ISSN: 2959-6386 (Online), Vol. 2, Issue 3, December 2023

Journal of Knowledge Learning and Science Technology

journal homepage: https://jklst.org/index.php/home

Scope, Opportunity and challenges of Polyester Staple Fiber (PSF) Production in Bangladesh

Md. Abdul Hamid [1], Syed Tanim Ahmed [2],Mazed Parvez [3], Sumon Patwary[4]

[1] Global Research and Marketing (GRM), Bangladesh

[2] BRAC University, Bangladesh

[3] Pabna University of Science and Technology, Bangladesh

[4] Global Research and Marketing (GRM), Bangladesh

Abstract

Polyester Staple Fiber (PSF) is an important synthetic textile fiber used in various industries, including apparel, home furnishings, and industrial textiles. Bangladesh, a developing country with a growing textile industry, has the potential to become a major producer of PSF. This journal manuscript presents an in-depth analysis of the scope, opportunities, and challenges of PSF production in Bangladesh. The scope of PSF production in Bangladesh is vast due to the country's low labor costs and availability of raw materials. Additionally, the government's support for the textile industry through incentives and infrastructure development provides further opportunities for PSF production. However, there are several challenges that need to be addressed, including the high cost of importing machinery and technology, the lack of skilled labor and technical expertise, and the need for investment in research and development. Moreover, environmental concerns related to the production process, such as waste management and energy efficiency, need to be addressed for sustainable development of the PSF industry in Bangladesh. The manuscript presents an overview of the current state of the PSF industry in Bangladesh, including production processes, raw materials, and export markets, as well as an analysis of the industry's strengths, weaknesses, opportunities, and threats. Overall, the manuscript highlights the potential of the PSF industry in Bangladesh for growth and development, provided the challenges are addressed and a strategic approach to the industry's development is taken. The manuscript concludes with recommendations for policymakers, investors, and industry players to promote sustainable and inclusive growth of the PSF industry in Bangladesh.

Keywords: Polyester Staple Fiber (PSF), Market Research, Market feasibility study, Market assessment.

Article Information:

Article history: *Received:* 10/09/2023 *Accepted:* 25/10/2023 *Online:* 20/11/2023 *Published*: 20/12/2023

DOI: https://doi.org/10.60087/jklst.vol2.n3.p119

[i] **Correspondence author: Mazed Parvez** **Email:** parvezpust30@gmail.com,

Introduction

Polyester Staple Fiber (PSF) is a versatile synthetic fiber with a wide range of applications in the textile and non-textile industries. With the growing demand for textile products, the production of PSF has become an increasingly important industry in Bangladesh. As a developing country with a large population, Bangladesh has a strong potential market for PSF products. The production of PSF is an important sector that can contribute to the country's economic growth and development. Recent research of the global polyester staple fiber market by Vantage Market Research reveals that expanding application sectors are accelerating market expansion. The overall global polyester staple fiber market is anticipated to reach USD 43.35 billion by 2028, primarily

driven by the rapid use of sustainable goods. In 2021, the global market had revenues of USD 27.39 billion, and a 6.21% compound annual growth rate (CAGR) was predicted. In a report titled "Polyester Staple Fiber Market by Product (Solid, Hollow), by Origin (Virgin, Recycled, Blended), by Application (Automotive, Home Furnishing, Apparel, Filtration), by Region (North America, Europe, Asia Pacific, Latin America) - Global Industry Assessment (2016 - 2021) & Forecast (2022 - 2028)," Vantage Market Research also predicts that the expanding textile industry will contribute to the market (Research, V. M, 2022). The import of synthetic fiber into Bangladesh's textile sector has gradually increased over the previous several years. A 3.4% rise from 96,077 tonnes the prior year, domestic spinners imported 99,345 tonnes of polyester staple fiber (PSF) in 2020. Around 80 textile mills currently produce a variety of synthetic yarns and fabrics, including polyester, VSF, tensile, and modal. Despite having far smaller exports of man-made clothing than its competitors, Bangladesh has emerged as one of the world's leading exporters of clothes in recent years. Industry analysts claim that synthetic fiber is a suitable "fibre of the future" due to its employment in end-use categories such athletics, leisurewear, women's dresses, home textile, automotive, carpets, and other industrial sectors. However, the acceptance of garments made from synthetic fibers has been slow to date. The textile industry organization, BTMA, has said that duty-free imports of man-made fibers like cotton should be allowed as the need for yarn rises. They pointed out that the sector will suffer from the implementation of a 5% VAT on yarn sales. Additionally, the BGMEA requested a 10% financial incentive for products created using man-made fibers for the current fiscal year (Bhanushali, 2021).

The purpose of this journal paper is to explore the scope and opportunities for PSF production in Bangladesh. The paper will examine the current state of the PSF industry in Bangladesh, including the production process, the main raw materials used, and the major players in the industry. It will also analyze the demand for PSF products in Bangladesh, and the potential for growth in the domestic and export markets. The paper will also explore the challenges faced by the PSF industry in Bangladesh, including the availability of raw materials, technological limitations, and competition from other countries. The journal paper will provide insights into the potential of the PSF industry in Bangladesh, and identify the key factors that will contribute to its growth and success. The paper will also make recommendations for policymakers and industry stakeholders on how to support the development of the PSF industry in Bangladesh, and maximize its potential benefits for the economy and society. Overall, the paper will contribute to the understanding of the PSF industry in Bangladesh, and its role in the country's economic and social development.

1. Literature Review

Polyester Staple Fiber (PSF) is a synthetic fiber that is widely used in the textile industry for manufacturing different products. PSF is a versatile and durable material that is made by melting and extruding polyester polymer chips into long, continuous fibers, which are then cut into short staple fibers. The production of PSF has become an increasingly important industry in Bangladesh, where it has a strong potential market for textile products. This literature review explores the scope and opportunities for PSF production in Bangladesh, with a focus on the current state of the industry, the demand for PSF products, and the challenges faced by the industry. The PSF industry

in Bangladesh has grown significantly over the past few years, with several companies investing in the production of PSF. According to the Bangladesh Textile Mills Association (BTMA), there are currently 25 PSF manufacturers in Bangladesh with a combined annual production capacity of 400,000 tons (Mashud, 2021). The major players in the PSF industry include companies such as JBF Bangladesh Limited, Mita Textile Mills, and Square Textiles. The production process for PSF in Bangladesh involves melting and extruding polyester polymer chips into long, continuous fibers, which are then cut into short staple fibers. The raw materials used in the production of PSF include polyester chips, which are imported from countries such as China, India, and Taiwan. The availability of raw materials is a major challenge for the PSF industry in Bangladesh, as it is heavily dependent on imports.The demand for PSF products in Bangladesh has been growing steadily, driven by the country's rapidly expanding textile industry. According to the Bangladesh Garment Manufacturers and Exporters Association (BGMEA), the country's textile and apparel industry generated over $34 billion in exports in 2020 (BGMEA, 2020). PSF is used in the production of a wide range of textile products, including clothing, bedding, and home furnishings. The growing demand for textile products in both the domestic and export markets present a significant opportunity for the PSF industry in Bangladesh. The PSF industry in Bangladesh faces several challenges that need to be addressed in order to maximize its potential. One of the major challenges is the availability of raw materials, as the industry is heavily dependent on imports. This makes the industry vulnerable to supply chain disruptions and price fluctuations. Another challenge is the lack of technological advancements in the production process, which limits the industry's ability to produce high-quality PSF products. In addition, the PSF industry in Bangladesh faces competition from other countries such as India and China, which have established PSF industries with lower production costs. The PSF industry in Bangladesh has a strong potential for growth, driven by the country's expanding textile industry. However, the industry faces several challenges, including the availability of raw materials, technological limitations, and competition from other countries. Addressing these challenges is crucial for the development of the PSF industry in Bangladesh, and for maximizing its potential benefits for the economy and society.

1. Materials and Method

3.1 Study Area Profile

he PSF industry is an important sector in Bangladesh's economy. PSF factories produce the synthetic fiber needed for a wide range of textile products, including clothing, bedding, and home furnishings. The growing demand for textile products in both the domestic and export markets presents a significant opportunity for the PSF industry in Bangladesh. In addition, PSF factories provide job opportunities for many people in the country, contributing to the overall development of the economy. he PSF industry has a significant impact on the economy of Bangladesh (Rahman & Islam. 2020). According to the Bangladesh Textile Mills Association (BTMA), there are currently 13 PSF factories in the country. These factories have a combined production capacity of around 250,000 tons per year, and they generate over 10,000 jobs. The production of PSF has increased significantly in recent years, with a growth rate of around 20% per year. This growth has been driven by the increasing demand for textile products, both domestically and internationally (BTMA. 2021). The study was conducted at Factory Area: Nadalia, Barabkunda, Chittagong, Demra, Gazipur, jatrabari, Savar, Kamrangichar, Hazirbag, and Matuail in Dhaka. Moreover, Distribution Area: All over Bangladesh, and globe.

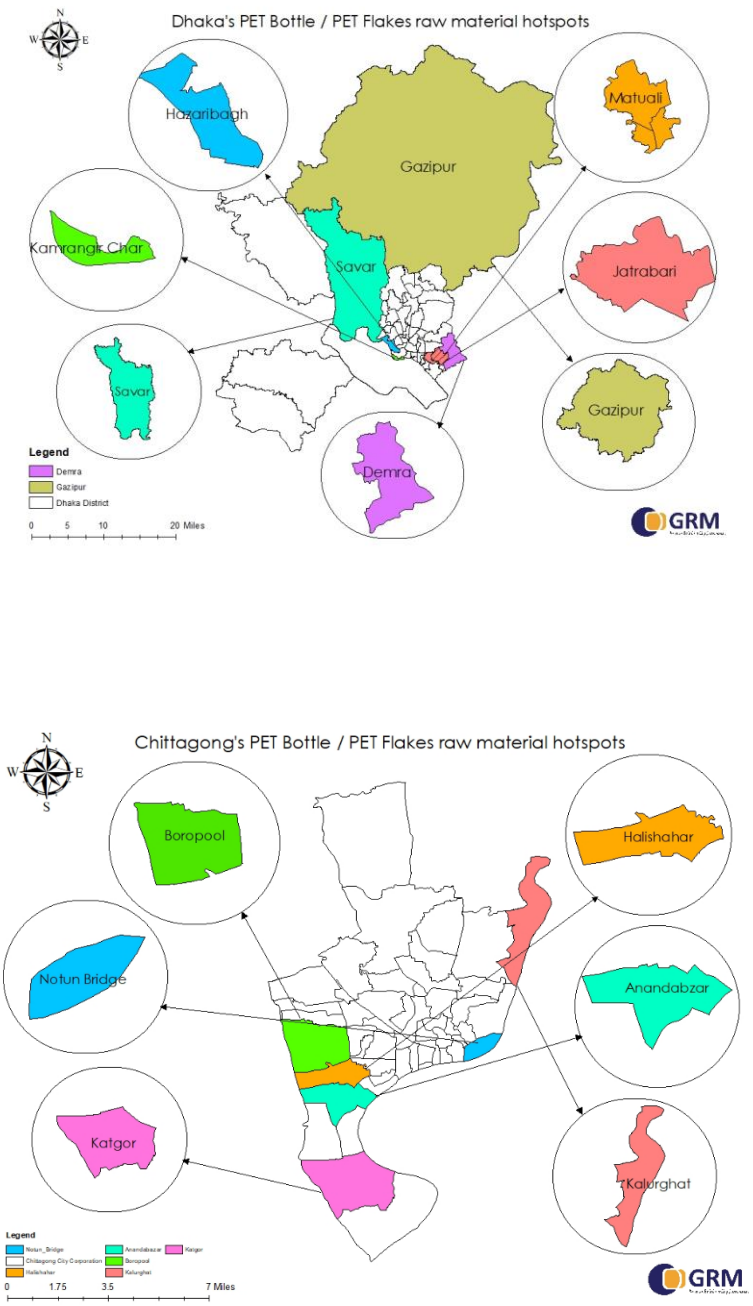


Figure 1: Study Area Map

3.2 Method of the study

This study has used a generally statistically sound, collaborative, and feedback-focused approach. The assessment used a participatory market research methodology to engage concerned stakeholders. The qualitative geographical research methodology will be used to perform this evaluation. Only qualitative data will be included in the study. Primary sources include data collected from individuals Manufacturer (Competitor), Distributor/Channel Partner, Raw Material Supplier, End Users/Buyer, PSF Industry Expert etc. Secondary data has been collected from

various grey literature, journals, policies etc. The research design, which includes data collecting techniques and tools, sample methodologies, instrument creation, analysis, and distribution format and strategy, will be based on a clear conception and description of the study goals. Authors has followed an integral approach for assuring a suitable method of data collection while identifying the research's goals. The strategy will first determine the study's primary goal and then ensure that the results lead to meaningful, evidence-based recommendations.

Figure 2: Snapshot of the Study

Total 50 Qualitative interview was done for this study. Data was collected through a Semi-Structured Questionnaire. 5 IDI was done with Manufacturer (Competitor), 5 IDI was done with Distributor/Channel Partner, 5 IDI was collected from Raw Material Supplier, 10 IDI was done with End Users/Buyer. Moreover, 5 KII was done with Experts Interview – PSF Industry Expert.

Table 1: Qualitative Research snapshot

Interviewees		**Type of Interview**	**No. of Interviews**
Manufacturer (Competitor)		IDI	5
Distributor/Channel Partner		IDI	5
Raw Material Supplier		IDI	5
End Users/Buyer		IDI	10
Experts Interview – PSF Industry Expert		KII	5
	Total		**30**

2. Analysis and Findings

4.1 Polyester Staple Fiber (PSF) production process

Polyester Staple Fiber (PSF) is a synthetic fiber used in the production of textiles such as clothing, bedding, and home furnishings. The PSF manufacturing process is complex and requires several stages of production, including polymerization, spinning, drawing, and crimping. In this essay, we will discuss the PSF production and manufacturing process, as well as its significance and impact on the textile industry.

- **Polymerization**

The first stage of the PSF production process is polymerization. This involves the reaction of two or more monomers to form a polymer. In the case of PSF, the monomers used are terephthalic acid and ethylene glycol. These monomers are mixed together and heated to a high temperature to form a clear liquid called a polymer melt. This polymer melt is then cooled and cut into small pellets, which are called resin.

- **Spinning**

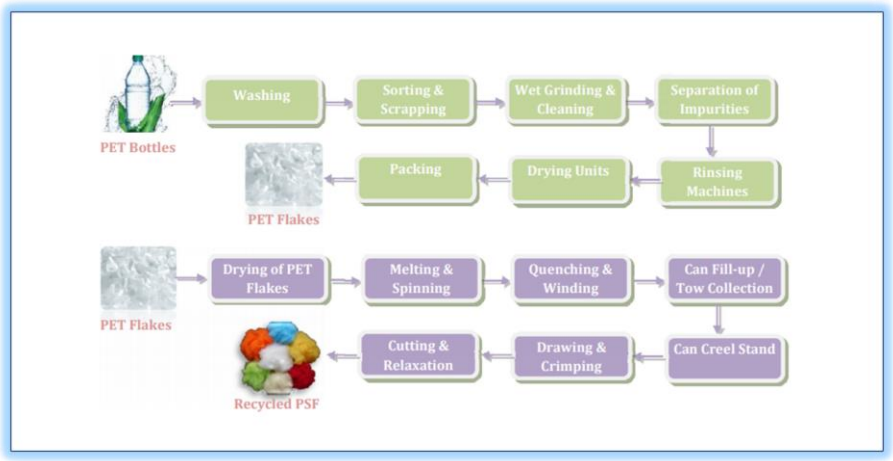
The next stage of the PSF production process is spinning. In this stage, the resin pellets are melted and extruded through a spinneret. The spinneret has a series of small holes through which the molten polymer is forced under pressure. As the polymer emerges from the holes, it solidifies into filaments. These filaments are then cooled and solidified, forming continuous strands of PSF.

- **Drawing**

The third stage of the PSF production process is drawing. In this stage, the PSF strands are stretched to increase their strength and durability. The PSF strands are passed through a series of heated rollers, which stretch and draw the strands to a specific thickness. This process aligns the polymer chains in the PSF, making it stronger and more resilient.

- **Crimping**

The final stage of the PSF production process is crimping. In this stage, the drawn PSF strands are cut into shorter lengths and crimped to increase their bulk and softness. This is achieved by passing the PSF strands through a crimper, which compresses and releases the strands in a zigzag pattern. The crimped PSF is then cut to the desired length, forming the final product.



4.2 Market analysis

4.2.1 Polyester Staple Fiber (PSF) sizes and primary production locations

Polyester Staple Fiber is available in various Deniers with various cut-lengths. It is mainly available in 1.2D, 1.4D, 1.5D, 3D, 6D, 7D, 15D, 16D and cut lengths like 32mm, 38mm, 44mm, 64mm. PSF is mainly produced in India, China, Taiwan, Indonesia, Vietnam, Malaysia, Thailand, and Korea.

4.2.2 Types of Polyester Staple Fiber (PSF)

- Spinning Type Solid Fiber: 1.2 denier, 1.4 denier, and 1.5 denier of 38 Millimeter length size.
- Padding, Filling & Quilting Type Solid Fiber: Siliconized & non-siliconized Fiber of 0.8 D, 0.9 D, 1.0 D, 1.2 D, 1.4 D, 2.0 D, & 3.0 D.
- Padding, Filling & Quilting Type Hollow Conjugative Fiber: Hollow Conjugative Siliconized & Non-Siliconized Fiber of 3.0 D, 7.0 D, 15.0 D, & 25.0 D.
- Geotextile Fiber: 6.0 D length 72mm, 90mm, & 100mm.

4.2.3 Most high selling PSF Denier size in the current and future market

- According to data from the Bangladesh Textile Mills Association (BTMA), local spinners imported 99,345 tonnes of polyester staple fiber (PSF) in 2020, an increase of 3.4% from 96,077 tonnes in 2019.
- Currently, more than 40 spinning mills import PSF fiber to make yarns.
- Bangladesh is the second-largest garment exporter worldwide. Industry sources, Bangladesh has clear potential in the global market of MMF (Man-Made Fiber) based clothing.
- So, the most demandable polyester staple fibers are those that are turned into yarns. Therefore, RMC Fiber Industries Ltd. should produce and market mostly 1.2 Denier PSF, 1.4 Denier PSF, and 1.5 Denier PSF.
- Spinning Type Solid Fiber is in high demand on the current and future market; consequently, the highest selling PSF Denier sizes on the current and future market are 1.2, 1.4, and 1.5.

4.3 Market Rate

4.3.1 Local rate (Denier wise)

- Spinning (Yarns): 1.2 Denier, 1.4 Denier, and 1.5 Denier (Local Rate: 103 Taka to 105 Taka per KG).
- Geotextiles: 6 Denier (Local Rate: 94 taka to 95 taka per KG)
- Padding: 12 Denier (Local Rate: 110 TK per KG)
- Filling Fiber (Cushions): 16 Denier (Local Rate 110 taka per KG).

4.3.2 Expected Selling price of different finished goods Denier wise

- Spinning (Yarns): 1.2 Denier, 1.4 Denier, and 1.5 Denier (Expected selling price: 103 Taka to 107 Taka per KG).
- Geotextiles: 6 Denier (Expected selling price: 93 TK to 98 TK per KG)
- Padding: 12 Denier (Expected selling price: 110 to 113 TK per KG)
- Filling Fiber (Cushions): 16 Denier (Expected selling price 110 to 114 taka per KG).

4.3.2 PSF Worldwide rate

The price of MMF (Man-Made Fiber) has increased because many mills were shut in China and India during the peak of Covid-19 last year. PSF was sold between $0.70 and 0.72 per kilogram.

It went up to $1.30 to $1.40.

4.4 Market Trend Analysis

4.4.1 North America

In North America, Polyester Staple Fiber prices rose 5% in Q2 2022, then fell. Demand for polyester staple fiber in sportswear and active wear drives the market. Orders for pillows, sofas, bed sheets, carpets, and rugs from the home furnishings industry enhanced polyester staple fiber's market value in the region. In May 2022, the PSF price was USD 1583/MT CFR Texas (Gangying. 2023).

4.4.2 Asia

The Polyester Staple Fiber market was strong in Q2 2022's first half but fell in the second. Price change owing to upstream PTA pricing pressure and supply constraints. Since the Ukraine-Russia crisis began, crude oil prices have been rising due to supply worries. This raised cost pressure on key-value chains, particularly Polyester Staple fiber. In June 2022, PSF cost USD 1237/MT FOB Shanghai. As downstream demand increased, the Indian market's rate increased. Cost pressure has boosted some companies' rigid order since May. In June 2022, PSF 1.2D cost USD 1664/MT Ex-Silvassa (Gangying. 2023).

4.4.2 Europe

Europe's demand for Polyester Staple Fiber grew throughout the quarter. Since the Russia-Ukraine war, Pure Terephthalic Acid and Mono-Ethylene Glycol are volatile. Since then, Crude Oil prices have been firm, influencing petrochemical derivatives. Turkey's reliance on China, India, and Indonesia for imports has led to supply tightness and port congestion, driving up market prices. Due to the Chinese epidemic, goods shipping was limited, which warned European producers of material shortages. In June 2022, the price for PSF 1.2D was USD 1837/MT CFR Haydarpasa due to cost and supply (Gangying. 2023).

4.4 Scope and Opportunity in Bangladesh Market

Even in the coronavirus epidemic, local spinners imported 99,345 tonnes of polyester staple fiber (PSF) in 2020, up 3.4% from 96,077 tonnes in 2019, according to the Bangladesh Textile Mills Association (BTMA). Currently, 40 spinning mills import PSF fibre to make yarns to produce high-end garments, such as sportswear. The import of Man-Made Fiber (MMF) has been on the rise over the last few years because of the surge in demand of fabrics made from the fiber as an alternative to cotton. People are buying more Man-Made Fiber (MMF) based apparels as they are durable, recyclable and re-useable. In 2017, the global trade of MMF-based apparel was $150 billion. Bangladesh had a 5 per cent share in the segment, compared to 10 per cent of Vietnam. Bangladesh has clear potential in the global market of MMF-based clothing. "The potential is very high as we are getting a lot of work orders of MMF-based apparels. We need to capture this global market," said Syed Shafqat Ahmed, managing director of Saiham Knit. According to apparel exporters, synthetic fiber represents the future of the export-oriented garment industry. The MMF sector in clothing trade has grown spectacularly over the past decade, but Bangladesh's contribution is less than 30%, much below the global average of 63%. If the country fails to increase its share of MMF in trade, it may lose its position as a top garment exporter, say professionals (Tribune, 2021).

4.5 End Users/Buyers of Polyester Staple Fiber

- Clothing: Blouses, Shirts, Children’s wear, Dresses, Neckties, Lining, Lingerie and Underwear, Permanent Press Garments, Slacks, Suits, Sportswear, Leisurewear

- Home Furnishings: Carpets, Curtains, Bedsheets, and Pillow Covers, Cushions, Sofa, Soft Toys
- Technical Textiles: Floor Coverings, V-belts, Ropes and Nets, Tire Cord, quilt
- Geotextile: Drainage, Landscaping, Filter Fabrics, Asphalt Overlay, Erosion Control, Geomembrane cushioning.
- Interior: Padding, Toy, Stuffing
- Non-woven fabric | After Treatment | Sewing: Shoes, Artificial Leather, Car Interior, Filters, Binders, Baby Diapers, Sanitary Napkins, Sound Absorption, Insulation, Interior
- Spinning | Weaving/Knitting | Sewing: Clothing (Causal, Suits), Interior (Curtains, Carpet, Seat Covers), Upholstery Covers

4.6 Product Segmentation Using Recycled Polyester Staple Fiber

Product segmentation using recycled polyester staple fiber has become increasingly popular as sustainability and eco-friendliness have become more important considerations for consumers. Many clothing companies are now using recycled polyester staple fiber to create sustainable and eco-friendly clothing. For example, Patagonia uses recycled polyester to make a range of clothing items, including jackets, shirts, and pants. Other companies such as Adidas, Nike, and H&M are also incorporating recycled polyester into their clothing lines (Patagonia 2021). Recycled polyester staple fiber is also used in the production of home furnishings such as bedding, pillows, and upholstery. Companies such as West Elm, Pottery Barn, and IKEA offer a range of eco-friendly home furnishings that incorporate recycled polyester Adidas. (2021); IKEA. (2021). Recycled polyester staple fiber is also used in the automotive industry, particularly in the production of car interiors. Many car manufacturers, including Ford and Toyota, are now using recycled polyester in their vehicles (Ford. 2021). Nonwoven fabrics, which are used in a wide range of products such as diapers, wipes, and medical textiles, are also made using recycled polyester staple fiber. Companies such as Freudenberg, Ahlstrom-Munksjö, and Kimberly-Clark use recycled polyester in their nonwoven products Ahlstrom-Munksjö. (2021); Kimberly-Clark. (2021). The use of recycled polyester staple fiber is becoming more widespread in a range of products, particularly in the textile industry. Product segmentation using recycled polyester can help companies to meet the growing demand for sustainable and eco-friendly products, while also reducing their environmental impact. As consumer demand for sustainability and eco-friendliness continues to increase, we can expect to see more companies incorporating recycled polyester into their product lines.

4.6 Target Market & Target Customers in Bangladesh Market

STP Marketing Model

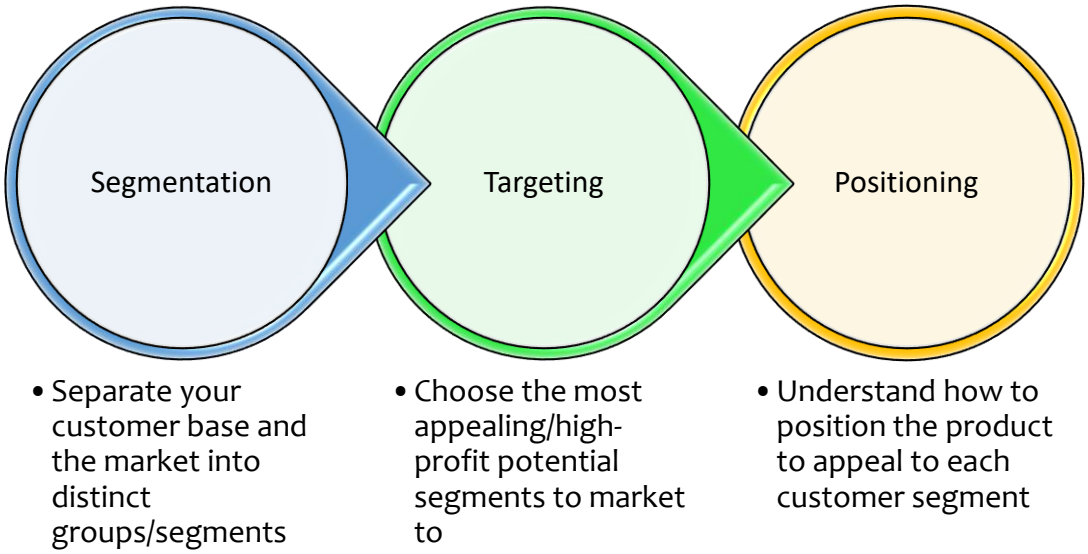


Figure 3: Market Modeling based on qualitative study

Segmentation

Segment 1: Spinning Mills / Textile Mills; **Segment 2**: Non-Woven Fabric; **Segment 3**: Home Furnishings; **Segment 4**: Geotextile.

Targeting

There are almost 500 spinning mills in Bangladesh. Almost 430 spinning mills are operating every day. Local spinners imported more than 99,345 tonnes of polyester staple fiber in 2020. Bangladesh is the second-largest exporter of garments in the world, with 80 percent of its total export earnings coming from this industry. As a result, we anticipate that Spinning Type Solid Fiber will be in high demand and will continue to grow, because synthetic fiber is the future of the export-oriented garment industry. According to our findings, the most appealing segment is Spinning Type Solid Fiber, and we suggest, RMC management may focus more on this segment.

Positioning

RMC Fiber Industries creates their position in the market by differentiating their products based on categories by emphasizing each (Product Features, Product Benefits, and Customer Value).

4.7 Challenges in Polyester Staple Fiber (PSF) industry establishment

Establishing a Polyester Staple Fiber Plant requires a massive investment, a license, and the cooperation of numerous stakeholders. Therefore, it is a formidable and long-lasting barrier to entry in this market. This market is not easily accessible. Those who enter the Polyester Staple Fiber market now will benefit by having the first-mover advantage. PET Bottle and PET Flakes factories are the suppliers of Polyester Staple Fiber's raw materials. This PET Bottle and PET Flakes can be utilized to create a vast array of products. Therefore, the supplier's bargaining power is so strong in this market. There are two types of fiber: natural fiber and man-made fiber.

Switching to 100 percent natural fibers would place a substantial strain on our land and water resources, which is impossible. Therefore, the threat of substitute products or services is minimal. The establishment of Polyester Staple Fiber (PSF) industry in Bangladesh has faced several challenges. In this section, we will discuss some of the key challenges that have hindered the growth of the PSF industry in Bangladesh. One of the primary challenges is the lack of raw materials. Bangladesh relies heavily on imports of raw materials such as purified terephthalic acid (PTA) and nonethylene glycol (MEG) for PSF production. The import costs of these materials can be high, and delays in the supply chain can impact production timelines. The dependence on imported raw materials also makes the industry vulnerable to price fluctuations and supply chain disruptions. Another challenge is the high cost of production. The PSF industry requires significant capital investment in machinery and technology, which can be a barrier to entry for new businesses. In addition, the high energy costs in Bangladesh make PSF production more expensive than in other countries. These high production costs can impact the competitiveness of PSF in the global market. The lack of skilled workers is another challenge facing the PSF industry in Bangladesh. The industry requires skilled workers with specialized knowledge in the production process, quality control, and machinery maintenance. The shortage of such skilled labor can hinder the growth and productivity of the industry. Environmental regulations and compliance are also a significant challenge in the PSF industry. The production process generates wastewater and air emissions, which must comply with environmental regulations. Compliance with these regulations can be a costly and time-consuming process, especially for small and medium-sized enterprises. The lack of government support and incentives is also a challenge for the PSF industry in Bangladesh. The industry is not yet a priority sector for the government, and there are few incentives for investors in the industry. This lack of support can deter investors from entering the market and limit the growth potential of the industry. In conclusion, the establishment of the PSF industry in Bangladesh has faced several challenges, including a lack of raw materials, high production costs, a shortage of skilled workers, environmental regulations, and a lack of government support. Addressing these challenges through initiatives such as investment in research and development, skill development programs, and government incentives can help to overcome these challenges and unlock the growth potential of the PSF industry in Bangladesh.

4.7 Scope and opportunities in Polyester Staple Fiber (PSF) industry

The establishment of a Polyester Staple Fiber (PSF) industry in Bangladesh has significant scope and opportunities. In this section, we will discuss some of the key areas where the PSF industry can have a positive impact on the economy and society of Bangladesh. Firstly, the PSF industry has the potential to create employment opportunities in Bangladesh. The industry requires a range of skilled and unskilled workers, from technicians and engineers to factory workers and administrative staff. The creation of jobs in the PSF industry can help to reduce unemployment in the country and contribute to the overall economic development. Secondly, the PSF industry can contribute to the diversification of Bangladesh's industrial base. Currently, Bangladesh's economy is heavily dependent on the readymade garment industry, which accounts for a significant portion of the country's exports. The establishment of the PSF industry can help to diversify the industrial base, reduce reliance on a single sector, and improve the country's economic resilience. Thirdly, the PSF industry can contribute to the development of the textile and garment industry in Bangladesh. PSF is a key raw material used in the production of textile and garment products, such as clothing, upholstery, and home furnishings. The availability of locally produced PSF can reduce the cost of raw materials for textile and garment manufacturers in Bangladesh and make them more

competitive in the global market. Fourthly, the PSF industry can contribute to the growth of the export industry in Bangladesh. The global demand for PSF is growing, and Bangladesh has the potential to become a significant supplier of PSF in the international market. The establishment of the PSF industry in Bangladesh can create opportunities for export, generating foreign exchange earnings for the country and contributing to the overall economic growth. Lastly, the establishment of the PSF industry in Bangladesh can contribute to the development of a circular economy. PSF can be produced from recycled materials, such as PET bottles, which can reduce waste and environmental pollution. The development of a circular economy can have positive impacts on the environment and improve the sustainability of the industry. In conclusion, the establishment of the PSF industry in Bangladesh has significant scope and opportunities. The industry has the potential to create employment opportunities, contribute to the diversification of the industrial base, support the development of the textile and garment industry, generate export earnings, and promote a circular economy. Addressing the challenges faced by the industry can help to unlock its full potential and contribute to the economic development of Bangladesh.

1. Discussion & Recommendations

In spinning yarns, geotextiles, non-Woven carpets, wadding, filtration industries, polypill for stuffing cushions and sofa, pillows, soft toys, and quilts, polyester staple fiber is in high demand both locally and globally. In Bangladesh, only a few companies produce Polyester Staple Fiber, which is extremely low in comparison to local demand. Therefore, now is the ideal time to invest in Polyester Staple Fiber production. Since few polyester stable fiber companies exist in Bangladesh, RMC Fiber Industries can enjoy first-mover advantage by maintaining product quality and competitive pricing. For a sustainable advantage in collecting Raw Material (PET Bottles and PET Flakes), eliminate all intermediaries in the supply chain and let RMC Management handle everything. Create a database of 200 to 250 spinning mills in Bangladesh, try to maintain good relationships with their decision makers, and develop a relationship selling strategy. Moreover, an effort has to be made to obtain certificates such as the Global Recycled Standard (GRS) and the OEKO-TEX STANDARD 100, as these will help into the export market in North America and Europe.

2. Conclusion

In conclusion, the Polyester Staple Fiber (PSF) industry has great potential in Bangladesh. With the increasing demand for PSF in the global market, Bangladesh can establish itself as a significant player in the industry. The industry can create employment opportunities, diversify the industrial base, and support the growth of the textile and garment industry. The development of a circular economy can further improve the sustainability of the industry and reduce environmental pollution. However, the PSF industry in Bangladesh also faces significant challenges, including limited availability of raw materials, high production costs, and the lack of skilled workers. Addressing these challenges requires collaboration among various stakeholders, including government, private sector, and academic institutions. To unlock the full potential of the PSF industry in Bangladesh, it is necessary to develop a comprehensive policy framework that supports the growth and development of the industry. Such a framework should focus on improving the availability of raw materials, reducing production costs, and enhancing the skills of the workforce. Additionally, stakeholders should collaborate to address environmental concerns and promote sustainability in

the industry. In conclusion, the establishment of the PSF industry in Bangladesh presents significant scope and opportunities for economic development. Addressing the challenges faced by the industry requires a collaborative effort from all stakeholders. The successful establishment of the PSF industry can create a positive impact on the economy and society of Bangladesh.

References

[1] Bhanushali, M. (2021, July 26). Bangladesh is considering investing in synthetic fibre as global demand grows. Retrieved February 16, 2023, from Textile Magazine, Textile News, Apparel News, Fashion News website: https://textilevaluechain.in/news-insights/bangladesh-is-considering-investing-in-synthetic-fibre-as-global-demand-grows/

[2] Research, V. M. (2022, February 23). Global Polyester Staple Fiber Market Size to Reach USD 43.35 Billion by 2028 - Powered by Growing Application Industries – Vantage Market Research. Retrieved February 16, 2023, from GlobeNewswire News Room website: https://www.globenewswire.com/en/news-release/2022/02/23/2390043/0/en/Global-Polyester-Staple-Fiber-Market-Size-to-Reach-USD-43-35-Billion-by-2028-Powered-by-Growing-Application-Industries-Vantage-Market-Research.html.

[3] Bangladesh Garment Manufacturers and Exporters Association (BGMEA). (2020). Bangladesh apparel industry overview. Retrieved from https://www.bgmea.com.bd/page/apparel-industry-overview

[4] Mashud, A. (2021). Polyester staple fiber (PSF) market in Bangladesh. Textile Today. Retrieved from https://www.textiletoday.com.bd/polyester-staple-fiber-psf-market-in-bangladesh/
Bangladesh Textile Mills Association (BTMA). (2021). Industry Overview. Retrieved from https://www.btma.org.bd/industry-overview

[5] Rahman, M. S., & Islam, M. N. (2020). Analysis of the polyester staple fiber industry in Bangladesh: a study on the cost and performance analysis. Journal of Textile and Apparel, Technology and Management, 11(3).

[6] Gangying. (2023). Solid Hollow Conjugated Staple Fiber Production Line. Retrieved February 16, 2023, from Zhangjiagang Gangying Industry co.,ltd

[7] Tribune, D. (2021, July 25). Bangladesh eyes investing in synthetic fibre as global demand rises. Retrieved February 16, 2023, from Dhaka Tribune website: https://archive.dhakatribune.com/business/2021/07/25/bangladesh-eyes-investing-in-synthetic-fibre-as-global-demand-rises.

[8] Patagonia. (2021). Recycled polyester. Retrieved from https://www.patagonia.com/recycled-polyester.html

[9] Adidas. (2021). Sustainability. Retrieved from https://www.adidas-group.com/en/sustainability/recycling/

[10] IKEA. (2021). Sustainability. Retrieved from https://www.ikea.com/us/en/customer-service/about-shopping/sustainability/

[11] Ford. (2021). Sustainable materials. Retrieved from https://media.ford.com/content/fordmedia/fna/us/en/news/2018/03/15/ford-debuts-sustainable-materials-for-vehicles.html

[12] Ahlstrom-Munksjö. (2021). Sustainable development. Retrieved from https://www.ahlstrom-munksjo.com/sustainability/sustainable-development/

[13] Kimberly-Clark. (2021). Sustainability. Retrieved from https://www.kimberly-clark.com/en/sustainability/sustainable-products/nonwovens