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RESEARCH ARTICLE

TRANSFORMING INDIA INTO A GLOBAL TOY EXPORT LEADER: A STRATEGIC ROADMAP FOR POLICY INTEGRATION, SUPPLY CHAIN LOCALIZATION, AND INFRASTRUCTURE SCALE

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Abstract

The global toy manufacturing sector is undergoing a historic disruption as multinational corporations are more frequently pursuing supply chain diversification via the China Plus One framework. Concurrently, India has transitioned from a net importer into a structurally stable, export-oriented toy economy. This study presents a comprehensive meta-analysis and economic evaluation of the Indian toy industry, exploring its core macroeconomic metrics, regulatory shifts,technologic al transitions, and infrastructural challenges. Drawing upon trade data from FY 2017-18 to FY 2025-26, the paper tracks the 151.9% expansion of aggregate toy exports alongside a 66% reduction in traditional imports. However, persistent systemic bottlenecks, such as elevated input costs, raw material import dependencies, regulatory friction within MSMEs, and land acquisition issues in critical industrial corridors, disturb the realization of these gains. By benchmarking Indian manufacturing frameworks against leading industrial models in China like Shantou Chenghaiand Vietnam, this paper outlines an integrated, multi-stakeholder strategic blueprint to establish India as a dominant global toy export leader.

Introduction:-

Historically rooted in rich cultural craftsmanship and regional heritage, the Indian toy industry has evolved into a key driver of industrial production and export expansion. For decades, the sector operated in a highly fragmented, home-based manufacturing environment, rendering it susceptible to cheap foreign imports. By the mid-2010s, foreign imports primarily from China and Italy accounted for nearly 80% of the domestic market volume, capitalizing on substantial economies of scale, deep supply chains, and low unit production costs. This structural imbalance exposed the domestic ecosystem to market informality, counterfeit goods, and suppressed manufacturing capacity. (Lamba, 2013a; Nagpal et al., 2019a; Samadhiya & Agrawal, 2021a)

However, post-2015 policy reforms, amplified by the disruptions of the COVID-19 pandemic, served as an inflection point. The intersection of international supply chain diversification like the "China Plus One" strategyand targeted state interventions such as the Atmanirbhar Bharat initiative allowed India to scale up its indigenous manufacturing capacity. (Lahiri, 2022a; Parihar, Jain, Jha, Mishra, et al., 2025)Consequently, India emerged as the world's fourth-largest toy exporter by 2026. (Indian Toys Market Size, Competitors & Forecast to 2034, n.d.; No

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Child's Play: Rising India Toys Market- BusinessBar, n.d.; Vietnam's Rising Role in Global Toy Manufacturing, n.d.)

Despite these advancements, the industry stands at a critical crossroads. To transition from basic component assembly to high-margin, design-intensive global manufacturing, the sector must address structural issues. High raw material costs, regulatory compliance friction under Quality Control Orders (QCOs), delayed cluster infrastructure commercialization, and a digital divide between urban and rural artisans remain key challenges. (Strengthening India's Toy Ecosystem, n.d.-a)

Accordingly, this paper provides an academic analysis of India's toy economy. It synthesizes quantitative trade figures, evaluates regulatory and fiscal interventions, benchmarks regional production against dominant international models, and offers a strategic framework to expand India's global export market share.

Review of Literature:-

The literature on the Indian toy industry highlights a complex sector navigating the intersection of rich artisanal heritage, severe global market pressures, rapid technological innovation, and evolving state interventions. Historically grounded in iconic regional clusters such as Channapatna in Karnataka and Sawantwadi in Maharashtra, the domestic toy landscape has traditionally relied on handcrafted wooden and clay artifacts embedded in local cultural traditions. However, modern economic literature underscores that despite this deep cultural foundation, the industry spent decades struggling under structural vulnerabilities, fragmented production, and an overwhelming reliance on cheap imports, which historically accounted for nearly 80% of the domestic marketpredominantly originating from China and Italy.(Lamba, 2013b; Nagpal et al., 2019a; Samadhiya & Agrawal, 2021a) These market dynamics severely constrained domestic manufacturers, who faced persistent challenges related to scale, higher relative raw material costs, and an influx of non-compliant or counterfeit goods. (Anand, Rayaprolu, et al., 2023; Kulshrestha et al., 2025a, 2025a)

To counter these systemic bottlenecks, recent economic and policy literature focuses on the strategic realignments driven by government interventions, trade tariffs, and quality enforcement. The implementation of higher Basic Customs Duties (BCD) alongside mandatory Bureau of Indian Standards (BIS) Quality Control Orders (QCO) marked a critical transition aimed at curbing substandard imports and protecting micro, small, and medium enterprises (MSMEs). Scholars analyzing supply chain methodologies demonstrate that external shockssuch as post-pandemic disruptionsforced domestic producers to transition from reactive manufacturing to resilient, agile operational frameworks. Through multi-stage stochastic programming and lean procurement strategies (such as Just-In-Time sourcing and supplier base expansion), literature indicates that Indian toy manufacturers can mitigate cost spikes and demand volatility, realizing potential operational cost reductions of 10% to 11%. (Anand, Rayaprolu, et al., 2023; R. Kumar et al., 2019a; Nagpal et al., 2019b; Parihar, Jain, Jha, Mishra, et al., 2025; Rane, Ray, et al., 2025a)Simultaneously, literature across technology adoption and consumer behavior explores how digital transformation is reshaping product design and marketing dynamics in India. Artificial intelligence (AI), predictive analytics, and algorithm-driven digital marketing have fundamentally transformed consumer engagement, particularly in urban e-commerce markets where personalized recommendations drive impulse purchasing. Yet, research highlights a stark digital divide: while urban centers rapidly absorb AI-driven consumer products and hybrid toys, rural and semi-urban markets remain hindered by digital illiteracy and infrastructural limitations. To bridge this gap while preserving traditional art forms, researchers highlight the rise of "fusion design" and Human-Centered Design (HCD) methodologies.

These frameworks blend modern interactive digital components (such as IoT features or app connectivity) with traditional craftsmanship, enabling the creation of digital-physical hybrid products that appeal to contemporary tech-savvy children while retaining cultural authenticity. Furthermore, academics emphasize the urgent need for systematic digital documentation of traditional toy-making skills to prevent the extinction of intergenerational craft knowledge as older artisans leave the trade. In tandem with technological fusion, environmental sustainability and toy-based pedagogy have emerged as central themes in recent scholarship. The integration of circular economy principlesadvocating for non-toxic dyes, sustainably harvested timber, and biodegradable packagingis increasingly viewed as both a market imperative and a competitive differentiator. Decision-making frameworks like Kano-AHP-VIKOR are highlighted in the literature to assist manufacturers in prioritizing eco-friendly attributes without pricing out mass-market consumers or burdening small-scale artisans. On the pedagogical front, the alignment of toy manufacturing with national educational policies (such as NEP 2020) has accelerated demand for locally sourced, experiential, and STEM-oriented educational toys. Initiatives like Toycathon and Atal Tinkering Labs demonstrate

how policy and design can intersect to foster experiential learning and boost rural employment. Despite these advancements, critical evaluations of government schemes such as Scheme of Fund for Regeneration of Traditional Industries (SFURTI) cluster development and Atmanirbhar Bharat financial incentives reveal mixed long-term outcomes. While these initiatives have bolstered short-term liquidity and regional infrastructure, scholars note that localized implementation bottlenecks, rigid compliance costs for micro-enterprises, and capital access barriers continue to impede widespread digital and industrial transformation. The literature ultimately identifies key gaps for future research, including the need for quantitative longitudinal studies measuring the developmental impact of digital-physical hybrid toys, empirical evaluations of eco-design scalability across mass-production assembly lines, and comparative assessments of cluster development policies across diverse geographic regions.

Addressing these research gaps through cross-disciplinary collaboration across policy, technology, design, and economics is essential for positioning the Indian toy industry as a sustainable, globally competitive, and culturally authentic global hub. (Addy et al., 2025; Agrawal, 2026; Amalkrishna et al., 2021; Anand, Nagaraj, et al., 2023; Chang, 2025; Das & Guha, 2026; Das & Kalita, 2023; De et al., 2026; Dohale et al., 2023; Jha & Choudhry, 2026; Jin & Son, 2013; Joshi & Khandekar, 2025; Kaushik, 2026; Khandelwal et al., 2024; Kulshrestha et al., 2025b; R. Kumar et al., 2019b; Lahiri, 2022b; Lamba, 2013c; Lyu et al., 2024; Madhuri & Jailwal, 2025; Malkani et al., 2023; Meghasree & Nagendra Guptha, 2025; More & Jain, 2016; Moscone & Kastrinaki, 2026; Mukherjee, 2024; Nagpal et al., 2019c; Ng et al., 2015; Pant et al., 2020; Parihar, Jain, Jha, & Sinha, 2025; Rane, Halbe, et al., 2025; Rane, Ray, et al., 2025b; Samadhiya & Agrawal, 2021b; Shafi & Fazili, 2026; Sharma et al., 2023; Singh, 2009; Thomas & Panicker, 2025; Vats & Bhattacharjee, 2026; Xiaoying et al., 2020; Yadav & Rena, 2025)

Macroeconomic Profile and Trade Dynamics:-

The domestic toy economy is valued at approximately USD 2.09 billion in 2025, is expected to reach USD 4.74 billion by 2034, expanding at a compound annual growth rate (CAGR) of 9.53%. This growth trajectory reflects a structural shift from an import-dependent market to a net-exporting trade surplus ecosystem.(I. Briefing, 2026) Aggregate Export Expansion and Deficit Reversal Between FY 2017-18 and FY 2025-26, India's overall toy exports grew by 151.9% across its major Harmonized System of Nomenclature (HSN) categories. Aggregate export revenues across finished toys, electronic systems, festive articles, and video game consoles rose from USD 152.7 million to USD 384.7 million. Traditional and educational toy imports contracted by 66%, shifting the sector from a trade deficit of USD 213.01 million in FY 2017-18 to a net trade surplus of USD 152 million in FY 2025-26. This industrial turnaround has directly impacted labor utilization, doubling formal employment within the games and toys sector from 8,685 workers in FY 2018-19 to 17,693 workers in FY 2023-24. (Desk et al., n.d.; D. D. India, 2026; Indian Toy Industry on a Strong Growth Trajectory; Exports up 40pc, Imports down 79pc over 5 Years: Report, n.d.; Strengthening India’s Toy Ecosystem, n.d.-b)

Segmented HSN Product Analytics:-

The growth across specific commodity categories highlights the varying industrial performance within the broader sector:-

- HSN 9503 (Electronic and Non-Electronic Toys): Expanded by 159.7%, increasing from USD 77.35 million in FY 2017-18 to USD 200.89 million in FY 2025-26, establishing it as the largest export category.
- HSN 9504 (Video Game Consoles and Tables): Demonstrated the highest relative growth rate at 198.1%, rising from USD 15.68 million to USD 46.75 million, driven by expanding digital-physical hybrid applications.
- HSN 9505 (Festive and Entertainment Articles): Expanded by 129.6%, rising from USD 59.69 million to USD 137.03 million, driven by the global scaling of localized cultural and artisanal products.

(Desk et al., n.d.; D. D. India, 2026; Indian Toy Industry on a Strong Growth Trajectory; Exports up 40pc, Imports down 79pc over 5 Years: Report, n.d.; Strengthening India’s Toy Ecosystem, n.d.-b)

Geographic and State-Level Export Variations:-

The United States of America remains India's primary export destination, with over USD 103.09 million in shipments in FY 2025-26, followed by the United Kingdom, Poland, the Netherlands, and Germany.(Rao, n.d.) Domestically, export capacity is concentrated within specific industrialized states, reflecting variations in cluster maturity and regional supply chains:

Table 1 State-level Comparison

State	FY 2025-26 Export Value (USD Million)	YoY Growth Rate (%)	Key Industrial Drivers
Karnataka	42.39	+5.47%	High-volume contract manufacturing (e.g., Micro Plastics) and traditional Channapatna clusters. (Indian Toys Market Size, Competitors & Forecast to 2034, n.d.; Rao, n.d.)
Maharashtra	38.64	+3.42%	Major logistics hubs, urban corporate headquarters, and deep maritime port access. (Indian Toys Market Size, Competitors & Forecast to 2034, n.d.; Rao, n.d.)
Uttar Pradesh	37.25	+63.27%	Proactive state policy alignments and rapid cluster scaling in the National Capital Region (NCR). (Indian Toys Market Size, Competitors & Forecast to 2034, n.d.; Rao, n.d.)
Tamil Nadu	33.73	-5.79%	Large-scale licensed assembly lines (e.g., Funskool India), though impacted by short-term input disruptions. (Indian Toys Market Size, Competitors & Forecast to 2034, n.d.; Rao, n.d.)
Haryana	9.81	+26.97%	Light-engineering integration and decentralized ancillary component units. (Indian Toys Market Size, Competitors & Forecast to 2034, n.d.; Rao, n.d.)

Source: Authors' own tabulation

Socio-Demographic Drivers And Consumer Paradigms:-

India's internal market expansion is sustained by unique demographic indicators and shifting consumption patterns. With a national population exceeding 1.4 billion, approximately 24% of whom fall within the 0–14 age bracket, the domestic market provides a large foundation for local manufacturers to build scale before entering volatile export arenas.(Indian Toys Market Size, Competitors & Forecast to 2034, n.d.)

Changing Preferences and Market Composition:-

Rising middle-class disposable income, accelerating urbanization, and higher digital literacy have shifted consumer behavior away from low-cost, unbranded toys toward structured, high-quality, and safety-certified play items. In 2025, plush toys secured a 16% volume share of the domestic market, driven by parental demand for sensory wellness, non-toxic materials, and licensed intellectual property (IP) characters. Concurrently, unisex and gender-neutral toys grew to account for 58% of the market. For manufacturers, this shift streamlines Stock Keeping Unit (SKU) configurations, optimizing injection-molding cycles and raw material use.(Indian Toys Market Size, Competitors & Forecast to 2034, n.d.; Strengthening India’s Toy Ecosystem, n.d.-b; Kukreja, 2026)

Digital Commerce and E-Retail Integration:-

The distribution landscape has transitioned toward digital commerce infrastructure. Online retail networks secured a dominant 38% distribution share in 2025, bypassing physical retail constraints in tier-2 and tier-3 cities across states like Rajasthan, Madhya Pradesh, and Uttar Pradesh. This digital shift is illustrated by child-care platforms such as FirstCry, which posted an 18% growth in Gross Merchandise Value (GMV) during FY 2024-25, outperforming traditional brick-and-mortar retail growth. This expansion operates within a broader e-commerce market projected to scale from USD 129.72 billion in 2025 to USD 651.10 billion by 2034. (India Toys Market Share, Growth, Research Report- 2034, n.d.; Strengthening India’s Toy Ecosystem, n.d.-b; Kukreja, 2026)

Educational Toys and Pedagogy Integration:-

A key contemporary shift is the integration of cognitive development principles into toy designs. Modern consumers increasingly prioritize products with educational utility, boosting demand for Science, Technology, Engineering, and Mathematics (STEM) kits, programmable logic blocks, and AI-driven interactive toys. (India Toys Market Share, Growth, Research Report- 2034, n.d.; Strengthening India's Toy Ecosystem, n.d.-a; Rao, n.d.) The National Education Policy (NEP) 2020 introduces mandatory Toy-Based Pedagogy into early childhood and foundational education curricula. By utilizing local historical contexts, scientific principles, and cultural narratives within classroom toolkits, the NEP 2020 has established the institutional education sector as a major consumer of domestic toys, incentivizing developers to innovate away from basic amusement items toward cognitive developmental aids.(Rao, n.d.; Strengthening India's Toy Ecosystem, n.d.-b)

Policy, Fiscal Frameworks, and Quality Compliance:-

The restructuring of the Indian toy sector has been driven by a combination of defensive tariff adjustments, fiscal policy updates, and mandatory quality standard enforcement.

Protective Tariff Interventions and Corrections:-

To insulate the domestic market from low-cost, substandard imports, the Union Government raised the Basic Customs Duty (BCD) on finished toy imports under HSN 9503 from 20% to 60% in February 2020, and subsequently to 70% in March 2023. While this high tariff barrier effectively lowered import volumes, it created challenges for manufacturers of advanced electronic and smart interactive toys who relied on foreign sub-assemblies. To address this issue, the Union Budget FY 2025-26 introduced a targeted tariff correction: the customs duty on imported electronic toy components (HS 95030091) was reduced to 20%. This adjustment lowered input costs for advanced domestic assembly lines while local component ecosystems were being established. (Bajoriya, 2025; D. D. India, 2026; Simplified GST for Growth of Indian Commerce and Trade, n.d.; Strengthening India's Toy Ecosystem, n.d.-a; Strengthening India's Toy Ecosystem, n.d.-b)

The "GST 2.0" Realignment:-

During the 56th GST Council meeting in September 2025, the government introduced "GST 2.0" to rationalize the indirect tax architecture. This reform reduced the Goods and Services Tax (GST) on standard non-electronic toys and sports equipment from 12% to 5%. This adjustment improved consumer affordability and helped ease the working capital requirements of MSMEs by resolving inverted duty structures. However, to balance revenue priorities, a multi-tiered tax structure remains in place, Standard plastic, wooden, and plush toys utilize the 5% tier, while complex, battery-operated, or AI-integrated electronic toys remain under the standard 18% GST slab. . (Bajoriya, 2025; D. D. India, 2026; Simplified GST for Growth of Indian Commerce and Trade, n.d.; Strengthening India's Toy Ecosystem, n.d.-a; Strengthening India's Toy Ecosystem, n.d.-b)

Safety Harmonization and QCO Friction

On the regulatory front, the Toys (Quality Control) Order (QCO) of 2020 established mandatory Bureau of Indian Standards (BIS) certification and the application of the ISI mark for all products sold in India. This framework enforces compliance with rigorous physical, chemical, and electrical safety standards. The transition to the revised IS 9873 (Part 1):2025 standard represents a significant harmonization with global ISO 8124-1 benchmarks, ensuring that Indian-made toys meet international safety expectations.

Table 2 Quality Standards Table

Quality Standard	Technical Parameters and Target Attributes	Regulatory and Enforcement Objectives
IS 9873 (Part 1):2025	Capped maximum velocities of ride-on toys based on age; mandated advanced folding mechanism durability tests; adjusted maximum sound levels to 94 dB.	Mitigates physical trauma, choking hazards, and acoustic damage risks.
IS 9873 (Part 2):2025	Flammability limits across plush textiles, hair elements, and structural fabrics.	Restricts ignition speed and flame spread velocities.

IS 9873 (Part 3):2017	Strict parts-per-million (ppm) migration caps for bio-available heavy metals (Lead, Cadmium, Mercury, Arsenic).	Eliminates chemical toxicity in surface lacquers and coatings.
IS 15644:2006	Insulation resistance, dielectric strength, and thermal threshold tracking.	Prevents short-circuiting, battery containment leaks, and shock hazards in electric toys.

Source: Authors' own tabulation

Despite improving safety outcomes, compliance poses operational challenges for smaller manufacturers. MSMEs often struggle with high testing fees, delayed approval cycles, and the capital expenditure required to establish in-house testing facilities. While the BIS has offered temporary relaxations for micro-scale units, allowing them to manufacture without in-house labs for up to three yearslong-term competitiveness requires substantial public and private investment in accessible common testing facilities. For foreign manufacturers exporting to India, compliance is managed under the Foreign Manufacturers Certification Scheme (FMCS), which carries significantly higher audit fees (ranging from USD 3,200 to USD 5,900) and requires the appointment of an Authorized Indian Representative (AIR). (BIS Certification for Toys, n.d.; BIS Issues Guidelines for IS 9873 (Part 1), n.d.; Rao, 2026)

Industrial Infrastructure: Cluster Analysis and Bottlenecks:-
Transitioning the domestic toy sector from fragmented, home-based production units to automated factories requires dedicated, integrated manufacturing clusters. The performance of these clusters highlights the operational differences between planned infrastructure models and real-world execution challenges.

The Koppal Toy Cluster (KTC) Model:-
The Koppal Toy Cluster (KTC) in Karnataka, developed by Aequs Infra across 400 acres, serves as India's first fully integrated toy manufacturing ecosystem. The KTC model co-locates the entire vertical value chain, including precision toolmaking, polymer masterbatch formulation, high-tonnage injection molding, paint application, custom packaging, and automated electronics assemblywithin a single industrial area. By providing ready-to-use plug-and-play facilities, KTC has helped domestic contract manufacturers like Micro Plastics scale production for global brands such as Hasbro, Mattel, and Spin Master. Additionally, the cluster supports local employment, generating over 25,000 direct jobs, with a particular focus on training women from rural areas in North Karnataka. (Koppal Toy Cluster in Karnataka to Be Operational from March - Mommy & Baby Times, 2022; Koppal Toy Cluster, n.d.; Top 10 Toys Companies in India, n.d.; Top Toy Manufacturers in Koppal near Me - Justdial, n.d.; Raizada, 2025; Tejaswi, 2022)

The Yamuna Expressway Industrial Development Authority (YEIDA) Bottlenecks:-
In contrast, the development of the YEIDA Toy Park (Sector 33, Greater Noida), spanning 100 acres near the Noida International Airport (Jewar), highlights the structural challenges facing industrial expansion in India. Despite its location along a major logistics corridor, the project has faced delays. Across five proposed industrial parks in the YEIDA zone (including Apparel, MSME, and Handicraft parks), more than 100 acres of land remain locked in unresolved land acquisition disputes and litigation. Out of 1,080 plots allotted to industrial units, lease deeds have been executed for only 683, and active construction is underway on just 44 plots. These land acquisition delays and infrastructure bottlenecks have slowed down the commercialization of this cluster, preventing domestic manufacturers from fully leveraging its geographic proximity to national transport links. (Child, 2026; eAuctions India, n.d.; YEIDA 5 Industrial Parks Delay, n.d.; YEIDA Plot Scheme 2026: Residential Plots in Greater Noida, n.d.

Heritage Clusters and Eco-Sustainable Craftsmanship:-
While large-scale plastic and electronic production dominates the volume export market, traditional artisanal craftsmanship represents an underutilized source of sustainable, eco-friendly play products that are highly attractive to environmentally conscious consumers in North America and Western Europe.

Geographical Indications (GI) and Eco-Design Advantages:-
India possesses several historical toy-making clusters protected under the World Trade Organization's Geographical Indication (GI) framework. These include the leather toys of Indore (Madhya Pradesh), the Thanjavur dancing dolls (Tamil Nadu), the softwood Kondapalli toys (Andhra Pradesh), and the famous lacquer wooden toys of Channapatna (Karnataka). These heritage products utilize natural, non-toxic raw materials and traditional design principles, aligning with modern Montessori educational frameworks and circular economy principles. (Team, 2026)

The Channapatna Case Study: Structural Pressures and Revitalization:-
The Channapatna toy cluster, locally known as "GombegalaOoru" (Toy-Town), illustrates both the resilience and the challenges of traditional craft communities. The craft's origin dates back to Tipu Sultan in the late 18th century, who invited Persian artisans to train local craftspeople. In 1904, the Maharaja of Mysore sponsored Bavas Miyan to travel to Japan to learn advanced turnery and lacquerware techniques, leading to a localized training institute that modernized the craft.

Channapatna toys are made from sustainably sourced ivory wood (Wrightia tinctoria), turned on manual or semi-automated lathes, and polished using natural, vegetable-based lacquers derived from turmeric (for yellow), indigo (for blue), and catechu (for brown). This natural composition makes them completely non-toxic and biodegradable, aligning perfectly with modern Montessori and eco-friendly toy trends.

However, traditional craft clusters face severe modern challenges. Deforestation has reduced the availability of native ivory wood, forcing artisans to rely on less optimal alternatives like rubberwood, pine, cedar, or teak. Additionally, the construction of bypass highways has redirected traveler traffic away from traditional artisanal villages, reducing direct retail sales. These structural shifts, combined with low profit margins, have made the next generation reluctant to continue the craft.

To address these vulnerabilities, the Ministry of MSME has approved 19 traditional toy clusters under the Scheme of Fund for Regeneration of Traditional Industries (SFURTI), providing USD 6.78 million (INR 55.65 crore) to establish common facility centers equipped with modern machinery and design tools.

This support has enabled creative collaborations, such as the "Snugglewalas" project by Bengaluru-based design brand Varnam. This initiative connects Channapatna wood-turners with artisans from twelve other craft traditions across Indiaincluding Kutchi lacquer work, Kashmiri crewel embroidery, and Jaipur block printingto create modern, design-forward functional home decor and lifestyle items.

Furthermore, the government's One District One Product (ODOP) and Districts as Export Hubs (DEH) initiatives are actively branding these traditional products for international e-commerce channels. By utilizing Digital Public Infrastructuresuch as the Open Network for Digital Commerce (ONDC) and UPI, remote artisans can bypass traditional middlemen to sell directly to global consumer markets, preserving cultural heritage while securing sustainable livelihoods. (IAS, n.d.; D. D. India, 2026; Kedia, 2025; Koppal Toy Cluster in Karnataka to Be Operational from March - Mommy & Baby Times, 2022; Shop Channapatna Wooden Toys & Dolls Indian Montessori Kids Safe, n.d.; Sabha & Yadav, n.d.; Team, 2026; Tejaswi, 2022)

International Benchmarking: Competitive Analysis:-
To capture a larger share of the global toy industry, India must analyze and adapt the manufacturing strategies of China and Vietnam, which currently lead global toy supply chains.

China's Shantou Chenghai Industrial Ecosystem:-
Known as the "world's toy capital," Chenghai in Guangdong Province houses more than 10,000 toy companies, employing approximately 130,000 workers and generating an annual output value exceeding 50 billion yuan.

Chenghai's dominance is built on:-
1. Advanced Automation**:**Driven by rising labor costs, local authorities supported a transition to smart manufacturing. Companies like Guangdong Yuxing collaborated with precision tech firms to build automated, 24/7 smart injection-molding production lines, reducing manufacturing costs by more than 40%.
2. IP and Content Integration**:**Chenghai has successfully integrated toy manufacturing with digital creative industries, including animation, mobile gaming, and films. This "Toy+" model enables manufacturers to secure

high-value intellectual property (IP) licensing, generating significantly higher profit margins than basic contract manufacturing.

3. A Highly Collaborative Supply Chain: Every componentfrom raw plastic granules and micro-screws to packaging, custom finishes, and logisticsis localized within a tight geographic radius, minimizing transaction costs and production lead times.

(V. Briefing, 2026; K. Chau, 2025; 孙迟, n.d.; 安祎, n.d.) Vietnam's Strategic Role Vietnam has emerged as a major alternative for toy manufacturing, exporting over USD 1.7 billion in toys in 2022.

Key elements of Vietnam's success include:-

1. Hybrid Supply Chains: Rather than attempting to build a fully localized supply chain from scratch, Vietnam established a highly efficient hybrid model. Vietnamese toy factories import raw materials, masterbatches, and electronic sub-assemblies directly from nearby Chinese hubs like Guangdong, leveraging low cross-border logistics costs.
2. Deep Foreign Direct Investment (FDI): Vietnam's stable trade environment and extensive free trade agreements (FTAs) have attracted massive global investments, including Lego's USD 1 billion carbon-neutral manufacturing plant in Binh Duong Province.
3. Labor Cost Arbitrage: With a manufacturing labor cost of approximately USD 2.99 per hoursignificantly lower than China's USD 6.50 per hourVietnam remains highly competitive for labor-intensive assembly operations. (V. Briefing, 2026; A. Chau, 2025; Vietnam's Rising Role in Global Toy Manufacturing, n.d.)

Strategic Recommendations and Action Plan:-

To transition from a domestic supplier to a global export hub, India must address raw material bottlenecks, scale up industrial infrastructure, and foster product innovation. The primary challenge for India's toy industry is its ongoing reliance on imported raw materials and specialized components. While Indian factories excel at final assembly, critical inputsincluding toy-grade copolymer polypropylene, specialized micro-motors, integrated circuits (ICs) for electronic toys, high-quality non-toxic fabrics, and custom-engineered injection moldsare still largely imported from East Asian hubs.

To address this challenge, the toy industry must align with the broader India Semiconductor Mission (ISM), which is backed by an INR 76,000 crore government outlay to establish domestic chip design, fabrication, and packaging facilities. As electronic, interactive, and AI-enabled toys command much higher margins than traditional plush or plastic toys, domestic toy manufacturers must partner with emerging local semiconductor packaging and assembly plants. By using hardware-software co-design frameworks incubated at institutions such as MeitY's e-Toys Lab at C-DAC (Noida), Indian toy manufacturers can transition from importing expensive foreign chips to integrating cost-effective, locally packaged microcontrollers. Similarly, the government's reduction of the GST on man-made fibers (MMF) and yarn to 5% helps correct historical inverted duty structures, making local non-toxic fabrics much more affordable for domestic plush toy manufacturers.

- Deploy dedicated state-level task forces to resolve outstanding land acquisition disputes and litigation at the YEIDA Toy Park, ensuring the rapid development of its logistical corridor near Jewar Airport.
- Replicate the successful Koppal Toy Cluster model by building pre-constructed, plug-and-play manufacturing units across other designated hubs to attract immediate private and foreign direct investment.
- Establish specialized tool rooms, precision mold-making shops, and rapid prototyping labs directly inside major industrial parks to lower the capital expenditure requirements for MSMEs.
- Maintain the proposed INR 5 crore minimum investment threshold to ensure that smaller, unorganized manufacturers can access Turnover-Linked, Localisation-Linked, and Employment-Linked incentives.
- Grant duty exemptions on specialized production machinery and testing equipment for manufacturers willing to commit over INR 500 crore in incremental investments.
- Structure turnover incentives to reward year-on-year increases in export revenues over base-year values, encouraging companies to focus on premium, high-margin international markets.
- Educate domestic exporters on how to maximize preferential market access under existing FTAssuch as the India-UAE CEPA and India-Australia ECTAto gain a price advantage over international competitors.
- Form proactive partnerships with major global retailers to establish dedicated sourcing offices in India, facilitating direct integration into global retail distribution networks.
- Partner with premier institutions like the National Institute of Design (NID) to integrate advanced CAD/CAM software and CNC machining, helping local manufacturers develop original, high-quality toy designs.

- Incentivize collaboration between domestic toy manufacturers and digital media, animation, and gaming companies. Building toys around globally recognized characters and stories will enable Indian brands to command higher export margins and establish a distinctive international presence.

Conclusion:-

The transformation of the Indian toy industry demonstrates the impact of aligned policy, protective trade barriers, and cluster-focused infrastructure. By reversing long-standing trade deficits and building an export-oriented ecosystem, India has established a strong foundation for future growth. However, reaching the next stage of global manufacturing leadership requires addressing remaining structural challenges. Overcoming raw material dependencies, accelerating land deployment in stalled industrial zones, and reducing regulatory friction for smaller enterprises are critical steps. By combining traditional craftsmanship with automated production technologies, expanding fiscal incentives, and integrating digital creative intellectual properties, India can enhance its manufacturing competitiveness and secure its place as a leading global toy exporter.

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