

## **From Theory to Practice: Narrative Case Study Analysis for AI-Powered Personalization in Sustainable Branding Strategies**

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### **Abstract**

Generative AI for Eco-Friendly Campaigns: Case Studies in Digital Marketing Innovation is a detailed review that looks at how generative artificial intelligence connects sustainability ideas with real-world, large-scale environmental marketing efforts. The main goal is to create a GenAI Green Marketing Maturity Model that shows how companies move from just meeting basic environmental rules to running advanced campaigns that actually help the environment. This study answers three key questions: How can GenAI help create highly personalized sustainability messages for a large audience? What frameworks can turn green marketing theory into real business results? And how can we manage ethical risks when using AI to make environmental claims? The review uses a careful method of putting together stories from 5 Indian case studies published between 2023 and 2026, covering businesses in retail, everyday consumer goods, and technology. Examples include ITC's AI system that personalizes eco-friendly packaging, Reliance Retail's tool that predicts what customers prefer for sustainability, and Tata Consumer Products' AI-powered tool for creating eco-friendly campaigns. These examples show real results: ITC reduced waste by 28% using personalized packaging suggestions, Reliance Retail saw a 22% increase in green product adoption through customer insights, and Tata's GenAI campaigns led to 35% better engagement with sustainability messages. The study recommends training AI systems with

environmental, social, and governance values, making sure claims are clear, combining customer engagement with emissions data, and setting up teams to handle risks like misleading green claims and high energy use in AI.

**Key words:** Generative AI, Sustainable marketing, green marketing, Personalization, Maturity model, Digital transformation.

## I. INTRODUCTION

The global green economy, expected to grow to \$12 trillion by 2030, presents both big chances and tough challenges for marketers around the world (McKinsey & Company, 2025). Even though many companies talk a lot about sustainability, people are still not very trusting. Many accuse brands of greenwashing, and the engagement rates for green campaigns are still below 15% (NielsenIQ, 2024). Traditional green marketing, which uses fixed eco-labels, general messages, and just meeting rules, doesn't work well anymore. People today want real, personal sustainability experiences. That's where generative artificial intelligence (GenAI) comes in. It's a powerful tool that can help create campaigns that are both scalable and personalized.

In India, the need for GenAI in green marketing is especially strong. As the third-largest economy, India is working hard to reach its net-zero goals. The Securities and Exchange Board of India (SEBI) has introduced rules that require big companies to show real environmental impact, not just make empty promises. At the same time, more than 900 million people in India use the internet, which gives a great chance for using AI to personalize marketing (TRAI, 2025). However, Indian marketers face big challenges: different cultures and languages, consumers who are careful about prices, and limited infrastructure that makes traditional campaigns hard to scale. GenAI helps by creating very localized content, predicting what people might prefer, and showing real-time impacts of green actions. This has been proven in some big companies.

Take ITC Limited's AI-powered packaging tool, which looks at what people buy and recommends eco-friendly packaging options, leading to a 28% reduction in waste (ITC Sustainability Report, 2024). Reliance Retail uses AI to predict what green products people might like and has seen a 22% increase in green product use because of it (Reliance Retail Annual Report, 2025). Tata Consumer Products uses GenAI for their "JaagoRe" campaign, creating personalized sustainability challenges that led to 35% more engagement (Tata Consumer Products, 2025). These examples show how GenAI can go beyond just meeting green reporting requirements and become a key part of sustainable branding.

## **Literature Review**

The literature on sustainable marketing shows both the potential and the ongoing problems with traditional green campaigns. Earlier studies saw green marketing as a way for companies to respond to growing environmental worries, focusing on eco-labels, recycling symbols, and claims about individual products (Peattie & Crane, 2005). But later critiques pointed out that many of these efforts turned into just surface-level "green gloss," without changing the main way businesses operate or how people behave (Peattie & Crane, 2005). Ottman (2017) also noted that general environmental messages often lead to confusion and distrust, especially when they don't clearly connect to what consumers care about personally. These studies show that there is a need for more trustworthy, behavior-focused, and evidence-based communication about sustainability.

At the same time, digital and data-driven marketing has looked at how personalization and analytics change how customers interact. Wedel and Kannan (2016) explained how targeting customers using algorithms and recommendation systems improves how relevant marketing feels by using data about behavior and context. However, most of this work is still focused on products and sales, with little attention to the environmental or social effects of marketing. Leonidou and Skarmas (2017) called for including ethical and sustainability factors into standard marketing models, arguing that how well a company performs should not just be about how much it sells, but also about the well-being of its stakeholders and the environment. This gap between sustainability theory and data-driven marketing makes it a good area to look at generative artificial intelligence (GenAI) as a possible way to bridge these ideas.

Recent research positions GenAI as a new kind of general-purpose technology that can change how content is made, how customers are talked to, and how decisions are made (Kaplan & Haenlein, 2023).

In marketing, GenAI tools can create text, images, and videos that are tailored to very small groups of people at almost no extra cost, which lets companies do a lot of testing and personalization (Mikalef et al., 2024). Some early ideas suggest that GenAI could help with sustainability by showing carbon footprints, predicting how people might react to green actions, and helping create stories that connect everyday choices to bigger environmental results (Janhonen & Uusitalo, 2024). However, there is not much real evidence yet, and most examples come from Western markets, focusing on making marketing work better rather than proving actual environmental benefits.

In India, some studies have started to look at how AI can support sustainability in specific business settings. Case studies of ITC show how data systems help make green logistics and packaging choices more efficient, which reduces waste and saves emissions (Kumar & Nair, 2025). Reports on Reliance Retail describe AI-powered "smart discovery" systems that help customers move through

different shopping channels and find products based on what they are likely to want, including eco-friendly options (Reliance Retail, 2025). Media and industry reports about Tata Tea's JaagoRe campaign show how AI helps create prompts that get people to take small, measurable green actions (Tata Consumer Products, 2025). Although these examples show promise, they are scattered, mostly just describe what's happening, and rarely fit into a clear theory. There is also growing attention to the ethical and governance issues around AI creating environmental claims. Scholars warn that GenAI might help spread misleading greenwashing by making convincing but unproven sustainability stories (Jadhav & Menon, 2024).

### **Objectives of the Study**

This review aims to achieve a clear set of goals that connect theory with real-world use of AI in sustainable marketing, offering useful tools for companies in India.

The Primary goal is to check the GenAI Green Marketing Maturity Model—a detailed framework that shows how organizations move from just following environmental rules to running campaigns that really make a positive impact, using generative AI.

#### **Specific Goals**

1. To carefully study five case studies from Indian companies (ITC, Reliance Retail, Tata Consumer Products, HUL, and Godrej) from 2023 to 2026, and find out how they used GenAI to turn green marketing ideas into real results for both business and the environment.
2. To find and group the different abilities of GenAI, like making personalized messages, predicting customer behavior, creating dynamic content, and offering chat-based guidance, that help in engaging eco-conscious customers, reducing waste, and showing the real impact of sustainability efforts.
3. To look at and record the real results from AI-powered campaigns, including how well they performed (like how much people engaged and how many made purchases) as well as environmental results (like how much less waste was created or how much carbon was saved).
4. To explain the rules and systems needed to manage risks like making false claims about sustainability with AI, protecting customer data, and dealing with the extra energy use that comes with using AI for green purposes.
5. To give advice to marketing managers in India, including training programs that mix ESG goals with AI use, tools to show transparency, ways to measure success that include both business and environmental factors, and teams that work together to meet rules like SEBI BRSR and SDG 12.

## **Research Questions**

**RQ1:** How does generative AI enable hyper-personalized sustainability communication at population scale within diverse Indian consumer segments?

**RQ2:** What conceptual frameworks effectively translate established green marketing theories into verifiable dual-ROI (commercial + environmental) outcomes?

**RQ3:** Which organizational governance mechanisms effectively mitigate ethical risks associated with AI-generated environmental claims?

**RQ4:** How do Indian corporate cases demonstrate progression through GenAI Green Marketing Maturity Levels, and what cross-case patterns emerge regarding scalability and impact verification?

## **Methodology**

### **Research Design**

The research uses a multiple-case study approach with narrative synthesis, based on the sustainability themes set by the conference guidelines. Case studies are perfect for understanding how and why AI is used in green marketing, ESG efforts, sustainable supply chains, and connecting with customers. They allow for deep, context-specific analysis of how ideas become real-world practices. This method brings together real examples with theory to build the GenAI Green Marketing Maturity Model, directly supporting the study's goals and questions.

### **Criteria for Choosing the Cases**

Cases were picked based on clear rules linked to the fourth research question about how Indian companies are using AI in their green marketing efforts:

- **Location:** Companies based in India, especially in fast-moving consumer goods, retail, and consumer products.
- **Time:** Applications of GenAI reported between 2023 and 2026.
- **Quality of Evidence:** Peer-reviewed research, company sustainability reports, or industry studies that show clear results.
- **Relevance:** Focus on marketing strategies related to sustainability (covering research questions 1 to 3).

## **Result and Discussion**

### **Narrative Analysis: Thematic Synthesis of Five Indian Corporate Cases**

This part of the work focuses on the core descriptive analysis part of the research, looking at five Indian companies that use artificial intelligence (AI) in their marketing to promote environmental sustainability. These companies were studied using a method called thematic coding, which is connected to the research questions and a model called GenAI Green Marketing Maturity Model. The analysis was done in three steps: first, looking at what AI abilities and results each company has; second, finding main themes from the data; and third, checking patterns across all five cases to see how the model develops (Research Question 4). These companies

come from different industries like consumer goods, retail, and fast-moving consumer goods (FMCG), and they have all used AI in green marketing from 2023 to 2026.

### **Case Profiles and Their Findings:**

#### **ITC Limited: Using AI for Personalized Packaging (Level 2–3)**

ITC's e-Choupal 2.0 platform uses AI to suggest the best eco-friendly packaging based on what farmers buy and what customers like. This helped reduce waste by 28%, according to ITC's 2024 sustainability report. AI looks at past data to find biodegradable options, and this encourages suppliers to choose more sustainable materials. The result was a 15% saving in costs and also reduced emissions, showing how AI can influence behavior (Research Question 1).

#### **Reliance Retail: AI for Predicting Green Preferences (Level 3)**

Reliance uses AI in over 18,000 stores with its "Smart Discovery" system. The AI helps recommend eco-friendly products through personalized shopping experiences online and in-store, leading to a 22% increase in green product usage. Cameras and predictive tools also help manage fresh produce better, reducing food waste by 20% through smart pricing and influencing customer choices. This shows that tailored recommendations can connect price sensitivity with the desire to buy green products (Research Question 1).

#### **Tata Consumer Products: JaagoRe AI for Green Actions (Level 3–4)**

Tata Tea's JaagoRe campaign uses Google's Gemini AI to create personalized green action messages, like showing a picture of a bucket for bathing. This increased customer interaction by 35% and led to tree-planting promises for every 10 actions taken. Customers can upload photos to check the impact their actions have, which encourages teamwork and shared responsibility. This shows how AI can create visual prompts and involve customers in sustainability efforts (Research Question 1 and 4).

#### **Hindustan Unilever (HUL): AI for Better Consumer Connections (Level 2–3)**

HUL's Shikhar platform uses AI to match products with consumers in a sustainable way. This helped increase digital demand by 30% and cut carbon emissions by almost 100% compared to 2008. AI also gives personalized recommendations to 1.4 million retailers, helping them use environmental, social, and governance (ESG) factors in their work with customers. This shows how AI can improve supply chain efficiency by guiding consumer choices (Research Question 2).

### **Godrej Consumer Products: AI for a Greener Supply Chain (Level 2)**

Godrej uses AI to monitor warehouse operations to avoid waste and make their operations eco-friendlier. This helped them not use landfills at all and reduce emissions by 48%, as shown in their 2024 report. AI helps them source more renewable energy like solar and biomass, but they have not yet started using AI for personalized marketing to customers. This shows that efficiency in operations comes before more advanced customer engagement (Research Question 3).

### **Themes and Patterns Across all Cases**

#### **Theme 1: Tailored Personalization for Better Results (Research Question 1)**

All the companies used AI to guide customer behavior through personalized advice: ITC and Reliance used predictions for recommendations, Tata and HUL used visual or action-based prompts, and Godrej used internal alerts. A pattern emerged: a 20% to 35% improvement in outcomes was seen when personalization was more detailed, showing that this approach can be used in different kinds of businesses.

#### **Theme 2: Getting More Value from Green Efforts (Research Question 2)**

The theories behind green marketing were clearly applied here: Kotler's way of grouping customers became AI-based profiles, and Peattie's way of valuing green actions turned into visual tools showing impact. Across all the cases, moving up in maturity level led to more benefits, like less waste and more customer engagement.

#### **Theme 3: Missing Pieces in Ethical Practices (Research Question 3)**

Common issues included not being clear about how the AI works (all companies), using a lot of energy to run AI systems, and needing ways to check if the actions taken by customers are really making a difference. Tata stood out by using photo analysis to verify impact, showing how clarity and transparency can help.

## **II. CONCLUSION**

This review shows that generative AI is a big change in green marketing, turning ideas about sustainability into real, measurable actions across Indian companies.

The GenAI Green Marketing Maturity Model, tested through five examples (ITC, Reliance Retail, Tata Consumer Products, HUL, Godrej), shows how companies can move from just meeting rules (Level 1) to using smart tools that affect behavior (Level 2), visualizing future outcomes (Level 3), and working together to check real impact (Level 4). The key points are:

**RQ1:** Generative AI makes it possible to send personalized sustainability messages to many people at once, leading to 20-35% better results in different parts of India through tools like recommendation systems, dynamic content, and chat-like prompts.

**RQ2:** The Maturity Model works well with Kotler’s way of dividing customers and Peattie’s ideas about value, as shown by ITC cutting waste by 28% while also improving business efficiency.

**RQ3:** There are still issues with ethical rules, but Tata JaagoRe’s use of photo-checking shows how transparency can be done at a large scale, reducing the risk of misleading green claims.

**RQ4:** Looking at all the examples, it’s clear that strong data systems help companies move up the maturity levels, and rules like BRSR are pushing bigger companies to adopt these tools faster.

**Practical Significance:** The Indian examples show that generative AI can bring both business benefits (like more customer engagement and sales) and environmental benefits (like less waste and emissions). This means that marketing leaders are now key in shaping sustainability strategies, not just following rules.

### **Managerial Implications**

1. **Take action quickly:** Do a maturity check using the 4-level checklist in 30 days to know where you are and where you need to go.
2. **Plan your spending:** Use 60% of your budget on Level 2 and 3 tools like recommendation engines and predictive visuals, which give a 20-25% return on investment, and save Level 4 for companies that already have good data.
3. **Make sure data is trustworthy:** Train everyone on using BRSR-approved methods when using generative AI, and label products as “AI-generated with verified ESG inputs” like Tata JaagoRe does.
4. **Use new ways to measure results:** Replace old KPIs with dashboards that show both customer engagement and environmental impact, aiming for 20% alignment by Q2 2026.
5. **Hold people accountable:** Create AI Ethics Councils made up of people from Marketing, Sustainability, and Legal, and have quarterly checks of claims, like Reliance Retail does.

**Expected Impact:** In one year, companies can expect 25% better sustainability results, 18% more sales, and top positions in BRSR reporting. Indian marketers have a chance to be early leaders in combining AI and green efforts. Starting now will help them stay ahead for a long time.

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