



Indian Institute of  
Technology Guwahati



KRITI '24

# Green Route

## Pitch Deck



# INTRODUCTION

---

## Our mission

We want to create a sustainable delivery ecosystem for our users. A one stop solution for user to take care of their all delivery needs with least carbon footprint.

## Eco-route your deliveries

Our smart mapping tech plots the greenest path for your packages, reducing carbon footprints effortlessly

## Shop sustainably

Switch to our reusable delivery bags. Embrace eco-friendly shopping with our reusable bags—because the environment deserves better.

# UNVEILING SUSTAINABILITY

Supply Chains, Packaging,  
and Climate Resilience

## In the nexus of sustainability, three interconnected facets demand our attention

### → Supply Chain Dynamics:

Firstly, the evolving dynamics of supply chains, adapting for efficiency and customer satisfaction, inadvertently escalate the carbon footprint, urging a swift transition to sustainable models.

### → Carbon Footprint of Packaging:

Secondly, unpacking the carbon footprint of packaging reveals the need for an essential environmental impact assessment. Balancing carbon footprint, recyclability, and waste reduction requires informed decisions, especially in the choice of sustainable packaging materials.

### → COP 29: Urbanization & Climate Change:

Lastly, the imminent challenges of COP 29 underscore the intersection of urbanization and climate change. As global warming threatens cities, acknowledging their significant contribution to CO<sub>2</sub> emissions is vital. Rising sea levels and extreme weather events pose potential risks, emphasizing the urgency of climate action in urban areas.

# UNVEILING SUSTAINABILITY

Supply Chains, Packaging,  
and Climate Resilience

## Online Sales vs Delivery Emissions

### Emissions Insights:

Online sale emits 218.4g CO<sub>2</sub>, only 29% less than delivery (309g CO<sub>2</sub>). Highlighting the environmental impact of online shopping.

### Three Key Lessons for Sustainable Packaging

#### Educate Customers

Provide fact-based sustainability assessments. Emphasize trade-offs and transparent decision-making.

#### Assess Trade-offs:

Quantify footprint across the value chain. Consider indirect impacts and new business models.

#### Prepare for Uncertainty

Recognize evolving interpretations of sustainability. Create contingency plans for changing regulations and trends.

In conclusion, a collective commitment is essential. Prioritizing sustainable supply chains, addressing packaging carbon footprint challenges, and recognizing the urgency of urban climate action form the foundation for a resilient and sustainable future.

# EXECUTIVE OUTLIER

---

## KEY PROBLEMS

Packaging materials are directly sent to landfills or are incinerated without recycling or reusing, which shows lack of a circular packaging supply chain.

Excess travel by delivery drivers leads to higher carbon production. There is increase in idle time & more missed deliveries due to unavailability of consumers at a given slot.

Slow Movement of goods leads to accumulation. Inability to find optimal location for storage, obsolete inventory, slotting systems optimization, etc. hampers productivity.

## SOLUTIONS

### CONVERTIBLE DELIVERY BAGS:

Immediate return of the external cardboard box used for only delivery and packaging in attractive, re-usable plastic bags.

### DELIVERY OPTIMIZATION:

The customer is asked for a time slot when ordering. The time is reconfirmed a day before delivery through WhatsApp notification. A pick-up-at-warehouse option is also offered. Route for all orders is optimized using an AI interface.

### AUTOMATING WAREHOUSE & INVENTORY:

A personalized, interoperable warehouse and inventory management system that considers storage capabilities, inventory levels, supplier lead times and schedules, seasonal trends, and future campaigns is deployed.

## CARBON IMPACT

**21% per delivery**

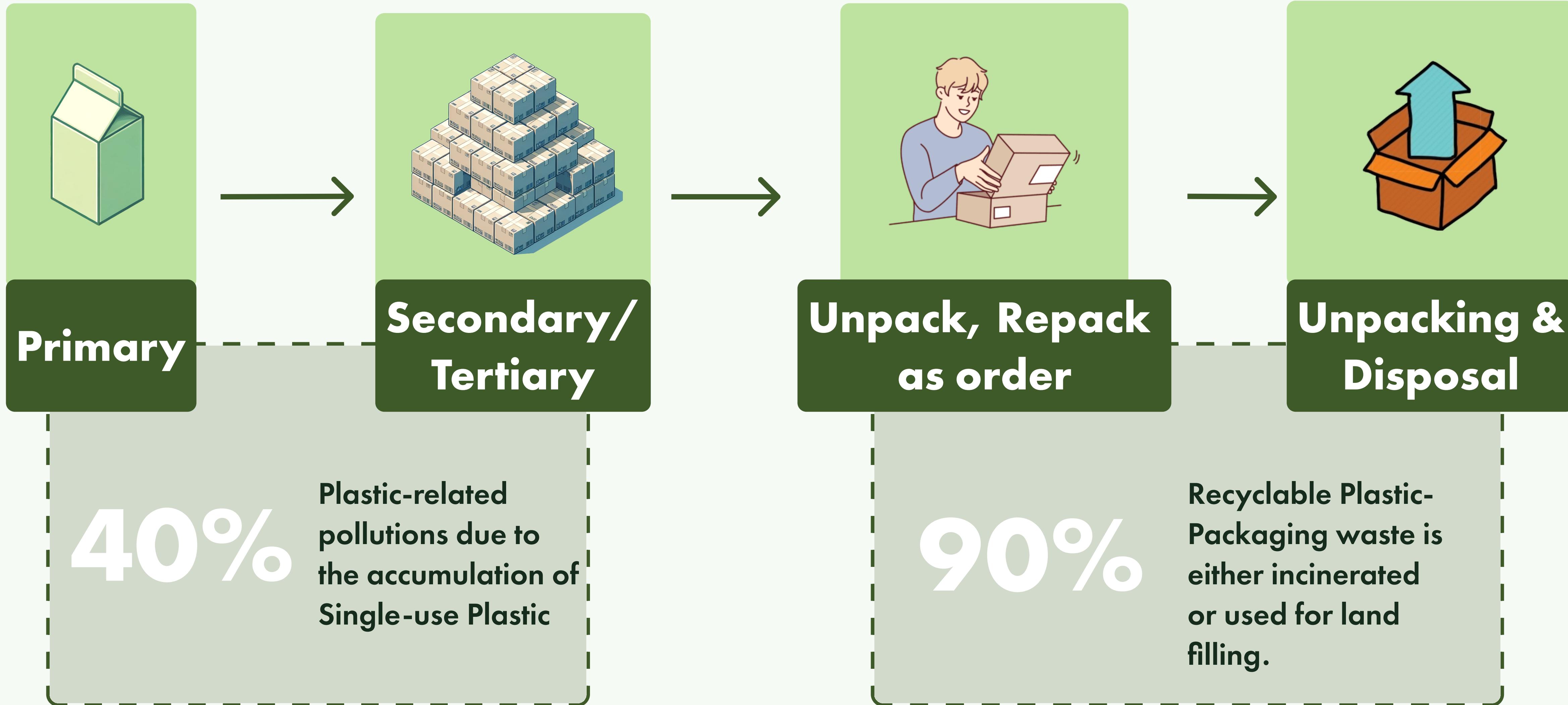
**20-25% decrease**

**50% decrease**

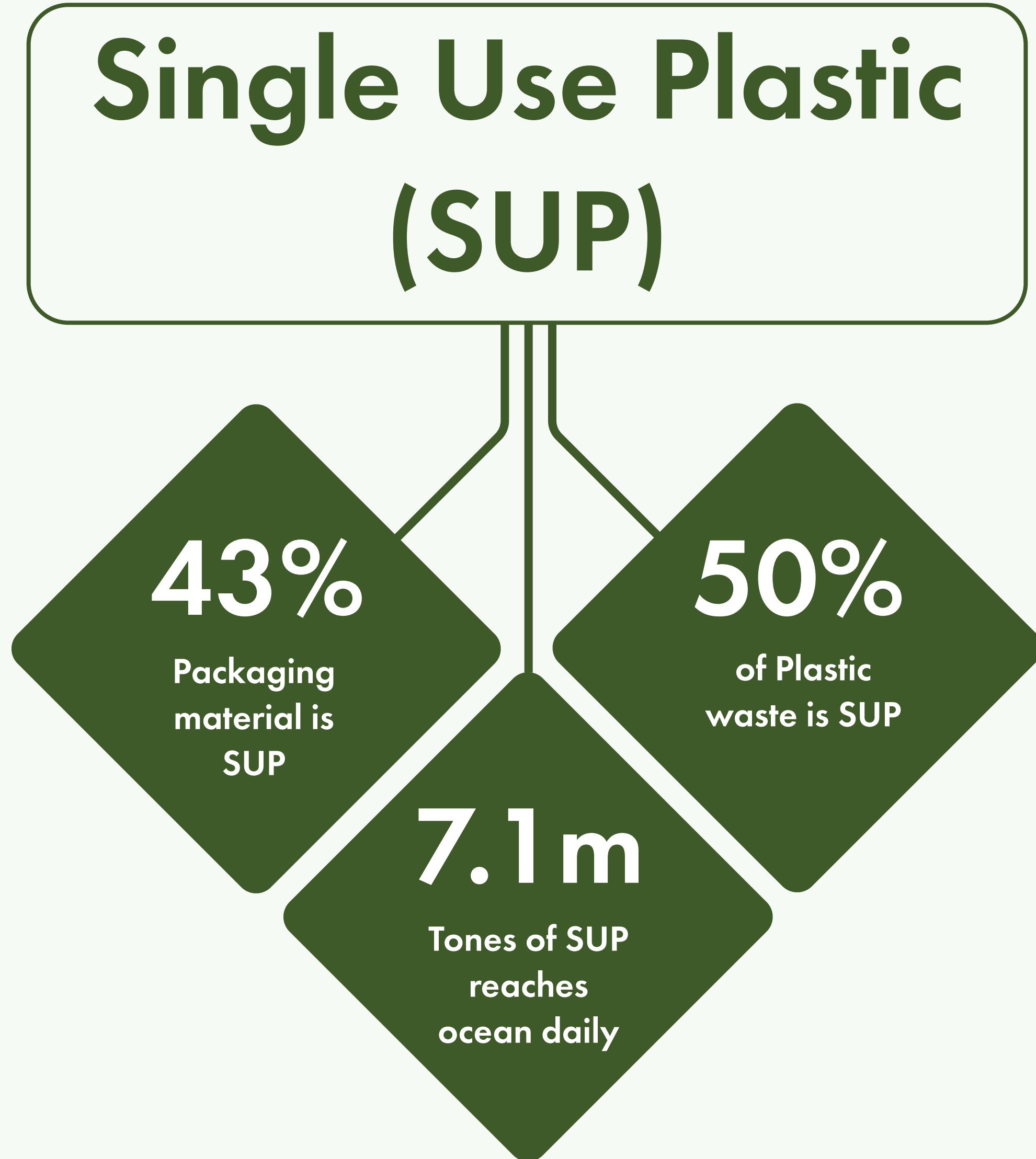
A detailed isometric illustration of a packaging plant. The scene is filled with yellow cardboard boxes moving along a complex network of conveyor belts. Several workers in dark uniforms and hard hats are positioned throughout the facility, some standing near conveyor lines and others near shelving units. The shelves are stacked high with boxes. The overall atmosphere is one of a high-volume industrial operation.

# PACKAGING

# PACKAGING PROBLEMS



# THE ENVIRONMENTAL AND ECONOMIC IMPACT OF SINGLE-USE PLASTICS (SUP)



## Prevalence of SUP in Packaging

43% of packaging materials are comprised of single-use plastics.

## Packaging Efficiency

The scarcity of eco-friendly packaging options, coupled with inefficient design, leads to increased transportation costs and a larger carbon footprint.

## Environmental Impact of SUP

Though recyclable, single-use plastics offer limited environmental benefits. They can only be recycled a maximum of five times, and recycling them can reduce carbon emissions by a mere 30%.

# SOLUTION FOR SUSTAINABLE PACKAGING

---

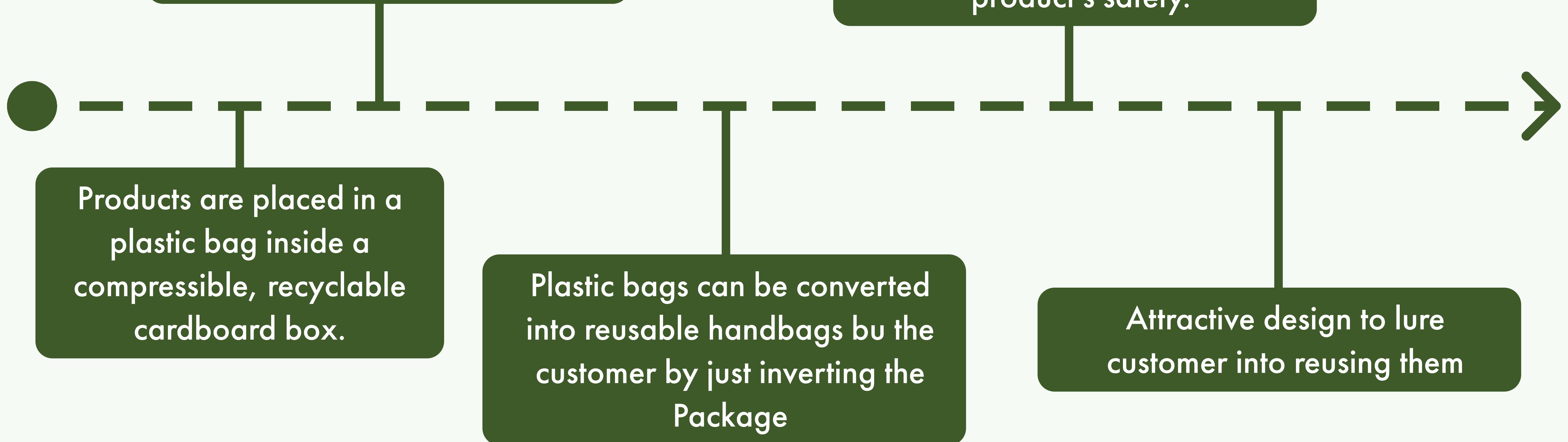
Cardboard boxes will return back to fulfilment centers and will be used multiple times in a cycle before recycled.

Padded layer to ensure fragile product's safety.

Products are placed in a plastic bag inside a compressible, recyclable cardboard box.

Plastic bags can be converted into reusable handbags bu the customer by just inverting the Package

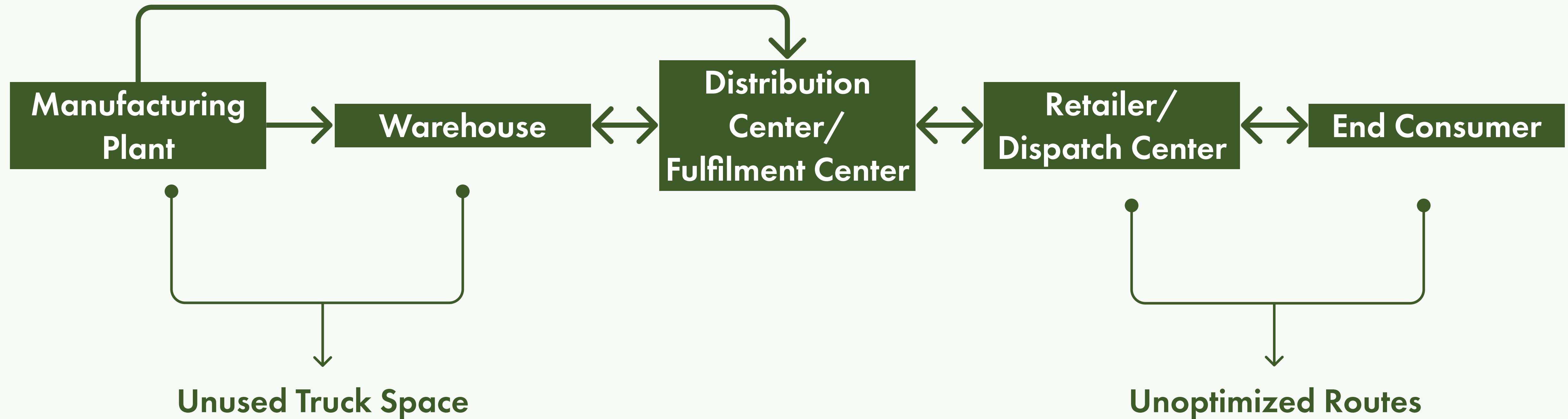
Attractive design to lure customer into reusing them





# DELIVERY OPTIMIZATION

# PROBLEMS IN DELIVERY OPTIMIZATION



33%

Increase in Transportation  
charges due to low space  
utilization in vehicles

53%

Last mile delivery costs  
account for 53% of  
overall shipping costs

# PROBLEMS IN DELIVERY OPTIMIZATION

---

**20% of COD deliveries get refused  
10% of pre-paid orders get refused**

**Transportation charges can be higher by up to 33% due to low space utilization**

**Unoptimized Routes and Missed Deliveries**

**Unavailability of customers**

**Incomplete Address Locations leading to time wastage**



**Idle time due to traffic and poor road conditions**

**Inefficient space utilization in Trucks**

**Polluting vehicles**

# SOLUTION FOR DELIVERY OPTIMIZATION

---

## Delivery Optimisation Model

An Algorithm backed routing and scheduling software is used to allocate work to ensure accurate deliveries, reduce delivery times and save fuel.

## Carbon Efficient Route

Designing more carbon efficient route aimed at minimizing the environmental impact of last-mile deliveries, representing a significant stride toward a sustainable future.

# Our USP

---

- Optimized delivery routes designed to minimize carbon emissions.
- Packaging the Future Sustainably, the dual focus on innovative packaging solutions that are both environmentally friendly and forward-looking

# BUSINESS MODEL

## Reusable Delivery Bags

- **Revenue model:** Sellers are charged listing fees and SEO revenue, while buyers pay convenience fees to the platform.
- **Market strategy:** Target e-commerce platforms and green-conscious retailers also building partnerships with sustainable organizations. Social media engagements.
- **Operational model:** curate a diverse selection of eco-friendly bags from various sellers on my platform, providing customers with a one-stop destination for sustainable packaging solutions.
- **Growth potential:** Explore Diversification within related products services, Partnerships and collaborations.

## Delivery Optimization

- **Revenue Model:** Subscription-based software service for logistics companies.
- **Innovation Focus:** Continuous AI algorithm improvement for enhanced efficiency.
- **Customer Engagement:** Tailored solutions for business and individual clients.
- **Expansion Plan:** Integrating with international shipping and local delivery services..

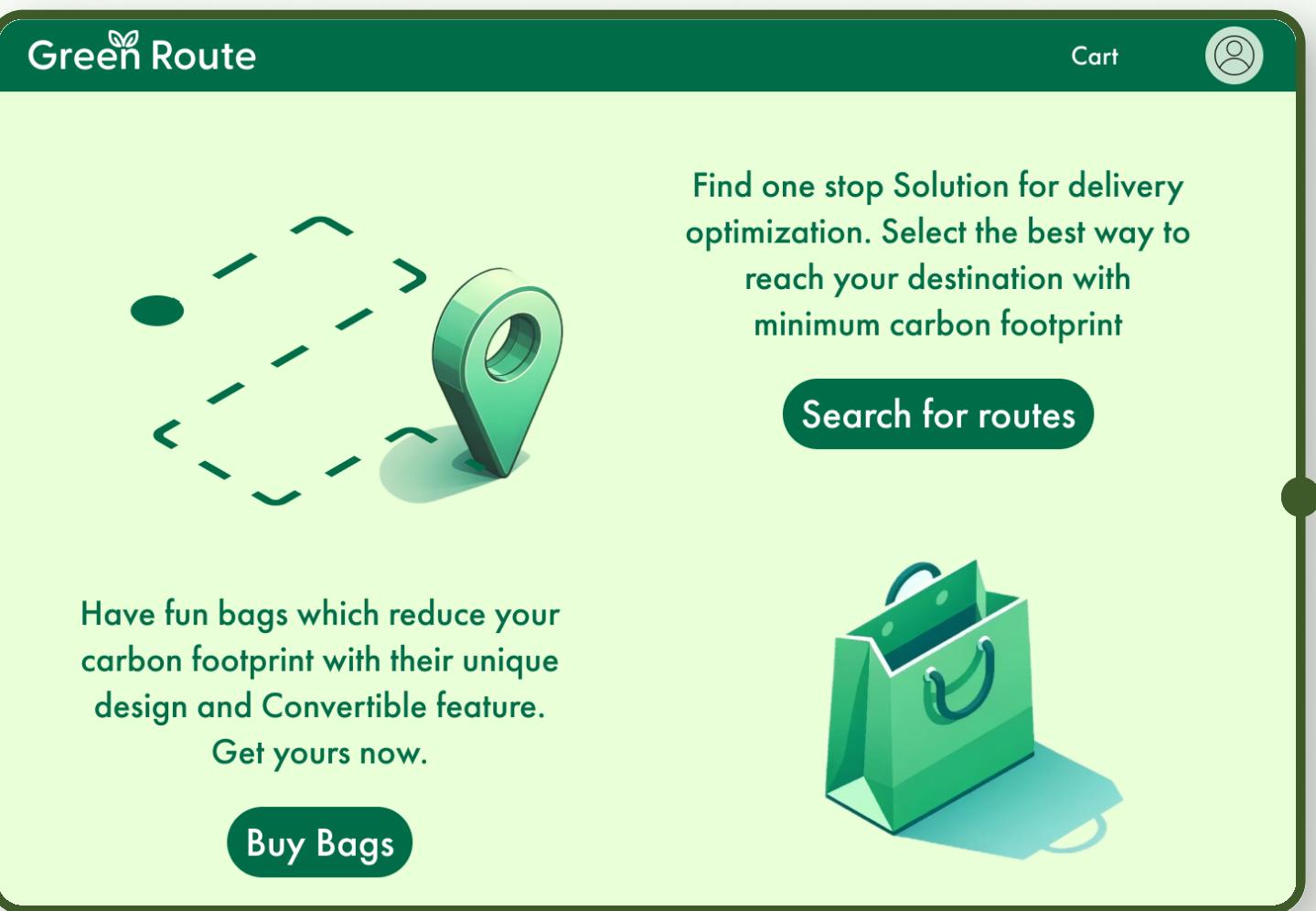
# BUSINESS MODEL CANVAS

Key Partners	Key Activities	Value Propositions	Customer Relationship	Market Segment
<ul style="list-style-type: none"><li>Strategic alliances with FMCG companies for pilot projects and long-term collaborations.</li><li>Partnerships with environmental organizations for certification and advocacy.</li><li>Collaborations with technology providers for AI, IoT, and other logistics optimization tools.</li></ul>	<ul style="list-style-type: none"><li>Development of AI and machine learning models for logistics optimization.</li><li>Creation and distribution of sustainable packaging solutions.</li><li>Consulting and advisory services for supply chain sustainability.</li></ul>	<ul style="list-style-type: none"><li>To provide FMCG companies with sustainable supply chain solutions that reduce carbon footprint, optimize logistics, and ensure compliance with global environmental standards.</li></ul>	<ul style="list-style-type: none"><li>Dedicated Account Management For Key Clients.</li><li>Community Engagement Through Workshops, Webinars, And Sustainability Challenges.</li><li>Continuous Feedback Loops To Improve And Tailor Services.</li></ul>	<ul style="list-style-type: none"><li>FMCG companies seeking to reduce environmental impact and operational costs.</li><li>Government and regulatory bodies looking for industry partners to achieve environmental goals.</li><li>Consumers demanding eco-friendly products and transparent supply chains.</li></ul>
Key Resources			Channels	
	<ul style="list-style-type: none"><li>Convertible Delivery Bags: To reduce packaging waste and carbon footprint by reusing delivery packaging.</li><li>Delivery Optimization through AI: Utilizing artificial intelligence to optimize delivery routes and schedules, reducing fuel consumption and emissions.</li></ul>		<ul style="list-style-type: none"><li>Direct Sales Teams To Engage With Large FMCG Corporations.</li><li>Online Platform For Service Subscriptions, Customer Support, And Community Engagement.</li><li>Industry Conferences And Sustainability Forums For Networking And Brand Visibility.</li></ul>	
Cost Structures			Revenue Structures	
<ul style="list-style-type: none"><li>Research and development for continuous innovation in sustainable technologies.</li><li>Operational costs for platform maintenance, customer support, and consultancy services.</li><li>Marketing and sales to build brand awareness and expand customer base.</li></ul>			<ul style="list-style-type: none"><li>Subscription fees for access to the sustainable supply chain platform, including AI-driven logistics optimization, waste management solutions, and green packaging alternatives.</li><li>Consulting services for custom sustainability solutions and compliance strategies.</li><li>Sale of proprietary sustainable packaging materials and waste management equipment.</li></ul>	

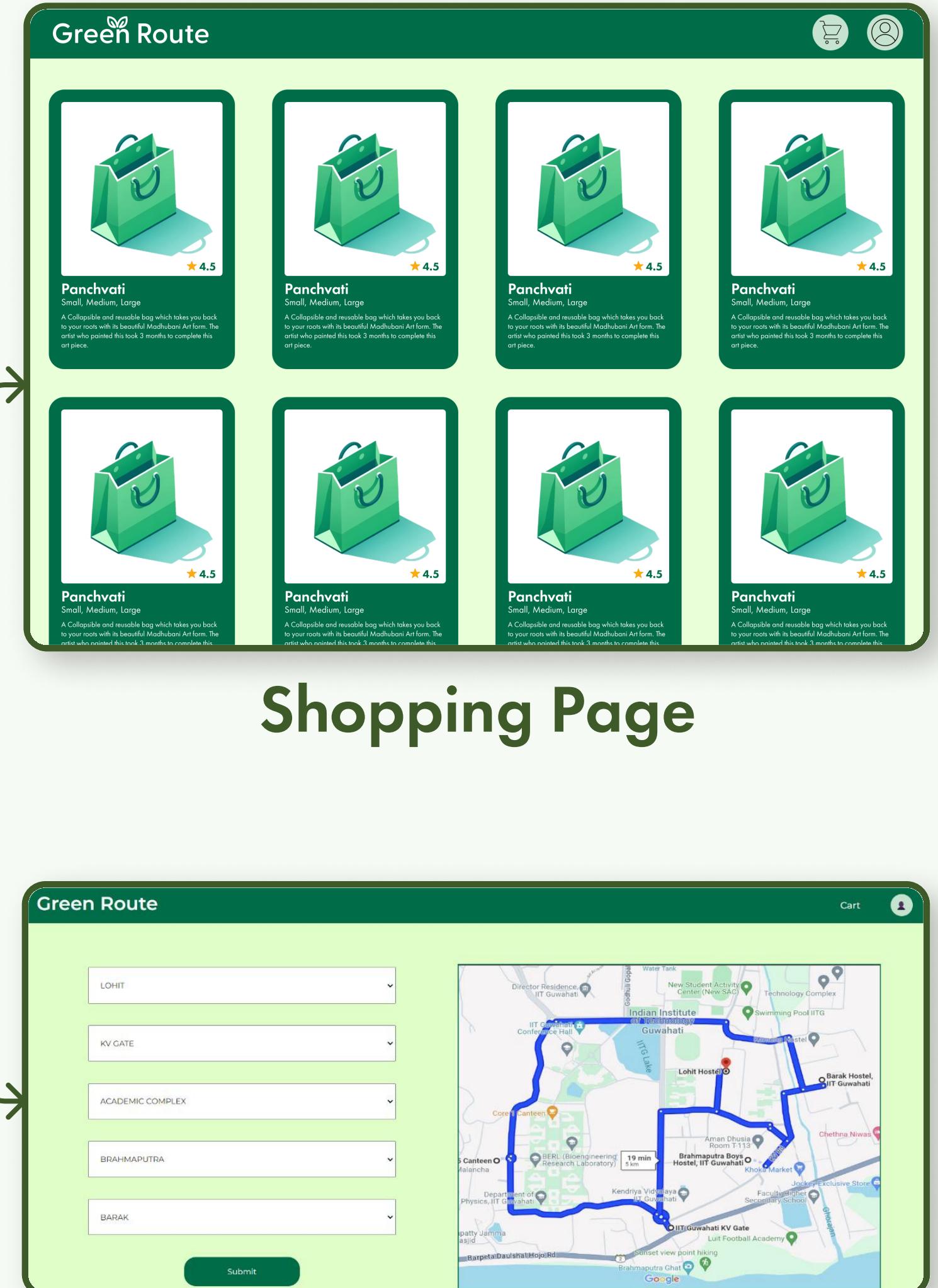
# PRODUCT ROADMAP



Landing Page



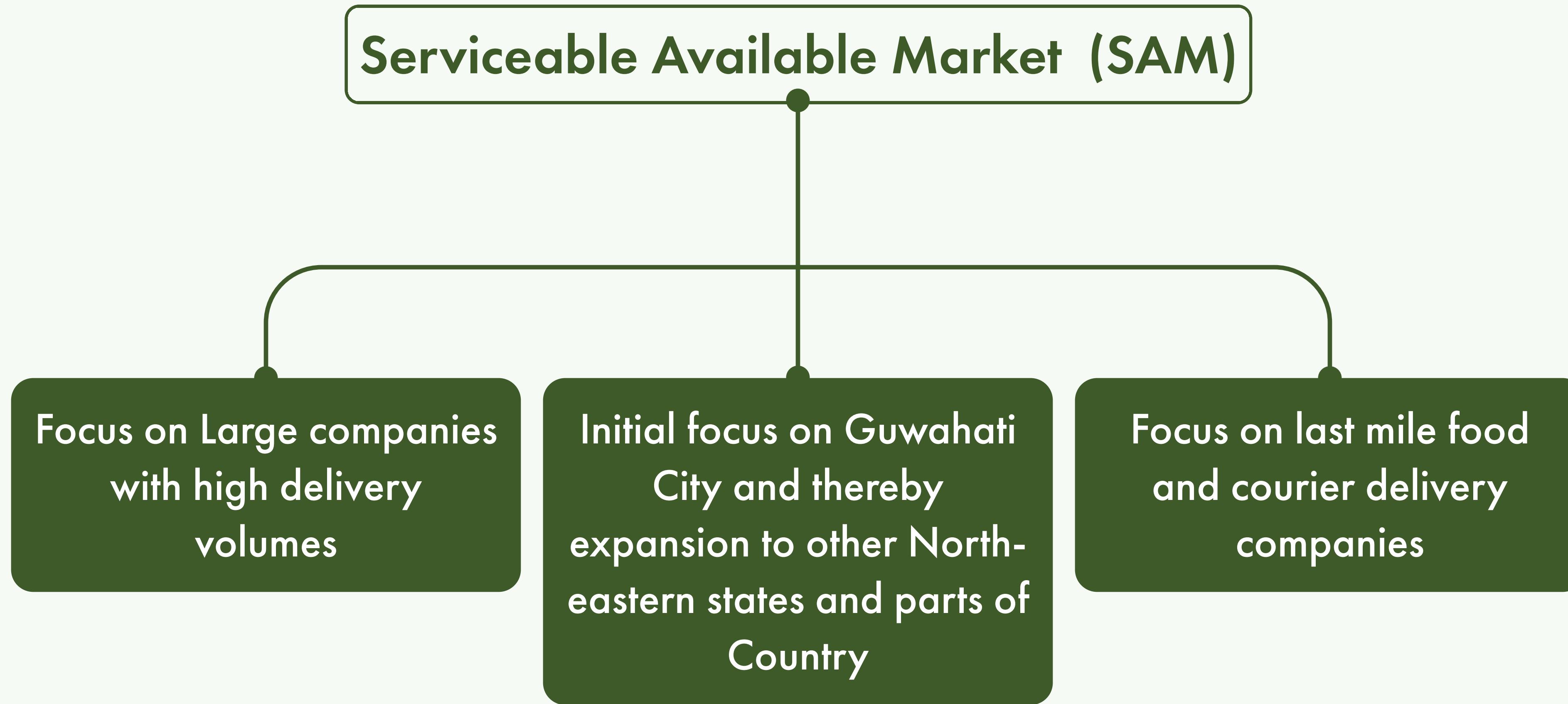
User Dashboard



Map Page

# MARKET RESEARCH

---

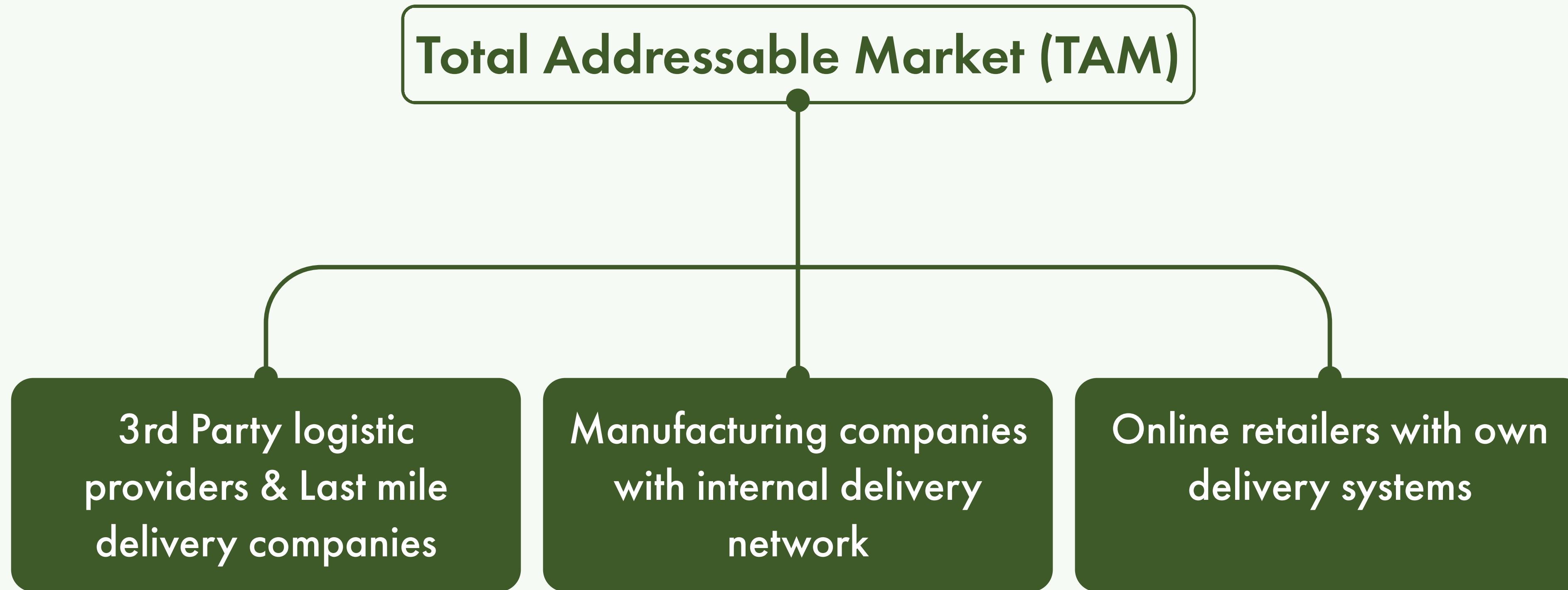


---

India's last mile delivery is presently \$7 Billion markets which and growing exponentially. More than 50% of the delivery costs in all sectors is due to last-mile shipping.

# MARKET RESEARCH

---



Globally, Last Mile Delivery is a \$144 Billion Market which is expected to grow to \$260 Billion at a CAGR of 8.8%

# COMPETITIVE ANALYSIS



Shiprocket

CLICKPOST



Google Maps Platform

<b>Establishment</b>	1985	1898	1927
<b>No of Customers</b>	70M	14.5M	1B+
<b>Features/Pros</b>	Multiple Shipping Partners, Shipping Rate Calculator, Discounted Shipping Rates, Order Management, Global Shipping	Multi carrier shipping integrated tracking, COD reconciliation	Transportation logistics solution, retail solution financial service solution
<b>Cons</b>	Charges monthly fee which can be expensive to small business	Technical Glitches and Downtime Slow New Panel, Delayed Customer Support	Charges based on API calls which rises significantly in large scale demands
<b>Courier Partners</b>	25+	350+	1927
<b>Monthly Pricing</b>	\$350	\$300	\$200

# COMPETITIVE ANALYSIS

---



<b>Founded</b>	1985	1898	1927
<b>Revenue</b>	\$18K	\$21.1B	\$17B
<b>No. of Customers</b>	100K	150 M	10 M
<b>Monthly Pricing</b>	\$150	\$220	\$250
<b>Features</b>	Offers wide range of flexible packaging solutions including packaging films, laminates, pouches and other flexible packaging materials.	Manufactures wide range of paper products including printing and writing papers, packaging materials, pulp and paper products.	Produces variety of products including tissue, paper towels, napkins, containers, cellulose, plywood and chemicals used in various industries.

# SWOT ANALYSIS

Strength	Weakness	Opportunities	Threat
<ul style="list-style-type: none"><li><b>Cost Efficiency and Sustainability:</b> Use of eco-friendly materials aligns with global sustainability goals and reusable packaging minimises overall costs.</li><li><b>Brand Image and Customer Satisfaction:</b> Innovative and optimized packaging can enhance brand perception and improve customer unboxing experiences, fostering loyalty.</li></ul>	<ul style="list-style-type: none"><li><b>High Initial Costs:</b> Continuous improvements in packaging materials requires time and high R&amp;D costs.</li><li><b>Complexity in Implementation:</b> Adapting to new packaging solutions may require changes in supply chain processes, vendor relationships, and employee training.</li></ul>	<ul style="list-style-type: none"><li><b>Innovation in Packaging Technologies:</b> Advances in materials science and packaging technologies present opportunities for more efficient, sustainable, and smart packaging solutions.</li><li><b>Growing Consumer Demand for Sustainability:</b> Increasing awareness and demand for sustainable products encourage companies to adopt eco-friendly packaging, opening up market opportunities.</li></ul>	<ul style="list-style-type: none"><li><b>Competitive Pressure:</b> Intense competition may force companies to continuously innovate and invest in packaging optimization to stay relevant, which can strain resources.</li><li><b>Supply Chain Disruptions:</b> Volatility in the availability of raw materials can impact packaging costs and availability.</li></ul>

# RISKS & MITIGATIONS

Rank	Risks	Mitigation
1	Supplier reliability	<ul style="list-style-type: none"><li>Conduct thorough supplier assessments, including environmental and social responsibility criteria.</li><li>Establish partnerships with suppliers who align with your sustainability goals.</li><li>Develop alternative sourcing strategies to reduce dependency on a single supplier.</li></ul>
2	Supply chain transparency	<ul style="list-style-type: none"><li>Implement traceability systems to track the origin and movement of materials.</li><li>Collaborate with third-party organizations for independent audits and certifications.</li></ul>
3	Cost implications	<ul style="list-style-type: none"><li>Conduct a comprehensive cost-benefit analysis to demonstrate long-term financial benefits..</li><li>Communicate the value of sustainability to customers, stakeholders, and investors.</li></ul>
4	Technology risks	<ul style="list-style-type: none"><li>Diversify technology investments to avoid reliance on a single solution.</li><li>Stay updated on the latest technological advancements and continuously evaluate their performance.</li><li>Develop contingency plans and alternatives in case of technology failures.</li></ul>
5	Supply chain disruptions	<ul style="list-style-type: none"><li>Establish a robust risk management strategy that includes contingency plans for various scenarios.</li><li>Invest in resilient supply chain practices to enhance flexibility and responsiveness.</li></ul>
6	Employee Engagement and training	<ul style="list-style-type: none"><li>Provide comprehensive training programs on sustainability for employees at all levels.</li><li>Foster a culture of sustainability by aligning employee incentive with sustainable performance.</li></ul>

# RISKS & MITIGATIONS

## Risks

Supplier reliability

Supply chain transparency

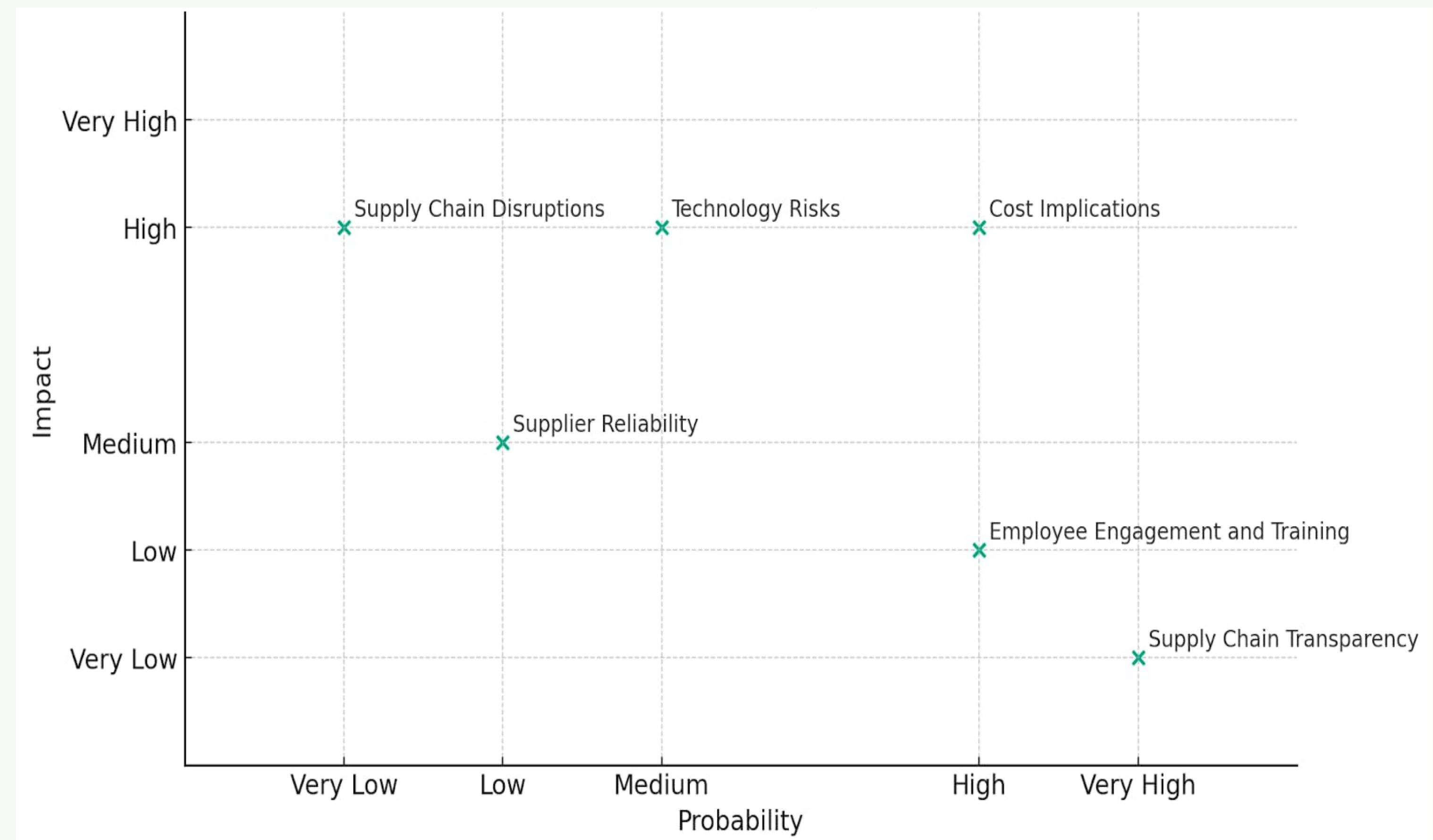
Cost implications

Technology risks

Supply chain disruptions

Employee Engagement and training

## Impact vs Probability Graph





# THANK YOU