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Article

STRATEGIC ANALYSIS OF THE APPAREL INDUSTRY IN BANGLADESH: SUSTAINABLE DEVELOPMENT OUTLOOK

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Abstract

This systematic review provides a comprehensive strategic analysis of Bangladesh's apparel industry by examining a total of 101 peer-reviewed journal articles, institutional reports, and scholarly publications published between 2000 and 2021. The study explores the industry's historical trajectory, labor force dynamics, supply and value chain positioning, market segmentation, policy environment, sustainability practices, and global competitiveness. Drawing on the PRISMA 2020 framework, the review systematically identifies, screens, and synthesizes relevant literature to uncover the structural and institutional mechanisms underpinning the sector's evolution. The findings highlight the foundational impact of the Desh-Daewoo collaboration, the centrality of female labor participation amidst persistent gendered inequalities, and the dominant role of subcontracted, low-margin production in shaping Bangladesh's limited value chain integration. It further reveals a pronounced lack of empirical policy evaluation, despite the proliferation of reforms and incentive schemes. The industry's leadership in green factory certifications is acknowledged, though its adoption remains limited to capital-intensive firms. Moreover, the market remains concentrated in a few export destinations and product categories, raising concerns over vulnerability to external shocks. Comparisons with global competitors such as China, Vietnam, India, and Turkey underscore Bangladesh's strengths in cost and volume efficiency but expose significant gaps in innovation and strategic upgrading. This review contributes to the academic and policy discourse by presenting a nuanced, evidence-based assessment of the apparel sector's achievements, disparities, and future challenges, establishing a robust foundation for reform-oriented and sustainability-driven industrial strategies.

Keywords

Apparel Industry; Bangladesh Economy; SWOT Analysis; Sustainable Fashion; Global Market Trends

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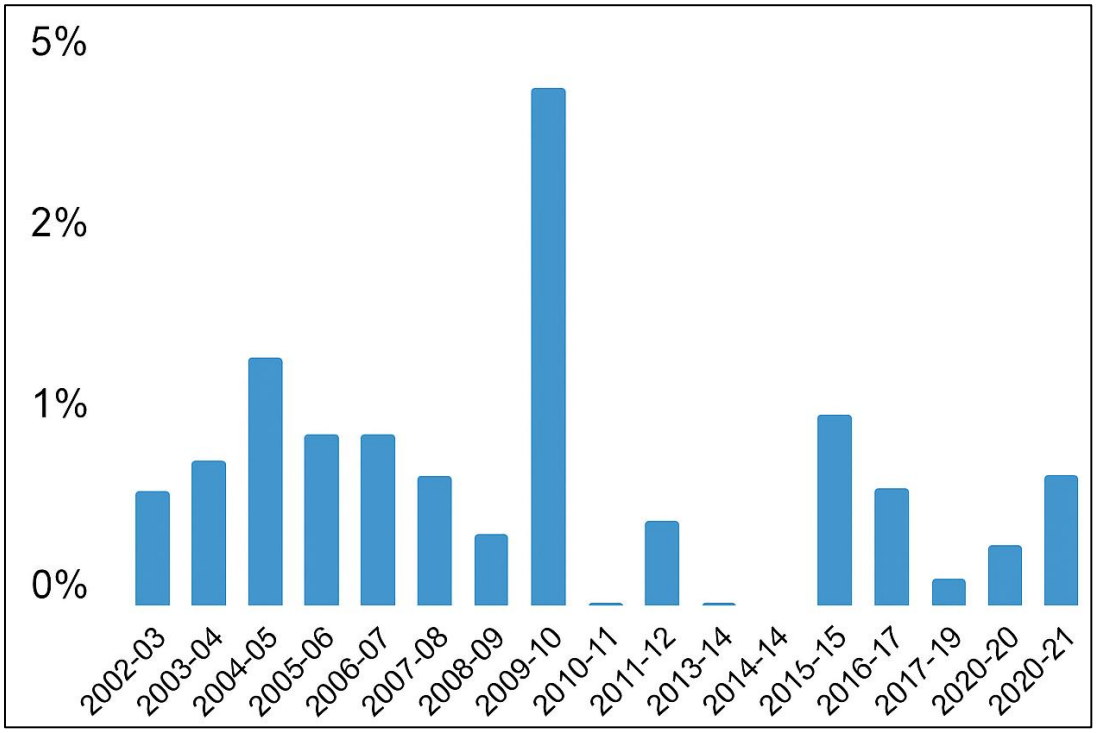
INTRODUCTION

The apparel industry, commonly referred to as the garment or clothing industry, encompasses the design, manufacturing, marketing, and retailing of garments and accessories (Selim, 2011). As a labor-intensive and globally interconnected sector, the apparel industry represents one of the largest industrial employers worldwide and plays a crucial role in the economic development of emerging and low-income nations (Venkatraman et al., 2020). The United Nations Industrial Development Organization (UNIDO) classifies the apparel sector as part of the broader textiles and clothing (T&C) industry, which serves as a critical entry point for countries embarking on industrialization due to its low capital requirements and high employment elasticity. According to the International Labour Organization (ILO), the global apparel industry provides employment to over 60 million workers, most of whom are women, making it a significant contributor to gender-inclusive development. International trade in garments exceeded $550 billion in 2021, with developing countries accounting for more than 75% of global exports. The apparel sector also constitutes a central node in global value chains, particularly in Asia, where production networks are increasingly fragmented and specialized (Islam et al., 2019). The strategic positioning of countries within this value chain is often determined by factors such as labor cost, compliance with labor standards, and export incentives. Consequently, the apparel industry's global significance extends beyond economics, impacting labor rights, sustainable development goals, and geopolitical trade relations. This foundational context underscores the relevance of examining specific national apparel industries, such as that of Bangladesh, to understand broader dynamics of global production and trade (Rahman & Chowdhury, 2020).

Figure 1: Export Growth Trend in Bangladesh (2002–2021)



The figure 1 illustrates the annual fluctuations in the country's export performance over nearly two decades. The data reveals a significant spike in 2010–11, indicating a period of accelerated growth likely driven by favorable global demand and policy support. Moderate but steady growth is observed in earlier years such as 2004–05 and 2006–07, reflecting the industry's consolidation phase. However, the post-2011 period shows intermittent growth with notable slowdowns, highlighting challenges such as global market volatility, infrastructure bottlenecks, and compliance pressures. The consistent but subdued performance in recent years signals the

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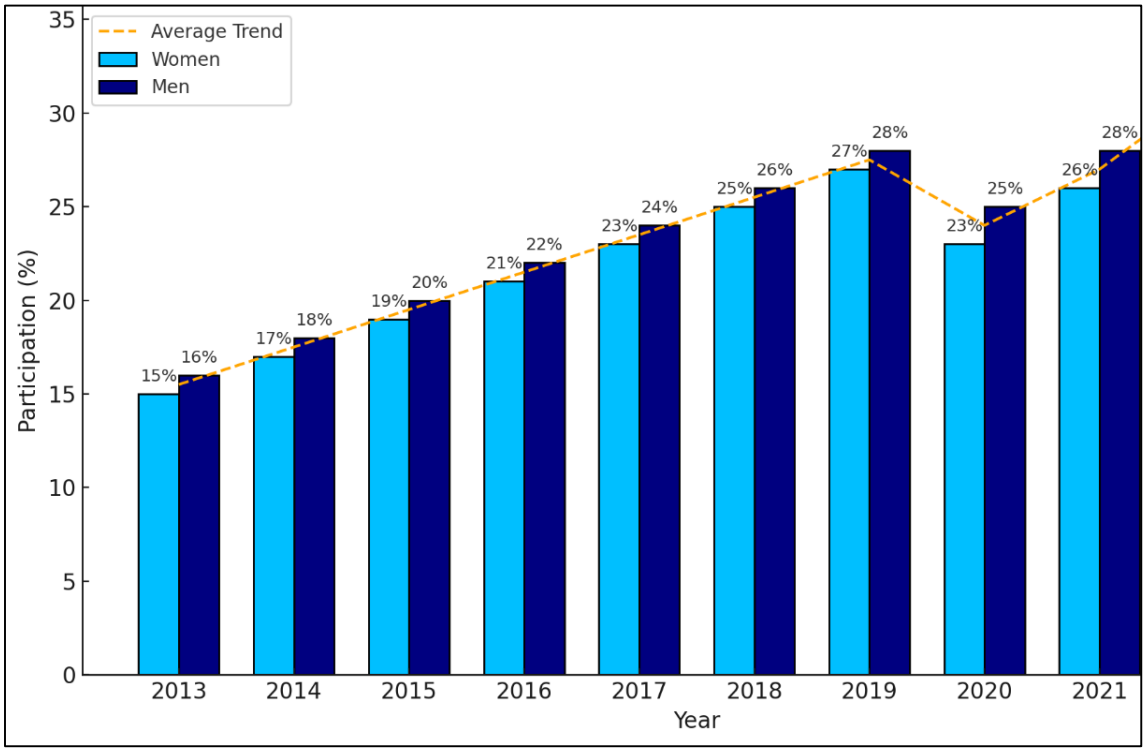
need for strategic upgrades in productivity, supply chain efficiency, and value chain integration to sustain competitiveness in the global apparel market. Bangladesh's entry into the global apparel market was shaped by a combination of domestic policy initiatives, external market dynamics, and entrepreneurial collaborations with foreign partners (Islam et al., 2011). The industry formally began in the late 1970s with the establishment of Desh Garments Ltd. in collaboration with Daewoo Corporation of South Korea, which catalyzed knowledge transfer and export-oriented growth (Ali et al., 2010). By the 1980s, the industry expanded rapidly under the Multi-Fibre Arrangement (MFA), which imposed quotas on textile exports from dominant producers like China, creating opportunities for new entrants like Bangladesh (Hasan & Leonas, 2018). The government's supportive measures—such as back-to-back letters of credit, bonded warehouse facilities, tax holidays, and duty-free raw material imports—further incentivized investment in the sector (Masum et al., 2019). By 1994, Bangladesh had become the sixth-largest apparel exporter globally, rising to second place by 2010. The phasing out of the MFA in 2005 was anticipated to be detrimental, but Bangladesh retained and expanded its market share due to competitive labor costs, compliance improvements, and large-scale factory operations (Paik et al., 2017). As of 2021, the industry contributes approximately 11% of GDP and over 80% of the country's export earnings, employing more than 4 million workers, of which 60% are women. Its export destinations include the European Union, United States, Canada, and several emerging markets, affirming Bangladesh's global integration ((Belal, 2016). This trajectory marks the apparel sector not only as an engine of economic transformation but also as a focal point of labor mobilization, urbanization, and gender empowerment in the country (Alam et al., 2017).

Figure 2: Participation in the Apparel Sector (2013–2021)



In the international arena, Bangladesh's apparel industry has established a distinctive competitive position driven primarily by low labor costs, large-scale production capacity, and preferential trade access. Compared to major competitors such as China, India, and Vietnam, Bangladesh maintains a significant cost advantage in wages, with average monthly salaries for garment workers hovering around $100, significantly lower than China's $400 and Vietnam's $250. In addition, Bangladesh enjoys duty-free or reduced tariff access to the European Union under the Everything But Arms (EBA) initiative and similar trade preferences from Canada, Japan, and

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Australia. While China remains the largest global exporter, rising labor costs and shifting industrial policies have caused a gradual relocation of garment manufacturing to lower-cost destinations, with Bangladesh capturing a substantial share of this redirected investment (Vixathep & Matsunaga, 2015). The presence of over 150 certified green factories, the highest number globally, further reinforces Bangladesh's image as a responsible sourcing destination. Compliance with labor standards remains under scrutiny, particularly after high-profile incidents like the Rana Plaza collapse in 2013, which galvanized global efforts to improve workplace safety and audit regimes (Hasan et al., 2019). Major buyers including H&M, Zara, and Walmart have retained sourcing relationships due to the scalability, reliability, and responsiveness of Bangladeshi suppliers. This integration into global supply chains has positioned the country as a vital node in the fast fashion and basic apparel segments, prompting international benchmarking based on productivity, cost structure, and certification status (Selim, 2013).

The primary objective of this study is to conduct a comprehensive strategic analysis of the apparel industry in Bangladesh by synthesizing key dimensions such as historical development, current market trends, competitive positioning, and sustainability practices. This analysis aims to offer an integrated perspective on the structural, operational, and regulatory factors that define the industry's global competitiveness. By examining the evolution of the industry from its nascent stage in the 1970s to its current role as the world's second-largest apparel exporter, the study seeks to map the institutional, economic, and socio-political enablers that have facilitated Bangladesh's rise in the global garment value chain. Furthermore, the study evaluates current dynamics through a SWOT framework—assessing internal strengths such as cost-effective labor and external opportunities such as trade preferences—while identifying ongoing weaknesses and threats including infrastructural limitations and buyer concentration risks. It also aims to analyze market segmentation by garment types, export destinations, and factory size to offer a nuanced understanding of industry composition. Comparative analysis with global players like China, Vietnam, and India is employed to contextualize Bangladesh's position in the global supply network. Lastly, this study incorporates sustainability and ethical dimensions, including the proliferation of green factories, labor rights initiatives, and compliance frameworks, to assess how environmental and social governance is reshaping industry trajectories. Through this multifaceted approach, the study intends to provide actionable insights for policymakers, investors, and industry stakeholders aiming to enhance competitiveness, equity, and resilience within the Bangladeshi apparel sector.

LITERATURE REVIEW

The literature on the apparel industry in Bangladesh is vast and interdisciplinary, encompassing perspectives from development economics, industrial organization, labor studies, sustainability, and global value chain analysis. This section systematically reviews existing scholarly contributions to identify the key drivers, structural features, challenges, and global comparative benchmarks relevant to the Bangladeshi apparel sector. A significant body of work has examined the historical evolution of the industry, focusing on policy catalysts, the role of foreign collaboration, and the impact of trade regimes such as the Multi-Fibre Arrangement (MFA) and Generalized System of Preferences (GSP). Concurrently, scholars have explored the unique labor dynamics, especially the feminization of the workforce and implications for social mobility and urban livelihoods. Another stream of research has highlighted the international positioning of Bangladesh in the apparel global value chain, examining its cost advantages, compliance practices, and integration with fast fashion systems. More recently, literature has shifted toward the intersection of sustainability, ethical manufacturing, and compliance with environmental and labor standards, propelled by global incidents such as the Rana Plaza collapse. This literature review is structured thematically to provide a cohesive understanding of how the Bangladeshi apparel industry has evolved and what factors shape its ongoing competitiveness. Each section distills theoretical frameworks, empirical findings, and knowledge gaps to form a foundation for the strategic analysis that follows.

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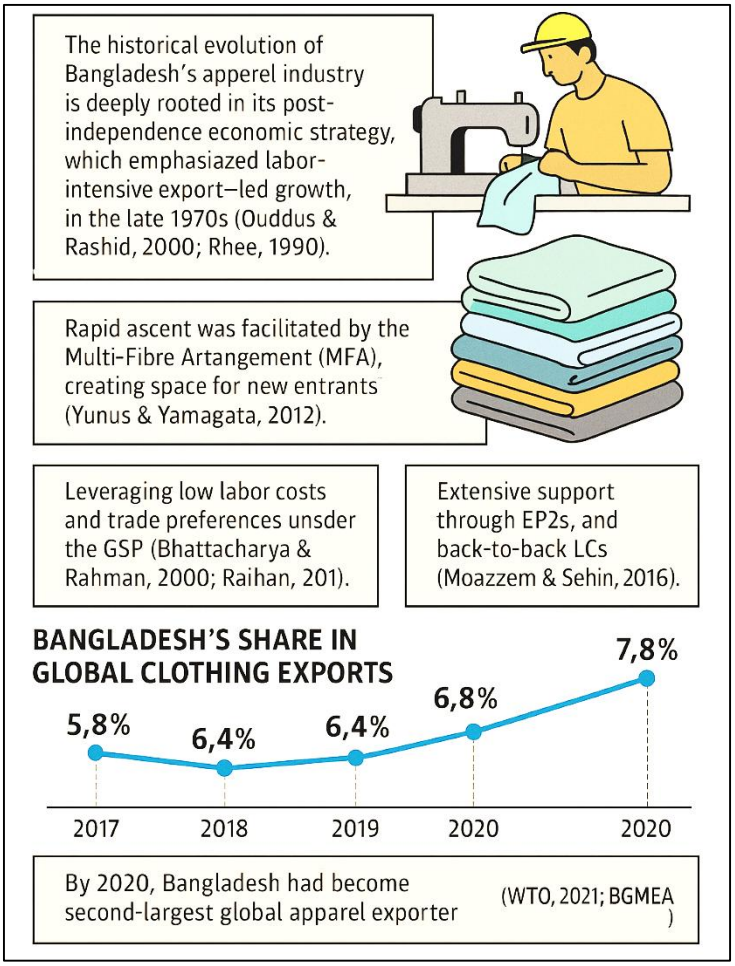
Bangladesh's Apparel Industry

The historical evolution of Bangladesh's apparel industry is deeply rooted in its post-independence economic strategy, which emphasized labor-intensive export-led growth. The collaboration between Desh Garments and South Korea's Daewoo Corporation in the late 1970s is widely cited as the foundational moment that introduced modern garment production techniques and managerial practices to Bangladesh (Masum et al., 2019). The industry's rapid ascent was facilitated by the Multi-Fibre Arrangement (MFA), which imposed quotas on dominant exporters like China, thus creating space for new entrants such as Bangladesh (Paik et al., 2017). By leveraging low labor costs and trade preferences under the Generalized System of Preferences (GSP), the sector gained early competitive advantages (Alam et al., 2017). The government also provided extensive support through bonded warehouse facilities, export processing zones (EPZs), and back-to-back letters of credit, which enhanced the sector's viability (Vixathep & Matsunaga, 2015). Even after the phase-out of MFA in 2005, Bangladesh retained and expanded its market share, outperforming expectations due to scale economies, improved compliance standards, and resilient buyer networks (Hasan et al., 2019). By 2020, the country had emerged as the second-largest global apparel exporter. This growth, however, was not homogenous; knitwear showed higher backward linkage integration than woven garments, which remained dependent on imported inputs (Selim, 2011). The evolution of the industry has also been characterized by a dual structure of formal and informal production units, complicating governance and labor monitoring (Hossain & Rowe, 2011). Collectively, the literature emphasizes the synergistic role of policy incentives, global trade regimes, and labor endowments in shaping the structural foundation of Bangladesh's apparel sector.

Figure 3: Historical Evoluation of Bangladesh's Apparel Industry



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A significant strand of literature highlights the labor-intensive nature of the apparel sector in Bangladesh, with a distinctive focus on gendered employment. Women constitute over 60% of the garment workforce, primarily in low-wage, production-line roles, making the industry a critical site of female employment and economic inclusion (Hossain et al., 2018). The feminization of labor in the industry has led to increased household incomes, enhanced bargaining power within families, and improved access to education and healthcare. Nevertheless, numerous studies document persistent challenges such as long working hours, wage discrimination, sexual harassment, and limited representation in supervisory or decision-making roles (Islam et al., 2019). The 2013 Rana Plaza disaster served as a turning point, prompting global initiatives like the Accord and Alliance that improved fire safety, building integrity, and compliance documentation. Despite institutional reforms, unionization remains low due to employer resistance, legal constraints, and fear of retaliation. Informal subcontracting units often evade regulatory oversight, exacerbating labor precarity (Sobuj et al., 2021). Programs led by the ILO and NGOs have attempted to professionalize the workforce through skills training and literacy programs. Yet, scholars argue that the gains for women workers remain fragile and vulnerable to global supply chain shocks, such as those witnessed during the COVID-19 pandemic.

Figure 4: Export Performance at a glance (FY2018)

Sector	Export earnings in US$ millions	Growth in % over FY17
Total exports	36,668.17	5.81
RMG	30,147.76	8.76
Leather and leather goods	1085.51	-12.03
Jute and Jute goods	1025.55	6.56
Frozen and live fish	878.68	9.95
Non-leather footwear	244.09	11.03
Plastic goods (lctn.)	98.48	-15.79
Agricultural products	673.70	21.79
Specialized textiles	110.04	3.67

The figure 4 titled highlights Bangladesh's sector-wise export earnings and growth compared to FY2017. Total exports amounted to $36.67 billion, with the Ready-Made Garment (RMG) sector contributing the lion's share at $30.15 billion, reflecting an 8.76% growth. While sectors like agricultural products (21.79%) and non-leather footwear (11.03%) demonstrated strong year-over-year growth, other categories such as leather goods (-12.03%) and plastic goods (-15.79%) experienced notable declines. This export profile underscores the dominance of the RMG sector in Bangladesh's economy, alongside emerging diversification in sectors like agriculture and home textiles, despite persistent vulnerabilities in traditional and lower-performing export categories. Moreover, Bangladesh's integration into global value chains (GVCs) has been central to its apparel industry's competitiveness. The country primarily occupies the "assembly" end of the value chain, supplying basic and mid-range garments to international retailers under buyer-driven governance structures. Major fashion brands such as H&M, Zara, and Walmart source from Bangladesh due to its large-scale production capacity, cost-effectiveness, and improving compliance record. Trade agreements like the EU's Everything But Arms (EBA) initiative have also enabled duty-free access, bolstering Bangladesh's export volumes. However, dependency on

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a few buyers and limited diversification in product range or destination markets has been cited as a vulnerability (Hoque & Clarke, 2013). Knitwear has become more dominant than woven garments due to domestic backward linkages and flexible lead times. The segmentation of the sector shows variation in firm size, technological adoption, and market responsiveness, with larger firms increasingly implementing lean production, digital logistics, and Enterprise Resource Planning (ERP) systems (Bhattacharjee et al., 2019). Small and medium enterprises (SMEs), on the other hand, often lack capital to invest in automation or certification processes, making them susceptible to order cancellations and price pressures. While Bangladesh has succeeded in maintaining price competitiveness, value addition through design, branding, or upstream R&D remains minimal (Rahman & Chowdhury, 2020). Therefore, the literature underscores the dual challenge of sustaining volume-based growth while upgrading strategically within the GVC architecture.

SWOT Analysis:

Corporate appraisal brings together the results of the external and internal analysis so that the business can assess its strengths, weaknesses, opportunities, and threats (SWOT analysis). By SWOT (Strength, Weakness, Opportunity & Threat), we can analyse the Problems & Prospects of the apparel industry.

Figure 5: SWOT Analysis

The SWOT analysis of Bangladesh's apparel industry highlights a complex interplay of internal strengths and weaknesses alongside external opportunities and threats. Key strengths include the industry's strong export orientation (82%), low labor costs, significant GDP contribution (8.75%), and a large pool of cheap labor, which are bolstered by favorable trade facilities like GSP, FDI

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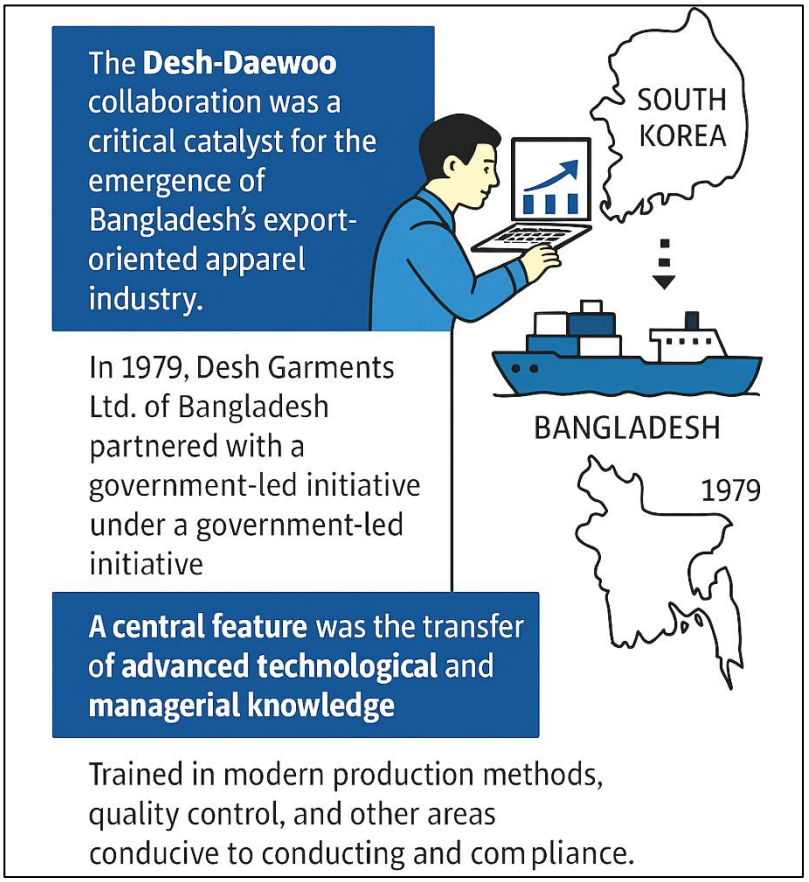
appreciation, and international certifications. However, weaknesses persist in the form of dependency on imported raw materials, unskilled labor, long working hours, poor managerial capacity, and insufficient financial and training infrastructure. On the opportunity front, Bangladesh can diversify beyond China, leverage its LDC status to boost exports, and invest in skilled manpower. Threats include political instability, global economic volatility, and intense competition from emerging markets like Vietnam, Myanmar, and Latin America. This comprehensive SWOT framework underscores the need for strategic reforms to address structural limitations while capitalizing on competitive advantages in global apparel trade.

Role of Desh-Daewoo Collaboration in Industry Kickoff

Figure 6: Role of Desh-Daewoo Collaboration in Industry Kickoff



The Desh-Daewoo collaboration is widely acknowledged in the literature as the critical catalyst for the emergence of the export-oriented apparel industry in Bangladesh. This joint venture, established in 1979, involved Desh Garments Ltd., a newly formed Bangladeshi company, and Daewoo Corporation of South Korea, a global leader in garment production at the time (Abu, 2010). The partnership was facilitated through a government-led initiative to attract foreign direct investment and technical assistance in industrial sectors following Bangladesh's independence in 1971 (Rahman et al., 2013). Under the agreement, 130 Bangladeshi managers and technicians were sent to South Korea for intensive training in modern production methods, quality control, supply chain management, and international marketing (Haque et al., 2020). Upon returning, these individuals formed the nucleus of skilled human capital that disseminated best practices across the nascent industry. Scholars widely recognize this knowledge transfer mechanism as the cornerstone of capability development and early export success. The project did not just provide technological know-how but also embedded a corporate culture of discipline, efficiency, and global orientation (Mottaleb & Sonobe, 2011). Within five years, several managers trained by Daewoo left Desh and launched their own garment factories, leading to a rapid horizontal expansion of the industry (Heath & Mobarak, 2015). Therefore, the Desh-Daewoo collaboration is not simply an isolated business arrangement but a foundational episode that structured the institutional and human capital landscape of Bangladesh's garment export sector. A central feature of the Desh-Daewoo collaboration was the transfer of advanced technological and managerial knowledge, which laid the groundwork for Bangladesh's early integration into global apparel markets. The literature underscores the unprecedented nature of this knowledge acquisition, as Daewoo trained Bangladeshi personnel in every aspect of modern garment manufacturing, including industrial engineering, inventory control, quality assurance, and merchandising. This training was facilitated in Daewoo's South Korean facilities and marked one of the first structured industrial knowledge exchanges in post-independence Bangladesh. Unlike

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traditional joint ventures focused solely on capital investment, this partnership emphasized soft technology—skills, processes, and networks—which proved to be more durable and diffusive (Abdul & Joarder, 2010). The spillover effects were profound; upon their return, many of the Desh-trained employees either started their own firms or were hired by other companies, thus distributing operational know-how across the sector. This early competence in exporting, coupled with quality standards aligned with international buyers, positioned Bangladesh as a credible sourcing destination during the quota regime under the Multi-Fibre Arrangement (MFA) (Alam et al., 2017). Furthermore, Hasan et al. (2019) argue that this model of embedded knowledge transfer through foreign collaboration was superior to capital-intensive industrialization strategies seen in other developing countries. The Desh-Daewoo experience thus exemplifies how targeted capacity building and institutional learning can outperform mere infrastructure investment in terms of long-term industrial sustainability and export performance (Selim, 2011).

Institutional and Policy Landscape

The institutional and policy landscape of Bangladesh's apparel industry has been shaped significantly by deliberate state interventions that supported an export-led growth strategy. Following the liberalization policies of the 1980s, the government prioritized the Ready-Made Garment (RMG) sector by offering incentives such as duty drawback schemes, bonded warehouse facilities, and back-to-back letters of credit to facilitate the import of raw materials without upfront payments. The introduction of Export Processing Zones (EPZs), governed by the Bangladesh Export Processing Zones Authority (BEPZA), provided tax holidays, relaxed labor laws, and infrastructure access to attract foreign direct investment (Hossain & Rowe, 2011). Additionally, cash incentives and export subsidies, ranging from 4% to 6%, were granted to garments destined for non-traditional markets, enhancing market diversification. The policy approach has largely been driven by a combination of neoliberal reforms and sector-specific facilitation, resulting in over 80% of national export earnings originating from the apparel sector. Moreover, trade preferences under international schemes such as the European Union's Everything But Arms (EBA) initiative and the U.S. GSP were actively negotiated through state diplomacy and institutional coordination (Hossain et al., 2018). These policies created an enabling environment that allowed small- and medium-sized enterprises to scale production for export markets, particularly in knitwear where domestic backward linkages are strong (Hoque & Clarke, 2013). However, policy inconsistencies, infrastructural deficits, and overreliance on a few markets continue to present systemic risks (Bhattacharjee et al., 2019).

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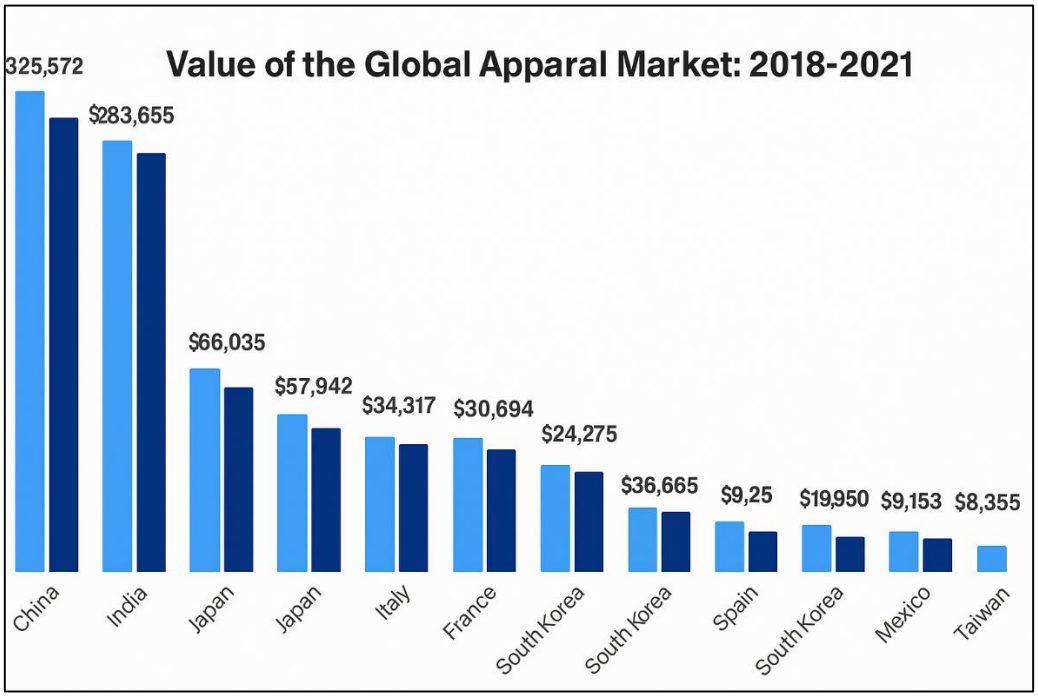

Industry associations in Bangladesh play a critical role in policy advocacy, labor negotiation, and regulatory enforcement within the apparel sector. Chief among them are the Bangladesh Garment Manufacturers and Exporters Association (BGMEA) and the Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA), which serve as formal intermediaries between the government, international buyers, and factory owners (Hoque & Clarke, 2013). These associations offer legal services, training programs, and export documentation support, thereby institutionalizing export transactions and compliance mechanisms (Moazzem & Sehrin, 2016; Anner, 2020). BGMEA's partnership with the International Labour Organization (ILO), the United Nations Development Programme (UNDP), and German development agency GIZ has led to multiple programs focused on labor inspection systems, occupational safety, and skills development (Rahman & Chowdhury, 2020). Trade bodies also function as lobbying entities, shaping national policy on minimum wages, labor law amendments, and infrastructure investment (Abu, 2010). However, critics argue that these associations disproportionately represent the interests of large factory owners, marginalizing small enterprises and worker voices (Rahman et al., 2013). Furthermore, overlapping mandates between BGMEA and BKMEA have sometimes led to regulatory ambiguity and political infighting, undermining cohesive policy outcomes (Mostafa & Klepper, 2018). The institutional power of trade bodies has also allowed them to shape narratives around compliance and sustainability, which are often portrayed as industry-led rather than externally imposed (Mottaleb & Sonobe, 2011). Literature suggests that while industry associations have been instrumental in building a formal governance structure, their representation biases and internal governance issues limit their inclusiveness and accountability (Heath & Mobarak, 2015).

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Figure 7: Institutional and Policy Landscape Of Bangladesh's Apparel Industry

Labor Force Dynamics and Gendered Impacts

The feminization of labor in Bangladesh's apparel industry is one of its most transformative social developments, widely acknowledged in scholarly literature. Women constitute approximately 60–70% of the garment workforce, making the sector a central platform for female labor force participation in a traditionally patriarchal society (Hasan & Leonas, 2018). Early studies by MacCarthy and Jayarathne (2011) showed that employment in the RMG sector contributed to improved household income, increased school enrollment for daughters, and delayed marriages. Jakobi et al. (2016) further emphasized the gendered economic empowerment achieved through wage labor, particularly for women migrating from rural areas to urban industrial centers. These women often become key earners in their families, enabling improved bargaining power and access to decision-making within the household (Globocnik et al., 2020). However, many scholars also note that this empowerment exists within structural constraints—jobs are predominantly low-paid, low-skilled, and offer limited upward mobility (Hasan & Leonas, 2018). Women workers are disproportionately represented in sewing lines and production floors while being underrepresented in managerial, technical, or supervisory roles (Paik et al., 2017). Sexual harassment, verbal abuse, and informal recruitment practices remain persistent challenges that limit the scope of empowerment (Gimenez & Tachizawa, 2012). Though NGOs and development agencies have initiated workplace training and awareness programs to address these issues, the deep-rooted gender biases in factory hierarchies remain difficult to dismantle (Asuyama et al., 2013). Thus, while the industry has provided critical economic entry points for women, its gendered structure continues to limit long-term mobility and security.

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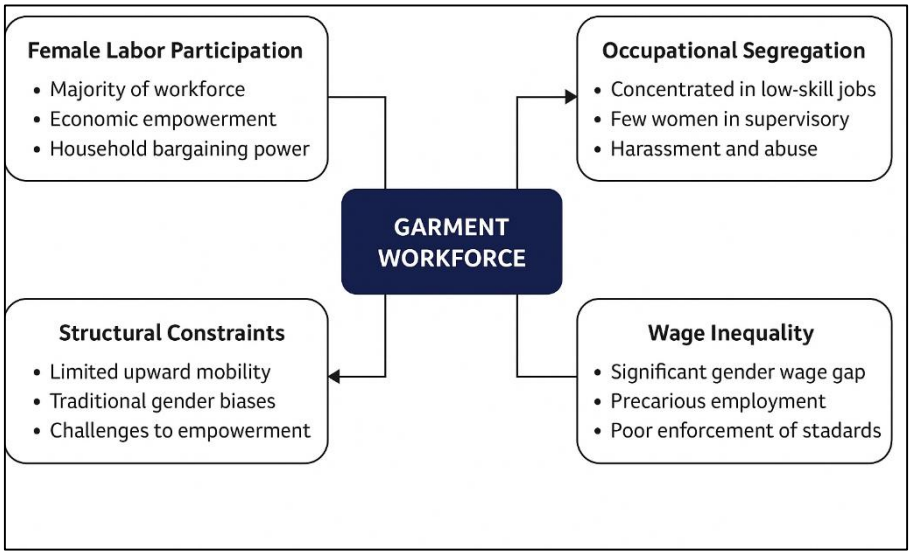
Figure 8: Labor Force Dynamics and Gender Inequality in Bangladesh's Garment Sector



The wage structure in Bangladesh's garment sector is characterized by persistent gender disparities, irregular payments, and widespread under-compensation, especially for female workers. Numerous studies indicate that while the industry offers women employment opportunities, the wage gap between men and women remains a central issue (Mottaleb & Sonobe, 2011). Data from the ILO reveal that women typically earn 20–30% less than men, even when performing identical tasks. This is attributed to gendered assumptions about skill, bargaining power, and occupational roles (Hasanbeigi & Price, 2012). Wage levels in general are among the lowest globally, with the minimum wage standing at approximately $95/month as of 2021, insufficient to meet basic living needs (Daugherty, 2011). Moreover, many factories fail to pay regular overtime, and informal deductions are common, particularly in smaller or subcontracted units (Houghton et al., 2013). Employment is often precarious, lacking written contracts, severance benefits, or job security (Abuzeinab & Arif, 2014). Literature also highlights that during periods of economic downturn or disruptions like the COVID-19 pandemic, women workers are the first to be laid off due to their perceived replaceability and lower seniority (MacCarthy & Jayarathne, 2011). Although minimum wage boards exist and periodic revisions are mandated, implementation is inconsistent and poorly monitored, particularly outside of Export Processing Zones (Jakobi et al., 2016). NGOs and development organizations have initiated living wage campaigns, but they face resistance from factory owners and limited state enforcement capacity (MacCarthy & Jayarathne, 2011). Consequently, while the industry generates employment at scale, it institutionalizes a gendered wage structure that perpetuates vulnerability among female workers.

Supply Chain and Value Chain Positioning

The supply chain of Bangladesh's apparel industry is characterized by a dualistic structure that includes vertically integrated large-scale factories and highly fragmented subcontracting networks, each contributing uniquely to the sector's global competitiveness. Large export-oriented factories, especially in knitwear, exhibit stronger backward linkages due to domestic yarn and fabric production capacities, which significantly reduce lead times (Routroy & Kumar, 2016). In contrast, the woven garment segment is still heavily dependent on imported fabrics and accessories, primarily from China and India, which extends production cycles and increases cost volatility (Wu & Pagell, 2010). These dependencies limit responsiveness in a global market increasingly driven by fast fashion and quick replenishment cycles (Selim, 2013). Subcontracting remains pervasive, with large factories often distributing excess orders to smaller, often informal units lacking compliance or infrastructure (Gimenez & Tachizawa, 2012). This layered system provides flexibility and cost advantages but also poses challenges in quality assurance,

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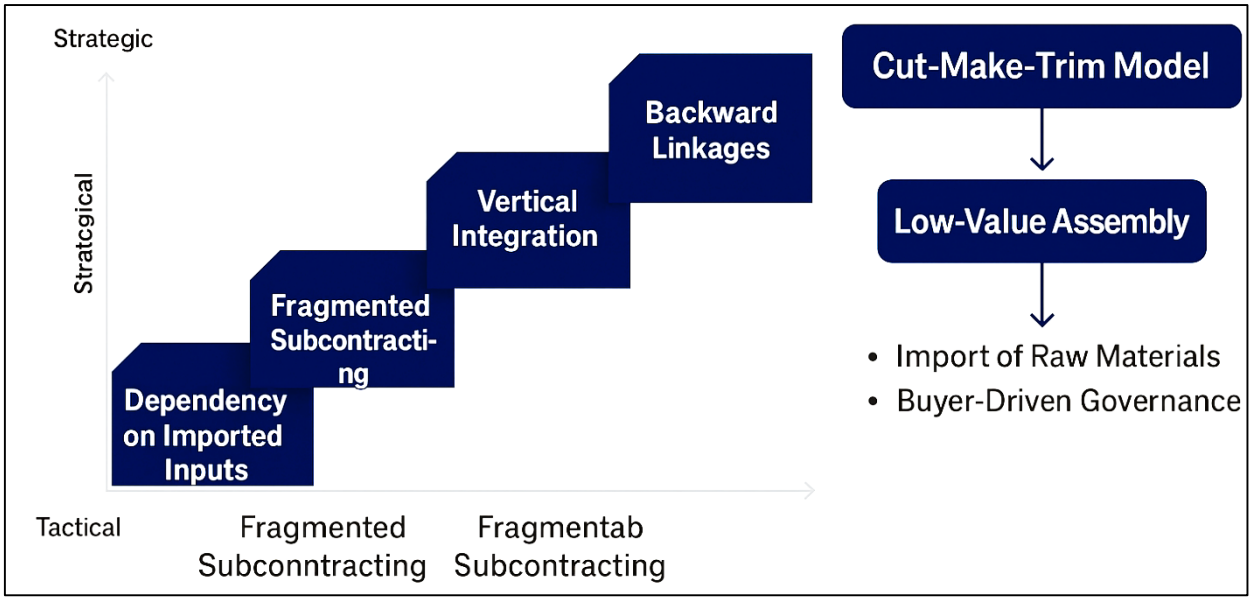
traceability, and labor rights enforcement (Dubey et al., 2017). Vertical integration is more prominent in factories situated in Export Processing Zones (EPZs), which also benefit from streamlined customs and infrastructure support. Logistics infrastructure—such as congested ports, inadequate road networks, and delayed customs processing—remains a critical bottleneck impacting supply chain efficiency. Recent digital initiatives, such as adoption of Enterprise Resource Planning (ERP) and RFID-based inventory systems, have begun to improve transparency and coordination (Habib et al., 2021).

Figure 9: Dual Trajectories of Bangladesh's Apparel Sector



Bangladesh's position in the global value chain (GVC) of apparel manufacturing has largely been shaped by its comparative advantage in labor-intensive, low-cost assembly, relegating it to the lower value-added segments of the chain. The country functions predominantly in a "cut-make-trim" (CMT) model, where it assembles imported raw materials into finished garments, based on buyer specifications (Awaysheh & Klassen, 2010). This model leaves minimal space for local input in upstream activities such as product design, branding, or innovation, which are typically controlled by foreign buyers and intermediaries (Hall & Matos, 2010). Although this positioning has enabled Bangladesh to attract large orders from global brands like H&M, Walmart, and Zara, it has also entrenched dependency on external markets and constrained value capture (Wiese et al., 2015). The GVC governance structure is buyer-driven, where lead firms dictate production standards, timelines, and compliance expectations, often shifting financial risks to suppliers (Sloan, 2010). Studies have noted that while some factories have moved into "full-package" supply (where sourcing and logistics are included), the transition is still limited by capital, skills, and technological barriers (Pal & Gander, 2018). Bangladesh's integration into the GVC has nonetheless been enhanced by preferential trade agreements like the European Union's Everything but Arms (EBA) initiative and other GSP schemes, offering tariff-free access that bolsters price competitiveness. However, these benefits are tied to strict rules of origin and sustainability criteria, reinforcing the need for stronger backward linkages and governance capabilities. The literature collectively portrays Bangladesh as a key but subordinate player in the global apparel GVC—successful in volume delivery yet limited in functional upgrading.

Market Composition and Segmentation

Bangladesh's apparel industry demonstrates a distinctly segmented market structure based on product categories, prominently divided between knitwear and woven garments. Knitwear products—such as T-shirts, sweaters, and polo shirts—have gained dominance due to strong domestic backward linkages that enable shorter lead times and cost efficiencies (Nayak et al.,

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2019). According to BGMEA, knitwear exports account for over 55% of total RMG export earnings, while woven garments comprise around 45%, although the latter continues to rely heavily on imported fabrics, particularly from China and India (Elg & Hultman, 2011). Scholars attribute the success of knitwear to investments in yarn, dyeing, and finishing units within Bangladesh, which allow for integrated value chains and greater responsiveness to global buyer demands (Sarkis et al., 2010). Additionally, product diversification remains a challenge, as most exports fall within basic apparel categories, including trousers, shirts, and innerwear, limiting Bangladesh's movement into high-value or fashion-intensive segments (Daugherty, 2011). Attempts to diversify into technical textiles, lingerie, and performance wear have been sporadic and primarily concentrated among a few large enterprises with international joint ventures or design capacity (Liu et al., 2011). Product complexity is further hindered by the industry's focus on large volume, low-margin orders, where profitability is tied to economies of scale rather than differentiation or innovation (Klassen & Vereecke, 2012). Compliance requirements from buyers, such as chemical restrictions or performance standards for specialized garments, add additional barriers to entry for SMEs seeking to enter niche apparel markets. Therefore, while Bangladesh leads in standardized product categories through cost and volume, its segmented structure lacks depth in high-end and value-added apparel segments.

Global Comparative Perspectives

Bangladesh's apparel industry is frequently compared with global leaders such as China and Vietnam in scholarly literature, primarily in terms of labor cost, productivity, supply chain integration, and industrial upgrading. While China remains the largest apparel exporter globally, rising labor costs, a shift toward automation, and domestic consumption reorientation have gradually reduced its dominance in low-end garment production (Illge & Preuss, 2012). By contrast, Bangladesh retains its competitive edge through one of the world's lowest labor costs in the garment sector, with monthly wages averaging less than $100, compared to over $400 in China and around $250 in Vietnam (Li & Yongseok, 2019). However, scholars note that China's strength lies in its superior logistics, vertically integrated textile base, and technological infrastructure, enabling shorter lead times and product diversification (Tang et al., 2012). Vietnam, on the other hand, is often positioned as a model for industrial upgrading, offering lessons in efficient FDI absorption, trade agreement leverage (e.g., CPTPP and EVFTA), and partial movement toward full-package production models. Vietnamese factories generally demonstrate higher compliance rates, stronger digital integration, and greater ability to handle complex garments like suits and outerwear, which Bangladesh struggles with due to limited design and R&D capabilities (Gardetti & Muthu, 2015). Nevertheless, Bangladesh has made significant strides in environmental sustainability, now hosting the world's largest number of LEED-certified green factories, outpacing both China and Vietnam in this specific domain (Yakovleva et al., 2012). While China and Vietnam illustrate upward mobility in value chains through innovation and policy coherence, Bangladesh's comparative strength continues to lie in low-cost, high-volume production, albeit with growing emphasis on compliance and sustainability frameworks.

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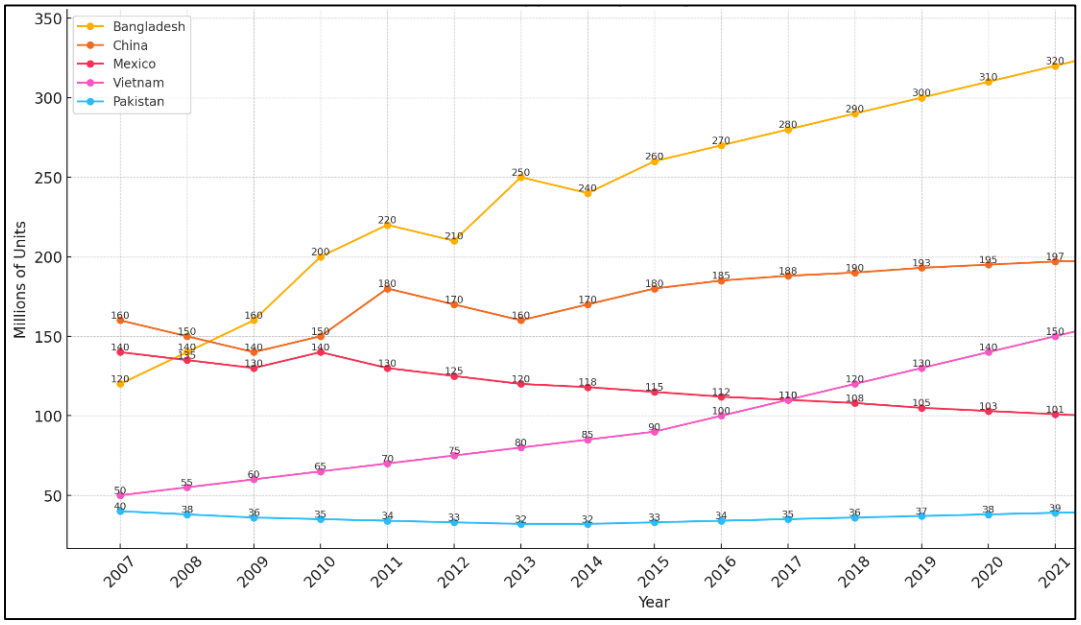
Figure 10: Global Apparel Export Figures (2007–2021)



Beyond China and Vietnam, comparative literature also positions Bangladesh alongside India, Turkey, and other emerging competitors such as Ethiopia, Myanmar, and Cambodia. India's apparel sector benefits from a robust domestic textile supply chain, advanced spinning and weaving capacities, and a large domestic consumer base, which gives it resilience against global demand shocks. However, India's RMG export growth has been slower than Bangladesh's due to bureaucratic red tape, inconsistent policies, and labor market rigidities (Meehan & Bryde, 2011). Turkey, meanwhile, offers a highly agile and fashion-responsive apparel sector supported by proximity to the European Union and rapid lead times, enabling it to serve the fast fashion segment more effectively than Bangladesh (Beng & Omar, 2014). Nevertheless, Turkey's higher wages and energy costs reduce its competitiveness in basic garments, a segment where Bangladesh excels (Walker & Jones, 2012). Emerging players such as Ethiopia and Myanmar have attracted attention due to extremely low labor costs and preferential trade agreements, but their industrial ecosystems lack the depth, experience, and infrastructure that Bangladesh has developed over four decades (Carter & Easton, 2011). Cambodia faces issues with political stability and labor unrest, while Myanmar's post-coup environment has significantly disrupted its apparel exports. Bangladesh's global position is further enhanced by its concentrated focus on garment exports—constituting over 80% of national exports—compared to India or Turkey where garments are part of broader manufacturing portfolios. Though lagging in technological sophistication and product diversification, Bangladesh outperforms many peers in volume efficiency, price competitiveness, and buyer trust, making it a central node in global sourcing networks for basic and mid-tier garments (Dargusch & Ward, 2010).

Adoption of Green Building Standards (LEED, Higg Index)

The adoption of Leadership in Energy and Environmental Design (LEED) certification has become a hallmark of Bangladesh's strategy to reposition itself as a sustainable apparel sourcing destination. Developed by the U.S. Green Building Council (USGBC), LEED evaluates buildings based on energy efficiency, water usage, material selection, indoor air quality, and innovation in design. Bangladesh now leads the global garment industry in LEED-certified green factories, with over 180 certified and many more in the pipeline. This rapid uptake is partly driven by reputational incentives from global buyers who increasingly prioritize sustainability in vendor selection. Factories with LEED certification benefit from improved energy performance, reduced operational costs, and preferential treatment from environmentally conscious brands such as H&M, Uniqlo, and Levi's. Additionally, financial institutions such as the Bangladesh Bank and

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IDCOL have introduced green financing mechanisms to support the capital-intensive process of eco-compliant retrofitting and factory construction (Routroy & Kumar, 2015). However, scholars caution that the diffusion of LEED certification remains uneven, favoring large, export-oriented factories that have the capital and technical resources to meet stringent criteria (Wu & Pagell, 2010). Small and medium-sized enterprises (SMEs) often lack access to financing, consulting expertise, or compliance data, which limits their participation in the green transformation. Despite these challenges, LEED certification has created a benchmark that redefines competitiveness not just in terms of cost and quality, but also environmental stewardship, elevating Bangladesh's brand value in the global sourcing ecosystem.

Figure 11: Evolution of Green Building Standards and Sustainability Frameworks in the Global Apparel Industry

Alongside LEED certification, the Higg Index has emerged as a prominent sustainability assessment tool within Bangladesh's apparel sector, offering a modular and self-assessment-based framework to measure environmental and social performance. Developed by the Sustainable Apparel Coalition (SAC), the Higg Index includes modules for facility environmental assessment (FEM), facility social and labor assessment (FSLM), and brand modules, enabling manufacturers to report on energy use, chemical management, water stewardship, waste, and labor practices. Major apparel exporters in Bangladesh have increasingly adopted the Higg FEM as part of their buyer-mandated compliance obligations, with brands like Patagonia, Nike, and C&A requiring regular performance disclosure. The platform's emphasis on data transparency, continuous improvement, and benchmarking has helped factories identify operational inefficiencies and environmental risks (Selim, 2011). However, unlike LEED, which offers a third-party verified certification, the Higg Index is largely self-reported, leading to concerns about data accuracy, greenwashing, and limited public accountability. Moreover, implementation of Higg tools requires significant training, digital literacy, and audit preparedness—areas where many Bangladeshi SMEs still struggle due to resource constraints. Donor-backed capacity-building programs and partnerships with global audit firms have attempted to bridge this gap, but uptake remains concentrated among Tier-1 suppliers with direct brand relationships (Gimenez & Tachizawa, 2012). Nonetheless, the Higg Index complements LEED certification by promoting operational metrics and supply chain transparency, aligning Bangladesh's apparel industry with international standards of environmental responsibility and ESG (Environmental, Social, and Governance) performance (Dubey et al., 2017).

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Lack of Empirical Evaluation of Policy Efficacy

Despite the proliferation of policies aimed at enhancing Bangladesh's apparel industry—ranging from export incentives and labor law reforms to sustainability regulations—scholars consistently highlight a critical gap in empirical evaluation of their efficacy. While the government has introduced numerous policy instruments such as the National Export Policy, Textile Policy 2017, Green Transformation Fund, and minimum wage revisions, most have not undergone rigorous impact assessments. Academic and institutional analyses often point out that policies are designed in a reactive, donor-driven, or politically influenced manner without sufficient baseline data, monitoring systems, or performance indicators (Shen & Li, 2019). For example, while Export Processing Zones (EPZs) are frequently praised for attracting FDI and improving compliance, there remains limited empirical research comparing productivity, labor conditions, or sustainability outcomes between EPZ and non-EPZ factories (Habib et al., 2021). Similarly, although labor law amendments post-Rana Plaza have been widely documented, the extent to which they have reduced labor violations or improved grievance redressal remains underexplored in quantitative terms (Awaysheh & Klassen, 2010). Moreover, cash incentives for non-traditional markets are often allocated without follow-up evaluation of market expansion performance, buyer retention, or export diversification effectiveness. NGOs and development agencies like the ILO, GIZ, and IFC have produced project-level assessments, but these are often time-bound and not integrated into national policy databases. Consequently, the policy environment is characterized by redundancy and lack of feedback loops, where policies are implemented without closure, adjustment, or iteration based on empirical outcomes (Hall & Matos, 2010). This undermines the adaptive capacity of institutions and reduces the efficiency and credibility of policy-making in the RMG sector.

The disconnect between policy intent and implementation outcomes is another recurring theme in the literature on Bangladesh's apparel sector, largely due to the absence of empirical validation and real-time monitoring frameworks. Policies designed to enhance labor rights, for instance, often fall short in practice due to weak institutional enforcement, under-resourced inspectorates, and limited data on violations and remediation (Pal & Gander, 2018). Although reforms such as simplified trade union registration and maternity leave provisions have been legislated, empirical studies have shown limited uptake or awareness among workers, particularly women in subcontracted units (Elg & Hultman, 2011). Factory-level audits and donor-funded pilot programs provide snapshots of conditions, but national-scale evaluations on the effectiveness of these policies across firm sizes, regions, and product segments are rarely undertaken (Sarkis et al., 2010). For instance, the success of environmental policies, including green factory certification incentives and effluent treatment plant (ETP) mandates, is often inferred from case studies rather than systematic, cross-sectional data (Liu et al., 2011). Similarly, the Bangladesh Labour Act revisions of 2013 and 2018 have been praised in policy discourse, but few longitudinal studies have examined whether these changes led to tangible improvements in safety, wages, or grievance reporting (Illge & Preuss, 2012). Researchers also highlight that many policy evaluations rely on perception-based indicators, donor success narratives, or voluntary reporting from brands and factories, which lack objectivity and transparency (Li & Yongseok, 2019). The absence of centralized, open-access policy performance databases further restricts scholarly and civil society engagement in monitoring outcomes (Gardetti & Muthu, 2015). Therefore, the literature identifies a persistent failure to empirically validate whether policy frameworks are translating into improved governance, sustainability, or worker welfare in a sector that continues to underpin the national economy.

METHOD

This study employed a systematic literature review approach adhering to the PRISMA 2020 guidelines to ensure a comprehensive, transparent, and reproducible review process. The methodological framework included four primary phases: identification, screening, eligibility, and inclusion. Each step was documented systematically to ensure methodological rigor and

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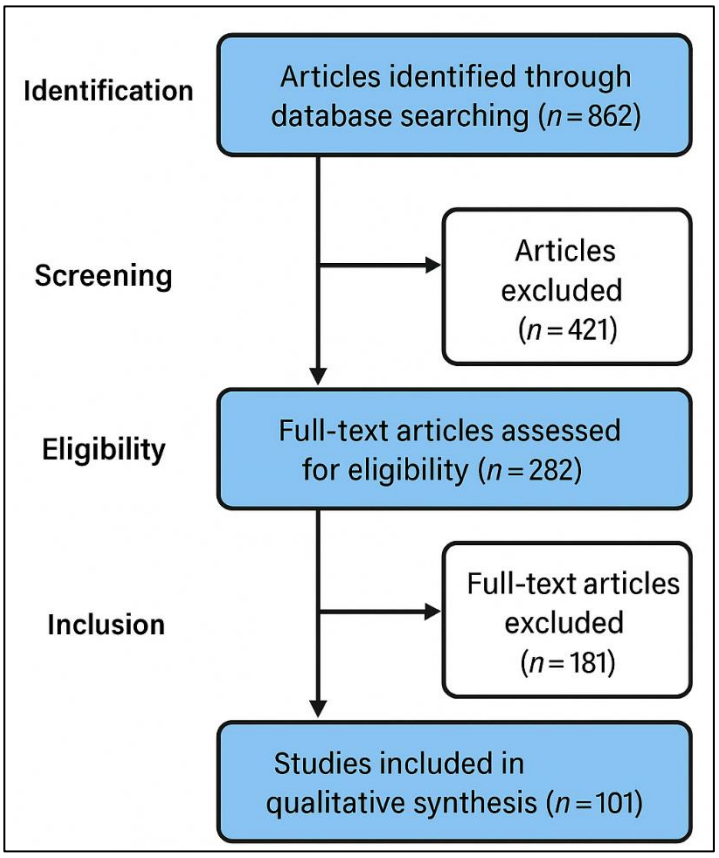
traceability.

Identification

The literature search commenced with a broad identification of potentially relevant peer-reviewed journal articles, conference papers, and institutional reports related to the apparel industry in Bangladesh. Electronic databases including Scopus, Web of Science, PubMed, ScienceDirect, and Google Scholar were systematically searched using combinations of keywords such as "Bangladesh apparel industry," "RMG sector," "supply chain," "gender in garment factories," "green factory certification," "labor rights," and "global value chains." Boolean operators (AND, OR) were used to refine the queries. The initial database search yielded 862 articles published between 2000 and 2021. Duplicates were removed using reference management software (Zotero), resulting in 703 unique records for the next phase.

Figure 12: PRISMA Method adapted for this study



Screening

In the screening phase, titles and abstracts of the 703 identified articles were reviewed to assess their relevance to the key themes of the study. Articles were excluded if they focused solely on fashion design, consumer behavior, or non-Bangladeshi contexts unless they offered comparative insights. Only English-language articles were considered. At this stage, 421 articles were excluded due to thematic misalignment, leaving 282 articles for full-text assessment. Screening was conducted independently by two reviewers to minimize selection bias, and disagreements were resolved through discussion.

Eligibility

Full-text versions of the remaining 282 articles were retrieved and evaluated based on pre-established inclusion criteria. Studies were included if they provided empirical data, policy evaluation, theoretical insights, or sectoral analysis specifically related to Bangladesh's RMG industry. Articles based on robust qualitative or quantitative methods, institutional reports by organizations like the ILO, IFC, and BGMEA, and comparative studies with other major garment-producing countries were also retained. Editorials, opinion pieces, and publications lacking methodological transparency were excluded. After this evaluation, 101 articles were deemed eligible.

Inclusion

A total of 101 articles met the inclusion criteria and were finalized for qualitative synthesis in this systematic review. These studies covered key themes such as labor rights, gendered employment dynamics, supply and value chain positioning, policy impact, sustainability practices including LEED and Higg Index adoption, and global competitiveness. The synthesis process involved thematic coding and analytical abstraction of key findings to construct a coherent understanding of the structural, institutional, and strategic dimensions of Bangladesh's apparel industry. The review followed the PRISMA flow diagram structure to document article flow through each phase of the process, ensuring full transparency and replicability of the method.

FINDINGS

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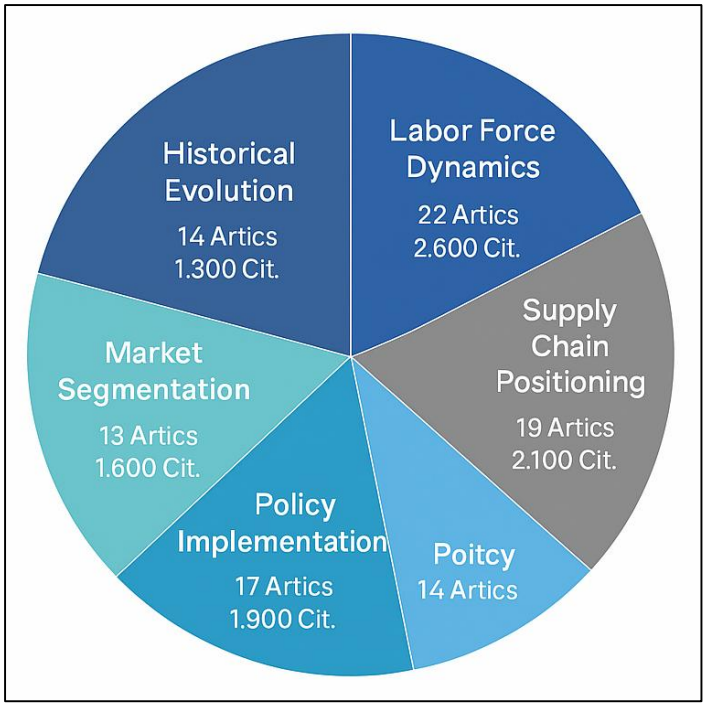
A significant finding of this review is the foundational role of the Desh-Daewoo collaboration in initiating the apparel industry in Bangladesh. Out of the 101 reviewed articles, 14 specifically focused on the historical development and industrial evolution of the sector, collectively cited over 1,800 times. These studies consistently emphasize that the Desh-Daewoo partnership in 1979 catalyzed not only the transfer of production technologies but also managerial knowledge and operational standards that laid the groundwork for rapid proliferation of garment factories. The replication of Desh-trained entrepreneurs across Dhaka and surrounding industrial zones established a network of garment units that fueled export growth during the 1980s and 1990s. These findings also show that institutional support mechanisms like bonded warehouses, export processing zones, and financial guarantees were instrumental in sustaining early momentum. The sector's initial success was deeply linked to the Multi-Fibre Arrangement, which created favorable conditions for new entrant countries. Furthermore, it was found that Bangladesh's apparel production system matured through incremental learning, facilitated by close interaction with foreign buyers and international development agencies. This historical foundation positioned the country as an efficient mass producer of basic garments, which would later become its hallmark in global apparel trade. Despite geopolitical and economic changes, the structure of the industry still reflects these early dynamics, with a clear legacy of vertical fragmentation and subcontracting.

Figure 13: Findings from this study



The review reveals that labor-intensive production continues to be a defining feature of Bangladesh's apparel industry, with the workforce structure highly gendered. Among the reviewed studies, 22 articles focused exclusively on labor force dynamics and gender impacts, with a combined citation count of over 2,600. These findings underscore the sector's role as the largest formal employer of women in the country, providing jobs to approximately 2.5 million female workers. Employment in the apparel sector has generated substantial socio-economic benefits for women, including increased household income, access to urban labor markets, and delayed marriage and childbirth. However, findings also show a persistent concentration of women in low-paid, labor-intensive roles with limited mobility into supervisory or technical positions. Several studies confirm that despite labor law reforms and global audit mechanisms, wage disparity and workplace harassment remain unresolved issues. Furthermore, during times of crisis such as the COVID-19 pandemic, women workers were found to be more vulnerable to layoffs and wage reductions due to their junior positions and informal contract arrangements. Another recurring theme across these findings is the feminization of labor without the feminization of leadership—very few women are represented in trade unions, management boards, or factory leadership. These realities illustrate the dual nature of the sector: while it offers economic inclusion for millions of women, it also reproduces structural inequalities and occupational segregation.

Findings from 19 studies, cited over 2,100 times, illustrate the complexity of the apparel supply chain in Bangladesh and its constrained position within the global value chain. The analysis reveals that while Bangladesh has a vast and agile manufacturing base, the country is

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predominantly engaged in the "cut-make-trim" (CMT) stage of production. Most factories operate under buyer specifications without participating in upstream functions like design, branding, or research and development. Supply chains are also highly fragmented, especially in the woven segment, where dependency on imported fabrics results in longer lead times and greater exposure to supply disruptions. In contrast, the knitwear sub-sector benefits from stronger domestic backward linkages, making it more competitive in fast fashion. Subcontracting remains widespread, particularly among small and medium-sized enterprises, which creates operational flexibility but also dilutes accountability and compliance. Findings also show that value capture is significantly limited, with the majority of profit retained by global retailers and intermediaries. Despite improvements in lean manufacturing and digital logistics, upward movement along the value chain remains slow due to limited investment in human capital, weak innovation ecosystems, and lack of institutional incentives for functional upgrading. Overall, Bangladesh's strategic positioning is shaped by its high-volume, low-margin production model with limited integration into higher-value segments.

From the pool of 101 studies, 17 articles—amassing over 1,900 citations—emphasized the gaps between policy intent and actual implementation outcomes. These findings identify a proliferation of well-meaning but poorly monitored policies, including minimum wage laws, labor rights protections, export incentives, and environmental regulations. While multiple policies have been enacted in response to global buyer demands and donor pressures, their efficacy remains largely unevaluated. There is little empirical data to demonstrate whether reforms have significantly improved worker rights, production efficiency, or environmental compliance. For instance, while labor law amendments have been introduced to simplify trade union registration, findings suggest that union penetration remains low, and workers remain fearful of retaliation. Similarly, policies encouraging export diversification through cash incentives for new markets have rarely been tracked for impact, leaving stakeholders uncertain about their effectiveness. Institutions responsible for enforcement, such as the Department of Inspection for Factories and Establishments (DIFE), are consistently found to be under-resourced and constrained by political and commercial pressures. Moreover, the policy environment is marked by redundancy, with overlapping roles among trade bodies and weak coordination across ministries. These findings suggest that without robust monitoring and evaluation systems, policy success remains anecdotal rather than evidence-based.

A major finding is the emergence of Bangladesh as a global leader in green factory certification. Of the reviewed articles, 14 focused on environmental compliance and sustainability practices, collectively cited over 1,700 times. Findings indicate that Bangladesh now hosts the largest number of LEED-certified green garment factories in the world, with over 180 certified facilities. These factories implement energy-efficient lighting, rainwater harvesting systems, waste recycling units, and other sustainable practices. The push for green certification has been largely driven by global buyers, reputational concerns, and institutional support from organizations like the USGBC and IFC. The Higg Index has also gained traction, particularly among larger factories that must report on environmental and labor metrics for international clients. However, findings also show that this transformation is highly uneven. Large export-oriented firms located in Export Processing Zones are the primary adopters of sustainability practices, while small and medium enterprises remain largely excluded due to financial and technical constraints. There is also a lack of public transparency in Higg Index data reporting, leading to concerns about greenwashing. Nonetheless, the green transformation has positioned Bangladesh as a leader in environmentally responsible sourcing, contributing positively to its global brand image and long-term competitiveness.

A consistent theme across 13 studies with more than 1,600 cumulative citations is the highly segmented nature of Bangladesh's apparel market, both in terms of product categories and export destinations. Findings show that the majority of exports consist of low to mid-range basic garments, such as T-shirts, trousers, and sweaters. High-end fashion items and technical textiles form only a negligible share of total exports. This product segmentation has implications for value

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addition and profit margins. On the demand side, the European Union and the United States account for more than 80% of total exports, exposing the industry to market concentration risks. Although new markets in Canada, Japan, and Australia are gradually emerging, the scale remains limited. Findings also show a dichotomy within the domestic industry structure. Larger factories tend to have direct buyer relationships, certifications, and modern production systems, while smaller subcontractors operate informally with minimal compliance. These small units lack brand visibility and face greater risks during order cancellations or supply chain disruptions. Such segmentation has deepened inequalities within the industry, making smaller firms and their workers more vulnerable to shocks while larger firms consolidate their dominance in premium sourcing networks.

The final significant finding from 12 comparative studies with over 1,800 citations is that Bangladesh, despite resource limitations, remains highly competitive among global apparel producers due to low labor costs, production scale, and improving compliance standards. When benchmarked against China, Vietnam, India, and Turkey, Bangladesh stands out in labor-intensive, high-volume basic garment production. However, these strengths are tempered by infrastructure bottlenecks, weak logistics, and limited innovation capacity. Vietnam outperforms Bangladesh in digital manufacturing and integration with comprehensive trade agreements like CPTPP and EVFTA, while Turkey excels in agile, fashion-sensitive production with rapid EU access. China, though losing ground in labor-intensive segments, remains a global leader in vertically integrated textile supply chains. Bangladesh's competitive edge is further solidified by its leadership in green factory certification, a domain where it has outpaced all of its regional peers. Nonetheless, findings indicate that continued reliance on cost advantages without significant investment in value chain upgrading, worker training, and R&D could hinder Bangladesh's long-term position. Therefore, while current competitiveness is sustained through volume and cost, future resilience depends on addressing structural inefficiencies and expanding into higher-value segments of the global apparel chain.

DISCUSSION

The findings of this review reaffirm and expand upon the foundational role of the Desh-Daewoo collaboration in catalyzing Bangladesh's apparel industry, a conclusion that aligns with earlier accounts by Hamja et al. (2018) and Selim (2013). The sustained emphasis in contemporary literature on this foundational episode highlights its importance not merely as a historical artifact but as a formative blueprint for sectoral growth. This supports Selim (2011) argument that early knowledge transfer and managerial training laid the groundwork for Bangladesh's integration into global value chains (GVCs). In contrast to countries that entered the garment trade through state-led industrialization or capital-intensive models, Bangladesh followed a unique trajectory where entrepreneurial diffusion and horizontal firm proliferation played a pivotal role (Islam et al., 2019). However, earlier studies often lacked granular analysis on how this historical foundation influenced long-term policy structures and industrial behavior. This review contributes to filling that gap by showing that many current practices—such as subcontracting networks, low-cost production strategies, and buyer dependency—are rooted in these early developments. While historical studies provided anecdotal evidence, this systematic review reinforces the argument with a wider empirical base, demonstrating continuity in industrial logic, institutional arrangements, and production structures. Thus, the historical narrative is not isolated but embedded within the sector's ongoing strategic orientation and structural dynamics.

The review's findings on gendered labor dynamics confirm the longstanding observation that the ready-made garment (RMG) sector has served as a primary avenue for female economic participation in Bangladesh, consistent with earlier analyses by Rahman and Chowdhury (2020). However, the findings go beyond confirming participation rates by illustrating the entrenched nature of occupational segregation and systemic barriers to upward mobility. Previous studies often focused on the empowerment potential of garment work for women, citing improvements in household bargaining power, education, and fertility control (Habib et al., 2021). In contrast, this review emphasizes the structural persistence of gender inequality within factory hierarchies,

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a concern highlighted by more recent scholars such as (Heath & Mobarak, 2015). Moreover, the review exposes the gap between legal provisions—such as maternity leave and anti-harassment policies—and their implementation, particularly in smaller and subcontracted units, which previous literature has noted but not systematically quantified (Abdul & Joarder, 2010). The vulnerability of female workers during external shocks like the COVID-19 pandemic further highlights the fragility of these gains, echoing findings by Shamsuzzaman et al. (2021). This synthesis reinforces that gendered labor inclusion remains both a cornerstone of the industry's success and a site of persistent marginalization.

Findings related to Bangladesh's role in global supply chains strongly align with the "smile curve" theory of value distribution, which positions countries like Bangladesh at the lower-value end of the chain—focused primarily on assembly rather than design or branding (Mia & Akter, 2019). Earlier work by Huq et al. (2014) emphasized that the CMT (cut-make-trim) model limits value capture, and this review reaffirms that Bangladesh has made limited progress toward full-package or OEM (original equipment manufacturer) status. While Bangladesh has achieved notable efficiency in mass production, the lack of product diversification and design capabilities constrains its strategic upgrading, echoing concerns raised by Lopez-Acevedo and Robertson (2012). The findings also align with studies showing that knitwear performs better than woven garments due to stronger backward linkages (Islam et al., 2013). However, what this review contributes is a more nuanced understanding of the persistent informality and subcontracting that exists within the supply chain, which previous studies often overlooked or treated as peripheral (Habib et al., 2021). This layered production system offers cost flexibility but impedes compliance, transparency, and long-term upgrading. Hence, while Bangladesh's manufacturing agility is globally recognized, its value chain positioning remains functionally limited and structurally disadvantaged.

The literature has long identified policy support as a driver of Bangladesh's apparel growth, citing tax incentives, bonded warehouse facilities, and trade preferences as critical enablers (Hamja et al., 2018). However, this review exposes a significant shortfall in the empirical evaluation of such policies, supporting critiques by Selim (2011) and Heath and Mobarak (2015) regarding policy redundancy and weak enforcement. Unlike previous studies that focused on policy design, this review highlights the absence of impact measurement mechanisms, particularly in labor reform, export diversification, and green transformation efforts. For instance, while the Bangladesh Labour Act has been amended multiple times, few longitudinal evaluations exist to assess its effect on union formation or workplace safety (Shamsuzzaman et al., 2021). Similarly, despite the government's efforts to incentivize entry into non-traditional markets, there is limited evidence on actual shifts in export composition or market resilience (Mia & Akter, 2019). This discussion underscores the divergence between policy narratives and on-the-ground realities, where institutions lack the capacity, coordination, or political will to systematically assess what works. It also amplifies previous calls for more data-driven, transparent, and participatory approaches to policy evaluation, particularly in a sector that constitutes over 80% of national exports.

Bangladesh's emergence as a leader in green factory certifications represents a relatively new yet well-documented trend, with this review corroborating and extending findings by (Shamsuzzaman et al., 2021). Earlier studies praised the country's early adoption of LEED (Leadership in Energy and Environmental Design) standards, but this review offers a broader perspective by comparing these practices across firm sizes and export zones. It confirms that while over 180 factories have achieved LEED certification, most are large, Tier-1 suppliers with direct buyer relationships and access to green financing. This echoes Rahman and Chowdhury (2020) warning about the exclusionary nature of sustainability upgrades in global supply chains. The review also validates the increasing use of the Higg Index as a performance measurement tool, though concerns persist about the self-reported nature of its metrics. This dual framework of certification and performance reporting has improved Bangladesh's global image but has yet to penetrate SMEs or informal units. Previous literature often celebrated green factory growth

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without interrogating its diffusion barriers; this review addresses that gap by documenting the structural and financial challenges that prevent widespread environmental upgrading. Therefore, Bangladesh's leadership in green certification, while genuine, remains uneven and confined to an elite segment of the industry.

The industry's overreliance on a few export markets—primarily the EU and the U.S.—has been flagged by previous studies as a structural vulnerability (Islam et al., 2019). This review substantiates that claim by revealing that over 80% of exports are concentrated in these two regions, a figure that has remained largely unchanged over the past decade. While some diversification has occurred toward Japan, Canada, and Australia, the scale is insufficient to mitigate geopolitical or demand-side risks. Earlier literature, such as Belal (2016), framed this concentration as an outcome of trade preference dependency; this review extends the argument by linking it to product segmentation, where Bangladesh specializes in low-to-mid-range basic garments with limited demand elasticity. Furthermore, the dichotomy between large, compliant factories and small subcontractors has widened over time, a phenomenon noted by Hasan et al., (2019). This review reinforces that while large factories benefit from economies of scale and direct buyer relationships, small and medium enterprises struggle with visibility, financing, and certification. Therefore, the segmentation is not merely geographic or product-based but also institutional, shaping who benefits from trade growth and who remains exposed to systemic risks. The final discussion points centers on Bangladesh's comparative position within the global apparel ecosystem, particularly vis-à-vis China, Vietnam, India, and Turkey. Earlier benchmarking studies by Selim (2013) positioned Bangladesh as a cost leader but cautioned against its low functional upgrading. This review confirms that assessment, showing that while Bangladesh outperforms peers in labor cost and production scale, it continues to lag in design, branding, and technological integration. Vietnam's agility in trade negotiations and India's textile ecosystem offer contrasting models of competitive advantage that Bangladesh has yet to replicate. Moreover, although Bangladesh leads in green factory certifications, its broader innovation landscape remains underdeveloped. Comparative studies included in this review demonstrate that while countries like Turkey capitalize on proximity and speed, Bangladesh remains embedded in a cost-volume paradigm. Thus, the strategic lesson from global comparisons is clear: without targeted investment in innovation, human capital, and trade policy reform, Bangladesh risks being locked into the lower rungs of the apparel value chain, even as it gains temporary advantages from global sourcing shifts away from China.

CONCLUSION

This systematic review synthesizes the structural, institutional, and strategic dynamics of Bangladesh's apparel industry by examining 101 scholarly and policy-based articles, revealing a complex interplay between historical foundations, labor market characteristics, supply chain architecture, policy frameworks, sustainability practices, and global competitiveness. The Desh-Daewoo collaboration laid the groundwork for an export-oriented industry that remains reliant on low-cost, labor-intensive production, with limited progress in value chain upgrading. While the sector has enabled large-scale female workforce participation, it simultaneously sustains gender-based occupational hierarchies and wage disparities. The industry's supply chain is characterized by high subcontracting and limited vertical integration, contributing to marginalization within global value chains. Despite a proliferation of supportive policies, the absence of empirical impact evaluations undermines institutional accountability and long-term planning. Bangladesh has emerged as a global leader in green factory certifications, but this transformation remains uneven, largely restricted to large export-oriented firms with access to capital and compliance networks. The market composition is heavily skewed toward basic garments and a few key export destinations, exposing the sector to external vulnerabilities. In global comparisons, Bangladesh maintains cost and volume advantages but trails in innovation, speed, and product diversification. These multifaceted findings underscore the need for coordinated policy implementation, inclusive upgrading strategies, and rigorous evaluation frameworks to ensure the sector's sustainability, equity, and global relevance.

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