

TALLINN UNIVERSITY OF TECHNOLOGY

School of Business and Governance

Department of Business Administration

Polok Biswas

CIRCULAR ECONOMY PRACTICES IN READY-MADE GARMENTS INDUSTRY OF
BANGLADESH

Bachelor Thesis

Programme TVTB, Specialization Entrepreneurship & Management

Supervisor: Merle Küttim, PhD

Tallinn 2022

I declare that I have compiled the paper independently and all works, important standpoints and data by other authors have been properly referenced and the same paper has not previously been presented for grading. The document length is 9209 words from the introduction to the end of conclusion.

Polok Biswas

.....

(signature, date)

Student code: 194506

Student e-mail address: pobisw@ttu.ee

Supervisor: Merle Küttim

The paper conforms to requirements in force

.....

(signature, date)

Chairman of the Defence Committee:

Permitted to the defence

.....

(name, signature, date)

Table of Contents

| | |
|--|----|
| ABSTRACT | 4 |
| INTRODUCTION..... | 4 |
| 1. THEORETICAL BACKGROUND..... | 7 |
| 1.1. Relationship between sustainability and circular economy | 7 |
| 1.2. The elements related to the circular economy..... | 9 |
| 1.3. Business model for circular economy | 11 |
| 1.4. Barriers to implementation | 12 |
| 1.5. Internal and external motivating factors related to implementation of circular economy..... | 13 |
| 1.6. Circular economy in RMG industry of Bangladesh..... | 14 |
| 2. METHODOLOGY | 16 |
| 3. ANALYSIS..... | 18 |
| 3.1. Presenting and analyzing the results | 18 |
| 3.1. Discussion of the analysis | 25 |
| CONCLUSION | 30 |
| REFERENCES..... | 34 |
| APPENDICES..... | 40 |
| Interview questions | 40 |
| Interview transcripts | 41 |
| Non-exclusive licence | 74 |

ABSTRACT

This research is aimed to investigate the practices of circular economy in the RMG industry of Bangladesh and generate insights that may be used to improve the sustainability of the specified industry. The research questions that this report tries to answer are as follows:

What are the current practices of circular economy in the RMG industry of Bangladesh?

What are internal and external factors that motivate the RMG companies in Bangladesh improve their contribution towards circular economy?

What are the limiting factors that are acting as a barrier for the RMG companies to contribute towards circular economy and how to reduce such barriers?

This paper highlights the extent of the relationships between circular economy (CE) practices and the Ready-Made Garments (RMG) industry of Bangladesh. Specifically, the paper takes part in qualitative investigation on the practices of circular economy in the RMG industry of Bangladesh and generates insights that may be used to improve the sustainability of the specified industry.

After the research was carried out it was found that that only 18.75% of the companies in the RMG industry of Bangladesh is practicing Circular Economy even though most of the companies are aware of the concept at some extent. The circular economy is only practiced by renowned brands that have significant market share and are part of Circular Fashion Partnership (CFP). It was found that the companies that practicing CE is mostly doing it as they believe it enhances their sustainability over time and strengthens their distinction in the industry. However, there are immense barriers that exist within the industry and its external environment. It was found that cultural barriers are most critical obstacles that the companies are facing.

Keywords: Sustainability, Circular Economy, Barriers, Cultural Barrier, Ready-Made Garment, Bangladesh.

INTRODUCTION

The world around us is changing faster than ever before. According to a World Bank report from 2013, although a 59 percent increase in population, poverty in the developing world has decreased significantly in recent years. And while economic advancement has lifted millions of individuals out of poverty and improved middle-class living standards, it has emerge at a cost. For instance, the worldwide number of natural catastrophes has grown since 1980. Worldwide, social inequality, as well as social conflicts and cultural issues, has increased. Population growth, industrialization, fast urbanization, climate changes, irresponsible business practices, uncontrolled human actions, and natural disasters have all contributed to global challenges that are endangering species' lives and the planet's existence. The idea of sustainability was born out of these realizations. Over the last two decades, the numbers of companies that track, manage, and report on their corporate sustainability performance has grown significantly.

Businesses rely on resources to exist and resource depletion lowers an organization's capacity to endure. To maintain long-term organizational survival, it is required but not adequate to use organizational resources efficiently and effectively. As a result, businesses must ensure that the notion of sustainability is incorporated into all parts of their operations by placing it at the center. Circular economy is just one the most effective sustainable strategies to ensure that the business and its stakeholders survive and thrive even in the future. Circular Economy is one of the techniques for implementing sustainability. It is a notion that would transform items that have reached the conclusion of their useful lives into resources for others, closing cycles in industrial environments, reducing waste, and using sustainable policies and practices.

Although circular economy has gained popularity in various parts of the world, it is still a new concept to most of the people, especially in developing and under-developed economies in the world. Therefore, it is necessary to understand the policies and practices of the businesses in these parts of the world that are related to the circular economy. It would not only reflect the adequacy of such concepts in these regions of the world, but also suggest ways that the businesses can create and maintain circular economies and gain benefits sustainably. Thus, the Ready-Made Garments industry of Bangladesh has been chosen as the country and industry to be analyzed in this paper.

The research problem that this report addresses is whether the RMG industry of Bangladesh is practicing circular economy or not. Bangladesh is one of the fastest growing economies of the

world. With its large and growing population, natural resources, and pacing economy, the country holds numerous opportunities. However, the country is increasingly witnessing adverse effects of climate change, pollution, socio-economical issues, and lack of sustainability. It is high time that businesses and its stakeholders acknowledge the need for sustainable solutions towards its economy, society and environment. Only a few large businesses and minimal number of the whole population, organizations and the government is acknowledging such need and practicing their activities according to sustainability focused policies (DhakaTribune 2021; Sifat, Syeda 2021). Bangladesh has the world's biggest textile sector. Bangladesh is the world's second-largest exporter of textiles, after China. The sector is still the economy's most powerful pillar and the primary source of export revenue. As per data from the Export Promotion Bureau (EPB), the RMG sector accounted for 84.21 percent of Bangladesh's overall exports of \$40.53 billion in 2019, up 10.55 percent from the previous year. Currently, around 4 million people are engaged directly in this industry by various corporations and organizations (BBRD 2020).

This research is aimed to investigate the practices of circular economy in the RMG industry of Bangladesh and generate insights that may be used to improve the sustainability of the specified industry. The research would be incredibly valuable to users, as the impact of sustainability on Bangladesh's rising RMG industry is still a topic that deserves further investigation. The outcomes of the study might contribute to a better knowledge of Bangladesh's RMG industry. The research questions that this report tries to answer are as follows:

- What are the current practices of circular economy in the RMG industry of Bangladesh?
- What are internal and external factors that motivate the RMG companies in Bangladesh improve their contribution towards circular economy?
- What are the limiting factors that are acting as a barrier for the RMG companies to contribute towards circular economy and how to reduce such barriers?

The theoretical background of the report firstly looks into the relationship between sustainability and circular economy. The sub-section includes previous studies that support the idea that circular economy helps to enhance the sustainability of an organization or industry. The next sub-section looks into the CE elements and business models as mentioned in the previous studies by other authors. The last section includes a brief study about the barriers that the businesses face when intending to adopt and practice circular economy.

In the next section, the methodology of the research is discussed. It clarifies and states the research approach and method. The section also includes the features of the interviewees who participated and contributed in this research. Although the interview questions are provided in the appendices of the report, this section includes how the interview was conducted and how the responses were processed. Discussions and findings are provided in their own sub-sections of the report. Ultimately the report concludes by illustrating the limitations and recommendations.

I am thankful to the God for I was able to undertake an in-depth research in a suitable manner and successfully prepare the report with utmost effort. I'd also want to express my gratitude to my supervisor, for her excellent advice and supervision. I am also tremendously thankful to officials who participated in the interviews, for their generous help throughout the project. My cordial thanks also goes to all the authors, researchers and other scholars in related fields, whose works and information facilitated me to prepare the report with excellence. Lastly, I am grateful to my family and friends for their unwavering support in helping me complete my endeavor.

1. THEORETICAL BACKGROUND

This section covers the various aspects of sustainability and sustainable development with respect to CE strategies and practices.

1.1. Relationship between sustainability and circular economy

Sustainability has been characterized as systematic operations that meet the needs of the present generation while not risking the potential of later generations to meet their own needs (Brundtland 1987). Business organizations and its stakeholders benefit from such operations in a variety of ways, including assisting them in managing to be prospective for any external changes (Siew et. al. 2014). Business sustainability refers to a company's ability to foster and improve economic, social, and environmental (ESE) prosperity over time by satisfying the needs of a diversified set of stakeholders, ensuring that current demands are met while future generations are able to meet their own demands (Bansal 2005). This approach is generally considered as an effort to create long-term value for the company by seizing opportunities and controlling challenges that arise from external influences that are beyond the organization's immediate management (Mandelbaum 2007). The goal of organization's value creation may be reached when organizations address the interests of stakeholders and include the ESE components of sustainability practices into their business model, company culture, management, operations, and reporting (Brockett, Rezaee 2012). The Circular Economy acts as a significant tool for setting off a process of sustainable development.

The Circular Economy is a revolutionary, restorative, and renewable economic or industrial model that might allow mankind to live within current planetary boundaries while ensuring that businesses continue to thrive (Beaulieu et al. 2016). CE is mostly founded on the following principles: design of produced products with additional value and maximal usage throughout extended life cycles; construction of adaptable products with many uses over different phases of their useful life, ensuring the reuse of a given good; a systemic strategy to supply chain management, assessing the integration between the energy generated, the extracted components, and the natural environment; and a restoration of waste material to the manufacturing industry in an organized way, in which the price of secondary raw materials from reprocessing is economically competitive (Arruda et al. 2021).

Life cycle assessment (LCA) and material flow analysis (MFA) are some of the most significant approaches for building sustainability studies that might be used to circular economy research (Pomponi, Moncaster 2017). LCSA refers to the evaluation of all environmental, social and economic negative impacts and benefits in decision-making processes towards more sustainable products throughout their life cycle (UNEP 2011). Whereas, Material flow analysis (MFA) is a tool to analyze the transformation, transportation, or storage of materials within a defined system (Brunner, Rechberger 2004).

The adoption of circular economy (CE) practices is known to offer the opportunity to promote environmental benefits, long-term economic growth, and added value, job creation, and thereby supports all three sustainability pillars simultaneously. The shift to a more circular economy is expected to help achieve numerous Sustainable Development Goals (SDGs), most notably SDG 12 on sustainable production and consumption characteristics (European Commission, 2015), but also SDG 6, SDG 7, SDG 8, and SDG 13 on water, energy, economic growth, and climate change (Geng et al., 2019; Schroeder et al., 2018).

1.2. The elements related to the circular economy

The circular economy's significant elements are interrelated to product, material, and flow of energy, with the goal of cycling them to disassociate value creation from resource utilization. According to Bocken, a circular economy needs material and energy cycles to be sealed (waste flows become inputs into other production activities), delayed (the same resources or items are utilized for longer before disposing), or renewed (contaminants, pollutants, and non-renewable energy sources are eliminated) (Bocken et al. 2016).

The 10R Framework, as well as its simplified variant known as the 5R Framework, and Flow Framework, are two widely popular models in the field. The 10R framework prioritizes initiatives that lead to a zero-waste economy, starting with reduction and ending with recycling. The degree of the value of reusable materials is used to optimize recycling, with energy recovery from wastes being the worst case scenario (Jabbour et al. 2019). According to the model, the 10R represents: refuse (refuse to produce a product on this technology and materials, alternative product offer), rethink (rethinking the direction of using the product, exchange or sharing of product), reduce (reduction in the use of natural resources with an increase in the efficiency of production or consumption), reuse (reuse by another consumer of the product), repair (repair and maintenance of a defective product with its subsequent use for its main purpose), refurbish (restoration of an old product for future consumption), remanufacture (reprocessing and application of part of an old product in a new product), repurpose (reorientation of a part of an old product in a new product to another functional purpose), recycle (processing materials to produce products of the same or lower quality), recover (burning materials with the restoration of energy spent on their production) (Potting et al. 2017).

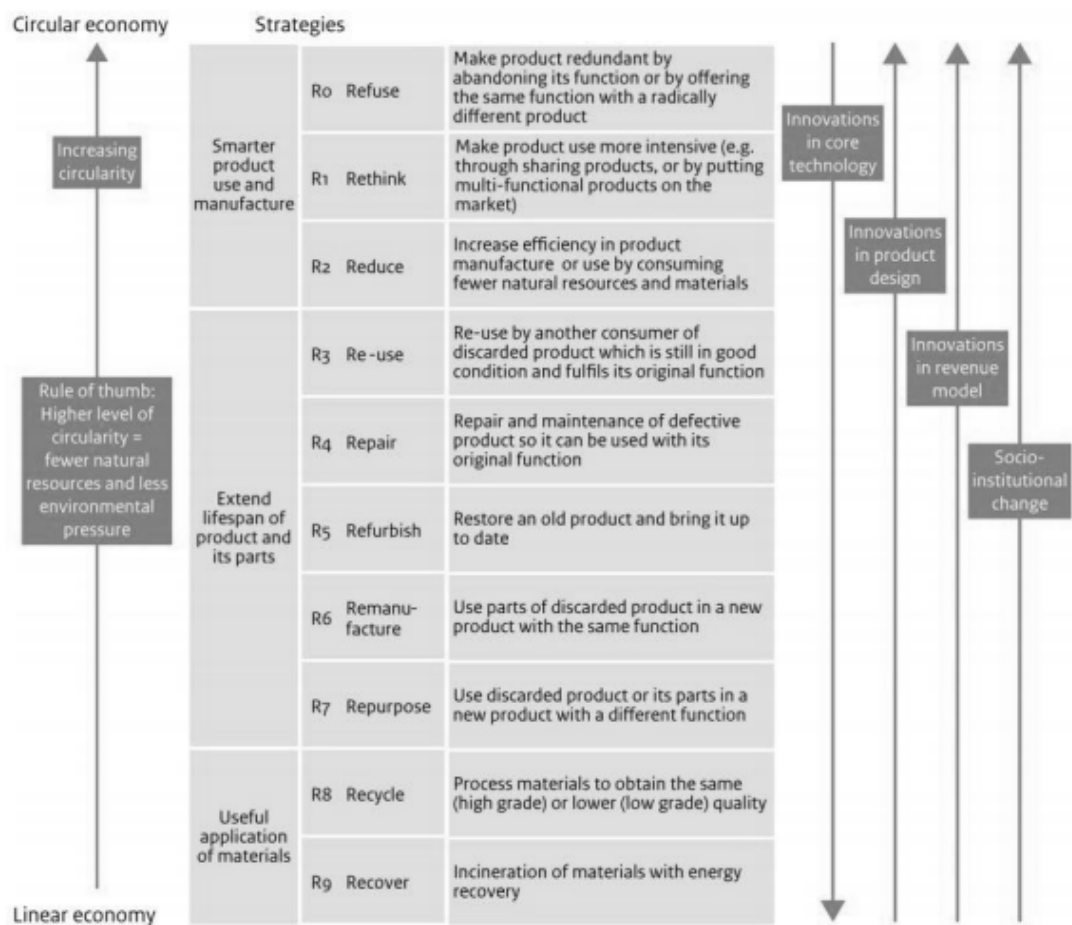


Figure 1: The 10R model

Source: Potting et al. (2017)

The 10R model was compressed within the 5R model of rethink–reduce–reuse–repair–recycle (Tserng et al. 2021). The model suggested that as an economy or system moves from designing and implementing the recycle strategy towards the rethink strategy, as the model shows, the economy or that system will become more circular.

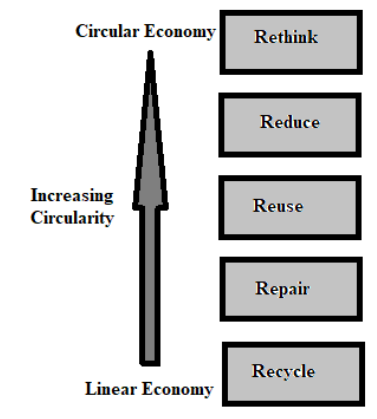


Figure 2: The 5R model

Source: Tserng et al. (2021)

The essential value, supply chain, transition, resource, waste, and reuse, as well as their most prominent relationships, are all factors in business models based on the circular economy concept. Circular business model considerations also include management, supply-side, demand-side, networking, performance, and contextual factor (Ferasso et al. 2020).

According to the findings of a research, the CE review of literature may be split into management and technical-oriented studies, with either a beginning-of-life (BOL) or end-of-life (EOL) orientation. Recycling is the most commonly used R-strategy, followed by remanufacturing, repair, and reuse, but the latter have fewer frequency (Schöggl, Stumpf, Baumgartner 2020).

1.3. Business model for circular economy

Circular business models help to decrease natural resource extraction and usage, as well as the production of industrial and consumer wastes. They reflect the essential tasks needed to move toward a more resource-efficient and circular economy. Because circular business models employ previously used resources and goods as inputs, their ecological impact is typically much less than traditional business models. Product and material movements across the economy are altered by circular business models. They can lessen the negative environmental consequences of the acquisition, utilization, and final disposal of natural resources and commodities thereby. This is due to advances in material productivity at the facility level as well as more essential shifts in production and consumption practices (OECD 2019).

There are five types of business models that are related to the business models for circular economy, at different stages (OECD 2019). Circular supply models lower demand for raw resource acquisition in the long term by replacing conventional material inputs sourced from raw resources with organic, renewable, or recovered materials (Kurt et al. 2019). Resource recovery models recycle wastes into secondary raw materials, saving waste from eventual disposal and substituting raw natural resource acquisition and manufacturing (Lacy, Rutqvist 2015). Product life extensions models lengthen the useful life of current goods, minimize resource extraction and wastes creation, and delay the movement of individual components through the economy (Han et al. 2020). Sharing models make it easier to share underutilized items, which can reduce demand for new products and the raw materials that go into them (Lacy, Rutqvist 2015). Product service system models, which offer services rather than items, provide rewards for green product design and more efficient product usage, supporting a more resource-conserving approach (Kjaer et al. 2018).

Enhancing resource efficiencies and transitioning to a more circular economy strives to retain materials at their greatest value and retain products, materials, and resources in the economy for maximum period of time, reducing waste and virgin resource inputs. Closing, delaying, and narrowing resource loops can all help achieve this goal in different ways (McCarthy, Dellink, and Bibas, 2018).

1.4. Barriers to implementation

The identified barriers to implementing circular economy-based business models were divided into two categories: internal challenges affecting the firm itself and external barriers affecting the firm's surroundings (Vermunt et al. 2019; Vasileios et al. 2021). Internal barriers are caused by the tangible and intangible resources of the organization, and its capabilities resulted by the degrees of its strengths and weaknesses. Whereas, the external barriers are caused by the political, economical, social, technological, legal and environmental factors that exists outside the control of the organization (Galvão et al. 2018). Kirchherr et al. identified four main types of barriers to a transition to a circular economy: cultural, market, regulatory and technological issues. They agree that the most serious issue right now is cultural boundaries. These roadblocks stem from a lack of understanding and/or desire to interact in the circular economy on the part of both consumers and businesses (Kirchherr et al. 2017). A lack of understanding

about the causes of environmental problems, viable solutions, and the environmental effect of products and services is one probable source of this unfavorable attitude (Lane, Potter 2007). Even people who have an optimistic response toward pro-environmental behavior don't always act on their belief systems (Young et al. 2010), for instance, because eco friendly options seem to be more costly than traditional options or because people find it difficult to change their habits (Klößner). Companies encounter challenges operating a circular business in a linear system after overcoming internal cultural hurdles (Kirchherr et al. 2017). Many circular company concepts are unprofitable as a result of these issues. This is created, for instance, by failing to account for unfavorable external impacts in pricing, leading to low raw material costs and rising initial investment costs. There are also regulatory barriers which refer to laws and regulations that slow down or even prevent the transition to a circular economy. The technological barriers represent a lack of proven technologies to implement circular economy principles may slow down the transition. Related to this are the (perceived) risks associated with new technologies (Weelden, Mugge, Bakker 2016).

1.5. Internal and external motivating factors related to implementation of circular economy

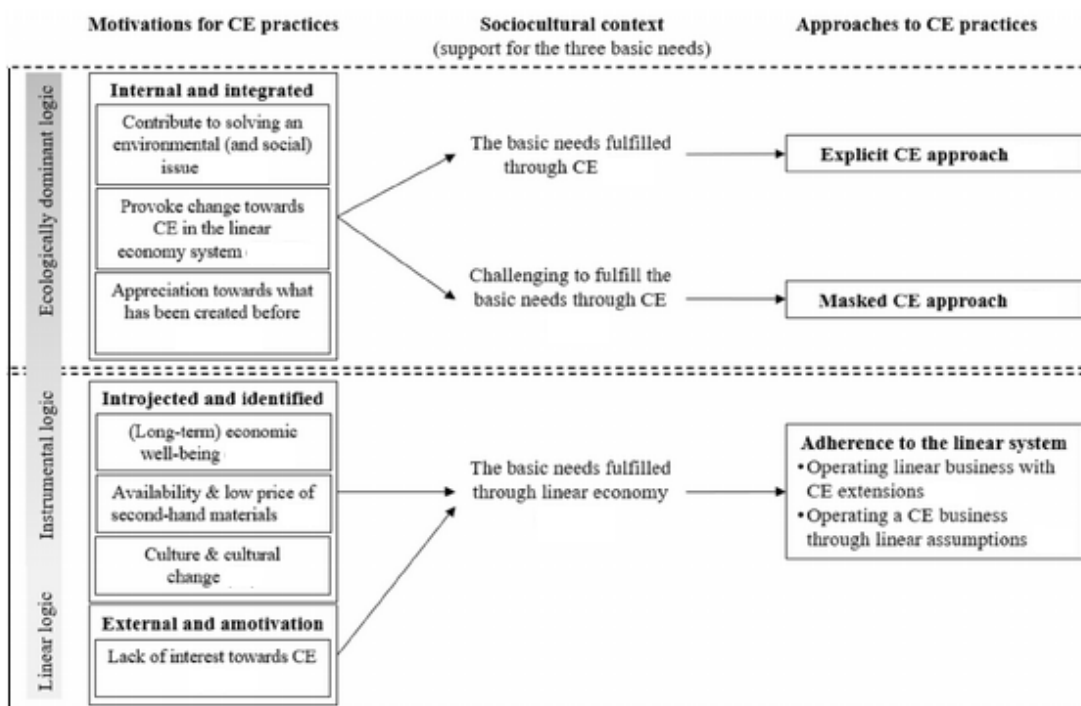


Figure 3: Framework of entrepreneurs' motivations, sociocultural context and approaches to CE practices

Source: Rovanto, Finne, (2022).

Based on the above mentioned framework, the transmission, normalization, and preservation of cultural aspects in communities are all dependent on these three fundamental needs of autonomy, competency, and belongingness (Inghilleri, 1999). Motivations are influenced by sociocultural circumstances that support or constrain these three fundamental requirements (Ryan et al. 2008; Silva et al. 2014), as well as the methods in which these needs are met (Dacin et. al. 2002). The sociocultural setting influences the internalization of extrinsic motives; people prefer to internalize values in their social environments (Deci, Ryan 2000). Three themes emerged as intrinsic and integrated motives for CE practices: (1) contributing to the resolution of an ecological (and societal) challenge, (2) driving change towards CE in the traditional economy system, and (3) displaying gratitude for what has been represented before. Whereas, The identified and interjected motives for CE activities was found to be based on issues such as (1) the accessibility and low cost of used resources, (2) culture and cultural transformation, and (3) great economic well-being. External motivation or amotivation toward CE practices is a consequence of a shortage of external motivation, which might be owing to the advanced CE implementation at firms and the shortage of specific effective regulation of CE (Rovanto, Finne 2022).

1.6. Circular economy in RMG industry of Bangladesh

Bangladesh's RMG sector has previously said that it is eager to accept the circular economy concept in garment production. A partnership has been formed to decrease disposal and natural resource decline produced by textile production by enabling the growth of the recycling industry in Bangladesh (Sifat, Syeda 2021). The Circular Fashion Partnership is a cross-industry effort led by Global Fashion Agenda and collaborating with Reverse Resources, BGMEA, and P4G to create a long-term, scalable transition to a circular fashion system. The alliance supports circular business collaborations among major fashion brands, fabric and garment producers, and recyclers to design and deploy novel solutions for capturing and repurposing post-production fashion waste into the creation of new fashion goods. The alliance intends to create a viable business model for embracing more circular procedures through collaboration amongst members. By speeding the fiber recycling industry, it hopes to reduce textile waste and boost the usage of recovered fibers, transferring value all through the fashion value chain and providing economic advantages in Bangladesh. The Circular Fashion

Partnership is open to all brands and manufacturers working in Bangladesh as well as worldwide recycling solutions. Participation is free, but members must offer more than their team's time and experience, as well as cooperate. The Circular Fashion System (CFS) of this CFP retains materials in the fashion value chain by allowing large-scale recycling and reuse of "waste" textiles. This approach aims to replace the old linear 'take, make, dispose' paradigm with a booming industry that benefits people while also restoring the environment (Global Fashion Agenda 2022).

Bangladesh was given advice by CFP on how to develop pre-competitive alliances in other areas or segments of the value chain that involved multi-stakeholder involvement, especially with policymakers. It also suggested providing material flow accountability, reliability, and monitoring, as well as on-the-ground supervision and significant interaction with the established local economies. The partnership recommended providing a united industry voice on brand demand for recycling capability, as well as the underlying financial potential for the Bangladeshi economy in expanding recycling capacities.

According to a research, the apparel and textile sector is responsible for 4% of world CO₂eq (equivalent) emissions, 20% of wastewater, and 70% of fashion's GHG emissions. Based on current technology, the paper calculated the potential for growing textile recycling across the whole value chain by 2035. According to this estimate, current technologies have the ability to supply 75 percent textile-to-textile recycling and a further 5% recycled feedstock from other sectors into the fashion chain. To make this a reality, the sector will need to invest at least \$5-7 billion in recycling technology by 2026, as well as additional capital mobilization for collecting and sorting infrastructure (RMG Bangladesh 2021).

2. METHODOLOGY

The research approach was abductive, as the research moved from incomplete observation towards a complete finding by studying the theories and collected data time to time. The research only examined at relevant qualitative data because the variables and concerns are more qualitative in nature. In this study, data were collected and assessed; outcomes were produced, and conclusions were made using qualitative approaches.

Primary and raw data were collected by conducting 16 interviews on the senior officials that are in key roles in some of the most significant RMG companies in Bangladesh. In order to have more insight and generate a bias-free research finding, the sample for the research included two companies involved in The Circular Fashion Partnership (CFP) of Bangladesh, along with four international and six local well-known large companies, and four Small and Medium-sized Enterprises (SMEs) in Bangladesh. The companies were selected based on their market size and nationality. International companies are selected as they are known to be some of the biggest players in the industry that are foreign and practices international standards. CFP companies were selected as they are some of the biggest players with Bangladeshi origin in the industry and practices CE. Non-CFP local companies were selected as they have considerable market shares yet their CE awareness and practices are not well-known. SMEs were selected

as there are a lot of SMEs in Bangladesh RMG industry yet their market shares are low and their attitude towards CE is not well-known. The sample size was selected on a random basis. The interviewees were selected based on their official position. That is, each of the interviewees were from high managerial positions and had a sound knowledge about the whole organization and its operations.

The interviews were mostly done using online social media platforms and email under close assistance. This is because the COVID-19 pandemic is still at large in Bangladesh and the country still had official safety measures, social distancing, being practiced in most of the places. The questions asked in the interview are provided in the Appendices section of the report. The questions were designed based on the original questions of the research. No previous studies were used as an inspiration for the questions. Each of the interview sessions were recorded and are also presented in the appendices section. Each of the sessions had duration of 10-15minutes on average.

Various methods were utilized in order to analyze the responses from the interviews according to the question type. In order to analyze the degree of sustainability and CE awareness and knowledge of the companies, the responses from the interviewees were put in a pattern analysis. There were four levels of awareness and knowledge, such as, complete, average, modest and minimal. In order to analyze the barriers relating to the CE adoption and practice, interviewees were provided with a list of barriers and asked to rank them according to the relevance to their company. The data from such questions were analyzed by using pattern analysis as well. Throughout the interview it was realized that only a few companies were actually practicing CE and as the interview questions no. 6,7 and 8 were only applicable for those companies that are practicing CE, their responses were individually recorded and were studied using pattern analysis. Last question's responses were also analyzed using pattern analysis. Pattern analysis was used to process the data as it enabled the research analysis to proceed, findings to be reached and recommendations to be made, by finding systematic regularity in the data and categorizing them (Helting et al. 2016).

The secondary data for the research study were sourced from various scholarly articles, books, research reports, corporate reports, newspapers and so on. All the information was also sourced from online platforms.

The accuracy of each source, as well as the data that were used in secondary analysis, were double-checked. To ensure that the information is accurate, the sources of data were examined for eligibility, validation, authorisation, and contents. As a consequence, the study's data grew more thorough and reliable overall.

The primary data were also properly checked. Participants were given accurate information about their participation to the survey as well as the survey itself. Throughout the survey, they were assisted. The participants' personal information, as well as any other information they consider private, were kept private.

3. ANALYSIS

3.1. Presenting and analyzing the results

Discussion 1: The degree of awareness and knowledge about sustainability and circular economy in the business organization

CFP companies

The first matter to be investigated was the level of respondents' knowledge and awareness of sustainability and CE. Both of the companies in the CFP had high degree of awareness and claimed that they had complete knowledge of sustainability and CE. *"We definitely have immense knowledge and awareness about CE and sustainability"*, said one of the interviewees (Interview 14).

Non-CFP large international companies

Out of the four non-CFP large international companies, three of them had complete awareness and knowledge of sustainability. Interviewees responded, *"Our company definitely acknowledges the concept of sustainability. I would say that we are completely aware of such an important concept"* (Interview 1). *"The notion of sustainability is something that our organization well understands. I*

believe we are all well aware of the significance of such a notion” (Interview 2). “And we are proud of our complete knowledge regarding CE and sustainability” (Interview 4).

Only one of the companies had average level of awareness and knowledge in such matter. *“I understand that our organization needs more knowledge, skills and improvement in our sustainability policies and practices because I think currently the knowledge is low”* said the interviewee (Interview 3).

Only two had complete level of awareness and knowledge about CE. One of them had average level of awareness, as the interviewee stated *“I would say that the company still have sort of average knowledge and awareness regarding circular economy”* (Interview 1). However, one of the companies had only modest level of awareness and knowledge, as the interviewee stated, *“We lack significant knowledge and skills to implement such sophisticated idea into our company”* (Interview 3).

Non-CFP large local companies

Out of the six non-CFP large local companies, one of the companies had complete awareness and knowledge about sustainability as the interviewee said, *“I would say that our company has significant and updated knowledge regarding sustainability and circular economy”* (Interview 5).

Two of the companies had average knowledge and awareness. This is suggested by their statements, *“Honestly speaking, I would say that our company has average and knowledge and awareness about the concepts. We still have a long way to go”* (Interview 6) and *“But as we are still learning and improving our sustainability, I would say that our knowledge is average”* (Interview 10).

Two of the companies had modest knowledge and awareness. This is reflected by the statements such as, *“we still lack knowledge about the idea that may enable us to become more sustainable”* (Interview 8) and *“I would say we still have a lot of changes to undertake and that we have only modest level of knowledge and awareness related to both of the concepts”* (Interview 7).

One of the companies had only minimal level of knowledge and awareness as the interviewee responded *“we don’t know much about the idea”* (Interview 9).

On the other hand, one of the companies claimed that it had complete knowledge and awareness about CE, as the interviewee answered *“I would say that our company has significant and updated knowledge regarding sustainability and circular economy”* (Interview 5). One of the companies had average knowledge and awareness and two of the companies claimed that they had modest knowledge and awareness. Rest two companies had minimal and almost no knowledge and awareness about CE as the interviewees answered, *“And our knowledge regarding circular economy is much lesser than that of sustainability”* (Interview 9) and *“I would say that our knowledge and awareness about these ideas are significantly low”* (Interview 8).

SME companies

Out of the four SMEs, one of them had complete sustainability awareness and knowledge (25%) as the interviewee stated, *“I would proudly say that our organization has an extensive knowledge and awareness about both of these terms”* (Interview 11).

Two of the companies had average as the interviewee suggested, *“I would say the degree of our level of awareness and knowledge is average”* (Interview 12) and *“Our knowledge and awareness regarding sustainability is quite satisfactory although its average I would say”* (Interview 13). One of the companies had almost no degree of sustainability awareness.

On the other hand, one of the companies claimed to have complete knowledge and awareness about CE and one of the companies had average. One of the companies claimed to have modest CE awareness and rest one company did not have almost any CE awareness and knowledge.

Overall result

Overall on average, out of all the companies, almost all the companies had sustainability knowledge and awareness at some extent. Similarly, out of all the companies, most of the companies also had CE knowledge and awareness at some extent. However, it must be realized that SMEs has the lowest CE awareness and knowledge compared to other forms of companies. And the most significant level of CE awareness and knowledge belonged to international companies, CFP companies. The large local companies had mostly mediocre level of CE awareness and knowledge.

Discussion 2: Barriers to adopting, improving, implementing and continuing a CE strategy in the organization

From the sixteen companies that were interviewed, two out of the six non-CFP local companies and one out of the SMEs did not have any awareness and knowledge regarding CE. Thus, they were excluded from this part of the analysis. The most significant reason for their failure to adopt CE was considered their lack of awareness and knowledge about CE.

Both of the CFP participating companies suggested that they consider cultural barriers as the most significant barriers when it comes to adopting, improving, implementing and continuing CE strategy. They have ranked the issues as cultural barriers, economic barriers, market barriers, business model barriers, financial barriers, management barriers, technological barriers and governmental barriers.

Three non-CFP international companies who claimed to have complete CE awareness and knowledge, had an almost similar response as the non-CFP international companies who had average CE knowledge and awareness. They had ranked the barriers as cultural barriers, governmental barriers, market barriers, business model barriers, management barriers, economic barriers, technological barriers and financial barriers.

Among the non-CFP local companies, one who claimed to have the complete CE knowledge and awareness ranked the barriers in a similar way as the non-CFP international companies. However, the non-CFP local companies with average and modest CE awareness and knowledge suggested a different but similar ranking. They ranked that cultural barriers are most significant barriers, followed by financial barriers, market barriers, governmental barriers, business model barriers, management barriers, technological barriers and lastly economical barriers.

SME company that claimed to have complete CE awareness and knowledge suggested a similar ranking as the non-CFP local companies who had average or modest CE awareness and knowledge. Other two SMEs who had average or modest CE awareness or knowledge considered cultural, financial and governmental barriers as their most significant barriers, as they did not have sufficient knowledge about other barriers.

Overall, it was found that the most significant barrier considered by almost all the companies was the cultural barrier that relates to the awareness and willingness to engage in a CE by the key stakeholders of the business. Second most significant barrier that can be identified is the financial barrier, followed by governmental barrier, market barrier, business model barrier, management barrier, technological barrier and lastly economical barrier.

Discussion 3: Circular economy into practice

Excluding the three companies that did not have almost any CE awareness and knowledge, only a few companies are practicing CE among rest of the thirteen companies. Two of the CFP companies and one of the non-CFP international companies only practices CE. Two of the non-CFP international companies, two of the non-CFP local companies and one of the SME is planning and working towards developing and adopting CE strategies.

Among the companies who are practicing CE, we analyzed the interview of the CFP participating companies. We have not analyzed the CE practices of the non-CFP international company as that would not reflect the CE practices in the RMG sector of Bangladesh. Both of the companies practices CE by participating in the CFP's Circular Fashion System (CFS). As per the suggestion of the CFP companies, that is, *"It's all published in our report and website. Even CFP website has a list of our activities. It would be helpful for you to visit there and see for yourself, as I might miss out some points"* (Interview 15), we went through the CFP website and found that the member companies practice similar practices regarding CE.

The CFP consists out of two work streams and participants choose to work on either or both.

1. Work stream one: Circular Fashion Waste Business Model

In Bangladesh, increasing the cyclical manufacture of new clothing created from post-production waste elements like fabric leftovers.

- Stage 1: Traceability and recapturing of waste streams:

Manufacturers in Bangladesh collaborate with associated brands and Reverse Resources to build up waste cuts sorting within their facilities. By a simplified handling procedure, manufacturers offer contamination-free, higher-value trash at a premium price. The waste flows are linked with a recycling solution, providing a "one-stop-shop" with full traceability for all affected parties.

- Stage 2: Circulating waste back into the value chain:

Following the rerouting of waste streams to recycling options, project members will assess the possibility of recirculating these waste streams into production. The material will be reasonably priced (not more than virgin), completely traceable, and of the greatest possible quality. Product samples and testing can be created to meet the needs of brand participants.

2. Work stream Two: Circular Fashion Stock Marketplace

Co-create and implement a Circular Fashion Stock Marketplace solution for deadstock fabrics piled up as a result of any crisis, such as the COVID-19 pandemic.

The initiative seeks to reduce textile waste and enhance the usage of recovered fibers by building circular networks in Bangladesh. The use of recycled materials decreases raw material demand, CO2 emissions, water consumption, water pollution, land and fertiliser usage, and eutrophication associated with textile manufacture. Although the initiative does not expressly target human rights, social responsibility, or working conditions in the fashion industry, it does address structural change in the sector. The goal of CFP is to establish an inclusive circular fashion infrastructure in Bangladesh, as well as a business model that distributes value across diverse players and ensures industry's future sustainability. CFP hopes to address concerns and incorporate answers at a fundamental level thanks to the project's collaborative character. The cooperation fosters partnerships between brands, manufacturers, and recyclers, as well as engaging stakeholders including regulators and investors in discussions about present impediments and economic prospects. CFP's goal is to create an inclusive circular fashion system in Bangladesh, with a business model that distributes value across all players and ensures industry stability in the future. Post-production trash is a low-hanging fruit for Bangladesh's developing recycling sector, and there's a substantial financial incentive to begin completing the circle at scale.

Discussion 4: The internal and external factors that motivate organization to practice CE

As only two of the three companies practices CE out of the whole sample, we analyzed their internal and external factors that drive them to practice CE.

As suggested by the CFP participating companies, the most significant internal factors that drives CE practices is the sustainability of the organization itself, its innovation strategies, management, human resource and finance.

As for the external factors that drive CE, the companies indicated that cultural aspects, governmental support, technological advancement and economical condition were the most significant.

Discussion 5: Benefits of CE practices

The CFP participating companies indicated numerous benefits that they were experiencing due to their CE practices. These are as follows:

- Companies are profiting more from segmented textile waste as they learn the fair market value of textile manufacturing waste (cutting clips/offcuts or yarn waste).
- To show circularity to buyers, organizations are discovering how much trash can be tracked to reuse or recycling.
- Businesses are realizing the value of tracing trash for Higg Index reporting and marketing. Companies may also acquire quarterly circularity reports from Reverse Resources through CE procedures.
- The firms are looking at the idea of reintroduction waste from manufacturing into recycled yarns and textiles, allowing them to provide a circular service to brand customers.
- In the perspective of brands, they are developing strategic positioning as a pioneering and engaged manufacturer.
- • They gain from media exposure and marketing of Circular Fashion Partnership producers to brands and the larger fashion industry.
- • The firms are learning about commercial potential and networking opportunities in Bangladesh for creating recycling capacity.
- Why CE practices increase the recycling market for production waste generated in Bangladeshi garment manufacturers (price, quality, access, capacity, and transparency).
- • Using CE methods reduces post-production textile waste.
- • The firms are exploring innovative ways to get high-end recycled materials and progressing toward their circularity ambitions.
- • Companies are able to form and sustain circularity partnerships with manufacturing partners in the source nation.
- • CE practices enable circular supply chain traceability and infrastructure scaling.

- • Consumer-facing tracking of recycled material composition is possible with such techniques.
- • CE practices assist organizations to establish business resilience against difficulties exhibited by crises, such as COVID-19, by allowing cooperation with other brands and industry participation of governmental and investor networks.

Discussion 6: Future goals related to CE

The CFP participating companies suggested that they are aiming to enhance their CE related performance by developing and implementing new CE strategies along with their current ones. The companies are dedicated to decrease their innovation in core technologies, increase their innovation in product design and in revenue model, while improving their socio-institutional CE awareness and knowledge. These will extend the product life cycle and the life cycle of the components used throughout the business activities. These will also allow the companies to build smarter products that offer smarter product use and manufacturing system, while enhancing the useful application of the materials.

Non-CFP local companies and SMEs are considering enhancing their CE awareness and knowledge. They are further willing to develop and implement CE practices as soon as they break the cultural barrier.

3.1. Discussion of the analysis

Almost all of the RMG companies in the RMG sector of Bangladesh have awareness and knowledge about sustainability and CE to certain extents. These are the companies that are significantly well-doing in the market. However, only a small number of the RMG companies are actually practicing CE. These are either international companies or large local companies who are significantly dominant in the market already and are connected to certain CE collaboration or partnership, such as CFP. This somehow reflects the reality of the industry as suggested by the report of RMG Bangladesh, 2021 (RMG Bangladesh 2021). As CE practices require a large sum of finance, sophisticated innovation and collaboration, only the companies that have such capabilities are practicing it.

The most significant barrier that limits the growth of CE in the RMG sector of Bangladesh is the cultural barrier, followed by financial barrier, governmental barrier, market barrier, business model barrier, management barrier, technological barrier and economical barrier. This can be supported by the theoretical conclusion of Kirchherr et al., which suggested that cultural barriers are already known to be the most critical barrier (Kirchherr et al. 2017). This barrier also facilitate to the emergence of market barriers. However, financial barriers come the next, as there is still minimal scope in Bangladesh to implement and practice CE due to a lack of proper collaboration and infrastructure (RMG Bangladesh 2021). This idea also reflects a lack of governmental legislation or initiatives regarding environmental issues related to RMG sector of Bangladesh. These are causing business model and management barriers are resulted by the companies' inability to shift from their linear productions, which is also supported by the Kirchherr et al. (Kirchherr et al. 2017). There is a relationship between financial and technological barriers, in a sense that the low capitalization for CE is also connected to risks associated with new technologies, as suggested by Weelden, Mugge and Bakker, which results in technological barriers risks associated with new technologies (Weelden, Mugge, Bakker 2016). Economical barrier is lowest since RMG is a dominant industry in Bangladesh (BBRD 2020).

The RMG companies that are actually practicing CE are mostly using strategies related to the useful application of materials, such as, recover and recycle. As per the 10R model, recover and recycle are essential CE practices but it only supports useful application of the materials that are used in the production. The most significant realization from this reality of RMG industry of Bangladesh that can be drawn from this is, the companies that are practicing CE practices, such as recover and recycle, still belongs mostly in a linear economy. There are minimal socio-institutional changes, innovation in revenue model and innovation in product designs. All of these can be supported from the framework of Potting et al. (Potting et al. 2017).

The most significant internal factors that drives CE practices in RMG companies of Bangladesh is the sustainability of the organization itself, its innovation strategies, management, human resource and finance. These internal capabilities reflect their internal motivations. As their contribution towards solving environmental or societal issues is low, their shifting towards CE from the traditional economy system is slow, and they display less concern for what they have been representing before, it can be concluded that socio-cultural setting of Bangladesh is not so suitable for companies to practice CE explicitly or in a masked manner. These statement can

be supported by the framework of Rovanto and Finne, which demonstrated how sociocultural setting impacts the internal and external motivations of the companies regarding CE (Rovanto, Finne 2022).

The external factors that drive CE are the cultural aspects, governmental support, technological advancement and economical condition. These aspects reflect the interjected motivation and external amotivation of the companies towards CE which results in their adherence to their current linear system by means of operating CE as an extension to their current linear system. This statement is also supported by the framework of Rovanto and Finne (Rovanto, Finne 2022). Companies that are practicing CE in Bangladesh are mostly doing it to support the sustainability and economical wellbeing of the industry, as suggested by the CFP. The collaboration project also suggested that it benefits from the financial gains of using recycled materials. However, a lack of cultural setting, governmental support and technological advancement act as drivers for the amotivation of the companies towards CE.

There are numerous benefits of practicing CE in Bangladesh that attracts more companies to get increasingly involved. The companies mostly benefit from falling post-production wastes, increasing revenue from waste management and recycle process, enhanced brand identity, improved relationship throughout the supply chain, the companies involved in CE, and the customers, and making the industry resilient overall. Although companies have expressed their willingness to implement and improve their sustainability through CE, due to the existence of numerous barriers, the progress is slow. Considering the importance of this industry to the economy of Bangladesh, the barriers should be reduced in a systematic and faster method.

The research also found that there significant barriers that are limiting the number of companies to understand and adopt CE practices. Following are the ways to solve such barriers.

- i. Cultural and management barriers are related to the inadequate knowledge and willingness of companies and customers to participate with the CE. This challenge will need internal and external supports. Internal support may be obtained from various levels of management within the organization, and from employees, in order to make the required modifications to their business models. This includes the ideological willingness of management to execute change and improve capabilities. External support includes raising awareness among both the company and its customers.
 - Push from stakeholders, as well as senior management commitment, will drive the adoption of the CE process (Govindan et al., 2015). Firms' attempts to

include circular processes will be aided by management commitment and collaboration, as well as good employee and supplier training (Dubey et al., 2019). Furthermore, having a defined viewpoint on goals, objectives, and targets is vital during changes (Pan et al., 2015).

- Consumer knowledge is a critical aspect in Bangladesh's acceptance of circular ideas (Patwa et al., 2020). Consciousness, instruction, communications, knowledge, and economic factors will all affect a population's attitude and the tendency toward acceptability of circular economy practices in all areas (Aras & Crowther, 2009).
- Adapting to circular practices would need a wide range of new skills and capabilities, including waste-free or low-waste product design, infrastructure operation, and material management. The possibility of a new job market will entail learning new skills. As a consequence, training programs offered by experts, practitioners, or academics are needed to develop the necessary capabilities, skills, and tools (Pheifer, 2017).

ii. Financial barrier, business model barrier, technological barrier and economical barrier are related to the opportunities to invest in CE practices. Investing in wider value generation and outside traditional value chains is necessary to build circular processes. There are a number tactics that may be used to encourage both firms and customers to engage in sustainable production and consumption practices, as listed below.

- • In order to ensure that a product's value is preserved in a circular economy by keeping it "within the circle," all stakeholders must be involved from the design phase to the end of the product's life cycle. To create "green" resources, supply chains has to be sustainable, which means incorporating sustainable development at the environmental, social, and economic levels into the manufacturing process (Seuring & Müller, 2008). Human rights and labor legislation are examples of social and economic levels, as is acting inclusively. Environmental circularity is exemplified by reduced hazardous chemical inputs in production, sustainably created materials, and things designed to be recovered, repaired, and recycled (Aminoff & Kettunen, 2016; Nasir et al., 2017).
- • Technological improvements and digitalization breakthroughs have enabled more close interaction, transparency, genuineness, information sharing,

improved material management, improved logistics, and increased use of sustainable energy. As a result, such breakthroughs and inventions should be pushed and embraced at all levels by the governmental, social, commercial, and non-commercial sectors.

- • One reason for firms to pursue circular processes is the opportunity to reduce costs, increase differentiation, become less resource-dependent by reusing resources, and eliminate waste from the industry value chain. If consumers can perceive that their consumption patterns have a significant impact on the environment, they should be motivated to pay a higher price for a higher-priced product. Due to increased customer willingness to pay more, companies can match the higher expenses of circular processes.
- iii. Governmental barrier and market barrier are related to the policies of government, industry and related institutions. Governments have a critical role in promoting innovation and new initiatives, as well as international collaboration, by creating forums for idea communication and collaboration across all stakeholders in the private and public sectors (Liu & Bai, 2014). Government assistance at all levels may operate as a primary motivation for SMEs to transition to circular economy operations. Green business concepts must be made more accessible by policies and legislation, especially for SMEs. Workshops and training programs that promote the implementation of standardized waste management can help to ensure increased compliance with industry standards (Wolters et al., 2020).

CONCLUSION

This research is aimed to investigate the practices of circular economy in the RMG industry of Bangladesh and generate insights that may be used to improve the sustainability of the specified industry. The research questions that this report tries to answer are as follows:

- What are the current practices of circular economy in the RMG industry of Bangladesh?
- What are internal and external factors that motivate the RMG companies in Bangladesh improve their contribution towards circular economy?
- What are the limiting factors that are acting as a barrier for the RMG companies to contribute towards circular economy and how to reduce such barriers?

It was found that only a few companies that are member of a cross-industrial project, known as Circular Fashion Partnership, are practicing circular economy, although most of the companies the industry knows about circular economy and sustainability to some certain level. The ones who are practicing CE have started it in recent years and are mostly large well-known companies who were already performing well in the market prior to their membership.

There are numerous barriers for CE that exists in the RMG industry. The most significant of these barriers is cultural barriers which are related to the lack of awareness and willingness of the customers and companies to engage with the circular economy. Financial barriers are the second most critical barrier in the industry followed by governmental barriers. This is because is less opportunities in Bangladesh to implement and practice CE due to a lack of proper collaboration and infrastructure, governmental legislation or initiatives. These barriers further leads to business model and management barriers, as the companies face challenges to shift from their linear productions. As there is risks associated with new technologies, there is low capitalization for CE, which results in technological barriers risks. Economical barrier is lowest as the industry is one of most significant industries of Bangladesh in terms of economic contribution.

It was also found that they are not practicing much of the 10R or 5R models of circular economy. The companies were mostly practicing CE concepts of recover and recycle. This strongly suggests that the RMG companies that are practicing CE in Bangladesh still belongs mostly in a linear economy. This also suggests that there are minimal socio-institutional changes, innovation in revenue model and innovation in product designs.

The most significant internal capabilities used by the businesses that practice CE in RMG industry of Bangladesh is their sustainability practices, innovation, human resource and finance. internal capabilities reflect their internal motivations. By studying the responses and practices it was found that the companies demonstrated low contribution towards solving environmental or societal issues, their shifting towards CE from the traditional economy system is slow, and they display less concern for what they have been representing before. This suggests that socio-cultural setting of Bangladesh is not so suitable for companies to practice CE explicitly or in a masked manner.

The external factors that influence CE practices in RMG industry of Bangladesh are the cultural aspects, governmental support, technological advancement and economical condition. These results in the adherence of the companies to their current linear system, as the companies seem to operate CE as an extension to their current linear system. This is because CE practicing companies intend to support the sustainability and economical wellbeing of the industry and benefits from the financial gains of using recycled materials, which reflect their interjected motivation behind CE practices. However, a lack of cultural setting, governmental support and technological advancement act as drivers for the amotivation of the companies towards CE.

There are numerous benefits of practicing CE in Bangladesh that attracts more companies to get increasingly involved. Such benefits include reduced post-production wastes, increasing revenue from waste management and recycle process, enhanced brand identity, improved relationship throughout the supply chain, the companies involved in CE, and the customers, and making the industry resilient overall. Although companies have expressed their willingness to implement and improve their sustainability through CE, due to the existence of numerous barriers, the progress is slow.

Companies and consumers' lack of awareness and willingness to participate in the CE are causing cultural and management barriers. To eliminate these barriers, it will require both

internal and external assistance. Internal support may be gathered from different levels of management as well as from workforce to implement the necessary changes to their business models. This includes the political commitment of management to execute change and improve capabilities. External support includes raising awareness among both the company and its customers.

Investments in wider value generation and outside traditional value chains are necessary to build circular processes. This would necessitate organizations ensuring that a product's value is preserved in a circular economy by retaining it "within the circle," which will necessitate including all stakeholders from the design phase through the product's final phase. By embracing technological advancements, this will also necessitate greater collaboration, transparency, integrity, information sharing, better material tracking, improved logistics, and increased use of sustainable energy. As a result, such ideas and inventions should be pushed and embraced at all levels by the governmental, social, commercial, and non-commercial sectors. If consumers can perceive that their consumption patterns have a significant impact on the environment, they should be urged to pay a higher price for a higher-priced product.

Governmental and market barriers are both connected to government, industry, and associated institutional policies. Government actions can break down these obstacles. Government assistance at all levels may operate as a primary motivation for SMEs to transition to circular economy operations. Green business concepts must be made more accessible by policies and legislation, especially for SMEs. Workshops and training programs that promote the implementation of regulated waste management can assist to ensure increased compliance with industry standards.

Sustainability is much important matter in the modern world than it ever was. As the economies, societies and environment around us are increasingly witnessing adverse impact of the irresponsible actions of human being, the academics, policy makers, businesses and their stakeholders worldwide increasingly understand the need for sustainability. The scenery is same in Bangladesh as well. Thus, in order to address this issue, the largest industry of the country, Ready-Made Garments (RMG) industry, is already promoting, developing and adopting sustainable policies and practices. However, its progress lags behind the largest industries of most of the other emerging developing countries. One of the tools to enhance the sustainability of the industry might just be practicing Circular Economy (CE). This can only be done if proper measures are taken to eliminate the barriers that restrict the proper

development and implementation of CE. In order for the RMG industry of Bangladesh to enhance their sustainability by developing and adopting a circular economy completely, the barriers that limit the development and implementation of such concepts must be eliminated. Firstly, it is necessary to understand the challenges, and then the solutions.

REFERENCES

- Arruda, Erick & Melatto, Rosângela & Braga da Silva Neto, Wilson & de Melo Conti, Diego. (2021). Circular economy: A brief literature review (2015–2020). *Sustainable Operations and Computers*. 2. 10.1016/j.susoc.2021.05.001.
- Beaulieu, Luce & Durne, Gabrielle & Arpin, Ml. (2016). *Circular Economy: A Critical Literature Review of Concepts*.
- Bansal, P. (2005). Evolving sustainably: A longitudinal study of corporate sustainable development. *Strategic Management Journal*, 26, 197-218.
- Bocken, N., de Pauw, I., Bakker, C., & van der Grinten, B. (2016). Product design and business model strategies for a circular economy. *Journal of Industrial and Production Engineering*, 33(5), 308-320. doi:10.1080/21681015.2016.1172124
- Brundtland, (1987). *Our common future*. World Commission Report. Oxford University Press, New York.
- BBRD, Bangladesh Bank Research Department (2020). Quarterly review on RMG: July-September FY20'
- Brockett, A., & Rezaee, Z. (2012). *Corporate Sustainability: Integrating Performance and Reporting*. New York: Wiley.
- Brunner, Paul & Rechberger, Helmut. (2004). Practical Handbook of Material Flow Analysis. *The International Journal of Life Cycle Assessment*. 9. 10.1007/BF02979426.
- Ferasso, Marcos & Beliaeva, Tatiana & Kraus, Sascha & Clauß, Thomas & Ribeiro-Soriano, Domingo. (2020). Circular economy business models: The state of research and avenues ahead. *Business Strategy and the Environment*. 29. 3006-3024. 10.1002/bse.2554.
- Galvão, Graziela & Nadae, Jeniffer & Clemente, Diego & Chinen, Guilherme & Carvalho, Marly. (2018). Circular Economy: Overview of Barriers. *CIRP Journal of Manufacturing Science and Technology*. 73. 10.1016/j.procir.2018.04.011.

- Jabbour, C., de Sousa Jabbour, A., Sarkis, J., & Godinho Filho, M. (2019). Unlocking the circular economy through new business models based on large-scale data: An integrative framework and research agenda. *Technological Forecasting and Social Change*, 144, 546-552. doi:10.1016/j.techfore.2017.09.010
- Kirchherr, Julian & Reike, Denise & Hekkert, M.P.. (2017). Conceptualizing the Circular Economy: An Analysis of 114 Definitions. *SSRN Electronic Journal*. 127. 10.2139/ssrn.3037579.
- Klöckner, C. A. (2013). A comprehensive model of the psychology of environmental behaviour—A meta-analysis. *Global Environmental Change*, 23(5), 1028–1038
- Lane, B., & Potter, S. (2007). The adoption of cleaner vehicles in the UK: exploring the consumer attitude–action gap. *Journal of Cleaner Production*, 15(11–12), 1085–1092
- Young, W., Hwang, K., McDonald, S., & Oates, C. J. (2009). Sustainable consumption: green consumer behaviour when purchasing products. *Sustainable Development*, 18(1), n/a-n/a
- Mandelbaum, D. G. (2007). Corporate sustainability strategies. *Temple Journal of Science Technology & Environmental Law*, 26(1), 27-42.
- Pomponi, Francesco & Moncaster, Alice. (2017). A Theoretical Framework for Circular Economy Research in the Built Environment. 10.1007/978-3-319-50346-2_3.
- Siew, R. Y. J. (2014). Evaluating and enhancing the impact of sustainability reporting tools (SRTs) (Doctoral dissertation, Ph. D. thesis, School of Civil and Environmental Engineering, University of New South Wales, Sydney).
- Tserng, H & Chou, Cheng-Mo & Chang, Yun-Tsui. (2021). The Key Strategies to Implement Circular Economy in Building Projects-A Case Study of Taiwan. *Sustainability*. 13. 754. 10.3390/su13020754.
- Vermunt, Dorith & Negro, S.O. & Verweij, P.A. & Kuppens, D.V. & Hekkert, M.P.. (2019). Exploring barriers to implementing different circular business models. *Journal of Cleaner Production*. 222. 10.1016/j.jclepro.2019.03.052.

- Vasileios Rizos, Julie Bryhn, Monica Alessi Edoardo Righetti, Noriko Fujiwara and Cristian Stroia, (2021). Barriers and enablers for implementing circular economy business models Evidence from the electrical and electronic equipment and agri-food value chains CEPS Research Report . Available at: <https://www.ceps.eu/ceps-publications/barriers-and-enablers-for-implementing-circular-economy-business-models/>
- Van Weelden, E., Mugge, R., & Bakker, C. (2016). Paving the way towards circular consumption: exploring consumer acceptance of refurbished mobile phones in the Dutch market. *Journal of Cleaner Production*, 113, 743–754.
- Potting, J., Hekkert, M., Worrell, E. and Aldert Hanemaaijer (2017), ‘Circular Economy: Measuring Innovation in the Product Chain’, January, PBL Netherlands Environmental Assessment Agency, The Hague, Available at: <https://www.pbl.nl/sites/default/files/cms/publicaties/pbl-2016-circular-economy-measuringinnovation-in-product-chains-2544.pdf>.
- Govindan, K., & Hasanagic, M. (2018). A systematic review on drivers, barriers, and practices towards circular economy: A supply chain perspective. *International Journal of Production Research*, 56(1–2), 278–311. <https://doi.org/10.1080/00207543.2017.1402141>
- Dubey, R., Gunasekaran, A., Childe, S. J., Papadopoulos, T., & Helo, P. (2019). Supplier relationship management for circular economy: Influence of external pressures and top management commitment. *Management Decision*, 57(4), 767–790. <https://doi.org/10.1108/MD-04-2018-0396>
- Pan, S.-Y., Du, M. A., Huang, I.-T., Liu, I.-H., Chang, E.-E., & Chiang, P.-C. (2015). Strategies on implementation of waste-to-energy (WTE) supply chain for circular economy system: A review. *Journal of Cleaner Production*, 108, 409–421. <https://doi.org/10.1016/j.jclepro.2015.06.124>
- Patwa, N., Sivarajah, U., Seetharaman, A., Sarkar, S., Maiti, K., & Hingorani, K. (2020). Towards a circular economy: An emerging economies context. *Journal of Business Research*, 122, 725–735. <https://doi.org/10.1016/j.jbusres.2020.05.015>
- Aras, G., & Crowther, D. (2009). Making sustainable development sustainable. *Management Decision*, 47(6), 975–988. <https://doi.org/10.1108/00251740910966686>

- Pheifer, A. G. (2017). Barriers & enablers to Circular Business Models. <https://www.circulairondernemen.nl/uploads/4f4995c266e00bee8fdb8fb34fbc5c15.pdf>
- Seuring, S., & Müller, M. (2008). From a literature review to a conceptual framework for sustainable supply chain management. *Journal of Cleaner Production*, 16(15), 1699–1710. <https://doi.org/10.1016/j.jclepro.2008.04.020>
- Aminoff, A., & Kettunen, O. (2016, April 5). Sustainable Supply Chain Management in a Circular Economy—Towards Supply Circles.
- Nasir, M. H. A., Genovese, A., Acquaye, A. A., Koh, S. C. L., & Yamoah, F. (2017). Comparing linear and circular supply chains: A case study from the construction industry. *International Journal of Production Economics*, 183, 443–457. <https://doi.org/10.1016/j.ijpe.2016.06.008>
- Liu, Y., & Bai, Y. (2014). An exploration of firms' awareness and behavior of developing circular economy: An empirical research in China. *Resources, Conservation and Recycling*, 87, 145–152. <https://doi.org/10.1016/j.resconrec.2014.04.002>
- Wolters, L., Ong, S., & Wanopas, L. (2020). Recommendations for Supporting SMEs in the Transition to Circular Economy: A perspective on Thailand. Available at: <https://seed.uno/articles/>
- Dhaka Tribune, (2021). Experts: RMG industry must switch to circular economy. Available at: <https://archive.dhakatribune.com/business/2021/10/05/experts-rmg-industry-must-switch-to-circular-economy>
- Sifat Islam Ishty, Syeda Tasfia Tasneem, (2021). Circular economy in RMG: Reducing and reusing waste is the way to go. *The Daily Star*. Available at: <https://www.thedailystar.net/opinion/news/circular-economy-rmg-reducing-and-reusing-waste-the-way-go-2047433>
- Rovanto, Savu & Finne, Max. (2022). What Motivates Entrepreneurs into Circular Economy Action? Evidence from Japan and Finland. *Journal of Business Ethics*. 10.1007/s10551-022-05122-0.
- Inghilleri, P. (1999). *From subjective experience to cultural change*. Cambridge University Press.

- Ryan, R. M., Patrick, H., Deci, E. L., & Williams, G. C. (2008). Facilitating health behaviour change and its maintenance: Interventions based on self-determination theory. *The European Health Psychologist*, 10(1), 2–5.
- Silva, M. N., Marques, M. M., & Teixeira, P. J. (2014). Testing theory in practice: The example of self-determination theory-based interventions. *European Health Psychologist*, 16(5), 171–180.
- Dacin, M. T., Goodstein, J., & Scott, W. R. (2002). Institutional theory and institutional change: Introduction to the special research forum. *Academy of Management Journal*, 45(1), 45–56.
- Deci, E. L., & Ryan, R. M. (2000). The ‘what’ and ‘why’ of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268.
- Global Fashion Agenda, (2022). Explaining Circular Fashion Partnership. Available at: <https://www.globalfashionagenda.com/explaining-the-circular-fashion-partnership/>
- RMG Bangladesh, (2021). Circular Fashion Economy projected to be \$4.5bn in the near future. Available at: <https://rmgbd.net/2021/11/circular-fashion-economy-projected-to-be-4-5bn-in-the-near-future/>
- Geng, Y., Fu, J., Sarkis, J., Xue, B., 2012. Towards a national circular economy indicator system in China: an evaluation and critical analysis. *J. Clean. Prod.* 23, 216–224. <https://doi.org/10.1016/j.jclepro.2011.07.005>.
- Schroeder, P., Anggraeni, K., Weber, U., 2018. The relevance of circular economy practices to the sustainable development goals. *J. Ind. Ecol.* 00, 1–19. <https://doi.org/10.1111/jiec.12732>.
- Schöggel, Josef-Peter & Stumpf, Lukas & Baumgartner, Rupert. (2020). The narrative of sustainability and circular economy - A longitudinal review of two decades of research. *Resources, Conservation and Recycling*. 163. 105073.

- McCarthy, A., R. Dellink and R. Bibas (2018), “The Macroeconomics of the Circular Economy Transition: A Critical Review of Modelling Approaches”, OECD Environment Working Papers, No. 130, OECD Publishing, Paris, <https://dx.doi.org/10.1787/af983f9a-en>.
- Kurt, Asiye & Dat, Van & Mangione, Fabien & Cortes Cornax, Mario & Front, Agnes. (2019). An Extended Circular Supply Chain Model Including Repurposing Activities. 1-6. 10.1109/ICCAD46983.2019.9037929.
- Lacy, P. & Rutqvist, J. (2015). *Waste to Wealth: The Circular Economy Advantage*; Palgrave MacMillan: London, UK.
- Han, Junghee, Almas Heshmati, and Masoomah Rashidghalam (2020). "Circular Economy Business Models with a Focus on Servitization" *Sustainability* 12, no. 21: 8799. <https://doi.org/10.3390/su12218799>
- Kjaer, Louise & Pigosso, Daniela & Niero, Monia & Bech, Nynne & McAloone, Tim. (2018). Product/Service-Systems for a Circular Economy: The Route to Decoupling Economic Growth from Resource Consumption?. *Journal of Industrial Ecology*. 23. 10.1111/jiec.12747.
- OECD (2019). *Business Models for the Circular Economy: Opportunities and Challenges for Policy*, OECD Publishing, Paris, <https://doi.org/10.1787/g2g9dd62-en>.
- Heling, Jiang & Yang, An & Yan, Fengyun & Miao, Hong. (2016). Research on Pattern Analysis and Data Classification Methodology for Data Mining and Knowledge Discovery. *International Journal of Hybrid Information Technology*. 9. 179-188. 10.14257/ijhit.2016.9.3.17.

APPENDICES

Interview questions

1. What is the degree of awareness and knowledge about sustainability in your organization?
2. What is the degree of awareness and knowledge about the CE in your organization?
3. What are the barriers to adopting a CE strategy in your organization?
4. What are the barriers to continuing a CE strategy or further improve and implement new CE strategies in your organization?
5. How does your organization bring the philosophy of circular economy into practice?
6. What are the internal and external factors that motivate your organization to practice CE?
7. What are the benefits experienced by your organization from the implementation of CE practices?
8. What are the future goals of your organization regarding CE?

Interview transcripts

Interview-1

| | |
|-------------|--|
| Interviewer | Hello. Good morning. |
| Interviewee | Good morning. |
| Interviewer | Firstly I would like to convey my utmost respect to you sir. It is such an honor to have you participating in our interview at such a short notice. |
| Interviewee | It's my pleasure. |
| Interviewer | Sir, I have already informed you about the research paper I'm working on, prior to this interview. Your participation will surely bring benefit to the academics around the world. We are grateful to you sir. |
| Interviewee | Thank you. |
| Interviewer | Should we get started sir? |
| Interviewee | Sure, right away. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | Yes. I have come to know about this concept around 2016. I was at a conference where one of the speakers was introducing the concept of sustainability and its importance in the modern world. |
| Interviewer | Have you considered studying the concept ever since? |
| Interviewee | Yes, of course. On the very first day of introduction, I understood that sustainability is absolutely important nowadays to ensure that our next generations have a better world. I've studied the concept using various magazines, newspapers, scholarly articles. I've attended seminars and watched numerous relevant videos. I still do study about it keep myself updated. |
| Interviewer | Does your company practice sustainability? |
| Interviewee | Our company started its journey towards sustainability since 2019. As our managers came to understand its importance, the whole organization understood the necessity for critical changes in our operations. We had to train our workforce immensely to make sustainability as an integral part of our company. Currently, I'm proud to say that our company is a dedicated practitioner of sustainability. |
| Interviewer | Good to hear that sir. |
| Interviewee | Thank you. |
| Interviewer | Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | Yes, I've heard about this term a few months after my introduction to the concept of sustainability. |

| | |
|-------------|--|
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |
| Interviewee | Our company definitely acknowledges the concept of sustainability. I would say that we are completely aware of such an important concept. However, I wouldn't say the same about circular economy. I would say that the company still have sort of average knowledge and awareness regarding circular economy. |
| Interviewer | What are the barriers your company is facing when intending to adopt circular economy? |
| Interviewee | Oh, well. There are quite a lot actually. |
| Interviewer | Will you rank some of the common barriers if I provide you with options, based on the relevance to your company at present? |
| Interviewee | Sure. |
| Interviewer | Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |
| Interviewee | I would say cultural barriers are the biggest of all the other obstacles. I would rank governmental barriers, market barriers, business model barriers, management barriers, technological barriers, economic barriers and financial barriers one after another. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |
| Interviewee | You see, we still haven't given much focus on circular economy. We are still planning to create policies and start practicing circular economy. We are hopeful that soon we will initiate our journey towards circular economy. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
| Interviewee | You are most welcome. Glad I came useful. |

Non-CFP international company who is not practicing CE

Interview-2

| | |
|-------------|--|
| Interviewer | Hello. Good afternoon sir. |
| Interviewee | Good afternoon. |
| Interviewer | Firstly I would like to convey my utmost respect to you sir. It is such an honor to have you participating in our interview at such a short notice. |
| Interviewee | It's totally fine. I wasn't too busy today. |
| Interviewer | Good to know that sir. Sir, I have already informed you about the research paper I'm working on, prior to this interview. Your participation will surely bring benefit to the academics around the world. We are grateful to you sir. |
| Interviewee | Hope our conversation will be fruitful. |
| Interviewer | Should we get started sir? |
| Interviewee | Yes, Yes. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | Yes. Around the year 2017, I became aware of this topic. One of the managers taught me about the subject. Despite the fact that my understanding was rather basic, I quickly reviewed various publications and papers on the subject. |
| Interviewer | Does your company practice sustainability? |
| Interviewee | Since 2018, our organization has been on a path toward sustainability. As our management became more aware of its significance, the entire company saw the need for significant adjustments in our operations. We realized that we wouldn't be able to survive and prosper in the dynamic business environment until we become more sustainable. To make sustainability an intrinsic part of our firm, we had to invest heavily in training our employees. Our procurement process, production, marketing, finance, human resource management, and the company model itself all needed to be changed. I'm delighted to declare that our organization is now a committed sustainability practitioner. |
| Interviewer | Good to hear that sir. |
| Interviewee | My pleasure. |
| Interviewer | Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | Yes, definitely. As I was being educated about sustainability by my managers, I came to understand the term circular economy. Later on, I studied the concept, its application, its importance and relevant issues. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |

| | |
|-------------|--|
| Interviewee | The notion of sustainability is something that our organization well understands. I believe we are all well aware of the significance of such a notion. In the case of the circular economy, though, I disagree. I'd say the corporation has only a rudimentary understanding of the circular economy. |
| Interviewer | What are the barriers your company is facing when intending to adopt circular economy? |
| Interviewee | There are quite a lot of barriers actually. |
| Interviewer | Will you rank some of the common barriers if I provide you with options, based on the relevance to your company at present? |
| Interviewee | Sure. |
| Interviewer | Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |
| Interviewee | Cultural barriers, in my opinion, are the most significant of all the other obstacles. Governmental barriers, market barriers, technology barriers, economic barriers, business model barriers, management barriers, and financial barriers would all be ranked in order of importance. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |
| Interviewee | We are still discussing and attempting to generate policies related to CE. Hopefully, we will start practicing CE by the next year. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
| Interviewee | It's been a pleasure. |

Non-CFP international company who is not practicing CE

Interview-3

| | |
|-------------|--|
| Interviewer | Hello. Good evening. |
| Interviewee | Good evening. You're here for the interview right? |
| Interviewer | Yes sir. It would be an honor to have you participating in our interview at such a short notice. |
| Interviewee | It's my pleasure. Let's get started as I have somewhere else to be shortly. |
| Interviewer | Sure sir. Sir firstly I would like to know if you are aware of the concepts of sustainability. |
| Interviewee | I first became aware of this issue in the year 2013. At an international conference, I was first introduced to the topic. It seems to me at the time that such a notion had a bright future. Unfortunately, I was preoccupied and only became interested in the topic after the United Nations promoted its Sustainable Development Goals in 2016. |
| Interviewer | Does your company practice sustainability? |
| Interviewee | Yes. We have been practicing sustainable strategies from 2020. We have been dedicatedly maintaining an inclusive and diversity promoting culture that also promotes wellbeing, learning and growth opportunities of our employees. We are also ensuring that the production process is continuously improve and become more efficient, while recycling our wastes and energy consumed. |
| Interviewer | Glad you have started the journey towards sustainability. |
| Interviewee | My pleasure. |
| Interviewer | Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | Yes, circular economy caught my attention when our company senior officials were formulating our policies and practices regarding sustainability. I was educated by our officials briefly. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |
| Interviewee | I understand that our organization needs more knowledge, skills and improvement in our sustainability policies and practices because I think currently the knowledge is low. Same is the situation when it comes to circular economy. We lack significant knowledge and skills to implement such sophisticated idea into our company. |
| Interviewer | What are the barriers your company is facing when intending to adopt circular economy? |
| Interviewee | There are quite a lot I would say but surely cultural barriers are one of them. |

| | |
|-------------|---|
| Interviewer | Will you rank some of the common barriers if I provide you with options, based on the relevance to your company at present? |
| Interviewee | Okay. |
| Interviewer | Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |
| Interviewee | Cultural barriers, governmental barriers, economic barriers, market barriers, financial barriers, business model barriers, management barriers, and lastly technology barriers. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |
| Interviewee | We need to minimize the barriers that are within our control firstly. Then we will formulate plans and strategies regarding circular economy. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
| Interviewee | I feel fortunate that I was able to help you. |

Non-CFP international company who is not practicing CE

Interview-4

| | |
|-------------|---|
| Interviewer | Hello. Good morning sir. |
| Interviewee | Good morning. I hope to complete the interview as soon as possible. I have some urgent works to do. |
| Interviewer | It will not take much long sir. And I convey my utmost respect to you sir for participating in our interview at such a short notice. |
| Interviewee | Happy to help. |
| Interviewer | Sir, I have already informed you about the research paper I'm working on, prior to this interview. We are truly grateful for your participation. It will surely bring benefit to the academics around the world. |
| Interviewee | Good to know that. Hope I will be helpful. |
| Interviewer | Should we get started sir? |
| Interviewee | Sure, let's start. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | Yes. I have studied about the concept before UN made their Sustainability Goals in 2015. I have studied about it in my university decades ago. Although, I took the topic more seriously when the top players in numerous industry started to shift their way of work in order to get more sustainable. It was around 2010. |
| Interviewer | That means you were interested in sustainability for a really long time. Does your company practice sustainability? |
| Interviewee | Our company's managers came to a collective decision to shift our company completely towards sustainability in 2016. It took us about an year to educate the shareholders, employees, suppliers and clients about the concept of sustainability and its importance. Then, in 2017, we officially shifted our operation and adopted sustainability. Well, sustainability demands continuous dedication and improvements. So, we are humble to express that we still have a long road in front of us. |
| Interviewer | Good to hear that sir. |
| Interviewee | Thank you. |
| Interviewer | Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | Circular economy caught my attention years after I came to know about the concept of sustainability. I got introduced to CE when our managers were trying to put sustainability into practice. The idea seemed brilliant and fundamental for a garments company like us. We immediately decided to integrate such a concept |

| | |
|-------------|---|
| | at the core of our business in order to pursue sustainability. We started practicing CE from 2019. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |
| Interviewee | As I've already said. Our company took the concept of sustainability really seriously and we are using circular economy strategy to achieve sustainability. We are definitely among the most significant practitioners of circular economy. And we are proud of our complete knowledge regarding CE and sustainability. |
| Interviewer | What are the barriers your company is facing when intending to adopt and maintain circular economy? |
| Interviewee | There were immense barriers initially. Some of them still exists and limits our CE activities today. |
| Interviewer | Will you rank some of the common barriers if I provide you with options, based on the relevance to your company at present? |
| Interviewee | Sure thing. |
| Interviewer | Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |
| Interviewee | Cultural barriers have always been our number 1 obstacle. Then I would say the external barriers such as governmental barriers, market barriers, technological barriers and economic barriers are really concerning as we are unable to directly influence them. Lastly I would rank internal barriers such as business model barriers, management barriers and financial barriers. |
| Interviewer | Sir, may we know how your company is putting CE into practice? |
| Interviewee | Our CE business model is a complex one that consists of numerous activities. We start our CE process by purchasing raw materials from suppliers who themselves practice sustainability. They are certified by numerous international organizations and provide us with safe, recycled, or renewable materials. As the raw materials are processed into finished fabrics, our garments production system recycles a large portion of the water that is consumed within the process by using water refinery and recycling facility. The leftovers and wasted materials are further processed and recycled as we send them back to the suppliers. Our finished garments products are designed for endurance which enhances the longevity. They are also recyclable. You may know more if want to in details by looking into our website or our company publications. |

| | |
|-------------|--|
| Interviewer | Excellent. Sir would you be kind enough to inform me about the internal and external factors that motivate your organization to practice CE? |
| Interviewee | Our most fundamental motivating factor for practicing CE is sustainability. We've realized how crucial it is to practice sustainability. Our future generation will less likely to enjoy a good life, if we don't become sustainable. Then, what's the point of doing business. There are also internal motivating factors that drive us to practice CE. It helps to enhance our brand image and strengthens our relationship with customers, as it enables to provide added values to the customers increasingly. Also, CE practices strengthen the relationship with suppliers and all those who are involved in procurement of supplies and distribution of goods. Our commercial service providers also have a positive attitude towards us due to such sustainable practices. |
| Interviewer | Your company has been practicing CE for years now. What are the benefits that you've experienced so far? |
| Interviewee | I think the word benefit changes its meaning from person to person, organization to organization. To me and my organization, benefit means sustainability. Since we have started practicing CE, our company has achieved numerous awards and recognition worldwide as well. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |
| Interviewee | We are continuously developing our CE practices and policies. Our dedication to achieve the UN Sustainability Goals is driving our current pace towards sustainability. By 2025, we are hopeful to become one of the most sustainable companies in the world. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
| Interviewee | I'm glad for the opportunity to help you today. |

Non-CFP international company who is practicing CE

Interview-5

| | |
|-------------|---|
| Interviewer | Hello. Good afternoon sir. |
| Interviewee | Good afternoon to you too. |
| Interviewer | Our interview will not take much long sir. And I convey my utmost respect to you sir for participating in our interview at such a short notice. |
| Interviewee | It's okay. It's really appreciating that you are doing such a great research. |
| Interviewer | Thank you Sir. I have already informed you about the research paper I'm working on, prior to this interview. We are truly grateful for your participation. It will surely bring benefit to the academics around the world. |
| Interviewee | I will try my utmost to help you by this interview. |
| Interviewer | Thank you sir. Should we start the question session? |
| Interviewee | Yes, let's start it. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | Yes, indeed. I was introduced to the concept by one of our senior executives who illustrated to me the importance of such an idea and how it is become a mandatory thing in the modern business world. She suggested that we should immediately take some decisive action about this idea in order to stay ahead of our competitors and offer added value to our customers and other stakeholders. So, our senior executives, including me, attended several national and international conferences regarding the idea. |
| Interviewer | Good to know that you have such dedicated members in your organization. Does your company practice sustainability? |
| Interviewee | Yes. When we understood that our knowledge and experience regarding sustainability is not enough to make strategic decisions and transform our company, we employed officials that may assist us to make significant changes in our company to make it sustainable. And we officially transformed our company and started our sustainability driven activities in 2018. |
| Interviewer | Good to know. Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | I was introduced to the concept in 2020. When trying to understand how our company can increases the added value and have more control on the life cycle of the products, one of our senior managers suggested that we may take a keen interest to study circular economy. Afterwards we have attended seminars, conferences, university lectures and corporate talks related to such idea. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |

| | |
|-------------|---|
| Interviewee | I would say that our company has significant and updated knowledge regarding sustainability and circular economy. |
| Interviewer | What are the barriers your company is facing when intending to adopt and maintain circular economy? |
| Interviewee | Well. There are different types of barriers that are still restricting us to implement CE in our company. |
| Interviewer | Will you rank some of the common barriers if I provide you with options, based on the relevance to your company at present? |
| Interviewee | Yes, please. Go ahead. |
| Interviewer | Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |
| Interviewee | In my opinion, cultural barriers are the most significant of all the barriers. Along with many reasons behind such opinion, I would say that it still restrict us to make a CE supporting corporate culture, supply chain and customer base. Governmental barriers, market barriers, technological barriers and economic barriers are also adversely influencing our progress when we intend to formulate and maintain CE. Business model barriers, management barriers and financial barriers are solely our internal barriers that we are planning to eliminate soon. |
| Interviewer | Sir, may we know how your company is putting CE into practice? |
| Interviewee | We still haven't started our CE journey. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |
| Interviewee | We are still planning to eliminate the internal barriers by this year. We believe that if we can eliminate those, no matter the external barriers we can still at least start our CE by next year. In similar manner, if many companies start practicing CE, the external barriers may automatically start to deteriorate. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
| Interviewee | You are most welcome. |

Non-CFP large local company with complete CE and sustainability awareness, planning and working towards developing and adopting CE strategies

Interview-6

| | |
|-------------|--|
| Interviewer | Hello. Good morning sir. |
| Interviewee | Thank you and good morning to you too. |
| Interviewer | I convey my utmost respect to you sir for participating in our interview at such a short notice. |
| Interviewee | It's my pleasure. How is the research going so far? |
| Interviewer | Glad that you've asked. It's going pretty good. I'm putting my utmost effort to make it successful. We are truly grateful for your participation sir. It will surely bring benefit to the academics around the world. |
| Interviewee | Glad to hear that. It's so good to see young people like you taking big steps to make world a better place. |
| Interviewer | My pleasure, sir. Should we start the question session? |
| Interviewee | Yes. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | It's hard to miss the topic as Sustainability is the hottest topic in the industry nowadays. When UN officially introduced Sustainability Development Goals in 2016, our company had to take serious decisions whether to transform our traditional way of operation. It was decided that our company would start being sustainable by 2018. We started training our employees, setting standards, aligning objectives, making changes in business model, reshaping our supply chain and marketing strategies. It took us a few months more than our expectation. We finally started our sustainable practices from 2019. We are still learning and amending our approaches towards sustainability continuously, with a utmost dedication to meet our aspiring objectives. |
| Interviewer | Good to know. Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | As an attempt to become more sustainable, one of our senior officials came up with the idea to implementing circular economy. The board of executives soon were educated on the topic by professionals and lecturers from various related institutions. We have already realized its significance and are considering to start practicing circular economy soon. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |
| Interviewee | Honestly speaking, I would say that our company has average knowledge and awareness about the concepts. We still have a long way to go. |

| | |
|-------------|---|
| Interviewer | What are the barriers your company is facing when intending to adopt and maintain circular economy? |
| Interviewee | Can you be more specific because there are plenty of barriers. |
| Interviewer | Will you rank some of the common barriers if I provide you with options, based on the relevance to your company at present? |
| Interviewee | Yes, sure. |
| Interviewer | Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |
| Interviewee | Cultural barriers are most significant in my opinion. I would then rank financial barriers, market barriers, governmental barriers, business model barriers, management barriers, technological barriers and economical barriers. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |
| Interviewee | We think that if we can minimize cultural, financial, managerial and business model barriers, regardless of external barriers, we will be able to begin our CE by 2023. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
| Interviewee | Thank you. Hope you finish the research successfully. |

Non-CFP large local company with average sustainability knowledge and awareness, had average CE knowledge and awareness, planning and working towards developing and adopting CE strategies

Interview-7

| | |
|-------------|---|
| Interviewer | Hello. Good evening sir. |
| Interviewee | Same to you too. How are you doing? |
| Interviewer | I'm doing great by the grace of Almighty. I convey my utmost respect to you sir for participating in our interview at such a short notice. |
| Interviewee | It's fine. |
| Interviewer | We are truly grateful for your participation sir. It will surely bring benefit to the academics around the world. |
| Interviewee | Good to hear that. And you are doing a great job yourself as well. |
| Interviewer | My pleasure, sir. Should we start the question session? |
| Interviewee | Let's start. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | Yes. I came to know about this idea back in 2015 when I was attending an international summit on globalization and climate change. I brought the idea back to our company. Our managers were soon educated on the topic and we planned to adopt the idea as soon as possible. By 2018, we started our strategic changes and transformed our business completely. We have adopted several sustainability driven strategies with an aim to meet the UN sustainability development goals related to our company. |
| Interviewer | Good to know. Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | Circular economy concept was introduced to me by one of our officials when we were deciding upon our production and process sustainability. It is indeed an sophisticated concept with immense positive impacts. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |
| Interviewee | I would say we still have a lot of changes to undertake and that we have only modest level of knowledge and awareness related to both of the concepts. |
| Interviewer | What are the barriers your company is facing when intending to adopt and maintain circular economy? |
| Interviewee | It would be helpful if you specify some of the barriers as there are plenty of them. |
| Interviewer | Sure sir. Please rank the following barriers according to your own judgment. Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |

| | |
|-------------|---|
| Interviewee | Cultural barriers and financial barriers are currently the most significant barriers for our company. Then I would rank market barriers, governmental barriers, and economical barriers. Followed by business model barriers, management barriers and technological barriers. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |
| Interviewee | We still need to train our staffs and break the barriers to take a decisive step towards circular economy. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
| Interviewee | Thank you too for doing such a great research. |

Non-CFP large local company with modest sustainability and CE knowledge and awareness

Interview-8

| | |
|-------------|---|
| Interviewer | Hello. Good morning sir. |
| Interviewee | Good morning. |
| Interviewer | I convey my utmost respect to you sir for participating in our interview at such a short notice. |
| Interviewee | Thank you. |
| Interviewer | We are truly grateful for your participation sir. It will surely bring benefit to the academics around the world. |
| Interviewee | I hope so. |
| Interviewer | Should we start the question session? |
| Interviewee | Yes sure. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | Yes. By 2017, several clients of our company demanded that we adopt sustainability concepts into the core of our companies and provide them with reports of our progress. We understood that we must consider the issue more seriously and immediate take decisive steps. We setup a project to educate ourselves about the topic and work together to make changes in our company. And from 2019, we officially started being sustainable. |
| Interviewer | Good to know. Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | Circular economy concept is still new to me. Although I came to know the term in 2020, our company still haven't taken any official steps towards generating a circular economy framework and implement it. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |
| Interviewee | Although we are currently practicing many sustainability driven activities, such as sustainable production, human resource management and reporting, we still lack knowledge about the idea that may enable us to become more sustainable. Furthermore, our company still needs more knowledge about circular economy to enable us to adopt such a concept. I would say that our knowledge and awareness about these ideas are significantly low. |
| Interviewer | What are the barriers your company is facing when intending to adopt and maintain circular economy? |
| Interviewee | When intending to adopt circular economy our senior executives have identified several barriers. Currently the biggest barriers are cultural and financial. |
| Interviewer | Would you be kind enough to rank the barriers if I provide a list of barriers? |

| | |
|-------------|--|
| Interviewee | Sure thing. |
| Interviewer | Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |
| Interviewee | Cultural barriers and financial barriers. Then, governmental barriers, and economical barriers, market barriers, management barriers, business model barriers, and technological barriers. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |
| Interviewee | We still haven't taken official steps towards generating or implementing circular economy practices. The topic is still under discussion by our executive panel. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
| Interviewee | You are most welcome. |

Non-CFP large local company with modest sustainability and minimal CE knowledge and awareness

Interview-9

| | |
|-------------|--|
| Interviewer | Hello. Good afternoon sir. |
| Interviewee | Good afternoon. How is your research work going? |
| Interviewer | It's going great sir. I appreciate your concern. I convey my utmost respect to you sir for participating in our interview at such a short notice. |
| Interviewee | My pleasure. |
| Interviewer | As you know, today we will have a interview session as a part of my research. I'm truly grateful for your participation sir. It will surely bring benefit to the academics around the world. |
| Interviewee | Thank you for making me part of something this big. |
| Interviewer | It's an honor sir. Should we start the question session? |
| Interviewee | Sure. Let's start. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | Sustainability is a term that is so popular nowadays that it is hard not to be introduced to it. I came to understand the term in 2018, when our company realized that most of the major export oriented companies are transforming their business model and operation towards sustainability. Soon, our company decided to undertake the concept and adopt sustainability policies and practices officially as we were also receiving several inquiries from our clients regarding our sustainability concerns. So we started sourcing supplies from sustainability driven suppliers, deployed advanced IT systems and other production techniques to minimize our energy consumption and wastage, and started nurturing good corporate culture. These were done in 2019. |
| Interviewer | Good to know. Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | I have heard of the term last year. One of our senior officials suggested looking into the concept more keenly. But so far my knowledge regarding this term is minimal. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |
| Interviewee | Although we are currently practicing many sustainability driven activities we don't know much about the idea. And our knowledge regarding circular economy is much lesser than that of sustainability. We still have a long way to go. |
| Interviewer | What are the barriers your company is facing when intending to adopt and maintain circular economy? |

| | |
|-------------|---|
| Interviewee | Currently I would say we only realize our cultural, financial and managerial barriers to be the most critical barriers. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |
| Interviewee | I still need to learn more about this concept and so does my organization. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
| Interviewee | Glad I could help. |

Non-CFP large local company with minimal level of sustainability knowledge and awareness, minimal CE knowledge and awareness

Interview-10

| | |
|-------------|--|
| Interviewer | Hello. Good noon sir. |
| Interviewee | Good noon. |
| Interviewer | I convey my utmost respect to you sir for participating in our interview at such a short notice. |
| Interviewee | I wasn't too busy right now. Still having my lunch break. So, no problem. |
| Interviewer | Good to know sir. As you know, today we will have a interview session as a part of my research. I'm truly grateful for your participation sir. It will surely bring benefit to the academics around the world. |
| Interviewee | I will surely try to be helpful. |
| Interviewer | Thank you sir. Should we start the question session? |
| Interviewee | Yes, sure. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | In 2016, our clients asked us to adopt the notion of sustainability, and that's when I learned about it. After getting multiple enquiries from our clients about our sustainability concerns, our firm decided to publicly embrace the notion and establish sustainability policies and procedures in 2018. |
| Interviewer | Sir, have you come across the term circular economy? |
| Interviewee | Yes. Our company realized that as a manufacturing company recycling and reducing our waste is crucial while practicing sustainability. With that in mind, we started looking for more sustainable solutions. We came to realize that circular economy is what we are looking for. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |
| Interviewee | I would say that our company has currently sufficient knowledge about sustainability. But as we are still learning and improving our sustainability, I would say that our knowledge is average. Our knowledge regarding Circular economy is not much. We are still only learning about it. We only came to take the topic seriously in 2020. |
| Interviewer | What are the barriers your company is facing when intending to adopt and maintain circular economy? |
| Interviewee | Currently we are learning about cultural and managerial barriers. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |
| Interviewee | We need more in depth knowledge before taking serious steps regarding circular economy. |

| | |
|-------------|--|
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
|-------------|--|

Non-CFP large local company with average level of sustainability knowledge and awareness, minimal CE knowledge and awareness

Interview-11

| | |
|-------------|--|
| Interviewer | Hello sir. Good morning. |
| Interviewee | Good morning. How are you? |
| Interviewer | I'm doing great sir. I convey my utmost respect to you sir for participating in our interview at such a short notice. |
| Interviewee | It's my pleasure. I'm excited honestly. |
| Interviewer | I'm delighted to know that sir. As you know, today we will have a interview session as a part of my research. I'm truly grateful for your participation sir. It will surely bring benefit to the academics around the world. |
| Interviewee | Happy to help. |
| Interviewer | Should we start the question session? |
| Interviewee | Sure. Let's start. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | Yes, indeed. Sustainability is at the core of our company and it has been so for the last 5 years. As we realized that our traditional production and operation processes are not efficient enough to allow us prosper in a meaningful way, our officials were looking for ways to improve our overall organization. We realized how the large MNCs and local companies are adopting sustainability concept and prospering. We immediately got interested and started to take the concept more seriously. Soon, by 2017, our officials, associated partners, clients and suppliers came to an agreement that we will adopt the concept. We transformed our whole organization by 2018 and since then we are practicing sustainability. |
| Interviewer | Good to know. Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | Yes. When our company started the walk towards sustainability, we were, and are still now, continuously looking for ways to improve our sustainability. Our production and supply chain manager approached our executive team with the circular economy idea. We learned about the idea more extensively from various leading institutions and professionals in the relevant field. We understood the importance of CE principles such as reusing, recycling, repurpose and so on. We are still investigating and learning about the concept although we already have a good knowledge about it. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |

| | |
|-------------|---|
| Interviewee | Well. I would proudly say that our organization has an extensive knowledge and awareness about both of these terms. And the best part is, we are still learning them consistently. |
| Interviewer | That's just marvelous sir. Your company's dedication is worth praising. May I know some of the barriers your company is facing when intending to adopt and maintain circular economy? |
| Interviewee | Yes. But it would be helpful for me if you kindly name a few. I had a long day and I only remember the most critical barrier we are currently working on to minimize, which is the cultural barrier. |
| Interviewer | Sir I will tell you the types of barriers and you may rank the barriers based on their significance. Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |
| Interviewee | Cultural barriers, in my perspective, are the most critical. After that, I'd rank financial barriers, market barriers, economic barriers, regulatory barriers, business model barriers, managerial barriers and technology barriers, in order of importance. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |
| Interviewee | We are focused and are working with complete dedication to adopt CE by the end of this year. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
| Interviewee | It's been a pleasure. |

SME with complete sustainability and CE awareness and knowledge, planning and working towards developing and adopting CE strategies.

Interview-12

| | |
|-------------|--|
| Interviewer | Hello sir. Good evening. |
| Interviewee | Evening. Can't wait to start our interview. |
| Interviewer | I convey my utmost respect and appreciation to you sir for participating in our interview at such a short notice. |
| Interviewee | My pleasure. I always appreciate the academics for their efforts to make a better world. |
| Interviewer | Thank you sir. Should we start the question session? |
| Interviewee | Yes, yes. Let's start. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | I learned about the concept first at a conference about UN Sustainable Development Goals in 2016. Many of our clients suggested our company that we should send officials to attend that conference and so we did. It was an eye opening experience. We learned how our world is suffering for our unsustainable actions and how we can make a better future for everyone. We started to take the concept more seriously in 2017, when our clients urged us to practice sustainability and publish reports on our progress. In 2018, we officially started our journey towards sustainability. However, as our company is not so large and our clients are all local brands, our sustainability approach is still limited. |
| Interviewer | Good to know. Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | Our officials are still learning about this concept of circular economy. Since we started practicing sustainability, one of our goals was to enhance our sustainability. Our experts suggested that our company should start the circular economy as an attempt to provide more eco-friendly added value to the customers and get back more values from them. However, our officials haven't taken any official decisions regarding practicing CE. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |
| Interviewee | I would say that we still have much to learn about the topics. I would say the degree of our level of awareness and knowledge is average. |
| Interviewer | Sir, now I will tell you the types of barriers and you may rank the barriers based on their significance. Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |

| | |
|-------------|--|
| Interviewee | Sorry to say but our company is currently only learning about cultural, financial and governmental barriers. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |
| Interviewee | We are still learning about the idea. Hopefully we will adopt the concept once we have sufficient knowledge about the idea and the barriers to implement and practice CE is minimized. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |

SME with average sustainability and CE awareness and knowledge

Interview-13

| | |
|-------------|--|
| Interviewer | Hello sir. Good afternoon. |
| Interviewee | Afternoon. I'm in a bit hurry. Hope to get the interview done as quick as possible. |
| Interviewer | Sure sir. It won't take much long. And I convey my utmost respect and appreciation to you sir for participating in our interview at such a short notice. |
| Interviewee | It's my pleasure. |
| Interviewer | Should we start the question session? |
| Interviewee | Let's do it. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | Yes. I came to understand the term when I was at a conference in one of the prestigious universities of Bangladesh. There was this lecture about global warming and its relationship with production and consumption in our economy. The lecture included a good portion of discussion about the concept and need of sustainability. Later in 2018, our company adopted the concept of sustainability and we are still practicing it with utmost commitment. |
| Interviewer | Good to know. Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | Well circular economy is a vital strategy when it comes to practicing sustainability especially for manufacturing companies like ours. Our officials have already suggested that we should soon adopt the concept. However, we are still learning about it still. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |
| Interviewee | Our knowledge and awareness regarding sustainability is quite satisfactory although its average I would say. However, our knowledge regarding CE still needs much improvement. |
| Interviewer | Sir, now I will tell you the types of barriers and you may rank the barriers based on their significance. Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |
| Interviewee | I don't know about much about all the barriers you've just mentioned. However, I must say that cultural and financial barriers are currently the most critical barrier we are facing. |
| Interviewer | Thank you sir. Lastly sir, I would like to know if you have any future plans regarding circular economy. |

| | |
|-------------|---|
| Interviewee | We still have much to learn about the topic. Our clients are satisfied with our progress regarding sustainability. So we are pacing slow regarding CE. We will soon take official steps regarding CE maybe by 2023. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |

SME with average sustainability awareness and knowledge and modest CE awareness and knowledge

Interview-14

| | |
|-------------|--|
| Interviewer | Hello sir. Good morning. |
| Interviewee | Morning. Sorry to say but can we get the interview done fast? I'm in a hurry. |
| Interviewer | Sorry to hear that sir. We can do the session later sir. |
| Interviewee | No. Let's just get it over with. |
| Interviewer | Sure sir. It won't take much long. And I convey my utmost respect and appreciation to you sir for participating in our interview at such a short notice. |
| Interviewee | It's my pleasure. |
| Interviewer | Should we start the question session? |
| Interviewee | Yes. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | Sustainability surely has caught my attention in recent years. I know a lot of companies are adopting such strategy. However, as our company is still practicing traditional way smoothly, we haven't yet thought about studying further about the topic |
| Interviewer | Sir, have you come across the term circular economy? |
| Interviewee | Sorry, Haven't yet heard of it. |
| Interviewer | Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |

SME with almost no sustainability or CE awareness and knowledge

Interview-15

| | |
|-------------|---|
| Interviewer | Hello. Good evening sir. |
| Interviewee | Good evening. How is your research going? |
| Interviewer | It's going great. I have gained so much insight about the topics. Hopefully it will be of immense success. I convey my utmost respect to you sir for participating in our interview at such a short notice. |
| Interviewee | It's a pleasure. |
| Interviewer | Sir, I have already informed you about the research paper I'm working on, prior to this interview. We are truly grateful for your participation. It will surely bring benefit to the academics around the world. |
| Interviewee | I hope so. |
| Interviewer | Should we get started sir? |
| Interviewee | Sure. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | Yes. I have studied about it in international workshops around 2010. Our company noticed that sustainability is the future and educated us about the concept through international conferences and workshops. |
| Interviewer | That means you were interested in sustainability for a really long time. Does your company practice sustainability? |
| Interviewee | We have practicing sustainability for a long time now. I feel proud to say that our company is a global leader in sustainable fashion manufacturing. |
| Interviewer | Good to hear that sir. |
| Interviewee | Thank you. |
| Interviewer | Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | Yes indeed. Our company is one of the leading companies in Bangladesh when it comes to practicing circular economy. In fact, we have one of the founding partners of Circular Fashion Partnership initiative in Bangladesh. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |
| Interviewee | We definitely have immense knowledge and awareness about CE and sustainability. You may go through our website and also Circular Fashion Partnership website to investigate our history and progress regarding these concepts. I'm sure you will have a better insight which may help in your research project. |

| | |
|-------------|--|
| Interviewer | Thank you sir. Sir, now, if I provide you with a list of barriers related to the implementation of CE, will you be able to rank them in order of their relevance to your company. |
| Interviewee | Sure, go ahead. |
| Interviewer | Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |
| Interviewee | Our biggest obstacle has always been cultural issues. Then I'd suggest that external barriers like political, commercial, technical, and economic barriers are particularly problematic since we can't truly control them. Finally, I'd prioritize internal impediments such as company model, management, and financial constraints. |
| Interviewer | Sir, may we know how your company is putting CE into practice? |
| Interviewee | It's all published in our report and website. Even CFP website has a list of our activities. It would be helpful for you to visit there and see for yourself, as I might miss out some points. You may even find there, our reasons for adopting such concepts, the positive impacts we have experienced and our future aspirations as well. |
| Interviewer | That is a wonderful news sir. Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
| Interviewee | My pleasure. |

CFP Company

Interview-16

| | |
|-------------|--|
| Interviewer | Hello. Good morning sir. |
| Interviewee | Morning. |
| Interviewer | I convey my utmost respect to you sir for participating in our interview at such a short notice. |
| Interviewee | Not a big deal. Always happy to help. |
| Interviewer | Thank you. Sir, I have already informed you about the research paper I'm working on, prior to this interview. We are truly grateful for your participation. It will surely bring benefit to the academics around the world. |
| Interviewee | Good to know that. |
| Interviewer | Should we get the session started sir? |
| Interviewee | Yes, please. |
| Interviewer | Are you aware of the concepts of sustainability? |
| Interviewee | Our company is one of the most sustainable RMG companies in Bangladesh. So, yes, definitely I'm aware of it. I learned about this idea a long time ago. |
| Interviewer | Good to hear that sir. |
| Interviewee | Thank you. |
| Interviewer | Sir, have you come across the term circular economy on your journey towards sustainability? |
| Interviewee | Yes. Our company learned that concepts such as recycling, reusing, reducing, repurposing and such other relevant concepts could enhance our sustainability. We were looking for solutions. Then in the recent years, we became a part of Circular Fashion Partnership of Bangladesh. |
| Interviewer | What is the degree of awareness and knowledge about sustainability and circular economy in your organization? |
| Interviewee | I would proudly say that our company has a good degree of knowledge and awareness regarding both of these ideas. |
| Interviewer | Thank you sir. Sir, now, if I provide you with a list of barriers related to the implementation of CE, will you be able to rank them in order of their relevance to your company. |
| Interviewee | Sure thing. Yes please. |
| Interviewer | Cultural barriers, governmental barriers, economic barriers, market barriers, technological barriers, business model barriers, management barriers and financial barriers. |
| Interviewee | Cultural issues are our most critical obstacle. Then there are these governmental barrier, technological, and economic barriers. Market barriers are also hindering |

| | |
|-------------|---|
| | our progress. Finally, I'd rank business model, management, and financial barriers. |
| Interviewer | Sir, may we know how your company is putting CE into practice? |
| Interviewee | I would suggest you look into our publications and the CFP website to get more insight about our CE practices. |
| Interviewer | Great. That's all for now. Hope you and your company will be more successful in coming years. Thank you sir for your patient participation. |
| Interviewee | It's been a pleasure. |

CFP Company

Non-exclusive licence

A non-exclusive licence for reproduction and publication of a graduation thesis¹¹

I Polok Biswas

1. Grant Tallinn University of Technology free licence (non-exclusive licence) for my thesis

CIRCULAR ECONOMY PRACTICES IN READY-MADE GARMENTS INDUSTRY OF BANGLADESH

supervised by Merle Küttim, PhD ,

1.1 to be reproduced for the purposes of preservation and electronic publication of the graduation thesis, incl. to be entered in the digital collection of the library of Tallinn University of Technology until expiry of the term of copyright.

1.2 to be published via the web of Tallinn University of Technology, incl. to be entered in the digital collection of the library of Tallinn University of Technology until expiry of the term of copyright.

2. I am aware that the author also retains the rights specified in clause 1 of the non-exclusive licence.

3. I confirm that granting the non-exclusive licence does not infringe other persons' intellectual property rights, the rights arising from the Personal Data Protection Act or rights arising from other legislation.

12.05.2022 (date)

¹ *The non-exclusive licence is not valid during the validity of access restriction indicated in the student's application for restriction on access to the graduation thesis that has been signed by the school's dean, except in case of the university's right to reproduce the thesis for preservation purposes only. If a graduation thesis is based on the joint creative activity of two or more persons and the co-author(s) has/have not granted, by the set deadline, the student defending his/her graduation thesis consent to reproduce and publish the graduation thesis in compliance with clauses 1.1 and 1.2 of the non-exclusive licence, the non-exclusive license shall not be valid for the period.*