

TRANSITIONING TO SUSTAINABLE COMMERCE: CHALLENGES AND STRATEGIC SOLUTIONS

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ABSTRACT

The rapid environmental degradation, resource depletion, and climate-induced risks confronting global economies have made sustainability a strategic imperative across business sectors. India, as one of the fastest-growing commercial economies, is experiencing an accelerated shift toward sustainable commerce driven by regulatory pressure, evolving consumer preferences, stakeholder expectations, and international commitments such as the Sustainable Development Goals (SDGs). Despite widespread recognition of its importance, transitioning to sustainable commerce remains challenging due to structural constraints, limited awareness, supply chain complexities, cost burdens, and lack of technological readiness. This research paper examines the multi-dimensional transition toward sustainable commerce in the Indian context by integrating insights from global sustainability frameworks, secondary data analysis, scholarly literature, and industry reports. It identifies the prominent challenges businesses face and presents a strategic solutions framework that aligns environmental, social, and economic sustainability with business competitiveness. Findings suggest that sustainable commerce yields long-term benefits including enhanced brand equity, operational efficiency, risk mitigation, and improved stakeholder trust.

The paper concludes that transitioning to sustainable commerce is not merely an ecological necessity—it is a core driver of resilience and competitive advantage in a rapidly changing commercial landscape. A collaborative ecosystem involving businesses, policymakers, consumers, and technology providers is essential for enabling meaningful, scalable, and inclusive sustainability transitions.

Keywords: Sustainable Commerce, ESG Practices, Green Supply Chains, Sustainable Business Models, Strategic Sustainability, India

1. INTRODUCTION

Commerce worldwide is undergoing a profound transformation as sustainability shifts from a voluntary corporate initiative to an inevitable business mandate. The rising threats of climate change, extreme weather events, ecological instability, and social inequities are creating unprecedented risks for markets, supply chains, and resource availability. According to the IPCC (2023), global temperatures have already surpassed safe thresholds, and South Asia is among the highest-risk regions. For India—home to rapid industrialization, expanding retail networks, and resource-intensive consumption—this poses critical implications for future commercial resilience.

In response, sustainable commerce has emerged as a framework that integrates environmental stewardship, social responsibility, and economic viability. Sustainable commerce encourages businesses to adopt practices that reduce carbon emissions, minimize waste, prioritize ethical sourcing, enhance supply chain transparency, support circular economies, and drive inclusive economic growth.

India's transition toward sustainable commerce is influenced by global trends such as ESG (Environmental, Social, Governance) investing, carbon neutrality targets, sustainable finance mechanisms, and green consumerism. Reports by McKinsey (2022) and Deloitte (2023) reveal that Indian consumers increasingly prefer environmentally responsible brands, and companies implementing sustainability measures outperform competitors in long-term profitability.

However, the transition remains uneven. Small and medium enterprises (SMEs), which constitute 30% of India's GDP, often lack financial, technological, and knowledge resources. Larger corporations face challenges aligning global standards with local realities. Within this context, examining the barriers and identifying strategic pathways becomes essential.

This paper critically evaluates the challenges in transitioning to sustainable commerce in India and proposes a strategic solutions framework that supports adaptive, resilient, and future-ready business models.

2. LITERATURE REVIEW

Global research in sustainable commerce reflects a multidisciplinary blend of environmental sciences, management, economics, and behavioural studies. Elkington's (1998) Triple Bottom Line (TBL) framework—People, Planet, Profit—formed the foundational basis for sustainable business models. Over time, this has evolved into ESG frameworks widely adopted by corporates worldwide.

2.1 Sustainability and Competitive Advantage

Porter and Kramer (2006) introduced the concept of “shared value,” arguing that sustainability-driven business strategies create economic and social benefits simultaneously. Hart and Milstein (2003) further emphasized the role of sustainable innovation in long-term competitive positioning.

2.2 Green Consumerism

Studies by Biswas & Roy (2015) and White et al. (2019) demonstrate that consumer preferences are shifting toward sustainable products, influenced by awareness, affordability, and brand credibility.

2.3 Sustainable Supply Chain Management

Srivastava (2007) established sustainable supply chain management (SSCM) as a critical element of modern commerce. More recent works (Seuring & Müller, 2020; Agyabeng-Mensah, 2021) highlight the role of digital technologies in enhancing supply chain sustainability and transparency.

2.4 ESG and Corporate Performance

Multiple studies (Friede et al., 2015; Whelan & Fink, 2021) conclude that companies integrating ESG practices achieve better financial performance, investor confidence, and risk mitigation.

2.5 Indian Context

Reports by NITI Aayog (2023), Confederation of Indian Industry (CII, 2022), and TERI (2021) show that Indian firms increasingly adopt sustainable practices due to regulatory requirements, stakeholder pressure, and competitive demands. Yet—barriers such as cost, weak enforcement, low awareness, and infrastructure deficits remain persistent.

The literature confirms that sustainable commerce strengthens business resilience but necessitates structural, behavioural, and policy-level interventions.

3. RESEARCH METHODOLOGY

This study follows a **secondary research methodology**, utilizing:

- Peer-reviewed journal articles (Elsevier, Springer, Wiley)
- Public policy documents (NITI Aayog, Ministry of Commerce & Industry)
- Reports by global institutions (UNEP, IPCC, World Economic Forum)
- Corporate sustainability reports (TATA, ITC, Hindustan Unilever)
- Industry whitepapers (McKinsey, KPMG, Deloitte)
- Government statistical databases (MOSPI)

The methodology involves qualitative content analysis to:

1. Identify critical sustainability challenges in commerce
2. Examine industry and policy responses
3. Develop a strategic solutions framework

This approach is suitable for conceptual, exploratory studies where primary data is not required.

4. ANALYSIS & DISCUSSION

4.1 Drivers of Sustainable Commerce in India

India's transition toward sustainable commerce is shaped by a combination of regulatory actions, market expectations, evolving consumer behaviour, and technological advancements. These drivers collectively create

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a strong push for businesses to integrate sustainability into their strategic, operational, and financial decision-making processes.

1. Regulatory Push

Government regulations form one of the most significant drivers accelerating sustainable commerce in India. Over the last decade, several sustainability-focused policies and mandates have been introduced to encourage responsible business practices and environmental accountability.

Extended Producer Responsibility (EPR) requires producers, manufacturers, and importers—especially in sectors like plastics, electronics, and packaging—to manage the end-of-life disposal of their products. This not only reduces landfill waste but compels companies to redesign products with recyclability and circularity in mind.

Business Responsibility and Sustainability Reporting (BRSR), mandated for the top 1,000 listed companies, has elevated sustainability reporting standards in India. By demanding disclosures on ESG (Environmental, Social, and Governance) performance, BRSR increases corporate transparency and aligns businesses with global sustainability norms.

Additionally, national missions such as the **National Green Hydrogen Mission** promote cleaner energy transitions, particularly in heavy industries. Bans on **single-use plastics**, renewable purchase obligations (RPOs), and green building codes further establish a regulatory environment where sustainability is no longer optional but essential for compliance and competitive legitimacy.

Collectively, these regulations create a binding framework that compels Indian companies to adopt sustainable practices across the supply chain, production processes, and waste management systems.

2. Investor & Market Expectations

Another major driver of sustainable commerce is the rapid rise of ESG-focused investing. Global financial markets increasingly reward companies with strong sustainability performance due to lower regulatory risks, better long-term stability, and higher consumer trust. According to Morningstar (2023), ESG investments in India grew by more than 46% between 2020 and 2023, signalling a major shift in investor priorities.

Domestic and foreign institutional investors now evaluate companies based on ESG criteria before allocating capital. Businesses that score poorly on sustainability metrics face higher risks of reduced investment, withdrawal of funds, reputational damage, and increased cost of capital.

Because of this shift, companies across sectors—such as ITC, Tata Group, Mahindra, and Hindustan Unilever—are strategically integrating sustainability into their governance structures, operations, and long-term planning. Market expectations increasingly favour transparent, ethical, and eco-conscious companies, making sustainability a core determinant of investment attractiveness.

3. Consumer Behaviour Shifts

Indian consumers are becoming more environmentally conscious, creating strong market-driven pressure for sustainable commerce. Rising awareness of climate change, health concerns, and global sustainability trends has altered consumption preferences, especially in urban and millennial populations.

According to a Deloitte India (2023) survey, nearly **63% of consumers prefer brands committed to sustainability**, and a large proportion is willing to pay a small premium for eco-friendly, ethically sourced, and socially responsible products. Sectors such as apparel, cosmetics, food and beverages, household goods, and personal care are experiencing a notable rise in demand for green alternatives.

Social media campaigns, influencer advocacy, and increasing access to information amplify consumer expectations around corporate responsibility. As consumers continue to prioritise sustainability, businesses that fail to adapt risk losing market relevance and customer loyalty.

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4. Technology and Innovation

Technological advancements are critical enablers of sustainable commerce. Digital transformation tools help businesses monitor, measure, and optimize their environmental and social performance with greater accuracy and efficiency.

Technologies such as **Artificial Intelligence (AI)** and **IoT (Internet of Things)** are revolutionizing sustainability by enabling real-time monitoring of energy usage, predictive maintenance to reduce equipment failures, and automation that lowers resource consumption. **Blockchain** supports supply chain sustainability by providing traceability, helping verify ethical sourcing, reduce fraud, and ensure compliance.

In logistics, digital route optimization and electric vehicle (EV) adoption enhance **green logistics**, reduce operational costs, and lower emissions. Renewable energy technologies—solar rooftops, biofuel solutions, and hydrogen systems—provide scalable pathways for businesses to transition away from fossil fuels.

Together, these technologies empower companies to build smarter, greener, and more resilient commercial ecosystems.

5. CHALLENGES IN TRANSITIONING TO SUSTAINABLE COMMERCE

Although the momentum toward sustainable commerce in India has increased significantly over the past decade, the transition remains complex and uneven. Businesses across sectors continue to face multiple structural, financial, technological, and behavioural challenges that slow down the adoption of sustainable models. The following sub-sections explore the major challenges in detail.

5.1 Financial Constraints

Financial barriers remain one of the most significant obstacles to transitioning toward sustainable commerce in India. Clean technologies—such as renewable energy systems, energy-efficient machinery, green packaging, circular production processes, and waste management infrastructure—require substantial upfront investment.

Access to **green financing** is also limited. Although banks and financial institutions have introduced sustainability-linked loans and ESG-focused funding instruments, these are largely directed toward larger corporations with strong governance and compliance systems. Smaller firms often struggle with eligibility requirements, documentation, and regulatory obligations, restricting their ability to secure affordable financing for sustainability initiatives.

Furthermore, **tax incentives and subsidies** for sustainable practices remain insufficient or fragmented across sectors. Stronger fiscal support—such as rebates for renewable energy adoption, subsidies for eco-friendly packaging, and incentives for waste reduction technologies—is needed to make sustainability financially viable.

5.2 Knowledge & Skill Gaps

Many businesses, particularly smaller firms, lack understanding of sustainable alternatives, environmental regulations, and the long-term benefits of green practices. This lack of knowledge results in misconceptions that sustainability is either too expensive or irrelevant to business growth.

There is also a shortage of sustainability professionals, including ESG analysts, energy auditors, environment specialists, and supply chain sustainability managers. MSMEs often operate without dedicated sustainability teams and rely on traditional business practices, making it difficult to identify, implement, and monitor sustainable initiatives.

Furthermore, the absence of structured training programs and capacity-building initiatives exacerbates the skills gap. While large corporations invest in sustainability training and certifications, smaller companies rarely have access to such resources. As a result, decision-makers may lack the technical understanding required to adopt sustainability-driven innovations.

5.3 Supply Chain Complexities

India's commercial ecosystem is deeply interconnected, with supply chains involving multiple layers of vendors, suppliers, distributors, and logistics partners. This creates substantial challenges in ensuring ethical sourcing, fair labour practices, and environmental compliance across the entire supply chain.

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Fragmented and informal logistics networks make it difficult to trace the origin of raw materials, verify supplier practices, and monitor emissions. Many suppliers lack transparency, and obtaining accurate sustainability-related data becomes challenging for businesses that rely on them.

Additionally, the lack of digital integration across supply chains limits real-time tracking of production processes, energy usage, waste generation, and carbon emissions. Without digital tools such as blockchain, QR-based traceability, or IoT devices, companies face constraints in making their supply chains truly sustainable. These complexities hinder the ability of businesses to implement sustainability standards consistently across all supply chain touchpoints.

5.4 Technological Barriers

Technology plays a vital role in enabling sustainable commerce, yet technological adoption in India remains uneven. Many businesses, especially small and medium enterprises, show low adoption of automation, AI, and digital tools that could enhance sustainability performance. Reasons include high implementation costs, lack of technical expertise, and resistance to change.

Digital literacy is another barrier. Employees across industries may not be trained to use advanced digital systems or may lack exposure to modern sustainability technologies. This inhibits the adoption of digital innovations such as smart energy monitoring, AI-driven forecasting, and waste optimization tools.

Furthermore, renewable energy technologies, although increasingly popular, remain expensive for smaller companies.

Installation costs for solar systems, green hydrogen solutions, and energy-efficient machinery continue to be barriers for businesses working with limited budgets. As a result, technological barriers slow down both operational efficiency and sustainability transformation.

5.5 Weak Enforcement

India has introduced several sustainability-focused regulations, but weak enforcement undermines their overall impact. Issues such as inadequate monitoring, inconsistent implementation across states, and limited governmental oversight hinder compliance.

Regulatory bodies often struggle with inadequate staffing, limited technological infrastructure for monitoring, and challenges in tracking widespread violations. As a result, many businesses operate without fully adhering to environmental standards such as waste segregation, pollution control norms, or renewable energy requirements.

This challenge is further aggravated by the country's limited infrastructure for recycling, waste collection, and processing. Many regions lack efficient waste management systems, making it difficult for businesses to comply with circular economy principles even when they are willing to do so.

5.6 Consumer Price Sensitivity

Consumer behaviour plays a significant role in shaping sustainable commerce. However, in a price-sensitive market like India, sustainability adoption is constrained by the higher cost of eco-friendly products. Sustainable goods—such as organic foods, eco-friendly packaging, ethically sourced textiles, and energy-efficient appliances—often come at a premium due to higher production costs, limited scale, and stricter quality requirements.

This price differential makes it challenging for businesses to attract mass consumers despite growing environmental awareness. Many consumers prioritize affordability over sustainability, limiting the widespread demand necessary for the commercial success of green products. Until sustainable products achieve economies of scale, cost remains a substantial barrier to adoption.

6. STRATEGIC SOLUTIONS FRAMEWORK FOR SUSTAINABLE COMMERCE

This research proposes an integrated framework with five strategic pillars:

6.1 Pillar 1: Sustainable Business Models

Businesses should adopt:

- Circular economy principles

- Eco-design in packaging
- Lifecycle assessment metrics
- Renewable energy integration

ITC and Hindustan Unilever serve as strong Indian case examples demonstrating cost savings through eco-efficiency.

6.2 Pillar 2: Green Supply Chain Transformation

Key strategies:

- Digital tracking using blockchain
- Supplier sustainability scoring
- Green logistics (EV fleets, optimized routes)
- Waste reduction across the supply chain

Companies like TATA Steel and Reliance Industries have begun using AI for carbon and waste monitoring.

6.3 Pillar 3: Technology & Innovation for Sustainability

Emerging technologies enable measurable sustainability:

- **AI** for predictive energy use
- **IoT** for real-time monitoring
- **Blockchain** for traceability
- **3D printing** to reduce material waste

Digital transformation becomes a sustainability accelerator.

6.4 Pillar 4: Policy & Governance Strengthening

Recommended actions:

- Expand green financing opportunities
- Strengthen environmental compliance
- Incentivize renewable energy transition
- Promote BRSR compliance for mid-sized companies

Public-private partnerships can accelerate policy implementation.

6.5 Pillar 5: Consumer Awareness & Behavioural Change

Strategies include:

- Sustainability labelling
- Awareness campaigns
- Incentives for recycling (deposit-return systems)
- Transparent marketing (avoiding greenwashing)

A behaviourally informed consumer base accelerates sustainable market growth.

7. FINDINGS

The study highlights that:

1. **Sustainability is becoming a business imperative**, not a voluntary choice.
2. Companies adopting sustainable commerce practices experience **improved brand reputation, operational efficiency, and long-term profitability**.

3. Major barriers are financial limitations, technological gaps, low awareness, fragmented supply chains, and insufficient regulatory enforcement.
4. A holistic approach integrating **technology, policy, supply chains, business models, and consumer engagement** is essential for sustainability transitions.
5. Collaboration among stakeholders—including government, businesses, academia, and consumers—is necessary to ensure scalable and inclusive sustainable commerce.

8. CONCLUSION

The transition to sustainable commerce represents a critical pathway toward building a resilient and future-ready Indian economy. While challenges persist across financial, technological, behavioural, and structural dimensions, the long-term benefits significantly outweigh the costs. Sustainable commerce enhances competitiveness, mitigates environmental risk, strengthens supply chain stability, and aligns businesses with global sustainability standards.

To accelerate this transition, Indian businesses must integrate sustainability into core strategies rather than treating it as an add-on. Policymakers must facilitate the shift through incentives, stricter regulations, and institutional support. Meanwhile, consumers and civil society must actively participate by making informed and responsible choices.

In essence, transitioning to sustainable commerce is not only a responsibility—it is a strategic opportunity for Indian businesses to lead in an increasingly sustainability-driven global economy.

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