise, P2 mentioned, "*Limited financial resources could be an obstacle for investing in required equipment and technology for the sake of circularity, particularly if it was at the beginning of business cycle."*

Both Participants P1 and P2 highlighted how financial priorities shift as the business grows and becomes more profitable. P1 mentioned, "*In the future when your business succeeds you never think about losing money as much as you think about being productive and effective."* Similarly, P2 stated, "*As our business grows and becomes more profitable, financial troubles will eventually diminish. Attention is now on productivity and effectiveness rather than financial limitations only*."

By considering the alternative funding sources, P2 and P5 discussed the usefulness of pursuing alternative funding sources and preferring sustainable practices. It can be elaborated from the statement of P2 who claimed that the replacement of conventional technologies with eco-friendly and innovative technologies must be prioritized. On the other hand, P5 suggested prioritizing investment on the basis of the instant needs and preferring grants and partnerships as alternative funding sources to support the circularity initiatives.

5.1.4. Approaches to Overcome Barriers to adopt Circulatory Business Model

Participants have identified different approaches and techniques for overcoming hurdles and barriers along with successful shift towards CBMs. Some participants (P1 and P2) stressed the usefulness of product lifespan maximization with the help of quality repair and maintenance of services. P1 quoted, "Circular strategy of my company which consists of quality repair and maintenance, as well as my expertise and capabilities, is a successful approach for fighting the barriers to adopting the circular business models."

Another considerable identified theme from the participants responses was “Continuous Optimization for Sustainability”. For instance, P4 and P2 both stressed the usefulness of persistent sustainability optimization across the supply chain. According to P2, *"Being continuously devoted to sustainability and environmental responsibility is one of the keys to growth for the long run."* Likewise, another participant (P4) stated, *"We've adopted a strong environmental ethos, recognizing the imperative to minimize our ecological impact…. While we maintain a return policy, we're acutely aware of the environmental ramifications and strive to mitigate unnecessary returns."* The participant further added that the adoption eco-friendly technique to overcome ecological influence.

Interestingly, P3 mentioned using social media effective for enhancing engagement and brand awareness. As per the statement of P3, "We work very hard for our social media... It really is a success story... social media is really our thing. Then you have a unique portrait. That is our success." Linking with this, P5 explained the usefulness for fostering powerful collaboration and interactions with customers and local supplies along with stressing sustainability and transparency. P5 expressed, "We've focused on building strong collaborations with local suppliers and customers, emphasizing transparency and sustainability."

5.1.5. Available Financial Support Mechanisms to deal with Financial Limitations while shifting to Circular Practices

The responses of the participants presented different employed approaches by recruited firms to deal with financial limitations in shifting towards cultural practices. These identified approaches mirror the diverse techniques considered by firms to deal with financial challenges and sustainability advancement goals in the context of fashion industry. For instance, P1 and P2 pointed out the dependency on eventual progress and independence to deal with the impediments of finance. According to P1, "Personally, I have never applied for any supporting systems or funds causes I didn't feel the need for it at that time." Same as, P2 stated, "*Although financing mechanisms... are available, my company has mainly resorted to independence and gradual growth to overcome financial impediments."*

In addition to this, P2 further identified the use of personal connections and resources to the initial operations of finance business. According to the participant, "Although I have reinvested the earnings back into the business, I had initially used personal connections to loan money in finance for its operations", P2. Similar theme from P5 responses who encouraged to seek funding programs to promote sustainability. It can be elaborated from the following statement: *"Yes, we've actively sought out funding programs and grants... These resources have helped us invest in necessary infrastructure and technology for circular practices", P2.*

Some participants (P4 and P5) stressed the significance of ecological consciousness in dealing with costs linked with circular practices. As P4 claimed, *"Our approach is rooted in environmental consciousness... While we honor return policies, we're mindful of the associated costs, both financially and environmentally*." It can be supported by the statement of P5 who further stressed using funding programs to spend in sustainable infrastructure and technology.

5.1.6. Contribution of Government Policies and Regulations in the Adoption of Circular Business Model (CBM)

The participants from fashion sector of Sweden were also asked about the roles of government policies and regulations in the transitioning towards CBM. The responses explained how government facilitates and, in some cases, hinders the CBM adoption. Majority of the participants have appreciated the key advantage of government support in the promotion of circularity in the fashion sector. For instance, P2 accepted the positive influence of supportive government policies including tax deduction, grants and subsidies by stating that "[such governmental policies] help the business financially and give move to the circular practices".

The participant also stressed the usefulness of a flexible legal framework, promoting circularity and sustainability.

Ironically, P3 precisely claimed "Price, like governments, can step in and try somehow... Yes, it's kind of clever and they could have done something like that." The participant shared that grants and assistance programs can be helpful; however, the proactive selection by SMEs' owner related to distribution and trade indicated that government supply may not correspond always with specific priorities and needs. Supporting the views of P3, P1 further raised concerns related to government support disadvantages, particularly related to financial help for employers. He stated that the support of government for hiring workers may result in job loss in case the support does not remain continued.

The mixed responses from the participants indicated a need for improvement claiming that government support must be improved for CBM in terms of offering targeted financial help, cooperation promotion among stakeholders and financial incentives offering so that circular practices executed. P2 stated, "regulations dealing with disposal, product quality, and the environment may hinder circularity if they are not flexible or accommodating". Same as, P5 stressed the usefulness of enhancing communication system and offering transparent instruction to improve understanding and adherence.

5.1.7. Awareness of Consumer related to Circular Fashion

The participants recognize the importance of engaging with consumers to raise awareness about circular fashion and address any misconceptions or resistance. Introducing different personalized approaches, participant has presented an aim to build a community of informed and empowered consumers who prioritize sustainable choices in fashion. Only one participant (P2) accepted consumer awareness of circular fashion, stating, "Although we have observed that most of our consumers are very aware about the circular fashion which also makes it easier for us...". Whilst others presented a considerable need to developed present different ways to enhance consumer awareness related to CBM use in fashion companies.

For instance, Participants P3 and P4 emphasize the advantage of being a smaller business in establishing personal connections with customers. Participant P3 mentions, *"But is it such a quiet day? Someone comes in and comes in on something or as I said sometimes we go out with a little form sometimes surveys.*" P1 emphasizes the importance of educating consumers about circular fashion through virtual campaigns, workshops, and DIY sessions, mentioning,

"Building up consumers' understanding and trust for circular fashion and removing misunderstandings are the main points of a large-scale strategy that includes education, transparency, and involvement of the community." Supporting this, P5 also identified the need to use various channels, mentioning, "We utilize social media platforms, in-store events, and educational campaigns to communicate the importance of sustainability and circularity in fashion."

In line with above responses, P3 and P4 describes their approach of engaging in direct dialogue with consumers, stating, "Yes, so. After all, I talk a lot with consumers, so I could talk a lot about what they think of us", P3. Similarly, Participant P4 mentions, "We actively seek feedback through conversations and sometimes distribute forms to gather insights."

5.1.8. Consumer behaviour Influencing the Adoption of Circular Business Models in the Swedish Fashion Industry

Consumer behaviour plays a pivotal role in driving the adoption of circular business models in the Swedish fashion industry. As consumers become more conscious of sustainability and environmental impact, there is a growing demand for ethically sourced and eco-friendly products. However, small businesses face challenges from competitors and external factors, requiring resilience and adaptation to meet evolving consumer expectations. Answering this, participants noted a trend among Swedish consumers towards choosing more sustainable products and prioritizing durability and repairability. There is an increasing demand for transparency from fashion brands regarding sourcing materials and environmental impact. In particular, P1 stressed, "Such shift in the consumer mentality towards environment-consciousness products has driven the fashion companies to modify the way they do business, and to place circularity at the centre of their corporate strategies." Also, Participant P5 echoes this sentiment, stating, "*As consumers become more conscious of sustainability and environmental impact, there is a growing demand for ethically sourced and eco-friendly products*."

Some participants (P4 and P3) observe changes in consumer behaviour influenced by external factors such as the COVID-19 pandemic and the energy crisis. These events have led to shifts in shopping habits, with consumers becoming more reserved and mindful of their purchases. P4 describes the fluctuation in buying behaviour, noting, *"Prior to this global upheaval, buying behaviour seemed robust, characterized by spontaneous purchases and the allure of lunchtime*

shopping. However, the advent of the pandemic ushered in a stark shift." The pandemic prompted consumers to reevaluate their consumption patterns, leading to a greater emphasis on necessity and sustainability.

Small businesses in the fashion industry face challenges from both traditional competitors and e-commerce giants. The ability of larger chains and online platforms to offer competitive pricing poses a significant challenge for smaller businesses. Participant P4 discusses the pricing pressure faced by small businesses, stating, "It's disheartening to see that when we order a new item from a brand, it pops up simultaneously on e-commerce platforms at lower prices due to their bargaining power." Despite challenges, there are opportunities for adaptation and growth. Establishing strong customer relationships and responding to shifting consumer demands are crucial for navigating the changing retail landscape. P4 highlighted the usefulness of resilience, stating, *"The struggle to adapt and remain viable in the face of dwindling foot traffic and revenue challenges has become an omnipresent reality."*

5.1.9. Effective Implemented Strategies to Circular Initiatives with Consumer Preferences and Expectations

Aligning circular initiatives with consumer preferences and expectations involves a multifaceted approach that includes understanding consumer needs and trends, transparency and communication, educational initiatives, and partnerships and incentives. By actively listening to consumers and adapting business practices accordingly, companies aim to meet consumer expectations for more sustainable and ethical fashion choices while fostering a circular economy within the industry. Majority of participants emphasize the importance of conducting market research and gathering feedback from consumers to understand their preferences regarding sustainability and circular fashion. For instance, both P1 and P2 highlight the significance of analysing consumer behaviour and choice to customize circular principles and product offerings accordingly. They have also included the usefulness of providing educational materials to energize consumers and encourage their participation in circular fashion. In support of this, P5 mentioned adjusting product offerings based on consumer feedback and market research to include more eco-friendly materials and introduce repair and recycling programs.

Besides, some participants accepted the importance of transparency in communication to building trust with consumers. Participants mention the importance of being honest and

keeping consumers informed about the sourcing and manufacturing processes of garments. For instance, P1 emphasizes the role of transparency and communication in building trust and credibility with customers, while P5 mentions increasing transparency in the supply chain to build trust with consumers who prioritize ethical production practices.

Moreover, the participants responded that collaborating with partners and mentors helps deliver the message of circular fashion and gain more potential customers. Participants (P1 and P2) highlight the importance of teamwork and interaction with partners to expand circular initiatives and offer incentives to consumers. Providing incentives such as rewards, coupons, and loyalty schemes makes participation in circular economy initiatives attractive for consumers.

5.1.10. Shifts in Consumer Attitudes or Purchasing Behaviour towards Sustainable and Circular Fashion

Participants discussed how they have observed shifts in consumer attitudes and purchasing behaviour towards sustainable and circular fashion. Responding to the question, P5 claimed that their business practices adapted by expanding their range of sustainable products, increasing transparency in their supply chain, and actively engaging with customers to educate them about the benefits of sustainable fashion. P5 highlights the significance of consumer engagement in shaping their approach: "By actively listening to our consumers and involving them in the decision-making process, we foster a sense of ownership and collaboration*." P5 discusses their response to shifts in consumer attitudes: "In response to these shifts, our small business has adapted by expanding our range of sustainable products and highlighting their eco-friendly features."*

5.1.11. Incorporation of Feedback from Consumers into the CBM and Strategies

It has been analysed from the responses of participants that the iterative process of incorporating consumer feedback into circular business strategies, the collaborative nature of consumer engagement, and the importance of staying responsive and adaptable to changing consumer preferences in the pursuit of sustainability in the fashion industry. In this regard, P4 and P5 highlighted the role of consumer feedback in shaping their circular business strategies. They mention actively seeking feedback through surveys, social media, and direct interactions with customers. For instance, "Consumer feedback plays a vital role in shaping our circular

business strategies", P4. This input helps them refine their practices, improve product offerings, and tailor their approach to better meet customer needs and preferences.
P1 emphasizes the importance of actively listening to customer feedback and integrating it into their circular business frameworks. They mention various channels through which feedback is collected, such as call centres, surveys, and reviews. This feedback is analysed and applied to decision-making regarding circular business approaches. "We always listen to our customers feedback, and we always try to work as the consumers' needs and wants." They also mention the various channels through which feedback is gathered: "Consumers may express their feedback in different manners – for example, directly through call centres, proof of satisfaction surveys, or reviews."

The statement can be supported by P2 who further stressed the significance of consumer involvement in shaping their circular strategies. They mention collecting insights through call centres, surveys, and reviews to understand sustainability preferences and concerns. Moreover, they emphasize the role of direct dialogue with consumers in identifying ethical views and preferences related to sustainability. As per (P2), the importance of consumer involvement: "Adding consumers' viewpoints to our circular business strategies is crucial to us." They highlight the significance of direct dialogue with consumers: "*We encourage the direct dialogue with consumers to identify their ethical views, ethical concerns, and ethical preferences related to sustainability*."

Another identified theme is the importance of consumer engagement. Participants (P1 and P2) pointed out the importance of consumer engagement in shaping their approach to sustainability. P1 mentions that consumer collaboration sits at the epicentre of their efforts, while P2 emphasizes that consumer involvement determines their attitude towards sustainability. P1 mentioned, "*The consumer collaboration sits at the epicentre of our efforts to attain sustainability."* Same as, P2 emphasized, "the role of consumer involvement for determining our attitude towards sustainability." P5 also highlighted the role of consumer engagement in shaping their circularity approach. They mention actively engaging with customers through various channels such as surveys, social media, and direct interactions in-store to foster a sense of ownership and collaboration.

5.1.12. Collaboration with Other Companies, Trade Associations or Academic Institutions to Share Knowledge and Resources for Circularity

Only few participants (P4 and P3) have responded to the question related to their collaboration with other firms. Both responded positively and accepted their collaboration. According to P4, *"Collaboration is key to progress, and while we do have some partnerships, they're primarily focused on sourcing products... While some business owners may prioritize individual success over collective growth, we believe in the power of community and supporting each other... Ultimately, word of mouth remains a powerful tool, and we're always looking for opportunities to connect and grow, drawing inspiration from both practical partnerships and academic insights into sustainability*", P4.

Another respondent mentioned:
"We have a collaboration, though. It's clear, we cooperate with the books we have... Entering into collaboration with influencers or with another type of company, of course, that's possible... Sometimes we've done fashion shows, and I've collaborated with another store to create a concept evening, like that... Collaboration, as I said, is not about seeing stores as competitors but as colleagues and helpful….But it also takes time from us. We have very few employees here... We're very open with collaborations, but we also don't want to go into something half-heartedly but go into things wholeheartedly, which means they might not be enough from time to time... But otherwise, we are very much in the way of even receiving ideas and helping and collaborating and things like that", P3.

5.2.Findings from Secondary Sources

Different secondary sources (N=6) are used to evaluate the barriers encountered by Sweden SMEs to shifting to CBM. Adopting different research methods, these studies have pointed out different barriers. These studies have been analysed by using thematic analysis technique in which different themes and sub-themes were identified.

5.2.1. Summary of the Studies

Table 1 Summary of Studies

Authors	**Publishing Year**	**Research Method and Design**	**Research Findings and Conclusion**
Jonsson, G., Fredriksson, L., and Lööv Miljevic, R.	2020	Interpretivist view	The research intends supporting developing Sustainable Development Goal 12: production and consumption sustainably by exploring barriers to

		Inductive approach Using case study of 5 companies	circular business models in the Swedish textile industry at different levels from macro and micro aspect. The qualitative research involved semi-structured interviews with open questions. Five common barriers were identified across companies: lack of technological advancements, circularity costs, financial shortage, and knowledge gap. Solutions in the form of drivers and enablers were proposed, including knowledge sharing, collaboration, more research regulatory changes, and refocusing of efforts. The study utilized frameworks such as PESTLE and Business Model Canvas to identify dimensions where these barriers exist and to suggest strategies for overcoming them. Collaboration and efforts were indicated as significant solutions for barriers including circularity costs and technological lack of adoption. Additional approaches include circular design, locality, enhanced market acceptance strategies, and nudges to modify consumer behaviour.
Dyremark, J., & Gustafsson, S.	2021	Multiple-Case Study	The research investigates hurdles in CBM and the impact of firm-specific business support activities on this process through a multiple-case study of 10 Swedish SMEs that received direct business support for circularity. Seventeen hurdles throughout 5 categories were included that spans the

			innovation process from idea to utmost execution. Economic viability evolved as an integral aspect interrelated with numerous hurdles, with the arrival of circular economy playing roles in multiple challenges. Coaching, training, and funding were identified as firm-specific activities helping SMEs in minimising internal barriers in initial CBM stages. The study stresses the usefulness of gaining insights into local context barriers and efficient communication between practitioners and policymakers for the development of efficient business support for circularity.
Fidvi, H., & Vargas Orellana, J.	2022	Qualitative Analysis based on Interviews	The research evaluates and explains evolving circular business models' opinions and activities for business model innovation in Swedish fashion firms, comparing startups and incumbents. An analytical framework covering aspects of circularity and related business models was determined. Interviews with sustainability experts and fashion firms offered insights into their perspectives, views, strengths, drawbacks, and challenges in embracing circular business models. Startups were found for excelling in inner loops of circularity (reuse/repair), while incumbents used optimized supply chains for outer loops (refurbish/recycle). This research

			pointed out variations in circular business model embracement between startups and incumbents, with incumbents encouraging challenges and hurdles in the disruption their contemporary high-volume consumption models. Partnership and a holistic aspect of circularity are introduced as approaches for firms to shift towards sustainability, with the suggestions of employing a circularity checklist to make sure holistic coverage of circular model aspects.
Guldmann, E., & Huulgaard, R. D.	2020	Multiple-Case Study	The research showed a multiple-case study of the circular business model innovation process in 12 firms, evaluating barriers hurdling the embracement of circular business models. Hurdles are explored at every socio-technical level, with most witnessed at the organizational level, followed by the value chain, employee, and market/institutional aspects . Despite differences between firms, similarities in witnessed hurdles are noted across startups and incumbents, industries, company sizes, and customer segments. Empirical findings demonstrated more hurdles not previously discussed in the studies that include reluctance to engage external stakeholders, difficulty developing cross-organizational

			collaboration, and hesitant promotion of the circular economy agenda. The study emphasizes the relevance of literature on sustainable innovation barriers to the field of circular business model innovation and provides insights into factors influencing encountered barriers.
Almshref, N.	2022	Qualitative Multiple-Case Study	The study investigates factors influencing the implementation of circular business models among Swedish SMEs through a qualitative multiple-case study approach focusing on three companies from different sectors. Empirical findings validated organizational drivers including leadership, organizational culture, resource availability1 (technology, knowledge), financial factors, and stakeholder pressure, facilitating the implementation of CBM. Prominent hurdles include the insufficient supportive regulation and policies, consumer behaviours favouring single-use culture, nature of products/materials, and challenges in the supply chain such as incompatibility and monopolies. The research highlighted the significance of dealing with these factors to encourage embracing CBM among SMEs in Sweden.

Sandberg, E., & Hultberg, E.	2021	Semi-Structured Interviews	The paper investigated the micro foundations of dynamic capabilities (DCs) engaged in the scaling of CBM approaches in the fashion industry. Based on semi-structured, in-depth interviews with twelve Swedish retail fashion firms, the research outlines numerous micro foundations engaged in CBM scaling practices. The research synthesized the 3 DC classes of sensing, seizing, and reconfiguring with the 3 scaling logics of scaling out, scaling up, and scaling deep, offering insights into the expansion and growth of CBMs. Findings investigated those micro foundations for scaling out stress on developing effective routines and operations, while those for scaling up revolve around networking, particularly formalized structures for policy change. Micro foundations for scaling deep involve influencing norms and cultures among consumers and staff to achieve lasting change, focusing mainstreaming circular consumption.

5.2.2. Barriers to Circular Business Model (CBM) Adoption

The circular business models are facing different barriers in accordance with the reviewed studies. The most common barriers include technology un-readiness, circularity costs, market un-acceptance, financial shortage and knowledge gap (Jonsson et al., 2020; Dyremark & Gustafsson, 2021; Guldmann & Huulgaard, 2020; Almshref, 2022). This means that these are the problems that companies in every industry and country have to deal with regardless of their

location. Some studies also recognized the variation of the context that the companies face (Guldmann & Huulgaard, 2020; Almshref, 2022). As for instance, the particular obstacles that Swedish SMEs experience are different from the ones that Danish firms or fashion industry players face. This means that the challenges that are common to all are not enough to stop CBM from being accepted, but the barrier that is situated in the local specifics has a great influence on the CBM adoption.

5.2.3. Need for Business Support:

Several research highlighted the need of business support in the ways of CBM overcoming the obstacles (Jonsson et al., 2020; Dyremark & Gustafsson, 2021). The support consists of all the elements like coaching, training, funding, and successful communication between the practitioners and policymakers. The findings indicated the need of a third-party intervention to assist the transition to circular business models.

5.2.4. Importance of Dynamic Capabilities:

A study (Sandberg & Hultberg, 2021) emphasised on the importance of dynamic capabilities (DCs) in the context of scaling circular business model initiatives. As per this research, the abilities that are included in the CBMs are noticing, grabbing, and modifying, which are necessary for the developing and the increase of CBMs. The author highlights the problem of the circular business models that change and get scaled.

5.2.5. Differences in Circular Business Model Adoption:

By conducting research, the main differences in the cultivation of circular business models among the startups and the incumbents are evident, as well as the differences in the sectors (Dyremark & Gustafsson, 2021; Fidvi & Vargas Orellana, 2022). This means that the process and result of implementing circular business models depends on the organization and the industry.

5.2.6. Focus on Scaling vs. Adoption:

Some of the reviewed studies concentrate on the barriers of CBM adoption ((Jonsson et al., 2020), on the contrary, others emphasize the mentioned challenges and strategies of the scaling of CBM initiatives (Sandberg & Hultberg, 2021). Though adoption studies explore the degree of difficulties and possibilities created by the starting barriers and enablers, the scaling studies investigate the changing capabilities that are essential for the growth and expansion. The

contrast of these two focuses makes the circular business model implementation to be changing with the time.

5.3.Summary of Findings

The research findings offer a comprehensive understanding of the adoption of circular business models within the Swedish fashion industry. Challenges encountered by fashion firms range from initial difficulties during business inception to specific hurdles associated with circular practices, such as redesigning products and changing consumer behaviour. Regulatory limitations pose constraints, emphasizing the need for supportive policies and flexible regulations. Financial constraints hinder investments in circular infrastructure, yet businesses adapt through alternative funding sources and prioritizing sustainability. Government policies play a pivotal role, requiring clearer and tailored approaches to promote circularity effectively. Consumer awareness shifts towards sustainability, driven by factors like the COVID-19 pandemic, prompting businesses to align strategies with evolving preferences through transparency, education, and engagement. Collaboration with other entities, including trade associations and academic institutions, fosters knowledge-sharing and resource utilization, although challenges such as time constraints must be navigated. The findings research underscores the multifaceted nature of circularity adoption, highlighting the importance of resilience, adaptation, and collaboration in driving sustainable practices within the fashion industry.

The study done by Jonsson et al. (2020) looks at the problems that make it difficult for companies in the Swedish textile industry to adopt a circular business model (CBM), and finds out that the usual obstacles are the lack of knowledge, the cost of being circular, and the fact that the customers do not accept the CBM. The researchers also suggest some solutions like the sharing of knowledge related to authors, Dyremark and Gustafsson (2021) study the barriers to CBM innovation among Swedish SMEs and stress the importance of economic viability and specific support activities of the firms like coaching and funding. Fidvi and Vargas Orellana (2022) studies the circular business model adoption in Swedish fashion companies, which is a difference between the startups and the incumbents, and this study suggests the partnership strategies. In their multiple-case study, Guldmann and Huulgaard (2020) reveal the problems that are facing the Danish companies, which are related to the socio-technical levels and stress the importance of the literature about sustainable innovation. Almshref (2022) pays attention to the factors that trigger the CBM implementation among Swedish SMEs and, at the same time, he or she focuses on the organizational drivers and the major barriers that, for example,

the regulatory gaps and consumer behaviours. Besides, Sandberg and Hultberg (2021) consider the dynamic capabilities that are needed for expanding the CBM initiatives in the fashion industry, they also focus on the micro fundamentals for Scaling out, scaling up, and scaling deep. These studies, in general, provide us with the information about the difficulties, means and the conditions that are present in the application and the roll out of the circular business models in different industries and countries.

6. Discussion:

This section supports and rejects the findings of the research in light of the available studies in the wider context. It also answers how this research achieves the formulated research objectives.

6.1.To identify and analyse the particular barriers encountered by Swedish SMEs operating fashion industry as shift to CBMs from linear model

6.1.1. Technological Readiness:

Swedish SMEs are not able to afford implementing circular practices necessary for the implementation of circular supply chains unless they have the technology and knowledge required for circularity. The challenges relate to sustainable material sourcing, recycling technologies implementation, and reorganizing the production systems to reduce the level of waste and the environment footprint. Mendoza et al. (2022) stated that technology is a valuable tool of circularity. Companies with limited resources are frequently unable to invest in sustainable supply materials, recycling technologies and process redesign because of resource and knowledge problems.

6.1.2. Circularity Costs:

The transition to CBMs typically takes several initial investments to replace manufacturing processes with new tools, technologies, and a range of alternative raw materials. Small businesses are likely to face the same problems with these expenses in cases where business capital is limited, or pricing pressure is high from competitors who advantage from existing economies of scale. Some studies (Cantú et al., 2021) show the financial obstacles in implementing circular processes, providing the corroboration of these outcomes indicating the financial strains that small clothing businesses confront. Petersen & Riisberg (2017) identified the particular challenges in affordability and cost-effectiveness. Thus, there is a need for a comprehensive analysis of the economic barriers of the circular economy.

6.1.3. Market Acceptance:

As per this mixed research, there is minimal awareness about the circular products in the fashion sector. Swedish SMEs may experience difficulties in persuading consumers to apparel circular process because of the conventional model's attitude prevailing and low-level

understanding of ecological advantages. For Camacho-Otero et al. (2018), this implies that preferences and consumption behaviour will be the primary determinants of circularity in the production of products. The research detects common problems of SMEs that are engaged in the circular fashion sector of Sweden, especially the issue of consumers' unwillingness to shift to it. Thus, it is imperative to demonstrate the cultural and market-derived elements that affect consumer preferences in this regard. By having such a sophisticated comprehension of market barriers, this leads to the implementation of customized strategies for circularity based within the Swedish fashion industry (Fidvi & Vargas Orellana, 2022).

6.1.4. Financial Shortage:

Access to financial values lessens the burden of Swedish SMEs in regard to investments for implementing circularity targets. Without the proper financing, these businesses may object to incorporate CBMs; thus, replacing them as market leaders in their respective fields. In support of such research findings, Vermunt et al. (2019) presented the implementation of CBMs in a range of sectors and indicated that financial stress could be a major problem for any small-scale business. This study, thereby, stressed the need for more innovative financing tools in support of the circularity transition. Almshref (2022) asserted that financial barriers are the prominent hurdles in circular practices on a global fashion level. This aligns with the research findings, claiming limited access to capital for SMEs in Sweden. Lack of capital is one of the most important obstacles; however, there are other factors that include size and volume of the companies, which influence the capital accessibility. Structural inequalities in financial markets, regulatory policies, and industrial value chains can also lead to increase financial challenges for small enterprises (Dey et al., 2022). Hence, acknowledging systemic financial nature barriers is a key task and demanding the identification of the efficient approaches to fix them on both micro and macro levels.

6.1.5. Knowledge Gap:

Several Swedish SMEs have inadequate awareness and knowledge of CBMs sustainable practices. Lack of knowledge of the principles of circularity is the major obstacle for management in their capability of efficient guidance through the circular economy. The principles embodied in the cycle include sustainable material sourcing, supply chain optimization, and consumers' education. The findings have been supported by literature (Rizos et al., 2016), noting that education and capacity building programs are also crucial in the elimination of the knowledge gap and thereby facilitating successful innovation for circular business practices. Likewise, Awan & Sroufe (2022) suggested that education programs and

information sources can empower small business to look for circularity creation. However, Durán-Romero et al., (2020) investigated the reasons for some SMEs across a variety of industries to restrict shifting to CBMs. This shows the importance of individualized educational materials made for each sector to tackle such evident knowledge gaps adequately. Thus, it is imperative to identify the complicated behavioural change.

6.2.To identify key strategies and approaches that Swedish SMEs in the fashion industry can use to deal with the identified hurdles to shift to CBMs

6.2.1. Invest in Technological Innovation:

Through prioritization of investments in technological upgrades to meet the consumption requirements, SMEs can maximize sustainability in the circular practices. This aspect might incorporate representing sustainable sourcing of resource base elements, using effective recycling or waste management technologies, and studying alternatives of different production methods to minimize harm to the environment. Corresponding the research findings, Ostermann et al. (2021) noted that technological innovation is needed to support the transition to circular business models in different industries including fashion sector. This study pointed out that SME entities who have effectively adapted technological advancements in the optimization of resource efficiency and sustainability. SMEs through adoption of technologies such as advanced recycling systems and digital tracking can lead to efficient utilization of resources and reduced waste (Howard et al., 2022). It has been further supported by Kurniawan et al. (2022) who noted that technological innovation can empower the transformation of business models into circular model. This research that how medium enterprises can increase their technological competitiveness by incorporating technologies that support resource efficiency and sustainability.

6.2.2. Cost Optimization and Resource Efficiency:

Businesses may deal with circularity costs via smart resource management and efficient organization. This implies that it needs to review their production processes that overcomes material wastes, consider eco-friendly materials and productions streamlining. Studies (Smol et al., 2020) evident that the role of cost optimization and resource efficiency become integral in fostering circular economy. These studies explained that SMEs can cut cost as it used waste reduction, energy efficient improvement, and supply chain optimization methods. The economic advantages of resource effectiveness that include smaller production costs, higher competitiveness, and improved resilience to fluctuation of market (Pall et al., 2014). The findings supported that SMEs need to put circular economy at the centre of their attention to

implement CBMs. Nevertheless, SMEs may encounter challenges in the implementation of cost optimization measures because of the limited financial resources and disputing priorities (Sahoo & Thakur, 2023). In line with this, Todeschini et al. (2017) indicated that market dynamics and regulatory barriers can impact the cost optimization approaches feasibility. Thus, SMEs need to support mechanism to deal with implementations challenges.

6.2.3. Consumer Education and Market Engagement:

SMEs should develop awareness and involvement among consumers, which is one cost effective approach to attain circularity with consumers. This case, however, could be done by a firm in circular fashion market by creating specific marketing campaigns that stress on the environmental benefits of fashion circle, open discussion about product lifecycle and sustainability efforts. In line with this, a systematic review (Govindan & Hasanagic) illustrated how consumer awareness and capacity creation are essential drivers for the demand for circular products. It found that companies can ensure customer trust and loyalty by transparently communicating their sustainability progress and information about environmental advantages of the circular fashion. Energy consumption is the main factors, contributing significantly to environmental degradation (van Langen et al., 2021). Adopting renewable and alternative energy sources can help to eliminate CO2 emission, which causes air pollution without harming the environment. Lahti et al. (2018) demonstrated that the fashion industry that always seeks fast fashion trends and low prices as a consumer segment might be a barrier for environmentally friendly production of fashion products.

6.2.4. Access to Financing and Funding Programs:

SMEs can get benefited from various financing choices together with the circular economy programs to get rid of money problems and to invest in the initiative of circular economy. This main involve assessing government grants and subsidies for sustainable initiatives, pursuing venture capital and crowdfunding for innovative projects, which raises the partnership with financial firms and institutions having the similar sustainability goals (Owen et al., 2018).

6.2.5. Capacity Building and Knowledge Sharing:

SMEs should initiate and invest more time in the development of capacity and knowledge sharing initiatives to solve the knowledge gaps related to the CBMs implementation. This may include attending training programs, workshops, and industry collaborations focusing on best practices on circularity, as well as developing a culture of access to certain information and a

culture of innovation in the organization. On the same note, Mendoza et al. (2019) demonstrated the enabling power of continuous education and development in the context of CBM. It resulted that SMEs could develop a knowledge sharing and collaborative culture or promote an exchange of ideas as one of the innovation mechanisms used to model circular economy that is based making the most of the available resources.

6.2.6. Policy Advocacy and Collaboration:

SMEs can develop a regulatory framework and collaborate with industry stakeholders and academics to ensure an integral policy situation to encourage CBM implementation. It can range from collaboration with policymakers to advocate for incentives and laws that support such a transition, contributing to professional groups or industry associations to exchange experience and collective lobbying efforts, as well as forming alliances with other partners in the industry, institutions of learning, and the non-governmental sector to broaden the base and change the whole system to favour circularity. Hofmann (2019) stressed that policy advocacy and working collaboratively are powerful tools in changing the existing systems towards CBM. Thus, the research validated that SMEs must use partnerships with other academia and businesses to accelerate advocacy efforts collectively.

6.3.To offer insights into the perceived effectiveness of proposed strategies to deal with the barriers to shifting CBMs among SMEs in the Swedish fashion industry

6.3.1. Financial Support Mechanisms:

SME identifies the significance of financial support mechanisms is the way to overgo the financial obstacles that confront them in the attempt to implement transitioning to CBMs. Methods such as seeking alternative funding avenues, driving up grant opportunities, and building partnerships are tools recognized as working to facilitate necessary investments in infrastructure and technology for circularity. However, some SMEs hinted for a gradual growth and self-dependency on the external financing. Rizos et al. (2016) found the usefulness of financial support mechanisms in the ability of SMEs to invest in circular business models. This research revealed that accessing alternative funding sources including venture capital and grants, are efficient way to overcome the barrier of limited financing and promote CBMs. Also, the partnerships contribution to facilitate investments in circular infrastructure. Such findings indicated that collaborative funding approaches can offer SMEs with the required resources to shift to CBMs. While financial support amenities remain useful, others warn that excessive burdens of external source against over-reliance on external funding. Wehinger (2014) pointed

out that SMEs should weigh out their funding sources from both internal resources and gradual financial strategy along with keeping themselves from relying extensively on external help; thus, avoiding the financial crisis. While financial support amenities remain useful, others warn that excessive burdens of external source against over-reliance on external funding. Chen et al. (2017) pointed out that SMEs should weigh out their funding sources from both internal resources and gradual financial strategy along with keeping themselves from relying extensively on external help; thus, avoiding the financial crisis. Thus, this research has found that financial support mechanisms effectiveness may differ relying on factors including market situations, funding opportunities availability and regulatory atmosphere.

6.3.2. Regulatory Changes:

The recruited participants have expressed their concern in ensuring that the regulatory bodies are supportive of shifting to CBM. The amendment in regulation involves the deductions of taxes, subsidies and grants that have made it more rewarding to embrace the circular economy beneficially. Nevertheless, problems were highlighted in the established laws regarding the effectiveness of the rigidity of existing regulations and flexible ways to adapt circular business models. Wasserbaur et al. (2022) underlined the need for supportive legislative measures to promote circular practices with a view of implementing tax deductions and/or subsidies as financial encouragements that provide added value and solve financial issues. Thus, this research hinted that changes in regulations may fail to adequately accelerate wide adoption of CBMs.

6.3.3. Knowledge Sharing and Collaboration:

Teamwork and knowledge sharing among different stakeholders have been recognized as viable methods applied towards the resolution of obstacles that inhibit the adoption of CBM. SMEs realize that local supplier’s partnerships, implementing to the involvement of other companies, and the communication with the sustainability experts can achieve the desired outcomes effectively. Yet, collaborating across inter-organizational measurement and showing active external involvement did not always work effectively. Thirumal et al. (2024) shed light on information exchange and teamwork as integral parts of CBM's effective implementation. This research concluded that small business collaborations with local suppliers, other companies, and experts in sustainability to share resources and expertise. Existing investigations have shown some hurdles which impede collaboration's effectiveness, for example, competition and unwillingness to be involved with external parties (Saberi et al.,

2019). Also sharing knowledge attempts can be affected differently by aspects like distance, language, and culture.

6.3.4. Consumer Education and Engagement:

SMEs have impressive understanding about consumer knowledge and engagement in adopting CBM. Approaches such as social media engagement, educational campaign, and clear communication have been behavioural modification with consumers. Nevertheless, the issue is that challenges related recyclability and overcoming consumers' mistrust can be a hurdle for sustainable fashion choices. Another study (Benz, 2022) enlightened the importance of consumer education and the engagement driving the acceptance of CBMs. It hinted that SMEs may employ public awareness campaigns, social media dialogue, and accurate communication in the endeavours to sensitize consumers on circular fashion by changing their behaviour.

6.3.5. Innovation and Technology Adoption:

It is accepted that SMEs are leading the transition to CBDs by developing technologies and adopting the innovation required tools. A variety of approaches have been developed, including investing maximum in green technologies, optimizing supply chains for recycling and initiating the use of ecofriendly materials, which help to increase competitiveness and at the same decrease the environmental impact. However, comments about the preparedness of the technology and it costs a lot have also been made as the problems facing implementation. Specific to this, the unit of Seles et al. (2022) highlighted the role of the innovation and technology adoption as a means of smoothing the way of transition towards CBMs. SMEs can undertake investment that may include application of eco-friendly technologies, places of work optimizing and use of sustainable materials which in turn ensures sustainability and competitiveness as well as reduction of environmental impact. SMEs are able to benefit from the advantages of technology to enhance resource cleaning and make their outlines cleaner (Salvador et al., 2020). Innovation and technology are often seen as the tools that help companies, institutions, and the whole economy to develop, however, some studies mentioned that the absence of technological competency and high costs are the main barriers. SMEs may be facing the issue of not having the expertise and resources to adopt the modern innovations and therefore their ability to get an access to the cheap services can be questioned (Rizos et al., 2016). Hence, SMEs should be assisted in mastering the trending technology and in the process of finding the right solution from the available with the aim of meeting the peculiar needs.

7. Conclusion and Recommendations

This final chapter concludes the research findings by providing summary of the overall research findings. It also provides recommendations based on the overall research findings. This section outlines contribution to theoretical framework, limitations and direction for future research.

7.1.Conclusion

This mixed research evaluated barriers fashion companies can shift to CBMs from linear model. to be switched from linear into circular business models (CBMs). These barriers lie in technical unpreparedness, circularity cost, market unfamiliarity, financial shortage, and knowledge gaps. In spite of the different regional issues that may exist, like the case of a startup versus vulnerabilities of fashion section are considerable barriers. Whist, approaches like soliciting financial accompanying mechanisms, advocating for regulatory reforms, facilitating knowledge sharing and collaboration, educating and engaging consumers, and building focus on innovation and technology implementations will be a way to minimize the barriers in the future.

7.2.Recommendations

Government Support and Regulation: Fashion industry of Swedish SMEs urge for the implementation and promotion of policy and regulations that stimulate and regulate circular business models in the fashion industry. It can include tax incentives, loans, subsidies, and regulations to ensuring sustainability and circularity.

Financial Assistance: Swedish SMEs can find and utilize financial assistance measures including grants, funding programs, and partnerships to overcome budgetary challenges that can come up with the investment in circularity related infrastructure and technology (Smol et al., 2020). Furthermore, investigate and incorporate other financing options and allocate investment within a context of both immediate demands and long-term sustainability ambitions.

Knowledge Sharing and Collaboration: Trigger collaboration and share industry knowledge among the various players, including small and medium enterprises, large firms, universities,

and trade bodies. Collaborative ventures can help fix technological readiness in terms of preparing the end users, market acceptance, and knowledge dearth by sharing resources and efforts (Aldieri et al., 2021).

Consumer Education and Engagement: Swedish SMEs can devote resources to consumer education and inclusion campaigns to increase awareness around the circulatory fashion and to encourage sustainable behaviour of consumption; thus, building up trust with consumers (Proszowska et al., 2024). Multiple information channels like social media campaigns, education programs, in-store event and transparent communication are used to convey the need of sustainability and circularity.

Innovation and Technology Adoption: Emphasize innovations and technology application to cope with obstacles that includes base and the technology level (Rizos et al., 2016). Examine all sustainable and innovative technologies, from green materials and manufacturing methods to supply chain innovation to improve the product design, manufacturing processes and supply chain productivity.

Market Acceptance Strategies: Establish market-acceptance strategies, which can confront consumer fashion choices and preferences to meet the expectations of these consumer with respect to sustainable and circular fashion products. Pursue clear communication, high quality, durability and repairability as the basis of the product offerings and analyse customer's feedback to develop a circular business plan and product line.

Dynamic Capabilities Development: Swedish SMEs in fashion section must Invest in the provision of both organization dynamic capabilities and other necessary competencies that will make it easier to shift to circular business model (CBM). The objective is to create well-structured practices and operations, bringing up public policies for change, along with influencing community norms including the consumer and staff behaviour to attract sustainable consumption patterns and behaviour which can last for generations.

7.3.Contribution to Theoretical Framework

The findings of this research related to barriers linked with the shift to CBMs in Swedish SMES operating in fashion industry can profoundly play roles in developing and executing sustainable business models. It aligns with its iterative phases for “Sustainable Business Model”. For instance, during the ideation phase, this research offers useful insights into the barriers encountered by SMs in shifting to CBMs. By recognizing potential stakeholders and gaining

insights into their value proposition and purpose – this research offers basis for innovation in sustainable business model.

Moreover, the research revolves around informing the preliminary business model components development in the phase of concept design. Gaining insights of the barriers such as unreadiness of technology and unwillingness of market enables businesses for modifying their value proposition and design approaches to deal with the challenges. Also, virtual prototyping can be elevated by this research findings because it provides details about key solutions and best practices from different regions and industries. Benchmarking against current CBM concepts and prototypes refinement based on empirical findings, which are useful for businesses for developing more viable and effective sustainable business models.

Experimentation phase is facilitated by this research findings as it pointed out the usefulness of testing variables and assumptions through field trials. By doing this, key business models aspects validated including the economic feasibility and market reputation that will be effective means of minimizing the risks and optimize the CBM approaches during transition. In addition to this, detailed design can be enriched by this research findings that offer an extensive business model elements and their interactions analysis. Knowing precisely the challenges and opportunities linked with shifting to CBM enables businesses for refining the approaches and guaranteeing a complete sustainable business models operation. Finally, in the piloting and launch stage, the research finding guide the businesses about how to use insights taken from the testing and refinement of CGM approaches in real-market situations. Succeeding in implementing the tests across the selected positions and markets is determined by this research findings – this will play roles in effective sustainable business model implementation to the Swedish fashion industry.

7.4.Limitations:

This research provided useful knowledge concerning the problems and methods relating to shifting to CBMs in the fashion sector of Swedish industry. However, focusing on the SMEs and Swedish fashion industry, this research findings may not be generalized to wider population. Consequently, regulatory environments, market dynamics, and national levels of development of other regions can change the strategies for CBM adoption, these obstacles and strategies should always need to be revised. Also, this research has only employed 5 participants to collect the relevant information. This could limit the generalization of data to

wider population of fashion companies in Sweden. The narrow scope of the study may not diversify the participants' background that can eventually result in underrepresenting the important details and different aspects within the data collection.

Thirdly, the exploring was mainly qualitative in the approach and the lack of data presented a huge gap statistical analysis. Considering qualitative research, an extensive insight into the personal aspects and opinions of the participants can be gathered; however, the qualitative approach only cannot guarantee an immediate comprehension of the trends among the population. More in-depth studies are required for integrating quantitative and qualitative data analysis both to get a more holistic aspect that governs CBMs fashion market in the future.

7.5.Direction for Future Research:

Researchers in the future must increase the sample size and broaden the participant pool with an aim to include a more diverse set of companies creating fashion products at a variety of scales, ranging from SMEs to the giant corporations for gaining a better insight to the issues and strategies associated with CBM implementation. A comparative analysis about diverse industries and countries can reveal the factors of context that are determining the extent to which CBM is adopted and makes a difference.

Also, researchers in the future must adopt mixed-research approach, using mixed methods to triangulate the research findings and elevate the conclusions validity. The use of quantitative data can offer statistical information as a complement to qualitative data. This allows for more extensive evaluation of trends, causal relationships, and correlations. Besides, future research can perform longitudinal studies that track the shift to CBM initiatives with time, offering integral details on the prolonged influences and circular business practices sustainability in the fashion sector. They must present detailed understanding of how firms can deal with challenges and adapt approaches to develop the support mechanisms and effective interventions. The exploration of the contribution of technology, collaboration and innovation in facilitating the shift to CBM would be effective. They can probe the use of modern technologies including 3D printing, artificial intelligence (AI) and blockchain to enable circularity in the supply chain of fashion industry – this could illustrate new opportunities and challenges for stakeholders in the industry.

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9. Appendix

9.1.Interview Questions

1: Can you describe any challenges or obstacles your company has encountered in adopting circular business models in the Swedish fashion industry?

2: What specific regulatory constraints or policies have you found to be most challenging in transitioning to circular practices?

3: How have financial constraints impacted your company's ability to invest in necessary infrastructure and technology for circularity?

4: Have you faced any market barriers or consumer resistance when implementing circular business models, and if so, how have you addressed them?

5: What organizational barriers, such as institutional inertia or lack of internal expertise, have you faced in adopting circular practices?

6: Can you share any successful strategies or approaches your company has implemented to overcome barriers to adopting circular business models?

7: How have you collaborated with other businesses, industry associations, or academic institutions to share knowledge and resources for circularity?

8: Have you explored any financial support mechanisms, such as funding programs or grants, to overcome financial constraints in transitioning to circular practices?

9: What role do you believe government policies and regulations play in facilitating or hindering the adoption of circular business models, and how can these be improved?

10: How do you engage with consumers to raise awareness about circular fashion and address any misconceptions or resistance?

11: How do you perceive consumer behaviour influencing the adoption of circular business models in the Swedish fashion industry?

12: What strategies have you implemented to align your circular initiatives with consumer preferences and expectations?

13: How do you communicate the value proposition of circular fashion to consumers, and what challenges have you faced in doing so?

14: Have you observed any shifts in consumer attitudes or purchasing behaviour towards sustainable and circular fashion, and if so, how have you responded?

15: How do you incorporate feedback from consumers into your circular business strategies, and what role does consumer engagement play in shaping your approach?

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Declaration to be included in the thesis:

DECLARATION

I/We hereby declare that this thesis represents my/our own work.

I/We declare that we have obtained the necessary ethical approval (e.g., GDPR) and acknowledged my/our obligations and the rights of the participants/respondents in the research.

I/We have read and applied the Jönköping University's current research ethics guidelines with regards to the use of artificial intelligence (AI) tool in this work as presented in the Course Guide. During the preparation of this work the author(s) used the following AI tools and the purpose for their use. (Please **list** all ways in which you have used AI in the space below).

As author/s, I/we have reviewed and edited the content as needed and take full responsibility for the content of the thesis.

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Date: ___May 2024____

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Date: __May 2024_____

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