

Design Business Model for Sustainable Innovation: A Case Study on Clothing Industry in Bangladesh

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Abstract: *The aim of this study is to design a business model for sustainable innovation of clothing industries in Bangladesh. We have taken the interview with fifteen employees and ten customers of four selected clothing industries in Bangladesh. Then we designed a business model innovation with sustainability for the clothing industries in Bangladesh.*

In this study, the existing literature that has been examined the internal and external barriers to business model innovation. The interviews with the employees of four companies have been conducted to know what they have been done previously and what the present status of sustainability of their business is. The interview with the customer has been done to investigate the customers' expectation and perception of business innovation with sustainability. Findings indicate that presently clothing industries of Bangladesh are passing a very difficult time for some of the barriers. Therefore, the customers are losing their interests to purchase clothing products from Bangladesh. Firstly, we will review the existing literature which is related to business model innovation. Secondly, the research method will be designed that will be pursued by the case study's findings. Finally, we will discuss about the findings of previous studies and will disclose the main contributions for this study. If the companies could establish trustable, suitable sustainable innovation, creating scope for new employment and without harming environment, this proposed business model will be unique in nature and it will be functional for sustainable innovation and sustainable business of clothing industries in Bangladesh. Particularly Bangladesh and other developing countries could implement the model for the sustainable innovation.

Keywords: *Consumer behavior, Business model innovation, Innovation, Environmental impact, trust, Innovation with sustainability.*

Date of Submission: 01-07-2019

Date of acceptance: 16-07-2019

I. Background

A business model is a conceptual tool which help to make money for a firm and also help to understand how a firm does business, by illustrating how a firm design product or service and how it prepare for market, or characterizes itself by the value proposition from other forms (Österwalder and Pigneur, 2005; Rasmussen, 2007). In order to uncover the utmost useful and suitable model, many scholars intend that business model alternatives are achieved with experimentation (Sosna et al., 2010; Chesbrough, 2010; McGrath, 2010). In order to originate business benefit and relieve the nugatory effects of economic growth, Shifting innovation actions unto a more sustainable channel is increasingly regarded as wishful by business and policy creator alike (Barbier, 2011; Hekkert and Negro, 2008; Sustainability 2014; Barbier, 2011). Sustainability is integrated in the business model which can be described as the architecture of how the company does business. "Involving how it creates, delivers and captures value for all its stakeholders" (Dybdahl, 2016). When bringing sustainability and business into line, business models can lead to improved consumption patterns, better efficiency and consistent system designs (Lüedecke-Freund 2010, p.7; Lüedecke-Freund & Looock, 2011). As a continuous procedure business model innovation requires to be innovated every moment (Demil & Lecocq, 2010; Villinger, 2015; Khumalo & Van der Lingen, 2017). Business model innovations for sustainability may not be economically viable at the start (e.g. as in the time when the first hybrid car was introduced) but may become so in the future due to regulatory or other changes (Bocken, et al., 2014).

Business model innovation for sustainability can yield important advantages to firms that adequately pursue a business design that focuses on capturing value across the triple-bottom-line to benefit company, customers, society, and the environment (Elkington, 1994; "Aleph Group," 2014). Recently for adding value to all the company's activities most of the company's focus on reconsidering their value chain and in all levels of their business operations the best practice companies integrate sustainability (Carbonaro 2012, p. 49; Dybdahl,

2016). Some of the solutions are sustainability approaches such as lack of trust, suitable sustainable innovation, and lack of focus on the consumer behavior, do not acknowledge the threats of global over-consumption and appropriate environment. The solutions ranging from small step-by-step changes to radical business model innovations show a shift towards a more sustainable fashion industry. In our research, the business model will be built based on the existing literature as well as data and information gathered from the interviews of Bangladeshi clothing industry's employees and customers/consumers to identify the pros and cons of clothing industries. Therefore, it will be a unique and original model comparing to others.

In this field, there are two types of barriers for the clothing industry to innovate a business model with sustainability that are internal and external barriers. The internal barriers are holistic approach, lack of assurance, lack of risk and appropriate environment. The external barriers are consumer behavior, threats of global over-consumption, lack of international communication and Lack of trust. The insights and views from the clothing industries employees and customers of Bangladesh were related with the concept of this research and it was found some research gaps from the existing literature that will be fulfilled by the current research. By using inductive approach, a new business model will be built for sustainability. This business model will be the original one regarding customers and employees perspective. The proposed business model will be unique in nature and it will be functional for sustainable innovation of clothing industry of Bangladesh.

The recommendations or suggestions obtained from the study will be applied for the solutions of the existing problems of clothing industries in Bangladesh. In addition, the present research will bring a variety of communication channels for promoting clothing industries in order to overcome the barriers where they will be needed. The findings can help practitioners in the industry to build more sustainable business models, and contribute to knowledge relevant to forming policy that can stimulate a local and more sustainable fashion industry in Bangladesh.

II. Literature Review

A business model is the blueprint of how a company does business and it commercialize about product and services (Chesbrough 2010). Last two decades, Business model continually growing but still cut into pieces (Burkhart et al. 2011; Zott et al. 2011). The last years there has been a growing interest in the subfield sustainable business models (Stubbs & Cocklin 2008; Lüdeke-Freund 2010; Bocken et al. 2013; Schaltegger et al. 2012, etc.), but it is still a new field in both the academic and business world. Sustainability strategies employed by business are deficient in some ways: lack of focus on the consumer behavior; they do not acknowledge the threats of global over-consumption; and they do not take a holistic approach (Sheth et al. 2011), Lack of assurance (Sivertsson and Tell 2015), Lack of risk (Laukkanen and Patala 2014), Lack of international communication, Appropriate environment (Schaltegger et al. 2011), Lack of trust (Lüdeke-Freund, 2013) and lack of sustainability (Muslu & Holm, 2012).

“Innovating a business leadership gap is the main problem which took place when the owners in the organizations are not able to change its attitude to a more acceptance for experimentation and change, which create from risk aversion and fear of failure” (Sivertsson and Tell 2015). When conducting business model change for sustainability, Internal and external communication play an important role for any company (Castro & Lilja, 2017). “Lack of external communication appears to be a crucial factor in exposing and exploiting the changes made within the company” (Castro & Lilja, 2017). This barrier refers to the lack of external communication of sustainable activities done inside the firm to customers, which impedes the case company to maximize profits on their investments made on sustainability (Castro & Lilja, 2017).

“Customers would need assurance that they could return an item and receive a refund” (Beh, Ghobadian, He, Gallea, & O'Regan, 2016). Consumer behavior can have a significant influence on the environmental and social impact of clothing (Fletcher 2008; WBCSD 2008). Consumer behavior in the clothing sector can be steered towards being more sustainable (Drijver & Broer, 2014; Cohen & van der Wijst, 2015). Environmental and social impacts of the fashion industry can be attributed to production and distribution, an equal part of the responsibility is borne by consumer consumption behaviors (Roos et al., 2016). Business model modifications for both new and existing models must accommodate the growing relevance of environmental and social issues in business strategies (Schaltegger et al. 2011), thereby driving innovation.

Table 1: Barriers to Business Model Innovation

Barriers to Innovation	Origin	As suggested by
Holistic approach	Internal	(Sheth et al. 2011)
Lack of assurance	Internal	(Sivertsson and Tell 2015)
Lack of risk	Internal	(Laukkanen and Patala 2014)
Appropriate environment	Internal	(Schaltegger et al. 2011)
Lack of sustainability	Internal	(Muslu & Holm, 2012)
Customer demand	External	(Sheth et al. 2011),
Consumer behavior	External	(Drijver & Broer, 2014)
Threats of global over-consumption	External	(Sheth et al. 2011),
Lack of communication	External	(Castro & Lilja, 2017).
Lack of trust	External	(Ludeke-Freund, 2013)

“A firm needs to simultaneously deliver economic, environmental and social benefits in order to be sustainable” (National Academy of Sciences, 2011). “Those models which can assess the sustainability or the lack of sustainability of companies and their business activities would definitely help to achieve improvements for a more sustainable future”(Muslu& Holm, 2012) . “The lack of sustainability standards and appropriate regulations makes it difficult to control and monitor companies in the supply chain to ensure their compliance”(Castro & Lilja, 2017). BMI can lead to companies successfully incorporating sustainability into business models, thereby creating both economic and societal value (Porter and Kramer, 2011). Business is always blaming because of the social pressure even though at the same time it is incorporating social responsibility into its practices for that it does not make the solution.“The solutions ranging from small step-by-step changes to radical business model innovations, show a shift towards a more sustainable clothing industry”(Dybdahl, 2016).

The aim of this study is to address the gap by explaining and understanding the case company’s business model. I hope this study will be enabling to show how a new business model will be creating by the customer and company’s employee perspective within and beyond the firm’s boundaries. By inspecting of companies’ employees and customers and their evolution the study can evaluate how sustainability has been inserted into them. “Activity-based assessment of a BM, in combination with a dynamic dimension, which involves the continuous change in the design elements of the BM, allows a complete understanding on how activities overlap and build on each other, comprising BMI for sustainability”(Castro & Lilja, 2017).

III. Objectives and Research Questions

3.1 Objectives

The main aim of this study is to design a business model for sustainable innovation by comparing four companies in Bangladesh. The more specific purposes are:

- a) To assess the current issues involved in environmental and social sustainability in the clothing industry.
- b) To analyze the factors which are affecting the customer for switching to another country for buying clothing products.
- c) To find out the customer’s expectation and perception level.
- d) To find out the way of sustainability of existing business by consumer behavior change in clothing industry.

3.2 Research Questions

In order to achieve the above aim and objectives, we have formulated one major research question (MRQ) and four subsidiary research questions (SRQs) that will guide the study.

MRQ: How a new business model can be innovative with sustainability in clothing industries?

SRQ1: Which types of environmental and social sustainable issues are present in clothing industry?

SRQ2: Which factors are affecting for switching to other countries to buy clothing product?

SRQ3: How can we change the consumer behavior by manipulating tactics in clothing industries of Bangladesh?

SRQ4: How customers’ expectation and perception can be identified?

IV. Methodology

We applied the face-to-face interview and case study methods for this study. We have selected four companies from four regions in Bangladesh as a case study such as Bitopi Group, Sinha Group, Al-Muslim Group and Palmal Group. 25 interviewees were selected by using purposive random sampling method. The interview was conducted using a semi structured questionnaire consisting of open-ended and close-ended questionnaire. The locations of those selected companies were in Mirpur, Banani and Gulshan area of Dhaka City of Bangladesh. As the four company's location was in several areas of Dhaka City, the face-to-face interviews were convenient for the researcher. The entire interview was carried out using Bangla language as the case company's employees' mother tongue was Bangla; therefore, there is no risk to limit the validity of the study. All the semi-structured and unstructured interviews were recorded for understanding the aim of the research question from the perspective of the interviewees. The results of the study were thematically analyzed and interpreted. At the time of the interview, the researcher was writing the answers in paper and also recording. All of the writing answers and recordings were noted. First all of the answers were noted by bangla language then it was translated from bangla language to English to make approachable to a universal level. At the time of translating from bangla language to English, all the interview answers were checked for decreasing the obscurity and miss-giving errors.

V. Findings and Discussions

All of the data have been arranged in six sections. The collected data from the interviews are analyzed under each relevant section. To improve the accuracy and make the analysis clearer and systematic first researcher has written and read the interviews then found out the appropriate keywords from the interview. After writing and reading all of interviews several times, some appropriate quotations were identified and they were discussed under some specific headings. All of the clear and systematic quotation points have emerged as a barrier in this study to innovate a business model with sustainability. It has been added these barriers (prospective problem) with internal and external barriers to innovate a BM with sustainability. We combined all of the barriers (internal, external and prospective barriers) to increase the strength to innovate a BM with sustainability.

5.1. Profile of the Interviewees

Table 2 indicates that the total data were collected from 25 interviewees who were directly involved with this research field and all of the interviewees' positions were 5 Merchandiser, 4 Garments planning, 5 Production and Dyeing, 3 Sales accounting manager, 3 Industrial Engineering and 5 Customers/Buyers. Both male and female were present in this interview and eighteen interviewees were in the age group of 20-35 and seven interviewees age were 35-50. The duration of the interview was about 20 minutes by per interviewee. Their educational backgrounds were mentioned in Table 2. That was noticed after the Rana plaza and Taznin fashion collapse. That's why consumers are losing their trust and switching another country to buy garments product. Therefore, we need to be conscious about building safety and fire safety.

Table 2: Profile of the Interviewees

Where	Descriptions	Number	How long	When	Descriptions	Number	
Four clothing company's employees of Bangladesh (Sinha group, Bitopi group, Al-Muslim group and Palmal group) through face to face interview	Interviewees		20 minutes per person (Averagely)	From February to April	Interviewees Position		
	Male	20			Merchandising	5	
	Female	5			Garments planning	4	
	Total	25			Production and Dyeing	5	
					Sales accounting manager	3	
					Industrial Engineering	3	
	Interviewees Age		Problem identified by customers & clothing company's Employees		Customers/Buyers	5	
					Total	25	
	Customers of clothing company in Bangladesh through face to face interview	20-35	18	Customers	Employees	Name of the Company	Number of interviewees
		35-50	7	1. Quality control 2. One-time shipment 3. After sale service	1. Compliance 2. Waste management 3. Quality Assurance 4. Safety Problem	Sinha Group	7
Total		25	Bitopi Group			8	
			Al-Muslim Group			5	
Interviewees Education			Palmal Group			5	
Below Graduation		15					
Above Graduation		10					
Total		25			Total	25	

5.2. Distribution of the Interviewees of the four companies

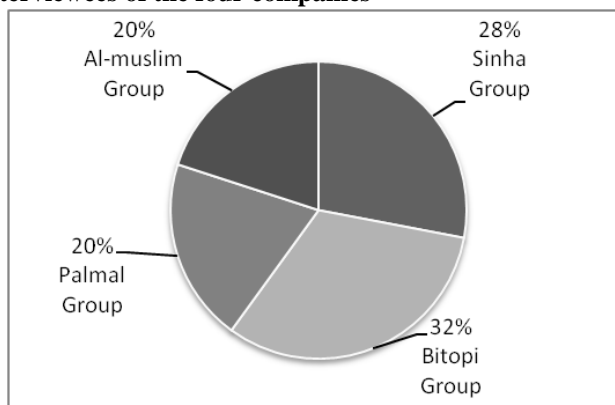


Figure 1: Distribution of the Interviewees

Figure 1 reveals that there are total 25 interviewees and all interviewees were different companies and areas from Bangladesh. The highest number of interviewees (32%) was from Bitopi Group, followed by 28% from Sinha Group, 20% from Palmal Group and 20% from Al-Muslim Group.

5.3. Internal, external and prospective barriers

Three kinds of barriers such as internal, external and prospective barriers have been found from raw data and literature review. Raw data collected by self-observation and open-ended questionnaires from the four case companies as prospective barriers which are compliance, waste management, after self-service, quality control, one-time shipment, safety problem and quality assurance etc. and another two kinds of barriers that have mentioned as internal such as holistic approach, lack of assurance, lack of risk management, lack of appropriate environment and external barriers are change of consumer behavior, global over-consumption threats, communication problem, lack of trust. However, those barriers are enumerated below:

5.3.1 Internal barriers

5.3.1.1 Lack of holistic approach

In internal barriers, holistic approaches means take care everything from all sides. To innovate a business model with sustainability holistic approach requires. Lacking of the holistic approach suddenly came unidentified and unexpected danger

5.3.1.2 Lack of assurance

Lack of assurance, this is another problem for clothing industries. Most of the times company can't serve the product to customer at the customer's expected time and expected product because of that customer dissatisfy. Lack of assurance is obstacle to innovate a business. So to fulfill the customer demand need to focus on timely shipment and good quality product.

5.3.1.3 Lack of risk management

Risk management is another barrier to innovate a business model with sustainability. Risk management is a process for recognizing, measuring and controlling threats to an organization. We find that most of the companies are worried about the lack of risk management. Because of risk management a shortage arises in the budget that's why they are more concerned about this. To reduce the risk management and to innovate a business with sustainability companies need to focus on manmade and natural incidents such as terrorist attacks, wars and earthquakes etc.

5.3.1.4 Lack of appropriate environment

To increase the production in company appropriate environment is important. Now-a-days in garments industries have a negative impact on appropriate environment. Environment is destroying because of water pollution, more use of toxic chemicals, don't throws the garments waste in fix place. To keep good environment inside and outside of company, need to reduce water pollution, less use of toxic chemicals and throws the garments waste in fix place.

5.3.2 External barriers

5.3.2.1 Consumer behavior

Consumer behavior entails all consumer activities associated with the purchase, use disposal of goods and services. It is true that consumer behavior is a cognitive and behavioral trait of human being. It is very difficult to bring an exact solution and to evaluate it accurately. Even though it is power of consumer to demand change, we can change consumer behavior by manipulating tactics such as giving some alluring offers on clothing product and transportation cost for consumers.

5.3.2.2 Global over-consumption threats

Maximum garments industry doesn't care about global over-consumption threats. Because of that garments position is changing in every year. To keep the position and to innovate a BM with sustainability need to focus on good technical skills, awareness about high market and good understanding of market and value.

5.3.2.3 Communication problem

Communication problem is the problem to innovate a business. To increase the customer appearance and to innovate a business always keeps in touch with customer by email, phone call, Skype etc. and the people who know different types of languages should be appointed in the company.

5.3.2.4 Lack of trust among consumer and suppliers

Trust plays an important rule to innovate a business. Relationship has broken among the consumer, customer and supplier because of trust. So to build trust and to innovate a business model companies should focus on quality control, on-time shipment, good quality product serves etc.

5.3.3 Prospective barriers

In addition, seven prospective barriers have been found, in this study, which are follows: compliance, quality assurance, quality control, safety problem, on-time shipment, after sales service and waste management.

5.3.3.1 Lack of awareness regarding the compliance

Every industry needs to aware of compliance. Compliance means to comply with something or yield to the wishes of another. Even though now-a-days companies are trying to maintain compliance but still there is some lacking about this. The satisfaction of customers depends not only on cheap labor cost but also on the

compliance. To improve a clothing factory, the concerned people need to be aware of environment and social issues. International buyers are very choosy about compliance; therefore every industry should increase the social as well as corporate responsibility in order to innovate a BM for social sustainability about compliance. In addition, the study found that sound pollution in a factory, Effluent Treatment Plant, Air circular, labor welfare, weekly holiday fund, environmental policy and security policy etc. were the significant issues to maintain compliance properly.

5.3.3.2 Lack of quality assurance

Quality assurance is another process of designing, evaluating, assessing products and producing to determine that they fulfill their desired quality for a company regarding their target market. Quality assurance is very important part for a garment company because a company stands behind its clothing's manufactures with quality assurance. Quality assurance is a management system and this process will ensure that the product will confirm to customers' requirements as well as their satisfaction level. Therefore, to make the customer satisfaction in all companies, they need to fulfill the quality assurances such as tear, tenjyle, cincilipage, rabing saliva, water fastness, shrinkage and pilling etc.

5.3.3.3 Lack of quality control

The development of a company depends much on quality control. The study revealed that quality control is one of the important reasons for switching the foreign buyers to another country. For lack of quality control, not only the customers are switching to another country but also the existing companies are hampering day by day. Truly speaking, quality control started from fibers, yarns, fabric construction, designs and color fastness and to final inspection. If a company does not maintain the quality control strictly, the customers don't accept the products. Furthermore, it will need more time and cost for reproduction. Therefore, they should ensure the quality control accurately in order to fulfill the customers demand and expectation as well as to reduce the company damage. Because clothing trends become change within a short period of time.

5.3.3.4 Safety problem

Now-a-days safety has been a mandatory issue for workers in garment industries. Here workers are the main asset in a garment industry. So to continue a successful garment company needs to focus about worker's safety. In garments industry dangers come from suddenly and most of dangers come from unidentified and unexpected directions. Therefore, to keep a company safety every industry should to focus on fire protection, training program, sound protection, proper lighting, building protection and Respiratory protection etc.

5.3.3.5 Lack of timely shipment

On-time shipment is one of the problems in garment industries. Time is a crucial factor because it can make differences between the success and failure in a company. Many companies can't deliver the product to the customer at appropriate time because of quality issue, assembly late, inter-company delay, purchased part delay and manufactured part delay etc. This is the one kind of issue of customers switching another country.

5.3.3.6 After sales service

After sales service means, after selling your product to customer how much you are caring of your valuable customer. It is very important for any kind of business. It is not sufficient to say that thank you, take care, let's keep touch for the next etc. Good customer relationship depends on the long term success. To continue relationship with customer, need some important point such as good looking, providing business card, good quality product, keep touch with customer by phone call, good-looking packaging etc. Above all of the points need to focus to keep good relationship with customer and to innovate a BM with sustainability

5.3.3.7 Problems of waste management

Findings indicate that waste management is a big barrier to develop a company. Waste management activities and actions require managing waste for its final disposal. There are few methods to reduction wastage such as reduce, reuse and recycle etc. Companies are also following these three methods but can't be success because of the lack of technology and suitable equipment. All of the companies are removing water and extra parts of garments without following the above three methods as well as modern technologies properly.

Therefore, environment is polluting day-by-day. Obviously, to keep the industry and environment clean, all companies should follow and maintain these three methods.

VI. Managerial Implications Of The Study

At the time of the interviews and literature review, researcher followed the companies' previous business model, innovation, barriers of their model and how they made a solution. In this research the results are structured according to interview questions. Here we found that there are three points which dominates

customers’ such as quality control, on-time shipment and after sale service as well as Employee’s focusing points are compliance, waste management, quality assurance and safety problem etc. According to interviewees we found that most of the customer’s focusing on quality control and employee’s focusing on compliance. Through the interviewees we found that here is business innovation with sustainability in a company but not working properly. I have added my prospective barriers to innovate a business model with sustainability with the previous barriers that are internal and external barriers. It has been showed in this research that why the customers are switching another country, which factors can fulfill the customer demand not only the customer but also the companies’ employees. It is necessary to find out the problems within the existing facilities of clothing companies and the switching tendency of the customers from one country to another country. Finally, it is essential to focus and solve the present demand of customers which I mentioned in my research model. So, we can hope to innovate a new business model by fulfilling the customer demand.

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			2. One-time shipment	2. Waste management	Bitopi Group	8	
			3. After sale service	3. Quality Assurance	Al-Muslim Group	5	
				4. Safety Problem	Palmal Group	5	
		Total	25			Total	25
	Interviewees Education						
	Below Graduation	15					
	Above Graduation	10					
	Total	25					

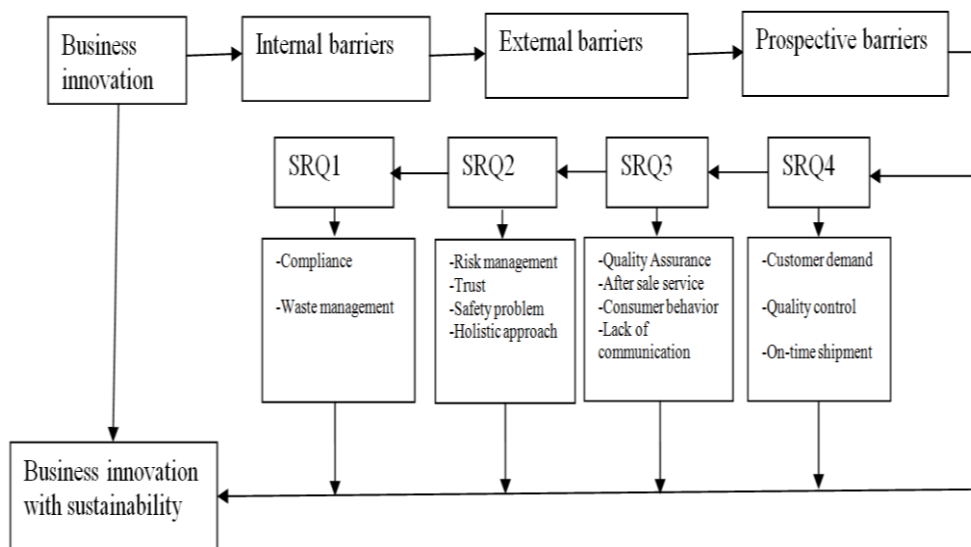


Figure 4: Business innovation model with sustainability

In this study, by reviewing the literature and collecting the qualitative data by the interview's questionnaire a final business model has been designated. Here, prospective barriers with internal and external barriers to innovate a business model with sustainability have been explained and put forward some suitable solutions by all of the SRQs. If a company can comply all of the barriers in this research, a sustainable business could be established.

VII. Conclusion

Garments and clothing industry has brought a tremendous change in day-to-day activities in Bangladesh. About 80% export income come from this sectors. Now-a-days Bangladeshi clothing industries are facing some problems that have been mentioned in this research. In this research analyzed some of the company's profile, previous literature and books to identify the present barriers of the Bangladesh companies that have been discussed as internal and external barriers. In order to define this topic more clearly and to innovate a business model with sustainability added some prospective barriers with the internal and external barriers. In this research find out various barriers and solution approaches. According to customers and employee's perspective this research has been designated. The insights and views from the garments company's employees and customers of Bangladesh are the original one. The proposed business innovation will be unique in nature. The recommendations or suggestions obtained from the study will be applied for the solutions of the existing problems of Garments Company in Bangladesh. In addition, the present research will bring a variety of communication channels for promoting garments companies for promoting; overcome the barriers where it is needed.

The research will have theoretical and practical implications. That is, the sustainable business innovation model is an excellent piece of research output that has theoretical implications. In addition, the insights and views of the customers will enhance the originality and uniqueness of the research. The limitations of the research that we could not include the others develop countries of the world. Future research on the issues could be carried out including some other developed and developing countries of the world. This paper develops a new business model by literature review and latest data collection that can prompt rethinking business model by adding new barriers with these three barriers to make more sustainable fashion industry. This is now starting point for the future research but the barriers in this research can focus for future research to make it more sustainability. Our research has conducted on four case companies where data have been collected in primary level but for the future research should focus on at least 10-15 companies where sustainability is propagating in all the organization and providing deeper insights into new barriers. Therefore, to innovate a business model for more sustainability need to explore different commercial contexts so that it is easy to compare between different barriers and limitations and also can assess differences among those companies to make the better decision.

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Md. Arif Hossain. "Design Business Model for Sustainable Innovation: A Case Study on Clothing Industry in Bangladesh." *IOSR Journal of Polymer and Textile Engineering (IOSR-JPTE)*, vol. 6, no. 4, 2019, pp. 01-10.