

An Approach to Establish Design-Development Model for Bangladeshi Handloom Fashion Industry

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To cite this article:

Tanjibul Hasan Sajib, Sarmin Akhter Beauty, Palash Chandra Dev Nath. (2023). An Approach to Establish Design-Development Model for Bangladeshi Handloom Fashion Industry. *Research & Development*, 4(4), 187-198. <https://doi.org/10.11648/j.rd.20230404.19>

Received: December 2, 2023; **Accepted:** December 19, 2023; **Published:** December 28, 2023

Abstract: This study attempts to uphold a report on an approach to establish design-development model for Bangladeshi handloom fashion industry. This paper is done by quantitative research for developing the Bangladesh handloom sector to follow the Indian Fashion Industry. Moreover, the study will also consider primary and secondary sources of information to analyze the handloom sector's development. It is motivated by the fact that, over this period, India's fashion industry has developed, and become well-positioned in the international market. The Indian handloom-based fashion industry is Jigmat Couture, Raw Mango, Bharatsthal and Southloom, Fabindia, Heirloom Naga, the Calico Guild, REHWA society. Their New techniques are also already catching the international market's attention. Based on that formula, handloom sector development is an effective decision for the Bangladeshi handloom sector. In fact, CAD implementation technique will help to develop this sector, which will be briefly discussed in the result and discussion part of this paper. On the other hand, old motifs and concept have been used for a long time; there is no development in the handloom products. Therefore, this paper is prepared to improve this sector through CAD-based design; the effective thing is that it is a creative sector as the second employment after agriculture. So, if we take initiative to improve them, we can do it because Aarong, Aranya, Bibiana, Bibi Russell, Bishwo Rang, Kay Kraft, Anjan, and Sadakalo already use handloom fabric. So, if we apply the latest techniques in our fashion brands, we hope that from the local market to the international market will spread its popularity.

Keywords: Handloom Product, Development in Handloom, Design-Development Model, CAD, Photoshop, Fashion Industry

1. Introduction

This study is focused on establishing design-development models for the Bangladeshi handloom fashion industry. This study aims to promote handloom among foreign buyers through a design-development model. This report is prepared to improve the handloom sector through some design-development models using CAD concepts so that it is easy to represent it in the international market. This paper describes some techniques to establish a design-development model with handloom-based fashion products. This study focuses on the Indian handloom-based fashion house so that we can get concepts from them, and our fashion house can start in a new way. Some people are still very interested in purchasing

handloom-based products [4]. As a result, this research paper is researched to develop the handloom sector; it is necessary to create the handloom industry because it faces enormous challenges to sustain itself for the technological advancement and digitalization of the apparel sector lacking development. This is why we have to keep up with the times and CAD implementation in the handloom sector, which is the main aim of this study. Development is a procedure that creates progress, positive change, economic, and social [3]. On the other hand, when development is progressed, sustainability in this sector also happens. Sustainability is social equity, environmental safeguard, economic fairness, and cultural accuracy [9]. Following those terms, this study also tries to find solutions to develop the handloom sector so that this sector can lead not only in the international market and at the

grassroots level. So, this paper finds Computer-aided handloom Design for weavers' time saving because most weavers try to ready handloom motif design on graph paper, which is time-wasting. But if the procedure is done in Photoshop (CAD), time will be saved for the weavers [11].

As a result, the latest unique design will be prepared, and if we succeed, we can reach a great position. If we want to take the initiative, we should focus on technical knowledge to implement in the handloom sector. For that reason, nowadays, CAD is a great opportunity that saves time and helps to find out the latest trends and new design varieties of our traditional motif [11]. On the other hand, India has taken a great position to export their products to the international market; their economic sector is growing gradually. Some designers in that country guide the handloom industry; for that reason, their fabric has been made in creative concept and can adapt to the latest trends. The latest trends are implemented in the handloom fabric; consequently, international buyers are attracted to their products. Raghavendra Rathore, Ritu Kumar, Manish Malhotra, Ritu Beri, and Neeta Lulla are Indian designers, and they are using these handmade fabrics with a new concept [10]. Moreover, those designers have helped to guide new techniques for local weavers before weaving fabrics [6]. The handloom products are exported from India to the world in more than 20 countries, such as the USA, UK, Spain, Australia, Germany, Italy, France, and others [5]. Because of their initiative, they are doing great on the products of weaving fabric. However, brands in our country are not as active as Indian brands. Bibi Russell, Aranya, Bibiana, Mayasir Ltd, Rang, Aarong, Kaykraft, Anjans, Sadakalo, and Afsana Ferdousi those are working on weaving fabrics. Still, it is very effective to increase those percentage for use in that fashion house. Moreover, proper implementation of the latest trend should give knowledge to the weavers with CAD; accordingly, the different types of dresses will be made in a creative way from handloom-based fabric [15]. After that, we can be able to represent our product in the international market. Computer-aided Design (CAD) helps a lot if they learn about this. After that, this handloom sector develops day by day, and we can take a significant position in the international market.

1.1. Significance of the Study

The overview of this research first discusses that the cumulative study of the Bangladeshi handloom sector and the development of the handloom sector is the main aim to follow the Indian fashion industry. They use highly valued raw materials, which are matched with input material values and by the high costs of handloom production in order to produce just value addition products, the diversification of handloom products, product development to increase the value-added, adapt fair trade practices, handloom weaving as a modern profession, such as fine arts, photography, music, etc., and encourage young people to enter the handloom industry [9]. Furthermore, Indian designers make significant contributions to the handloom industry along with

government cooperation. Apart from this, the literature shows that various new techniques are great for turning around. If Bangladesh follows the Indian fashion industry, we can quickly reach a great position because we can reach a significant place better than India. So, we should take the initiative to spread our popularity in the international market. That's why we need trained technical knowledge among our weavers to discover new fashion knowledge. As a result, CAD is the primary technique to implement in our handloom industry in this research paper [11]. For that technique, the weavers can weave very quickly various fabrics with new design concepts; as a result, our fashion brand is encouraged to use those fabrics [15].

1.2. Research Objectives

This study is to collect new techniques for developing the handloom sector. In addition, this paper tries to come across the present conditions of Bangladesh and Indian handloom-based products to find significant obstacles to development in this sector. Another objective of this study is to determine how many products are developed in the handloom industry. This research is about how to improve this position from the previous and present conditions. The weavers in this country have created a unique niche in weaving excellence through the acquisition of skills passed down from generation to generation. However, design techniques are not changing; for that reason, developing this sector through new digital techniques (CAD) implementation is effective. As a result, the artisans and designers can improve the unique designs on the handloom-based products with artisans. Various types of colors, textures, motifs, and designs can be implemented in different ways. This study tries to design some Photoshop (CAD) models for developing the handloom sector and how to save time [15]. The specific objectives are to:

- 1) A cumulative study on the Bangladeshi handloom industry.
- 2) Finding opportunities for handloom products by studying the Indian fashion industry.
- 3) Designing a model for the fashion industry focusing development of handloom-based products through CAD implementation.

2. Literature Review

Faria Sharmin has found out the handloom industry's role in Bangladesh's national economy is immense. The indigenous handloom industry occupied a special place at home and abroad. The latest design concept is for handlooms, which is effective, and evens the latest techniques to inspire people to purchase handloom products [12].

Annapura says that jamdani is a sophisticated and labor-intensive technique that allows shaped motifs to weaving of finely. Moreover, the innovative capacity for handloom weaving creates sustainability among the weaving communities through phone technology, and the innovation techniques can get a great

response from the handloom sector [1].

CAD allows for a faster pace of work to reduce the cost of products and to improve competitiveness in 2008. Furthermore, special drafting methods can be applied, and the planning calculations are quicker and more accurate [15].

The handloom sector is one of the most important sectors of the Indian textile industry. The handloom sector has significantly contributed to the Indian economy for a long time. Furthermore, the author tries to say that if the designer, researcher, and marketer focus on the handloom sector, this sector will revive as well as take a position in the international market [10].

Dwivedi explains that nowadays how important CAD and 3D technology are in the fashion industry. To address these challenges, it is also possible to combine solutions such as CAD and 3D technology with Internet tools so that optimum solutions can be developed in all areas [2].

3. Research Methodology

The study will consider primary and secondary sources of information in order to analyze the development of the handloom sector. Furthermore, this research article is done for the development of handloom-based products in our country to follow the products of the Indian fashion industry. For preparing this report, there is also needed to study various publications of the handloom industry and websites. The study is prepared depending on the quantitative research. In order to improve the handloom sector, secondary data is used from 2012 to 2023. The motivation for choosing this span of time is that most of the handloom industries gradually developed during this period within this time in the Indian fashion industry and have taken a great position in the international market. So, following their industry, this paper is discussed about design progress of the handloom sector. To develop the handloom sector, the CAD concept will be implemented, for that reason; CAD-based knowledge is taken from different authors' study papers [14].

3.1. Sampling Method

A researcher should choose an accurate sampling method for selecting the population, setting, and time although the research situations are limited. Interviewing everyone or observe on different matters, is usually not easy too. Quantitative researchers' works are with a large number of sources for different experimental work according to results. There is a great opportunity to get strong data from quantitative research, and this research report is worked on the basis of quantitative. Therefore, there is collected information from secondary research.

3.2. Data Collection and Analysis

Observations are conducted for acquiring data on the handloom sector from different fashion brand of Bangladeshi

and India. My friend and I went to collect data and I conducted quantitative research through interviews, observation, and secondary research. I interviewed the 120 people who helped me a lot to give me information. I collected information over 10 weeks and then got very effective data. Also more, it was necessary to do a field survey among designers for collecting some opinions, and then that was done by a Likert scale questionnaire (3 point scale) survey on 30 designers (academic and another). That was effective for this paper to complete and be authentic, as well this paper contained accurate data which has done field survey.

3.3. Data Storage

All collected data and documents will be stored according to data management process of University. In line with University's requirements, all data will be retained for five years.

4. Result & Discussion

This chapter is comprised of four parts, and the first part discusses the analysis of various types of products about various types of handloom products of Bangladeshi brands. The second part describes an analysis of various types of product motifs about different types of traditional motifs and new motifs strategies on graph paper; those are used on handloom products through fashion brands. The Third part is discussed handloom-based products' materials; the last one is following an Indian handloom-based fashion brand for finding techniques to develop the handloom-based design-development model. Therefore, the findings are exactly the solution that helps to complete this research report.

- 1) Analysis of collected handloom based different types of ladies' products. For the example -
- 2) Analysis on variety types of product
- 3) Analysis on variety types of products motif
- 4) Analysis on variety types of products materials
- 5) Analysis on Indian handloom products
- 6) Analysis on Bangladeshi handloom products export condition & destination

4.1. Analysis on Variety Types of Product

Findings are handloom-based various types of products, cultural art, and motif are applied to different types of dresses in a variety of contexts to develop Bangladeshi handloom-based clothing. Handloom-based different types of products are found in the market. There are various types of handloom products; those are in the category of women, men, kids' girls, and kids' boys in aarong such as handloom cotton Panjabi, men's handloom lungi, men's cotton shirts, cotton tops, viscose shirts, men's cotton Panjabi, viscose shawl, viscose muffler, men cotton Panjabi pajama set, maternity top, kids boy cotton Panjabi, men cotton coat, cotton scarf, maternity sleepwear, viscose jacket, cotton shalwar kameez, saree, dupatta and so on. From the primary survey, Aarong collects these types of products (figure 1) with various types

of traditional work.



Figure 1. Handloom Based Products Aarong Collection 2023.



Figure 2. Handloom Based Products Aranya Collection 2023.

However, Aranya decided to re-establish the lost traditions and they decide to promote unique products (figure 2) by individual craftsmen and artisans so that indigenous crafts become available in the market.



Figure 3. Handloom-Based Product with New Concept Bibir Bason Collection 2023.

On the other contrary, Bibir Bason is applying on the dress traditional techniques with contemporary print designs (figure 3). Moreover, they decide to promote the sustainable development of lost traditions and even improve Bangladeshi cultural arts and crafts.

4.2. Analysis on Variety Types of Products' Motif

Findings handloom-based various types of cultural art and motif are applied to different types of dresses in a variety of contexts to develop Bangladeshi culture. Handloom woven fabric is made of cotton, and that is made with hardworking

labor. The handloom, an artistic fabric of Bangladesh weavers, is one of the most beautiful textiles in the world. This fabric is designed fabulously with traditional motifs which is the most popular to all from old age to modern age.



Figure 4. Handloom Based Products' Motif Aarong Collection 2023.

The weaving techniques of this fabric are the most notable part, which is drawn on lucid graph paper and placed beneath the wrap instead of sketched on the fabric. There is some motif, these are so popular such as the Dana motif, nakshi kantha motif, Kolka (Paisley), Pakhi (birds), palki (palanquin), Ghora (horse), Moyur (peacock), Nortoki (dancer), Roth (chariot), shonko (conch), hathi (elephant), Dhaki (drummer), dora (stripes), phool (flower), Aansh (fish), Buti (polka), Lotapata (twigs) and so on. From the primary survey, Aarong uses those motifs for developing new products (figure 4) and, they are trying to improve the handloom sector.

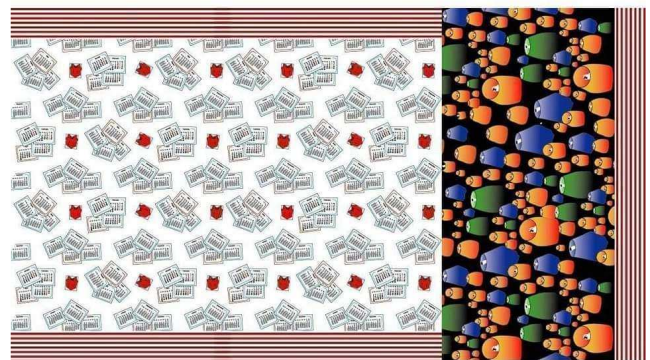


Figure 5. Handloom Based Products' Motif Graph Paper Design Bibir Bason Collection 2023.

Moreover, graph paper (figure 5) is also used before weaving the fabric with different motifs. Already, Bibir Bason is a new fashion brand, and they try to develop a unique fashion product with handloom fabric. As well, they are already focusing on Indian techniques as a result our local people is gradually catching attention. If we want to make them effective, we need to take initiative. We hope that we will have a bright future in the handloom sector.

4.3. Analysis on Variety Types of Products' Materials

Findings handloom-based various types of products and various types of products materials are applied on different types of dresses in a variety of contexts to develop

Bangladeshi handloom based products. Most of the handloom products of the Aarong brand are made with handloom cotton, handloom viscose, handloom rayon, Textured handloom viscose cotton, embroidered handloom cotton, printed and embroidered handloom cotton, handloom cotton - rayon, handloom tie-dyed viscose cotton and so on. The aesthetics of products are very eye-catching with hand embroidery work, block print, machine embroidery, screen print, dobby texture, as well as tie and dye (Figure 6).



Figure 6. Handloom Based Products' Materials Aarong Collection 2023.

4.4. Analysis on Indian Handloom Products

India is the source of a wide variety of rich and nice handlooms and textiles. In fact, this country is universally known for awesome printing, weaving, and hand-spinning. With 23.77 lakh looms, the handloom industry is the largest cottage industry. Several traditional products are produced for example shawls, lungies, sarees, ghagra cholis, bedspreads, kurtas, bed sheets, fashion accessories, and so on. Not only that there are western dresses, fashion fabrics, drapes, bed linens, kitchen linen, rug durries, and decorative furnishings, and those are produced as well they export those items in the international market [5]. Moreover, India takes some initiatives such as having less power consumption, being capable to adapt to market conditions, having less capital intensive, and being eco-friendly.

4.4.1. Exported Items and Destination

Mat products, carpets, rugs, bed sheets, cushion covers, and other textiles are the main exports of handlooms from India. The export of mats and rugs from this country is accounted for 29.60% of overall exports in the period from 2021 to 2022. In total, home textiles compose over 60% of India's handloom exports. The export of carpets, rugs, and carpets accounted for US\$ 124.89 million in value between 2021 and 2022 amounting to INR 930.78 billion. The export of cotton durries amounted to US\$ 190.47 million in INR 1,419.10 cores over the period between 2021 and 2022 [5]. In the period from 2020 to 2021, the total textile products produced from handlooms, for the example: bed linen, toilet linen, kitchen linen, bed sheets, pillowcases, cushions, table cloths, etc., accounted for approximately 23.5% of the total exports [13].

Karur, Panipat, Varanasi, and Kannur are the main centers for exporting handloom products such as bed sheets, table

cloth, kitchen rugs, toilet stains, floor coverings, embroidered textile materials, curtains or anything else that is produced in export markets. From January to June 2022, Indian exported cotton yarn/fabrics/made-ups, handloom products etc. worth US\$ 7.17 billion. Over 20 countries in the world are exporting handmade cloth products from India. The United States, United Kingdom, Spain, Australia, Italy, Germany, France, South African, Netherlands and United Arab Emirates are some of the most important importers. The US is the largest importer of Indian handloom products, and it has continuously been the most important consumer over the last eight years. During 2021 to 2022 (April to September 2022), the country importer handloom products are worth US\$ 33.75 million. Exports to the United Kingdom, which was India is the second largest exporter of handloom in the same period, rose to US\$ 6.50 million. European Union constituted a total of 18% India's export during 2021 to 2022, Bangladesh accounts for 12%, and UAE stood at 6% of total Indian handloom exports [5].

4.4.2. Design Concept in India

The majority of the weavers at Single Ikat Craft had been developing new and unusual designs, but some were working with both traditional and modern patterns. A single Ikat boat of Gujarat with a distinctive feature in its design, the Grid based pattern. In order to obtain a grid pattern, it was necessary to split the motif into smaller units that were as small as those on the graph sheet. When it was tied up a bunch of yarns was named bhagwat and they had been represented as the smallest square on the graph sheet. The bunch used to be called a ribbon while they were on the loom. The 61 divide formed one repeating unit and the same border was a 31 x 61 divide. The new designs are that they have come up with themselves. Embroidered books, newspapers, puzzle images, magazines, periodicals, and all sorts of other textiles and prints have been the inspiration for the new designs [11].

4.5. Analysis on Bangladeshi Handloom Products Export Condition & Destination

In terms of demands for its advanced handloom around the world, Bangladesh is on track to become one of the most required after countries. For centuries before the creating of this country, these fabrics have been completely connected to culture and heritage. Everywhere in the world, there is an increasing demand for fabric, with every passing day it passes through its own borders. In ancient times, the handlooms produced in Bengal had been exported to almost every wealthy nation of the world [8]. The export began about 10 years ago, and has so far received acceptance from a number of countries in the world. There are 1 million weavers producing more than 0.50 million handlooms, 59% of which are active. We get 620 million square meters of garment, accounting for 40% of the country's overall annual demand from these 0.3 million shed looms. The Bangladesh handloom board showed (table 1) a piece of the amount where Bangladesh earned 1.6 billion USD in exports of

handloom during the period from FY 2009 - 2010 to FY 2019 - 2020.

Table 1. Handloom Products Export Collected from Textile Focus.

| Fiscal Year | Type of products | Price of the products (in USD) | Country's |
|-------------|---|--------------------------------|--|
| 2015 - 16 | Tangail tant saree, Tant cotton saree, Lungi, | 95,76,875.00 | India, Japan, Germany, UK, Sweden, Switzerland |
| 2016 - 17 | Scarf, Handloom check fabrics, Kitchen towel, Table cloth | 115,10,060.00 | India and Japan |
| 2017 - 18 | Tangail tant saree, Tant cotton saree, Lungi, Scarf | 133,05,174.68 | India, Japan and UK |
| 2018 - 19 | Tangail tant saree, Tant cotton saree, Lungi, Scarf | 127,87,328.20 | India, Japan and UK |
| 2019 - 20 | Tangail tant saree, Tant cotton saree, Lungi | 13,25,182.50 | India, Japan and UK |

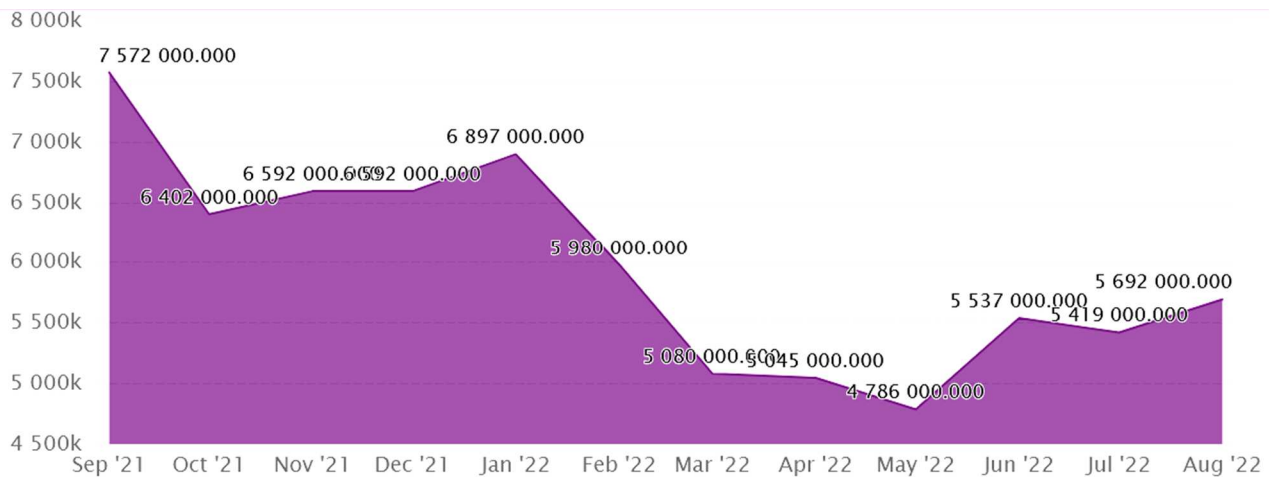


Figure 7. Handloom Textile (Oct 2015 - Aug 2022) Collected from ceicdata.

From October 2015 to August 2022, here (figure 7) are the statistics of Bangladeshi handloom product conditions, which is really surprising for our country. The condition of handloom textiles was 7,572,000.000 in September 2021, 881,000.000 in July 2016, 5,419,000.000 in July 2022 and 5,692,000.000 in August 2022. To increase our handloom products internationally demand, it is necessary to take a decision for developing this sector in a new way so that we can reach a high position in the international market.

4.5.1. Analysis on Weaving Items

By visiting the craftsmen, the need analysis was carried out. The researcher has learned that the craftsman used traditional techniques to develop their designs while she visited there. It has checked that, apart from the weaving, the craftsman would record the patterns on graph paper locally available to them with pencil, pen, color pencil, or pen on graph paper, as well, as someone trying to design on the handloom items, which would be a time consuming activity.



Figure 8. Handloom Design Samples from Weavers House.

It took a lot of time to develop the traditional method of design. Without the help of computer programs, it was hard to create a layout [11]. The handloom weavers wanted to learn to make the designs layouts, so that the color combination, which they had to imagine (figure 8) and was only possible while weaving of the fabric.

4.5.2. Design-Development Based on CAD

With the help of Computer-aided Design (CAD) without the loom process, it would be easy to see. When designing a layout using CAD, there would be the possibility to place motifs as well. The weavers did not have a catalogue for clients to look at. The transmission process can be improved by a catalogue or swatch file. Before production, consumers and weavers can look at the final product rather than visualize it. When the researcher visits the weavers of Narayanganj, she found that they develop designs for a long time.

For that reason, there is an essential computer-aided design so that those will be in the catalogue. As a result, time will be solved, and it will be easy to follow the latest trend and order quantity will be increased, then we will also get a good reputation worldwide. Furthermore, some of the newest design concepts have been developed (figure 9) in Photoshop in computer-aided design. Old motives have been used for a long time; that is why digital-based design with new motifs, new color concepts, and unique designs are effective in developing the handloom design to reach a great place.



Figure 9. Handloom Design on CAD (Photoshop).

Consequently, a catalogue of different designs will be prepared, and as a result, the visitors and company owners can also check all designs [11]. The digital technique is actually a very time-saving, which helps to easy productivity and speedy process for developing any product. If we want to represent handloom-based products in the international market, we need to implement a new market strategy. After that, the CAD-based concept will help a lot to designers, artisans, and weavers for improving the product. The following designs are prepared in Photoshop; there are some processes to develop any design. Thus, there is firstly a need to take a "new file", need to set the width and length with 60 pixels and 65 resolutions, after then, there is necessary to go to edit with preferences, grid and by pixels. After taking the grid option, then there is needed to take a pencil and color, and then draw a variety type of designs.

4.5.3. Design-Development Process Based on CAD

The design analysis process has illustrated what has come out of thinking. In fact, the thinking concept has been expressed from diverse platforms, and they have tried to represent their local concepts in the international market. Moreover, the flow chart (figure 10) states from the designing process to the last stage, which represents the world.

4.5.4. Inspiration Board

An inspiration board expresses a huge concept, and it helps a designer to provide new ideas for making newly designed dresses. Nowadays, there are various types of devices, and we can acquire different latest techniques. Same as, if our designers decide to help with their new concept, the handloom is also possible to sustain. Therefore, from that point of view, there has been created an inspiration board (figure 11) from our local concept so that something new or special can come out.

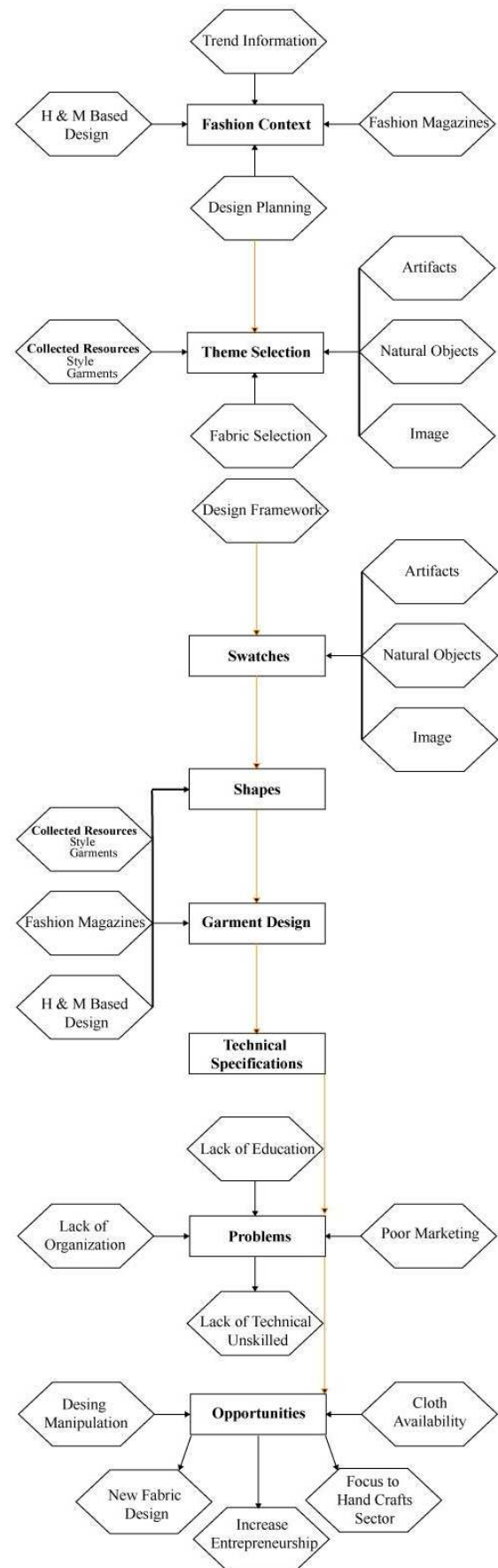


Figure 10. Flowchart of Design-Development Process.

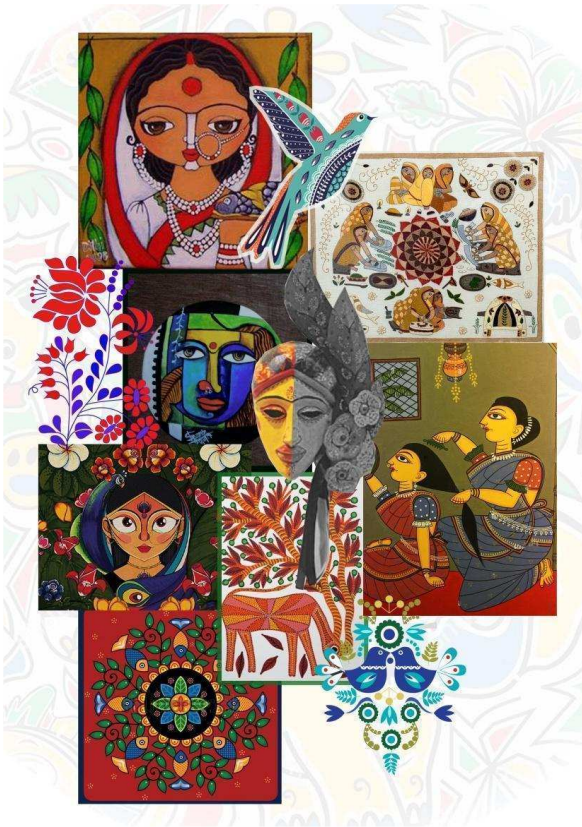


Figure 11. Inspiration Board.

4.5.5. Mood Board



Figure 12. Mood Board.

The design process becomes fulfilled from the mood board (figure 12), the new design is very easy to create when the mood board completes perfectly according to inspiration. The board helps to provide details concepts for making different new designs. Creativity is the most effective thing, and then the creative idea generates from the mood board. If we would like to complete design work, this is mandatory. Otherwise, the design work will be incomplete, and it helps to do great in working methodologies and problem-solving theories.

4.5.6. Color Board

Color is the symbol of attention to people if that is eye-catching; it ensures that people are impressed with any item and this color board (Figure 13) expresses for handloom different products concept. Same as, color is very necessary to forecast because we should not create any design based on guessing. For that reason, a color board is very important and the designer should analysis on color. There are different colors' analyses in the board of color for predicting upcoming products.



Figure 13. Color Board.

4.5.7. Design Board 01

This design (figure 14) is inspired to folk motif and latest design concept, as well that will be made on handloom fabric. Flower petals concept will be in Applique work, which implemented on this dress.



Figure 14. Design Board 01.

4.5.8. Design Board 02

This design (figure 15) is inspired to folk motif and latest design concept, as well that will be made on handloom fabric. Flower petals concept will be in Applique work, which implemented on this dress.



Figure 15. Design Board 02.

4.5.9. Design Board 03

This design (figure 16) is inspired to jamdani motif and latest design concept, as well that will be made on handloom fabric. This concept will be in Applique work, which implemented on this dress.



Figure 16. Design Board 03.

4.5.10. Design Board 04

This design (figure 17) is inspired to jamdani motif and latest design concept, as well that will be made on handloom fabric. This concept will be in Applique work, which implemented on this dress.



Figure 17. Design Board 04.

4.6. Design Board 05

This design (figure 18) is inspired to flower motif and latest design concept, as well that will be made on handloom fabric. This concept will be in Applique work, which implemented on this dress.



Figure 18. Design Board 05.

4.7. Design Board 06



Figure 19. Design Board 06.

This design (figure 19) is inspired by folk motif and latest design concept, as well as that which will be made on handloom fabric. This concept will be in Applique work, which is implemented on this dress.

4.8. Discussion

Nowadays, Computer Aided Design (CAD) is used to perform the specialized design functions with quick pace and reliability. With regard to color, design and style, this makes it an excellent opportunity for experimentation in weaving. A key role to play in facilitating the creation of new designs, with an infinite number of possibilities, can be played by CAD on handloom. Woven designs for Handloom items were developed using CAD, and CAD designing aid in gaining accuracy for weaving. So, the Photoshop of CAD software will be great supportive for weavers, as a result the designer also can help them. CAD based design will be unique, and there is too possible to attention to worldwide customers [14]. On the other hand, at present, some showrooms are decided to collect handloom-based items for developing that tradition. Accordingly, some examples are aarong, aranya, bibiana, bibi russell, rang, kaykraft, anjan, and sadakalo. For CAD based updating new design, our local brands will be more interested to use handloom fabric, along with, we can be able to gather attention from international market. As a result, using of our handloom fabric will be increased. Bangladeshi is one of the great countries for colorful celebrations. Many types of cultural festivals have happened in our country; those are celebrated happily by people. Thus, Pohela Boishakh is the first day of the Bengali calendar, which is one of the most popular festivals in our country. This day is celebrated with so much joy, and most of the young generation wears handmade fabrics item.

Moreover, that is changing day by day in the evolution of

time. Nowadays, foreign fabrics and dresses are used by most Bangladeshi people. They think that foreign cultures are smarter than local cultures. Again some people are wore saree, salwar kameez, Panjabi, and traditional based dress, even though most of the items are made with handloom cotton fabric, but their quantity is very low at present [7]. If CAD handloom is ready to develop latest unique design, our young generation will be encouraged to wear handloom based dress. In fact, that was one of the old fabrics of handmade and that was so popular contemporary. Not only in pohela Baisakhi but also on other occasions should wear traditional cloth by weaving based products. The young generation is the main expedient to save from plaguing the handloom sector. If they encourage using those items, we can improve it. We have many cultural occasions, for which people are interested to decorate them in a colorful way so that they can spend a good day. If that occasion becomes the main approach to wearing traditional clothing of handmade fabric, then we will not be needed to import foreign fabrics and clothing. All in one, now, in the final judgment, Photoshop in CAD helps to do design different types of motif, and then the handloom fabric will be favorite to the designers.

5. Conclusion and Recommendations

The findings from this study suggest that the handloom sector is a big traditional sector that helps to strong of our economic sector. As well, the economic growth will be also stronger if our fashion brand in our country decides to create handloom-based products with creative concepts, and we can represent our products in the international market. Handloom means handmade fabric by spinning a machine with creative ideas and motif which expresses our traditional culture.

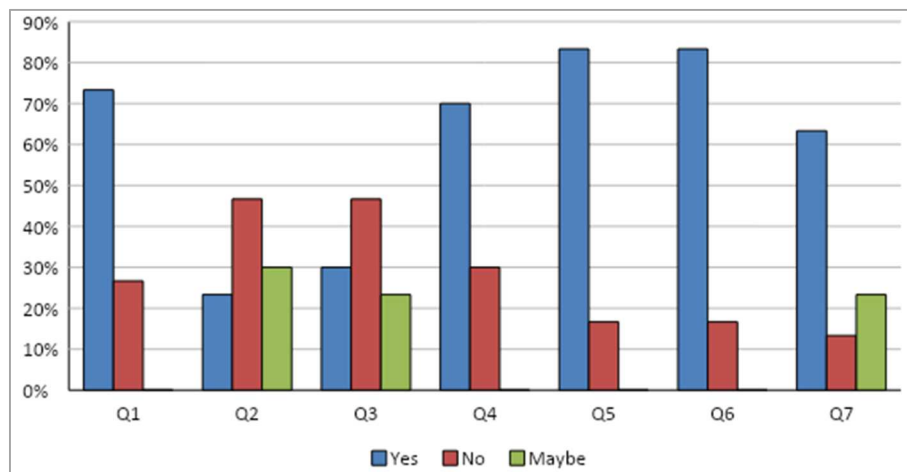


Figure 20. Questionnaires Result on Bar Graph from Field Survey 2023.

The traditional handloom industry in Bangladesh, which has been the most significant industry for a long past, was well-popular in Asia and Europe. Muslin was the finest quality of handloom used by emperors, families, and nobles, in addition to being one of the most crucial export goods

during Britain's period from 1757 to 1947. From Dhaka to Europe, about 6 million pounds of muslin were exported at a time. But that popularity decreased during COVID-19; as a result, the handloom sector has recently faced enormous challenges, and our economic growth from the handloom

sector is declining day by day. After COVID-19, India's handloom sector has taken a significant position in the international market because of its fantastic initiative. Some of their endeavors are the latest concepts in the motif of handloom, unique concepts in the handloom-based dress, and the newest techniques in the weaving fabric. By following their initiative, this paper is trying to implement the handloom-based products so that we can reach at our previous level. But can we arrive at a high level by following them at all? I think we can do it because we have an excellent reputation for handloom better than India. From that report, we can reach internationally at a high position. The researcher surveyed designers to determine their opinion on how much they are supporting the developing handloom-based products. The survey was done among 30 designers who participated, which is shown in the bar graph (figure 5).

Figure 20 has shown on survey result from participated designers how effective to improve our handloom products.

From the data analysis, we might have a clear view of the handloom-based design-development where designers shared their opinions regarding improvement in this sector. Most handloom-based products were widely recognized and well-known worldwide at the time, but in the evolution of time, we have lost so many popular items from our country. Again, we can overcome those problems if we take the initiative, we and develop our sector. From the data analysis, some designers want to improve this sector according to the latest design concept, which Indian designers already do. Besides, some designers also believe that many people purchase previous concept designs of handloom products, so we should keep previous motifs. In addition, they also suggest that how people will prefer according to the latest concept design for experimentation. If they agree, we can step ahead in developing this sector. Moreover, some designers want to build on the handloom sector in a new way by implementing different designs.

Additionally, a few designers said that if the nakshi kantha concept is implemented on various design concepts, handloom-based products can also be designed according to the new concept. Other designers are saying we should target fancy-type dresses from handloom fabric; we can also gain outstanding international achievement. Some designers give their opinion regarding traditional motifs to implement motifs on the different types of clothing diversely; then, we should keep our traditional motif even which will be with the new concept. Because our traditional motif is our main element in presenting our country internationally, there will be a smooth process to update the handloom sector. On the other hand, CAD-based concept which is appreciated from most of the designers because they think that those are an entirely new concept for doing unique work; then the variety of types of better work is possible very quickly, and even CAD (Photoshop) based work helps to find out new design.

Thus, most of the designers share their opinions with positive opinions and suggestions so that we can try to improve our handloom sector better than the previous situation. The finding of this report is that the cultural values

and weaving products influence some designers recently which are a positive point for our country. The scope of this study is also to increase using the handloom fabric in our fashion brand; as a result, the international market will get a response to our unique design [14]. Photoshop CAD can help to do easy work. If this technique can be implemented, some bright hopes can see in this sector in a new way.

Conflicts of Interest

The authors declare no conflicts of interest.

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