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Strategic Management of the Sports Goods Industry in the Changing Global Business Environment: An Analysis of Competitive Strategies, Developmental Challenges and Emerging Priorities

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Abstract

The sports goods industry has evolved as a major segment of the global manufacturing and commercial ecosystem contributing to industrial development, international trade, employment generation and technical innovation. Its business environment has been dramatically altered by globalisation, technological revolution, shifting consumer tastes, worldwide competition and sustainability considerations. Present paper deals with strategic management in the sports goods business with special emphasis on industrial competitiveness, manufacturing clusters, export potential and integration into global value chains in India. The paper conducts a descriptive and analytical analysis of secondary literature, institutional reports and policy documents to review competitive strategies, technological capabilities, supply chain management, industrial governance and emerging development concerns. Particular reference is made to the manufacturing clusters of Meerut and Jalandhar, which are key centers of sports goods manufacture in India. The examination reveals limitations in terms of technical obsolescence, fragmented production systems, limited innovation, global competition, labour conditions and environmental sustainability. It also explores potential from digital transformation, product diversification, international alliances, quality certification and developing global markets. The paper underscores that strategic competitiveness calls for coordinated interventions along different dimensions such as technology modernisation, institutional collaboration, responsible manufacturing and market-oriented management practices. It argues that innovation-led, inclusive and sustainable industrial policies are important to improve the global competitiveness and long-term economic resilience of the sports products sector.

Keywords: *Strategic Management of Sports Goods Industry, Global Business Environment, Industrial Competitiveness, MSMEs, Technological Innovation, Global Value Chains.*

Introduction

The global business environment today is characterised by fast technical innovation, increasing international competitiveness, market integration, changing customer preferences and growing concerns surrounding environmental sustainability. Globalisation has changed the way industrial production is organised, international trade is conducted, supply chains are managed and business is done. Technological progress, digital connection, and international investment have provided prospects for industrial expansion but also expose indigenous firms to strong competition from multinational corporations. The sports goods industry is a key sector of the worldwide manufacturing industry and comprises sporting equipment, fitness items, leisure goods, athletic accessories, protective equipment and associated products. This is intimately linked to the development in sports participation, the professionalisation of sport, rising health awareness, consumer spending and the commercialisation of global athletic events. According to Porter (1980), industrial competitiveness is determined by the enterprises' ability to design effective competitive strategies based on cost leadership, differentiation and market focus. Porter (1990) later argued that national competitive advantage is derived from the interplay of factor conditions, demand conditions, associated industries and company strategy. These views give a strong theoretical basis for studying the sports goods industry in the increasingly competitive global business environment. The dynamic worldwide business climate has

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introduced new challenges for enterprises concerning product quality, production costs, technological capabilities, market access and supply chain resilience. The World Trade Organization (WTO, 2024) noted that the role of geopolitical tensions, trade barriers and economic fragmentation has grown in international trade patterns and industrial competitiveness. The global sport goods business has likewise witnessed a significant structural change. According to McKinsey and the World Federation of the Sporting Goods Industry (WFSGI, 2025), the sporting goods industry grew by about 7 percent a year in 2021–2024, and growth is expected to be around 6 percent a year in 2024–2029. These changes point to ongoing growth potential but also a higher degree of uncertainty in the international business climate. The sports goods industry is holding a significant place in labour intensive manufacturing operations in India, particularly in micro, small and medium firm sector. It has strong historical links with the traditional manufacturing hubs of Jalandhar in Punjab and Meerut in Uttar Pradesh. The original study points to the contribution of these clusters to manufacturing, employment generation, entrepreneurship and export development. It also takes cognisance of technological restrictions, rivalry from multinational businesses, lack of marketing strategies, raw material constraints and labour-related issues as major hindrances to industrial progress. India's sports goods business has evolved traditionally through a network of small manufacturers, craftspeople, exporters and household-based production units. This system has generated employment and specialised manufacturing capabilities, but has also led to fragmentation of production, inconsistent quality standards and limited adoption of innovative technology. Recent developments have created more opportunities. The yearly exports of sports equipment from India are anticipated to be roughly US$ 275 million, which accounts for about 0.5 per cent of the total world exports in the sports equipment manufacturing industry (NITI Aayog, 2026). Technological modernisation, strengthening of industrial clusters, quality certification, product diversification and international branding were mentioned as significant priorities for boosting India's competitiveness in the report. Against this background, the present study discusses the strategic management of the sports goods industry in the changing global business environment, with particular emphasis on competitive strategies, industrial development, institutional issues and new goals.

2. **Review of Literature**

The literature on strategic management, on international competitiveness, on industrial clusters and on sports goods production provides a number of interesting viewpoints. Porter (1980) formulated the competitive strategy framework and identified cost leadership, product differentiation and market focus as fundamental processes by which firms establish competitive advantage. These tactics are especially essential for makers of sports goods competing in worldwide markets with differentiated products, established brands and price sensitive consumers. Porter (1990) studied the competitive advantage of nations and underlined the significance of technological innovation, skilled people resources, industrial linkages and supporting institutions to enhance international competitiveness. His methodology provides a useful starting point for analysing the performance of sports goods manufacturing clusters. Barney (1991) argued that, from the resource-based perspective of strategic management, valuable, scarce, difficult-to-imitate and organisationally embedded resources lead to sustainable competitive advantage. Such a method is compatible with the professional skills, craftsmanship, technological capacity and reputation of the brand of athletic goods firms. UNIDO (2006) analysed the growth of the Jalandhar sports goods cluster and pointed out the labour-intensive nature of the industry, the dominance of small manufacturing units and the need to improve technological capabilities, industrial collaboration and market access. Poly Consultants (2006) in its analysis of the Meerut sports goods cluster emphasised the manufacturing specialisation of the cluster, its export potential and its technological limits. The report emphasised the progress made in production processes, product quality,

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industrial infrastructure and technology modernisation. Mukhopadhyay (2006) studied the relation between the manufacturing competitiveness, product quality, production costs and technological innovation. The report stressed that long-term competitiveness required constant increases in production efficiency and technological capabilities. Chakravarthy and Chakravarthi (2006) investigated the technological breakthroughs and new materials in sports goods manufacturing and pointed out the possibility of enhancing product performance by using advanced materials and novel manufacturing procedures. Goyal (2004) studied child labour in sports goods industry of Jalandhar and found children were engaged in household-based ball stitching. The report identified shortcomings in labour protection, educational possibilities and working conditions. UNIDO's comparative research of sports goods clusters in Sialkot and Jalandhar looked at the interaction between global value chains, corporate social responsibility and labour monitoring. It emphasised the necessity of joint institutional action, responsible sourcing and social protection for the credibility of international markets. Blanga-Gubbay and Rubínová (2024) analysed international trade fragmentation and found that geopolitics has emerged as an increasingly important determinant of trade patterns. Their results emphasise the need of supply chain diversification and strategic adaptation in internationally integrated manufacturing industries. McKinsey and WFSGI (2025) reviewed current developments in the global athletic goods business. The paper stressed on the importance of productivity enhancement, supply chain resilience, digital transformation, evolving customer behaviour and sustainability in determining future business strategy. NITI Aayog (2026) highlights the huge potential for India to increase manufacturing and exports of sports equipment. Its strategic roadmap was centred on cluster modernisation, quality certification, technology up-gradation, investment mobilisation and establishment of globally competitive Indian sports equipment brands. Literature suggests that the competitiveness of sports goods production is affected by the capabilities of the enterprises and by the wider institutional environment. However, the relationship between strategic management practices, industrial competitiveness, technological innovation, sustainability and international market integration needs to be addressed within a deeper analytical framework.

3. Research Gaps

While there are studies on sports goods production, industrial clusters and export competitiveness, several research gaps still exist. First, whereas previous studies have focused on production features, manufacturing clusters, technological constraints and export performance, the sports products industry has not been examined from an integrated strategic management approach. Second, the strategic decisions of sports goods makers when considering the combined effects of globalisation, technical innovation, international competitiveness, changing customer tastes and geopolitical uncertainty have not been studied extensively. Thirdly, the impact of digital transformation, automation, artificial intelligence, e-commerce and contemporary supply chain management on small and medium sports goods firms has to be further explored. Fourth, there is a lack of appropriate attention to the integration of industrial competitiveness with environmental sustainability, ethical manufacturing, labour standards and responsible international sourcing in previous studies. Fifth, we need to further analyse the comparative strategic capacities of Indian sports goods manufacturing clusters against internationally competitive manufacturing systems. Finally, further focus is required to establish an integrated strategic framework that links enterprise management, industrial policy, technical modernisation, institutional collaboration, and sustainable global competitiveness. The present study attempts to fill these gaps by offering an in-depth examination of the changing global business environment and its implications for strategic management in the sports goods industry.

4. Objectives of the Study

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The major objective of the paper is to examine the strategic management of the sports goods industry in the changing global business environment, with particular reference to competitiveness, industrial development and emerging growth opportunities. The specific objectives are:

1. To examine the changing global business environment and its implications for the sports goods industry.
2. To review the structure, development and international competitiveness of sports goods manufacturing, particularly in India.
3. To analyze competitive strategies relating to production, technology, marketing, product diversification and global market integration.
4. To identify major developmental challenges concerning industrial infrastructure, technological capabilities, international competition, labour conditions and environmental sustainability.
5. To examine the role of government policies, institutional support, industrial clusters and international partnerships in strengthening competitiveness.
6. To suggest emerging strategic priorities for sustainable growth and improved participation in global value chains.

5. Research Methodology

The present paper adopts a descriptive, analytical and review research technique. The study relies mostly on secondary sources of information. The study uses academic literature, government publications, institutional reports, industrial cluster studies and international business assessments. The primary sources include the publications of United Nations Industrial Development Organization (UNIDO), International Labour Organization (ILO), World Trade Organization (WTO), World Federation of the Sporting Goods Industry (WFSGI), NITI Aayog, Sports Goods Export Promotion Council (SGEPC), Process-cum-Product Development Center (PPDC) and relevant research studies related to strategic management and industrial competitiveness. The examination examines changes in manufacturing organization, export competitiveness, industrial policy and company strategies from a historical and present point of view. The main analytical methods include environmental scanning using the PESTLE framework, examination of industrial competitiveness, SWOT/SWOC analysis, global value chain evaluation and comparative review of strategic management practices. In specifically, it looks at the main sports goods manufacturing clusters in India such as Meerut and Jalandhar, situating their industrial development within the broader international economic environment. The study is relying on secondary evidence and no fresh primary survey of manufacturing businesses is conducted. Its conclusions are therefore an analytical synthesis of existing research rather than a statistically validated causal relationship. Historical figures from the original study are regarded as their respective periods and not as present estimates.

6. Changing Global Business Environment and Sports Goods Industry

The global business environment has changed significantly due to the integration of worldwide markets, technological innovation, shifting trade regulations, digitalisation and growing environmental awareness. These changes have changed the competitive structure of sports goods manufacturing.

6.1 Globalisation and Integration of International Markets

Globalisation has created more chances for world production, investment, outsourcing and distribution. International production networks of raw material suppliers, component makers, brand owners, distributors and retailers are becoming increasingly important for sports goods producers. International brands often coordinate product development, marketing and distribution across different nations while sourcing manufacturing activities from specialised production centers. The WTO (2024) notes that the international

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trading system is being shaped by geopolitical tensions, trade barriers and shifting patterns of global economic integration. The necessary requirements for effective participation in worldwide markets for sports goods manufacturers are competitive prices, reliable delivery, quality of products, compliance with regulations and the ability to respond to the changing international demand.

6.2 Technological Revolution

Technological innovation has become a key factor for competitiveness in the sport goods business. With computer assisted design, sophisticated materials, automated manufacturing, precise engineering, and digital production systems, manufacturing is becoming more efficient and product performance is improving. Technological capabilities are especially relevant for the manufacture of composite sports equipment, protective equipment, synthetic materials, performance products and specialised sports equipment. The research of PPDC (2006) and Mukhopadhyay (2006) showed the significance of employing sophisticated materials and contemporary manufacturing techniques to improve competitiveness. In the current business environment, strategic investment in technology has become imperative to reduce manufacturing costs, improve quality and achieve product differentiation.

6.3 Shifting Consumer Preferences

Changing lifestyles, growing interest in health and fitness, expansion of leisure sports and commercialisation of professional sporting events are progressively influencing demand for sports items. Consumers are increasingly demanding items that are durable, perform well, are well designed, are affordable and environmentally responsible. As per McKinsey and WFSGI (2025), changing consumer behaviour, physical inactivity and evolving market demand are major variables shaping the future growth of the athletic goods business. Manufacturers must therefore constantly examine consumer expectations and design products that are attuned to the market.

6.4 International Trade and Resilience of the Supply Chain

International sourcing and worldwide distribution networks allow for market expansion and cost optimisation. But they have also increased susceptibility to geopolitical uncertainty, trade restrictions, transit interruption and swings in the price of raw materials. The WTO (2024) notes that international trade is increasingly influenced by geopolitical factors and evolving patterns of economic cooperation. Therefore, manufacturers of sports goods must diversify their supply sources, build connections with suppliers, enhance inventory management and create distribution networks that are resilient.

6.5 Sustainability and Ethical Manufacturing

Environmental sustainability has been a key issue in worldwide business management. The manufacturing processes of sports goods include the use of wood, leather, rubber, plastics, synthetic fibres, metals and chemical based materials. The extraction and processing of these minerals can cause environmental problems such as depletion of resources, pollution, development of waste and carbon emissions. Manufacturers are giving greater priority to responsible sourcing, cleaner production technology, energy efficiency, recycling and sustainable material substitution. WFSGI (2025) emphasised the ongoing relevance of environmental, social and governance aspects to the strategic management of sporting goods firms. Thus, environmental responsibility is increasingly tied to international competitiveness, brand image, and the long-term viability of the business.

7.0 Sports Goods Industry in India: Structure and Development

The sports goods sector of India has a long legacy of manufacture and is a key contributor to employment generation, entrepreneurship, export development and regional industrialisation. The current growth of

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organised sports goods production is intimately associated with the migration of skilled artisans and manufacturers from Sialkot after partition of India in 1947. During the course of years big manufacturing concentrations established in Jalandhar and Meerut and other centers emerged in various regions of the country. The sector manufactures a broad range of sports goods such as cricket bats and balls, footballs, hockey sticks, badminton equipment, boxing accessories, safety gear, athletic products, indoor games and recreational goods.

7.1 **Jalandhar Sports Goods Cluster**

Jalandhar is one of the key traditional sports goods manufacturing centers of India. It is especially connected with inflatable balls, cricket equipment, badminton accessories, protective gear and other sports goods. UNIDO (2006) recognised many types of firms in the cluster ranging from big export-oriented manufacturers to registered small establishments and unregistered household-based production units. The cluster is characterised by specialised workmanship, substantial manufacturing experience, production flexibility and established market ties. But its development has been hampered by fragmented production systems, inadequate technical modernisation and uneven access to institutional backing. Literature on innovation systems and industrial clusters points to the need for deeper links between producers, technical institutions, finance organisations and marketing agencies for upgrading technology and improving industrial competitiveness.

7.2 Meerut Sports Goods Cluster

Another major center for sports goods manufacturing in India is Meerut in western Uttar Pradesh. The cluster specialises on cricket bats and balls, safety gear, boxing items, hockey equipment, table tennis products and other sporting accessories. Historical investigation by Poly Consultants (2006) revealed a large network of small, cottage and ancillary manufacturing companies operating within and around Meerut. Traditional craftsmanship, entrepreneurship, specialised production capabilities, and existing domestic and international markets are all advantages for the cluster. But its competitiveness has been hampered by limits in innovative materials, modern equipment, testing facilities, research and development, market intelligence and financial resources. Specifically, the original report noted that a number of businesses were hampered in their capacity to compete in high-value international markets by technological stagnation and a slow uptake of innovative composite materials.

7.3 Contribution of MSMEs

Micro, small and medium enterprises are the backbone of the sports goods manufacturing industry of India. These firms contribute to employment generation, decentralised industrial development, skill preservation and entrepreneurial prospects. According to NITI Aayog (2026), almost 90 per cent of the sporting equipment manufactured in India is produced by small and micro companies. Despite their economic significance, many MSMEs have limitations in several areas including funding, technological capabilities, product standardisation, skilled workforce, market access and export procedures. Therefore, enhancing their institutional and technological capacity is crucial for increasing industrial productivity and global competitiveness.

8. Global Competitiveness and International Market Opportunities

Industrial competitiveness is the ability of manufacturing firms to generate goods that are competitive in quality, price, performance, innovation and delivery reliability in local and world markets. Porter (1990) observed that competitive advantage relies on the effective interaction of business strategy, industrial capabilities, supporting institutions and market conditions. In the sports goods business, competition is

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increasingly determined by technology, production efficiency, branding, product innovation, international standards and supply chain management.

8.1 Global Market Position

The international sports goods market consists of various technologically advanced systems of production, internationally recognised brands and specialised production centers. Manufacturers in different nations compete with each other on cost efficiency, product specialisation, innovation, supply chain integration and market placement. According to NITI Aayog (2026), the global exports of sports equipment in 2024 were estimated to be over US$ 52 billion. India's yearly exports of sporting goods were estimated at about US$ 275 million, which is a small percentage of the global trade. These numbers underscore the immense possibility for India to boost its manufacturing prowess and increase its engagement in global supply chains.

8.2 Cost Competitiveness

Cost leadership is still an important strategy for firms competing in price-sensitive industries. Indian sporting goods companies have the advantage of experience in manufacturing, unique talents and labour-intensive techniques of production. But lasting cost competitiveness depends on increases in productivity, resource efficiency, technology adoption and supply chain management rather than reliance on low salaries. Modern production methods, group purchasing and optimised logistics can help greatly to cost reduction.

8.3 Product Differentiation

Product differentiation is achieved by the development of distinctive items on the basis of quality, performance, design, innovation and brand recognition. Sports goods makers can increase their competitive edge by introducing new materials, customised equipment, high-performance items and specialised sporting accessories. Hence, investment in research and development, product testing and design expertise is crucial.

8.4 Market Diversification

Reliance on a small number of foreign markets may leave firms vulnerable to economic swings and trade barriers. Market diversification enables firms to boost their exports in multiple geographical regions, sports categories and consumer segments. Possible business expansion opportunities are emerging markets, leisure sports, fitness equipment, educational institutions and sports infrastructure development.

8.5 Integration to the Global Value Chain

Global value chains allow enterprises to get access to international markets, technology, quality systems and specialised manufacturing networks. But long-term competitiveness means transitioning away from low-value contract manufacturing toward product development, advanced production, branding and direct market contacts. Strategic upgrading within global value chains can increase profitability, technological capacity and internationalisation of firm.

9. Competitive Strategies for Sports Goods Industry

Producers need to develop full flexible competitive strategies to deal with the shifting global economic climate.

9.1 Technological Modernization

Technological upgrading must be a key element of industrial strategy. Manufacturers will need to invest in contemporary technology, product design systems, automated production methods, innovative materials and quality testing facilities. Technology centers and common facility centers backed by the government can help MSMEs tide over budgetary restraints in technological modernisation.

9.2 Innovation and Diversification of Products

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It is crucial to innovate products to be able to respond to changing consumer tastes and stay competitive. The manufacturers should diversify into specialised fitness equipment, performance-oriented sports products, improved protection equipment, sustainable sporting materials and new recreational products. The creation of products can be improved by working together with technical institutes, sports universities and research organisations.

9.3 Branding and Global Marketing

Good branding increases consumer recognition, market distinction and long-term business competitiveness. Indian sporting goods companies must spend in brand building, digital marketing, international exhibitions, e-commerce platforms and institutional buyer partnerships. Collective branding efforts might be especially advantageous for smaller enterprises in industrial clusters.

9.4 Industrial Collaboration and Strategic Alliances

Industrial collaboration allows firms to pool resources, technological capabilities, market intelligence and distribution networks. They can enhance competitiveness of manufacturers, exporters and research institutions and worldwide business partners through strategic relationships. Joint ventures and technology-transfer partnerships may also provide access to sophisticated production systems and to world markets.

9.5 Supply Chain Management

Good supply chain management needs reliable sourcing, efficient production planning, inventory management, logistics coordination and market responsiveness. Digital supply chain systems can enhance transparency, traceability and operational efficiency. You can also limit your susceptibility to outside interruptions by diversifying your sources and markets.

9.6 Human Resource Development

To modernise industry and to innovate products, we need skilled human resources. Training programs should focus on advanced manufacturing techniques, digital technologies, quality control, industrial safety, technical design and managerial capabilities. The skill development efforts should also help the transition of traditional craftspeople into technologically modern production processes.

9.7 Sustainable Competitive Strategies

Environmental sustainability and ethical production should be part of strategic planning at the level of the firm. Cleaner industrial methods, resource efficiency, ethical sourcing, protection of workers and minimisation of waste can support sustainable competitiveness. Responsible business practices can help enhance international buyer confidence and brand image.

10. Developmental Challenges of the Sports Goods Industry

Despite its promise the sports products business has a number of structural, technological and institutional problems.

10.1 Technological Change

One of the main challenges traditional manufacturing companies are facing is their continuous reliance on old production systems. In advanced product categories, technological restrictions impact productivity, product quality, manufacturing efficiency and competitiveness.

10.2 International Contest

Domestic manufacturers compete with multinational firms and established worldwide brands with vast financial resources, innovative technologies, broad distribution networks and powerful marketing capabilities.

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Product innovation, technological performance, brand awareness and standards of international service are becoming more and more the basis of competition.

10.3 Break-up of Manufacturing Structure

The preponderance of small and household-based manufacturing companies hinders the realisation of economies of scale, standardisation, technological modernisation and coordinated market development. Fragmentation may also limit access to institutional finance and overseas purchasers.

10.4 Constraints on Raw Materials

The creation of sporting goods uses a variety of natural and industrial materials which include wood, leather, rubber, plastics, metals and synthetic fibres. Raw material prices and availability, as well as environmental limitations, can vary and affect production costs and activities. Thus, sustainable sourcing and material innovation are key strategic initiatives.

10.5 Limited Research and Development

Limited investment in research, testing, industrial design and product innovation limits movement into high value manufacturing categories. There is a need for more cooperation between industry and academic institutions to develop advanced manufacturing capabilities.

10.6 Weak Marketing and Brand Development

Many small producers prefer to work with intermediaries or existing buyers, rather than to develop their own international brand. Limited marketing resources, lack of market information and weak digital capabilities hinder access to high-value markets.

10.7 Labour Conditions and Social Responsibility

The industry has always been reliant on labour-intensive manufacturing and household-based production processes. Previous research has pointed out problems such child labour, low salaries, occupational health, social security and gender disparities. Goyal (2004) and the comparative assessment of the Sialkot and Jalandhar clusters by UNIDO highlighted the significance of responsible production methods, effective labour monitoring and institutional cooperation. Industrial competitiveness must consequently include fair work practices, occupational safety and internationally acknowledged labour standards.

10.8 Environmental Sustainability.

With the increased emphasis on sustainable production, firms need to consider energy use and resource efficiency, material consumption, industrial waste and pollution. Small manufacturers may have a special challenge meeting new environmental criteria because of limited technological and financial resources.

10.9 Risks from Trade and Geopolitics

Export-driven sectors are subject to instability as international trade regulations, tariffs, geopolitical ties and supply chain architecture evolve. “The influence of geopolitical tensions on international trade is increasing,” the WTO (2024) says. This means that manufacturers need adaptable business strategies, diversification of markets and improved risk management methods.

11. SWOC Assessment of the Industry

Table 1. Strategic strengths, weaknesses, opportunities and challenges

Strengths	Weaknesses	Opportunities	Challenges
Craftsmanship; established Meerut	Fragmented scale; uneven technology	Digital trade; specialized products;	Global rivalry; buyer concentration; input

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and Jalandhar clusters; flexible MSME networks; export experience	and testing; weak independent brands; finance constraints	cluster facilities; design partnerships; sustainable innovation	volatility; compliance costs; skills gaps

The SWOC assessment integrates the evidence from the historical cluster with present policy considerations. Internal strengths must be re-invested to maintain their value. Weaknesses are not the same for products or organisations. Opportunities require market access and competencies, and external risks demand diversification and prudent risk management. This matrix is not an actual ranking of firms but a strategic diagnosis.

12. Historical Export Performance and the Contemporary Competitive Position

To evaluate strategic management correctly, one must distinguish between its historical evolution and its current market conditions. As per the original report, India's exports of sports items have increased from Rs. 109 crores in 1993-94 to Rs. 204 crores in 1997-98, Rs. 261 crores in 2001-02, Rs. 318 crores in 2002-03, Rs. 342 crores in 2003-04 and Rs. 395 crores in 2004-05. These nominal numbers demonstrate the expansion of an export-oriented production base after economic liberalisation. However, they cannot be taken as growth rates at constant prices and cannot be automatically compared with data based on more recent classifications of products. The historical series also precedes major developments in global sourcing, internet retail and customer demand (original study; PPDC, 2006).

Table 1. Selected Historical and Contemporary Indicators

Period or reference	Indicator	Interpretation and qualification
1993–94	Indian sports goods exports: ₹109 crore	Historical nominal export value reported in the source paper
1997–98	Indian sports goods exports: ₹204 crore	Historical nominal export value reported in the source paper
2001–02	Indian sports goods exports: ₹261 crore	Historical nominal export value reported in the source paper
2002–03	Indian sports goods exports: ₹318 crore	Historical nominal export value reported in the source paper
2003–04	Indian sports goods exports: ₹342 crore	Historical nominal export value reported in the source paper
2004–05	Indian sports goods exports: ₹395 crore	Historical nominal export value reported in the source paper

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2024	India's sports equipment exports: approximately US$275 million	NITI Aayog's contemporary, narrower equipment assessment
2024	Global sports equipment exports: approximately US$52 billion	Trade value, not total consumer market size
2036	Potential Indian exports of US$8.1 billion annually	Conditional policy opportunity, not an achieved result or baseline forecast

Sources: Original study, export section; NITI Aayog (2026). The historical and contemporary series differ in currency, period, classification and methodology. No growth rate is computed across them.

The historical series shows that foreign trade became a relevant development avenue for established Indian producers. But growth in shipments has not always resulted in strong branded positions abroad. The original report talks about reliance on contract manufacturing, intermediaries and low-end export markets, together with a smaller handful of recognised cricket-equipment suppliers. This divergence is strategically essential. An exporter can boost sales volume without capturing much value from research, intellectual property, customer relationships, or downstream distribution. The notion of value-chain upgrading thus provides a more meaningful benchmark than export turnover alone (Gereffi, Humphrey and Sturgeon, 2005). NITI Aayog (2026) forecasts that India's sports equipment exports accounted for about 0.5percent of the worldwide export market in 2024. Its analysis proposes an ambitious chance to achieve US$8.1 billion in yearly equipment exports by 2036, if there is sufficient investment, cluster modernisation, technology adoption and greater international commercial partnerships. It also examines potential major employment implications. These are possibilities based on scenarios, not independently proven future results. The sporting products commercial class is broader than sports equipment. Sports apparel, footwear, accessories and equipment are overlapping, but not interchangeable, reporting areas. The wider sporting goods market is described by McKinsey and WFSGI (2025) as expanding at a compound annual growth rate of around 7 per cent for the period 2021–2024 and around 6 per cent for the period 2024–2029. This view is significant for the business environment but should not be used to directly estimate equipment exports. Harmonised customs regulations, uniform value, defined geography and a clear separation of manufacturing, retail sales and foreign trade are necessary for reliable comparison. Care is needed on competitor benchmarking too. China competes at scale in several product categories. Other manufacturing locations compete on specialised technology, supply networks related to brands or closeness to trade markets. Wage expenses are just one part of India's strategic stance. A useful benchmarking exercise would be to evaluate equipment categories on defect rates, material performance, order lead time, testing results, export compliance, supplier concentration, working capital demands, and value gained by domestic enterprises. Comparable firm-level evidence is not collected; therefore, cross-country causality cannot be demonstrated. The correct conclusion is that we need to measure competitiveness in a more methodical way.

13. Strategic Environmental Analysis: PESTLE and Industry Forces

A systematic analysis of the external environment can aid in identifying hazards that are outside the control of particular firms. The political dimension includes trade negotiations, industrial policies, export incentives, customs processes, public procurement and diplomatic developments that influence market access. If you are

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a small supplier that relies on overseas orders, changes to tariffs or documentary requirements might swiftly shift profitability. Common facilities and testing centers can also be supportive of competitiveness through public policy rather than subsidies to individual enterprises. WTO (2024) argues that open trade is more inclusive if supported by domestic policies that promote skills, infrastructure and participation in trade. There are social shifts in both demand and production sides. Interest in fitness, organised sports, school involvement and leisure activities can drive demand for products. Consumers and institutional buyers can demand increased product safety and responsible sourcing. However, the worldwide demand picture is uneven: participation patterns, income levels, sporting traditions and purchase tastes vary from area to region. For example, a cricket product portfolio may require distinct export routes than football, gym equipment or safety gear. On the production side, the sustainability of the industrial base is affected by the ageing of the workforce, skill transmission, occupational safety and women's employment. Technological forces include computer-aided design, materials engineering, numerical-control machinery, process monitoring, internet merchandising, traceability software and data-driven demand forecasting. The economic argument for technology can be made based on the product and size of business. Automation might help reduce variation in repetitive operations but it's possible that artisanal skills will still be important for product finishing and specialised work. Effective technology strategy consequently starts with process mapping and measurable sources of waste, not arbitrary machinery procurement. For micro-enterprises shared access to design and testing equipment may be more cost effective than individual ownership. Environmental factors include timber availability, responsible sources of leather and rubber, waste deriving from plastics and composites, energy and water use, packaging and product end of life management. Switching to an alternative material is not necessarily more sustainable until the performance and lifecycle consequences of the material are examined. Management should consequently employ appropriate environmental measurement, beginning with material yield, electricity use, water requirements, scrap recovery and supplier documentation. More transparency, when backed up by actual information and not unfounded green promises, would be a confidence builder for buyers. The microeconomic perspective is based on the five-forces model of Porter (1980). Competition between well-known manufacturers and branded suppliers can be fierce, especially for standardised items. When a company relies on only a few global sourcing organisations, buyer bargaining power can be significant. Few replacements for speciality inputs means that supplier power increases. Barriers may be relatively low for potential entrants in simple products, but much higher in technologically advanced, regulated or brand sensitive areas. Substitutes evolve through material innovation, new sports and changing consumer tastes. Strategic response is the selection of segments where the organization can protect quality, reliability, knowledge or relationships rather than trying to compete in every category all at once.

14. Industrial Clusters, Capabilities and Global Value Chain Upgrading

The Meerut and Jalandhar clusters are examples of how specialised labour and localised learning may lead to the emergence of industries. Knowledge is transmitted among experienced workers, subcontractors, merchants and entrepreneurs; suppliers learn product specifications; and dense networks can enable short production runs. These benefits are comparable to the external economies addressed in the literature on clusters and industrial districts. Related and supporting sectors can contribute to international competitiveness (Porter, 1990). Still, proximity alone does not always lead to innovation. But if the motivation to upgrade is minimal, clusters might become locked into the established products and practices. The original article identifies larger export-oriented companies, registered small units and unregistered household-based manufacturers in Jalandhar. The history of Meerut also indicates a significant participation of minor and cottage industries. "Such networks offer flexibility but raise strategic questions about accountability. In cases

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involving numerous subcontracting tiers in an order, the final exporter may not know exactly where all the production took place, or whether quality and labour criteria have been continuously adhered to. A credible cluster-upgrading strategy thus requires a supplier registry, clear purchase orders, traceable batches, worker-protection precautions and simple record-keeping fit for tiny workshops. A diversified path of upgrade is better than a homogenous plan of modernisation. Lean production training, shared testing, standard operating procedures and inexpensive finance may be needed first for basic manufacturers. Design engineering, business resource planning, compliance systems and overseas sales teams are likely to profit the most from growing exporters. Forward-looking companies may focus on proprietary products, materials science, original design production and brand ownership. The ordering should be based on capabilities and market potential, not on organization size. Shared facilities are particularly helpful where expensive equipment is needed only occasionally and where a number of enterprises can support professional operation. Global value chains disconnect the production process from the coordination and commercial processes through which value is captured. “A company can make a great part without affecting product design, packaging, consumer engagement or pricing. Gereffi, Humphrey and Sturgeon (2005) address the importance of governance links in knowledge transfer and supplier opportunities. The upgrade for Indian sporting goods makers can be through better processes, more sophisticated products, extra functions like design and marketing, or entry into adjacent product sectors. These are not the same paths, each requires different investment, contacts with buyers and hazards. The key institutional problem is to translate geographically concentrated output into organised collective capability. Public agencies can improve roads, power, testing services and training programs; associations can offer market intelligence and common advocacy; educational institutions can give materials research and design; and enterprises must remain responsible for investment and execution. An integrated cluster development plan must include ownership, financing, baseline indicators, service fees and a timeline for review. Without such cooperation, shared infrastructure can be built but underused or unavailable to the enterprises that most require them.

15. Integrating Ethics, Labour Standards and Environmental Sustainability

Responsible company practices should be mainstreamed as a core management issue, not an optional reputational exercise. The historical source study spends substantial time on football stitching, covering child labour, gender-based wage inequalities, irregular employment and health issues. Such observations refer to prior decades, are based on survey and wage data and cannot be used to determine present-day prevalence. Analytically, they continue to matter because they reveal ways in which complicated subcontracting arrangements can subvert monitoring and displace production pressure onto vulnerable households. Historic evidence provides a persuasive argument for building traceability and social compliance into modern industry strategy, not supposing unaltered conditions today. The initial objective is to identify all the players in a production chain: the exporter, subcontractors, stitching centers, home-based workers, transporters and material suppliers. Procurement contracts should include provisions on legitimate employment, working hours, health and safety responsibilities and record-keeping obligations. Monitoring should include worker involvement and credible follow-up, not just paperwork. Grievance channels are more effective when workers may raise issues free from fear of retaliation. Buyers also affect standards via costs and delivery timelines; unreasonable demands can weaken compliance even in the presence of official guidelines. Gender-sensitive policies are especially crucial in labour-intensive industries. Measures such as equal remuneration for equivalent work, secure payment records, access to training, safe working arrangements and fair development chances can encourage productivity, as well as inclusiveness. Where work is home based, outreach strategies and accessible training are essential. The ILO (2005) emphasises the need for enabling policy environment

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for micro and small firms. However, a contemporary compliance evaluation should also consider the current applicable laws and buyer requirements instead of depending on the history only. Environmental management can follow a similar practical path. Firms should monitor the movement of materials and energy; calculate the amount of scrap and rework; distinguish hazardous waste from non-hazardous trash; analyse reuse prospects; and monitor utility usage. In schools, clubs and public sporting institutions where resources are tight, the ability to repair equipment and its durability can be quite important. Appropriate supplier evidence should be produced to support the procurement of timber, leather and synthetic materials. Recycled or low-impact product claims should be validated against actual material composition and production processes. Sourcing responsibly may also provide better access to markets internationally, especially to institutional purchasers who need certified compliance. But it should not be marketed as a sure-fire way to higher prices. There may be strategic advantages in preserving contracts, limiting disruption, attracting better partners and protecting workers and local ecosystems. A balanced performance dashboard would measure labour events, remedial actions, material yield, energy use, verified sourcing and customer retention alongside standard financial metrics.

16. Integrated Strategic Management Framework and Performance Indicators

Present review provides a five-stage model linking external circumstances to sustainable competitiveness. The first level is environmental intelligence where firms constantly review market demand, rivals, regulation, buyer requirements, input pricing and technology change. The second is capability evaluation. Managers analyse the state of machinery, process consistency, personnel skills, working capital, research capacity and supplier relationships. The third one is strategic decision between cost leadership, product differentiation, focused specialisation and value chain upgrading. The fourth is implementation by investment, partnerships, training, compliance and marketing. The fifth is performance review and learning, when real results lead to adjustments of strategy. The paradigm is based on Porter (1980, 1990), Barney (1991), cluster-development literature and the industrial issues as described in the attached article. This is an explanatory synthesis and has not been validated using primary corporate data. The value of the framework is that it outlines possible relationships that can be empirically tested later. For instance, access to a testing laboratory may help with foreign orders through better compliance, but its influence will rely on managerial capacity, demand and financing. The growth in export cannot be attributed to the laboratory with no comparison data, which would be methodologically incorrect. A feasible evaluation system should consider economic, technological, market, social and environmental elements. Economic indicators can be value contributed per worker, operational margin, cash-conversion cycle and on-time delivery. Technology measurements could include failure rates, first-pass yield, machine uptime, time to develop new items, and the percentage of revenue from recently released products. Market indicators could include concentration of export destinations, repeat purchasers, average size of orders and proportion of direct and intermediary sales. Social indicators should reflect verified employment circumstances, incidents of safety, training in skills and the resolution of grievances. Environmental indicators could include energy intensity, material losses and verified sourcing.

Table 2. Suggested Monitoring Matrix for Industrial Upgrading

Dimension	Illustrative indicator	Intended managerial use
Production	First-pass yield; defects per batch	Target avoidable waste and quality failures
Technology	Machinery uptime; design-to-prototype days	Evaluate modernization investments

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Markets	Export destinations; repeat-order ratio	Monitor diversification and customer retention
Finance	Operating margin; working-capital cycle	Test commercial sustainability
Workforce	Training hours; occupational incidents	Assess skills and safe employment
Responsible sourcing	Documented supplier coverage	Improve traceability and buyer confidence
Environment	Material scrap rate; energy per unit	Prioritize resource-efficiency measures
Cluster institutions	Facility utilization; firms served	Evaluate collective infrastructure

17. Discussion: Major Findings, Policy Implications and Research Agenda

The review yields six related conclusions. First, the big constraint on Indian sports goods competitiveness is not lack of manufacturing knowledge, but inability to convert localised skill to scalable, quality assured and market connected capabilities. Second, technology and skills are complementary: new machines might not improve outcomes without maintenance, training and process discipline. Third, export promotion will be most effective when combined with quality certification, reliable delivery and distinctive products. Fourth, clusters can reduce upgrading costs, but only if collective institutions are accessible and accountable. Fifth, legitimate participation in supply chains under increased scrutiny requires ethical manufacturing and environmental management. Sixth, strategic flexibility is important since demand, trading arrangements and material markets can change more quickly than a standard investment cycle. These results indicate that industrial policy should differentiate basic, middle and advanced initiatives. At the base level the focus must be on basic infrastructure, training in processes, access to formal finance, reliable data and compliance with safety. In the intermediate stage they require joint testing, help with design, modern equipment, digital inventory management and help with exports. In the advanced stage, help can be channelled to specialised engineering, international certification, proprietary design, market intelligence and partnerships that can move enterprises to higher-value roles. This sequencing avoids the risk of wasting scarce public resources on facilities that are beyond the immediate absorptive capacity of users. NITI Aayog (2026) has developed a strategy roadmap that comprises modernising existing clusters, establishing new manufacturing infrastructure, offering investment support and enhancing positioning in foreign markets. These measures give a valuable policy direction, but implementation should be assessed for measurable incremental outcomes. Before substantial investments, cluster-development initiatives should set baseline productivity, exports, wages, quality performance and environmental requirements. Publicly available reports should make a distinction between monies allocated, infrastructure delivered, enterprises involved and actual outcomes accomplished. Evaluation can then determine if initiatives are delivering sustainable benefits or simply creating capital assets for which there is insufficient demand.

Table 3. Policy Challenge, Proposed Response and Evaluation Criterion

Challenge	Strategic response	Evidence needed to judge success

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Fragmented production	Supplier organization and shared services	Quality improvement and higher facility usage
Technology gaps	Targeted equipment, training and design support	Measured productivity and reduced defects
Weak branding	Export consortia and market intelligence	Repeat business, diversified buyers and value capture
Limited finance	Working-capital and modernization instruments	Improved cash cycle and viable investment uptake
Skill constraints	Industry-linked apprenticeships and training	Skill certification and workplace performance
Labour and environmental risks	Traceability, safety and cleaner processes	Verified compliance and resource savings
Market uncertainty	Supplier and destination diversification	Lower concentration and fewer delivery disruptions

Future study should go beyond general descriptive statements to a well-designed enterprise level investigation. Stratified sample spanning Meerut, Jalandhar and developing production areas could represent exporters and domestic suppliers, diverse product categories and micro, small and medium enterprises. A systematic questionnaire could examine strategy, technical capability, financing, innovation, digital adoption, market diversification, labour practices and environment management. Interviews with workers, exporters, cluster institutions and international purchasers would help to differentiate between stated practices and operational realities. A longitudinal study would be better for studying change after technology or policy changes. Analytically, factor analysis might verify whether questionnaire questions constitute coherent capability dimensions. Multivariate regression could examine relationships between capabilities and outcomes such as export intensity or productivity after controlling for company size, age and product category. Cluster-level comparisons need to consider common geographic and institutional variables; many workers inside a firm should not be considered as independent enterprise observations. Matters of assumptions can also be made in matched comparisons or difference-in-differences procedures, depending on what program data allow. The present study does not pretend to offer any such statistical tests, and its contribution remains at the level of review and concept.

18. Conclusion

The sports goods industry gives an illuminating example of the challenge to traditional production techniques posed by a fast-changing global economic environment. International commerce, increased quality expectations, technological innovation, changing patterns of involvement and sustainability challenges have offered new avenues to growth, but these also mean greater competitive and organisational demands on enterprises. Indian industrial centers have experience to prove that inherited talents and existing commercial networks are real assets, but their strategic value depends on the institutions, investments and managerial competencies that support them. The historical data in the original research describes an export industry growing out of Meerut and Jalandhar but held down by outmoded methods, fragmented enterprises, poor marketing and major labour problems. Evidence from the newer policy of NITI Aayog (2026) shows that despite the manufacturing legacy of the sector, India's position in international equipment exports remains

limited and upgrades could provide significant potential. These findings are not to be read as a single, uninterrupted statistical series. They are separate windows on the historical underpinnings and modern strategic position of the industry. The main takeaway is that long-term international competitiveness requires integrated advances in productivity, innovation, quality assurance, international market development and responsible company behaviour. Process discipline can lower an enterprise's costs, product development can differentiate it, or alliances can provide market access, but these strategies require complementing competencies. Technical training, testing infrastructure, suitable funding, supplier organization and regulatory clarity are thus not peripheral supports: they are crucial to the strategic competitiveness of a predominantly MSME-based business. The study provides a paradigm linking external environmental scanning, organisational capabilities, competitive choices and measurable performance. It highlights the benefits of incremental cluster development, and calls for assessments based on real outcomes, rather than headline investment or export targets. In today's global supply chains, economic performance is linked to social legitimacy, and a responsible growth agenda must also include decent labour, occupational safety, traceable sourcing and efficient resource use. Looking ahead to *Viksit Bharat* @2047, the sports goods industry has the potential to provide manufacturing diversification, employment, innovation and exports, if the policy aspiration is matched with credible implementation, institutional coordination and rigorous collection of evidence. Future study needs to investigate the claimed links with harmonised trade classifications, firm level data and rigorous assessment designs. Thus, the road to competitiveness is not that of producing more things, but that of developing greater capacities to design, make, verify, market and sustain sporting items within an increasingly demanding worldwide marketplace.

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