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Green Supply Chain Practices and Consumer Environmental Awareness: A Study of Sustainability in Indian Warehousing

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ABSTRACT

In today world where the climate change effects are visible on everyones live, business grows under pressure to rethink how they operate. Warehousing though over looked plays a role in supply chain and contributes significantly to environmental challenges.

This study into how green supply chain practices are being adopted in Indian warehouse and how efforts are perceived by consumers. Using a blend of surveys, interviews and secondary research explored not only what companies are doing bu wht, what stands in thei own way and how all this connects to the choices people make when they buy. Findings reveal a complex side while businesses see real value in going green, financial and policy challenges slow them down. On the consumer side, awareness but action falls short. The research includes with thoughtful suggestions for companies, policymakers and lastly consumer to build a green more responsible warehouse ecosystem.

INTRODUCTION

Imagine a warehouse not just as a storage unit, but as living part of the environment. It consumes generates waste, add carbon emissions and electricity. Now if it could do all responsibly, even helping. Thats the vision behind the green warehousing. As india faces rising pollution and energy demands, the warehousing industry stands at a crossroads. The logistics is growing too fast and with the environmental impact.

The conversation around climate change is no longer reserved. This entered boardrooms living rooms, also government meetings. Supply chain practices, once seen as optional are now becoming essential. Implementing them in india is not straight forward. Consumers are more environmentally consciosus than ever but their purchases choices don't always reflect this.

This study is a journey through landscape an effort to understands what green warehouse looks like in india, yet it does not into sustainable behaviour.

OBJECTIVES

- Identify current green practices in Indian warehousing.
- Analyze drivers and barriers to adoption.
- Measure the relationship between warehousing sustainability and consumer awareness.
- Provide policy and practical recommendations to enhance sectoral susutainability.

LITERATURE REVIEW

Existing literature on Green Supply Chain Management highlights its strategic value but lacks empirical validation in developing economies like India. Frameworks such as Circular Economic data Based View, and Stakeholder Theory guide global discourse but require contextual adaptation. Studies also show a consumer shift toward sustainable products, but economic and informational barriers limit action.

RESEARCH METHODOLOGY

A mixed-methods approach was adopted:

Quantitative surveys with warehousing firms and consumers.

Qualitative interviews with logistics managers and policy experts.

Secondary data from industry reports, academic journals, and government policies.

DATA INTERPRETATION

Data interpretation involves analyzing and making sense of data to extract insights and meaningful patterns.

1. **Understanding the data:** Familiarizing yourself with the data source, structure, and variables.
2. **Identifying trends and patterns:** Looking for correlations, trends, and anomalies in the data.
3. **Drawing conclusions:** Interpreting the results and making informed decisions based on the insights gained.

Data interpretation is crucial in various fields, including business, healthcare, social sciences, and more.

FINDINGS AND RESULT

5.1 Green Practices:

Common: lighting, waste segregation, space optimization.

Rare: Solar power, EV fleets, rainwater harvesting, green certifications.

5.2 Drivers:

Cost savings

Corporate Social Responsibility

Regulatory compliance

Market demand

5.3 Barriers:

High initial investment

Limited access to green financing

Skill gaps

Regulatory inconsistencies

5.4 Consumer Awareness:

78% report increased environmental concern.

83% value eco-friendly packaging.

Only 35% willing to pay >10% premium.

This research paper have these findings mention above.

RECOMMENDATIONS

The research identifies a strong theoretical and market case for green warehousing, but real-world adoption is hindered by practical challenges. The attitude-behavior gap among consumers and insufficient support for SMEs limit the sector's potential impact. Strengthening awareness campaigns and regulatory frameworks can bridge these gaps.

For Policymakers:

Enforce unified green warehousing policies.

Offer financial incentives and subsidies for SMEs.

Promote public phases campaigns.

For Industry:

Prioritize cost-effective green technologies.

Adjust transparency through green labeling.

employee training for green skills.

For Consumers:

Choose brands committed to sustainability.

Clear information and labeling.

Support companies investing in green logistics

CONCLUSION

A key study backdrop is the growing demand for environmental sustainability across global supply chains, especially in the current global warehousing and distribution landscape that is facing intensified scrutiny from regulators, consumers and investors. The distributed PIQ's primary identify concern was a widespread gap between theoretical sustainable solutions and actual real-world use in India, fueled by excessive upfront cost, lack of uniformity in rules, and a lack of shopper training.

To counteract this, the primary aims of this study were to discover which green warehousing practices (energy efficiency retrofits, circular economy waste reduction initiatives, etc.) assess the drivers (namely, cost savings or regulatory compliance) and barriers (financial constraints and lack of know-how) evaluate their effects on consumer understanding and purchasing decision-making, and deliver targeted recommendations for action.

Based on an extensive systematic literature review, Green Supply Chain Management (GSCM) was contextualized with India's unique socio-economic environment, and numerous theoretical frameworks were developed while addressing the gaps in existing literature.

The research's methodology used a strong mixed-methods structure, combining quantitative surveys given to warehousing companies and possible customers with qualitative interviews of essential players. Real world outcomes led to extremely low adoption of baseline energy efficiency, due to economic drivers/financial barriers as well as a consumer "attitude-behavior gap. Take, for example, the first widespread use of a real-time queuing system, at Rocky Mountain National Park.

Filling the gaps and connecting the dots Case studies and in-depth analysis of best practices of green warehousing in India such as Energy efficiency Waste reduction Water conservation Sustainable transportation Green building certifications status All the above-adopting it mainly based upon investments and pay-back time.

Driver 1 Economic (cost savings, new markets) Regulatory (strategies to enforce adherence to policy, e.g., benchmarking, rewards, etc.) 8 Market / social (pressure from consumers, investors, other stakeholders on corporations) Economic Financial Technological Human capital Policy inconsistencies Pearl et al Touted as major barriers/barriers to GW adoption as discussed in Study

Lastly, the study investigated the impact on consumer's environment concern and purchase intention, hence reflecting a wide level of general awareness but no specific awareness towards green logistics initiatives. Americans routinely show through surveys their deep preference for green brands and their eagerness to pay for the privilege. This is further complicated by a lack of affordability, availability, and transparency of information.

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