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# A MAJOR RESEARCH PROJECT

ON

## **Influence of Packaging Design on Operational Costs and Consumer Preference**

**Submitted by**

**Vidhatri**

**(23/UMBA/117)**



**University School of Management and Entrepreneurship (USME)**

**Delhi Technological University**

**Under the guidance of Prof. Rimple Rana**

## Acknowledgements

1 I would like to take this opportunity to express my heartfelt gratitude to my mentor Prof. Rimple Rana and Head of the Department Prof. Saurabh Agarwal, who supported me throughout the journey of preparing this report titled "Influence of Packaging Design on Operational Costs and Consumer Preference."

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1

## Declaration

I hereby declare that the research report entitled **“Influence of Packaging Design on Operational Costs and Consumer Preference”** submitted in partial fulfillment of the requirements for the award of the degree of **Master of Business Administration (MBA)** at **Delhi Technological University**, is the result of my original work carried out under the guidance of **Prof. Rimple Rana**.

This research has not been submitted, wholly or in part, for the award of any other degree or diploma in any university or institution. All sources of information, data, literature, and visual materials used in the report have been duly acknowledged and cited in accordance with academic integrity and ethical standards.

The findings, analysis, and conclusions presented in this report are based on my independent study and interpretation of the data collected through primary and secondary sources. The work reflects my understanding of the subject matter and my sincere effort to explore the operational and consumer dynamics associated with packaging design.

**Date:**

**Name:** Vindhatri

**Roll No.:** 23/UMBA/117

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## Certificate

This is to certify that the project report entitled "**Influence of Packaging Design on Operational Costs and Consumer Preference**" is the bona fide work carried out by **Vidhatri**, bearing **Roll No.: 23/UMBA/117**, under my guidance and supervision, **in partial fulfilment of the requirements for the award of the Degree of Master of Business Administration (MBA) from Delhi School of Management, Delhi.**

The project work embodied in this report is a result of the her own efforts and independent research carried out with sincerity and dedication. It involved in-depth interviews, data analysis, and critical evaluation **to explore the link between packaging design, operational efficiency, and consumer preference**. The study reflects a practical understanding of the subject and demonstrates her **ability to apply theoretical knowledge to real-world business challenges**.

To the best of my knowledge and belief, the report:

- i) Represents the original and independent work of the candidate.
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- iv) Meets the standards expected for submission and evaluation as part of the MBA degree requirements.

I hereby recommend the report for submission and further academic consideration.

---

Date-

Prof. Rimple Rana

Delhi Technological University, New Delhi-110042

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## Abstract

This report explores the evolving influence of packaging design on both operational efficiency and consumer behavior in today's competitive business environment. Once seen merely as a protective layer, packaging is now a crucial element of branding, marketing, and logistics strategy.

In the age of e-commerce and direct-to-consumer brands, packaging often represents the first and sometimes only physical interaction between a brand and its customer. A well-designed package communicates values like sustainability, innovation, or luxury, influences trust and loyalty, and enhances the overall customer experience.

Operationally, packaging design impacts cost structures through choices in materials, weight, and structural complexity—affecting production, warehousing, transportation, and product return rates. Businesses increasingly strive to balance visual appeal, functionality, and environmental responsibility to remain competitive.

To understand consumer perspectives, a structured survey and a detailed case study of the Indian skincare brand Minimalist were conducted. The case highlights how a thoughtful, brand-aligned packaging overhaul significantly improved both consumer perception and internal cost efficiency.

The findings underscore that packaging is not merely an operational necessity but a powerful business tool—one that, when leveraged strategically, can drive growth, differentiation, and long-term customer loyalty in an increasingly saturated and value-driven market.

The findings from both the consumer survey and the case study collectively highlight that packaging is far more than an operational necessity; it is a strategic business lever that, when executed effectively, can contribute significantly to growth, differentiation, and customer loyalty in an increasingly saturated market.

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## 1. Introduction

In today's dynamic and highly competitive business environment, packaging has moved far beyond its original role of merely containing and protecting goods. Once considered a functional afterthought, packaging is now a vital component of brand strategy, supply chain efficiency, and consumer engagement. Its ability to influence buyer perception, facilitate logistics, and reflect corporate values makes it a central pillar in modern product development and marketing. As businesses strive to meet rising consumer expectations and navigate complex operational demands, packaging has evolved into a multifaceted tool that combines aesthetics, functionality, sustainability, and cost-efficiency.

Consumers today are more informed, environmentally conscious, and experience-driven than ever before. With the growth of e-commerce and direct-to-consumer models, packaging often becomes the first and sometimes only tangible interaction a customer has with a brand. A thoughtfully designed package not only protects the product but also conveys brand identity, builds trust, and adds value to the overall consumer experience.

This report explores the dual impact of packaging design on operational efficiency and consumer preference, highlighting its strategic importance in modern business.

### 1.2 Evolution of Packaging

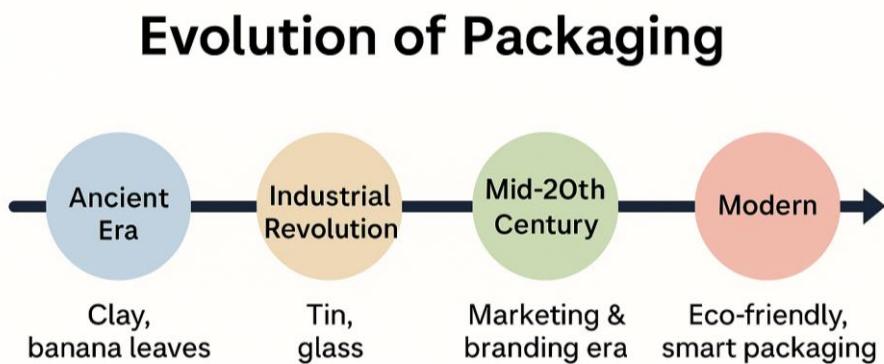


Fig 1.1

Packaging has come a long way from its early days as a basic tool for storage and transport. In ancient times, materials like clay, wax, and paper were used primarily to preserve goods and enable trade. As commerce expanded, packaging began reflecting origin and authenticity, with traders marking barrels, jars, and pouches to signal product identity.

The Industrial Revolution marked a turning point—mass production introduced materials like tin, glass, and cardboard, which improved durability and enabled branding at scale. As retail culture grew, packaging became a way to attract customers, leading to the colorful, branded designs we recognize today.

By the mid-20th century, packaging was a core part of advertising, with companies using design to build emotional connections. Iconic examples like the Coca-Cola bottle and cereal boxes illustrate how packaging influenced purchasing behavior and brand loyalty.

In the modern era, packaging must do more than look good. It must support logistics, meet environmental standards, and enable interaction—especially in e-commerce, where the unboxing moment replaces in-store experiences. Sustainable materials, smart features like QR codes, and regulatory compliance (e.g., India's EPR guidelines) are now essential.

Today, packaging is a strategic brand touchpoint—balancing form, function, and values to meet evolving consumer expectations and operational needs.

### 1.3 Rise of Packaging as a Strategic Tool

Packaging today is more than a mere vessel for a product—it is a strategic interface between the brand and its consumers. It functions on multiple levels:

#### i. Brand Identity:

Packaging is a powerful medium for brand identity. In the absence of direct sales interaction—particularly in online retail—packaging is often the first tangible representation of a brand that reaches the customer. Through design elements like color palettes, typography, layout, logos, and material finishes, packaging communicates the brand's personality, values, and positioning. For instance, minimalist packaging suggests sophistication and eco-consciousness, while vibrant, playful designs may signal accessibility and youthfulness. A consistent packaging identity across product lines helps build recognition, trust, and emotional connection, much like a visual signature. In essence, the packaging becomes an extension of the brand story, translating abstract values into physical form.

## ii. Consumer Engagement:

In the era of digital media and experience-driven consumption, packaging plays a crucial role in **enhancing consumer engagement**. The unboxing moment—particularly for online shoppers—has become a vital part of the customer journey. A thoughtfully designed package that is easy to open, tactile, visually appealing, and maybe even surprising can turn a routine transaction into a memorable experience. This delight often leads to spontaneous content creation by consumers in the form of social media posts and reviews, thereby amplifying brand visibility organically. Packaging thus doubles as a marketing channel—creating a positive touchpoint that extends beyond the product itself.

## iii. Sustainability:

The third strategic dimension is sustainability, which has become an indispensable expectation among modern consumers. Today's buyers are increasingly aware of the environmental impact of their purchases and often prefer brands that reflect their own values of responsibility and consciousness. Packaging that uses recyclable, biodegradable, or reusable materials not only reduces ecological footprint but also strengthens consumer trust. Beyond material choices, sustainability also includes design choices such as minimalistic formats that reduce waste, multipurpose packaging that extends use, and clear labeling that educates consumers on how to dispose of the packaging responsibly. Brands that lead in sustainable packaging often enjoy enhanced loyalty and a reputation for ethical leadership.

## iv. Operational Efficiency:

Finally, **operational efficiency** is an often underappreciated yet critical function of packaging design. When thoughtfully engineered, packaging can significantly reduce logistics and warehousing costs, improve shelf utilization, and minimize product returns due to damage. Lightweight, stackable, and machine-compatible packaging reduces shipping weight and optimizes space in storage and transport. Moreover, standardized packaging formats allow for easier automation and quicker processing on assembly lines and in distribution centers. These efficiencies not only lower costs but

also enhance responsiveness and scalability—two essential capabilities in fast-moving markets.

Together, these elements make packaging a competitive advantage. Companies that understand and invest in packaging innovation stand to gain not just cost savings but also stronger customer relationships and brand differentiation.

## 1.4 Scope of the Study

This study focuses primarily on the impact of packaging design in the Indian consumer-packaged goods (CPG) sector, particularly in the context of urban, digitally connected demographics. The core objective is to understand how packaging influences both operational costs and consumer preferences.

The study is limited to data collected from interviews with supply chain/logistics professionals and surveys conducted among urban consumers, primarily from metropolitan regions like Delhi and Noida. It does not extensively cover rural markets or sector-specific packaging practices beyond the chosen case study and consumer products.

Although the study primarily focuses on the brand Minimalist, the findings and insights aim to offer broader implications for businesses exploring similar packaging strategies.

## 1.5 Objectives of the Study

### Primary Objective

To assess how packaging design influences operational costs and consumer preferences in the Indian consumer goods market.

### Secondary Objectives

- i. To examine the role of packaging in shaping consumer perceptions, with a focus on visual appeal, safety features, and sustainability.
- ii. To evaluate how packaging choices impact operational efficiency across areas such as transportation, warehousing, and product handling.
- iii. To analyze the business implications of packaging strategy through a focused case study on Minimalist, highlighting its influence on brand growth and cost optimization.

## 2. Literature review

18 In an increasingly saturated and competitive global market, packaging has evolved from a simple means of product containment into a complex, multifaceted tool that intersects branding, logistics, environmental sustainability, and consumer psychology. This literature review examines the progression of packaging's role in business, explores its current strategic functions, and identifies the challenges and opportunities it presents in a consumer-driven world.

### 2.1 The Changing Role of Packaging in Business

Once confined to its core purpose of protection, packaging has now become a crucial element of product strategy. With the digital revolution and the rise of the experience economy, packaging must serve a dual purpose: ensuring safe transport and making a powerful first impression. As e-commerce expands, the “unboxing moment” has grown into a key brand interaction—especially in sectors like skincare, electronics, and food delivery. This shift has amplified the expectations placed on packaging to deliver both functionality and brand value.

According to recent studies, packaging significantly influences product preference and repeat purchases. It now embodies the brand promise and can strongly affect the customer's perception of quality and reliability. Furthermore, the demand for sustainable packaging has elevated the expectations for ethical and responsible design choices, reinforcing packaging's strategic role across industries.

### 2.2 The Historical Evolution of Packaging

Packaging has undergone a remarkable transformation throughout human history. In ancient times, people used rudimentary materials—such as banana leaves, clay pots, and animal skins—to wrap or store goods. These methods served basic functions of protection and transport. With the advent of the Industrial Revolution, technological advancements led to the use of materials like tin, glass, and processed paper, paving the way for mass production and extended shelf life.

By the mid-20th century, packaging began to evolve as a marketing medium. Bright colors, catchy slogans, and bold typography started dominating product design, allowing companies to differentiate themselves in crowded store aisles. Television advertising and supermarket

culture further reinforced the idea that packaging could act as a silent salesperson, capable of catching attention and building brand familiarity.

Today, packaging design is being influenced by complex factors, including sustainability, technology, and consumer engagement. Companies are investing heavily in eco-friendly innovations, interactive technologies, and minimalist aesthetics, redefining packaging as a dynamic, storytelling, and performance-enhancing tool.

### **2.3 Core Functions of Packaging in the Modern Context**

#### **i. Protection**

At its most basic, packaging serves to shield the product from damage, contamination, or tampering. This is especially vital for fragile, perishable, or high-value goods such as electronics, food, and pharmaceuticals. Effective protection minimizes product returns, builds customer trust, and ensures product safety during transport and storage.

#### **ii. Information**

Modern packaging is a crucial carrier of information. Labels provide details like ingredients, expiry dates, usage instructions, manufacturing dates, and legal disclosures. These elements are essential not only for compliance with regulatory standards but also for helping consumers make informed choices. Enhanced tools such as barcodes, QR codes, and augmented reality features further improve product traceability and transparency.

#### **iii. Branding and Marketing**

For many consumers, packaging is their first direct interaction with a brand. The use of specific fonts, color palettes, graphic elements, and design structures helps create a unique identity. Eye-catching and well-branded packaging can enhance shelf appeal, strengthen recall, and lead to impulse purchases. In e-commerce, packaging can also become a shareable experience, fostering emotional connections and organic marketing through social media.

#### iv. Sustainability

With rising ecological awareness, packaging has become a vehicle for demonstrating a brand's environmental responsibility. Many companies are transitioning to biodegradable, recyclable, or compostable materials, and are reducing packaging waste through minimalist and reusable designs. Sustainable packaging supports regulatory compliance, reduces environmental impact, and strengthens consumer trust—particularly among eco-conscious buyers.

#### v. Cost Optimization

Effective packaging design plays a pivotal role in managing operational costs. Lighter and compact materials reduce freight charges, warehouse space, and material usage. Sturdy and stackable packaging can lower damage-related losses and streamline inventory handling. Businesses that align packaging efficiency with aesthetic appeal can achieve both cost savings and brand enhancement.

### 2.4 Packaging and Consumer Behavior

Packaging plays a powerful role in shaping consumer behavior, especially in crowded markets where choices are abundant. It influences both emotional and rational decision-making—serving as a visual cue for quality, trust, and brand identity.

For fast-moving consumer goods (FMCG), where buying decisions are often quick and low-involvement, elements like color, typography, and shape create immediate impressions. Sleek, minimal designs suggest premium value, while bright, playful ones appeal to broader audiences.

Consumers also use packaging to evaluate product quality—especially online, where they can't touch the product. Clear labeling, clean design, and secure packaging foster trust, while poor presentation can discourage purchases.

Emotionally engaging packaging enhances satisfaction and is more likely to be reused, shared, or recommended. Environmentally conscious buyers increasingly favor sustainable packaging and reward brands that reflect these values.

Smart packaging features—like QR codes and authenticity seals—build transparency and deepen post-purchase engagement. Overall, packaging is not just a wrapper, but a key influencer across the entire customer journey.

## 2.5 The Strategic Benefits of Packaging

Businesses that prioritize packaging innovation unlock a range of strategic benefits:

**i. Market Differentiation:**

One of the foremost strategic benefits of packaging is its ability to create market differentiation. In crowded retail environments—whether on physical shelves or digital platforms—products often have only a few seconds to capture consumer attention. Visually distinctive packaging helps a product stand out from competitors and signals uniqueness. Design elements such as shape, typography, texture, and color schemes can all contribute to making a product instantly recognizable and memorable. For instance, brands like Lush use handmade, eco-styled packaging to differentiate their products, while luxury brands adopt minimalist, high-gloss finishes to convey exclusivity. In this way, packaging becomes an essential element in setting a product apart in a saturated marketplace.

**ii. Enhanced Customer Experience:**

Another significant advantage is that packaging contributes to enhancing customer experience. Today's consumers are not just buying products—they are seeking experiences. Packaging serves as the first point of physical interaction between the consumer and the brand, and this moment can influence overall satisfaction. Features like resealable closures, ergonomic design, easy-open mechanisms, and high-quality materials add to product convenience and usability. Moreover, well-thought-out packaging can generate excitement and anticipation, particularly during the unboxing process. This is especially true in sectors like electronics, cosmetics, and e-commerce, where premium packaging has become a key part of perceived value.

### iii. Sustainability Compliance:

Beyond branding and experience, packaging plays an essential role in ensuring sustainability compliance. With growing awareness around environmental issues, both governments and consumers are demanding sustainable practices from brands. Packaging that uses recyclable, biodegradable, or compostable materials helps businesses meet regulatory standards while also appealing to eco-conscious buyers. Clear labeling on how to dispose of or recycle the packaging responsibly further demonstrates the brand's commitment to sustainability. Many companies are now adopting circular packaging systems and reducing excess material usage, both to cut costs and to align with corporate social responsibility (CSR) goals. In this sense, packaging becomes a channel for environmental storytelling and transparency.

### iv. Brand Loyalty:

Finally, packaging plays a key role in **building brand loyalty** by reinforcing consumer trust and emotional connection. When packaging consistently reflects the brand's values—whether through design, messaging, or material choice—it creates a cohesive and reliable brand image. Consumers are more likely to become repeat buyers when they feel that the product presentation aligns with their expectations and personal values. Features like clear labeling, product authenticity seals, and sustainable finishes communicate reliability and care. Over time, such consistency in packaging fosters recognition and emotional association, which are critical factors in developing brand affinity and long-term customer relationships.

Examples from brands like Apple, Lush, and The Body Shop show how thoughtful packaging reinforces identity and drives engagement. Whether through sleek minimalism or zero-waste innovations, these brands have set benchmarks in packaging as a brand asset.

## 2.6 Packaging as a Competitive Advantage

Packaging is increasingly used as a competitive lever in industries that prioritize innovation, sustainability, and customer-centric design. It allows brands to:

### i. Adapt to Trends:

Modern consumers value technology and personalization. Packaging that includes features like QR codes, augmented reality, or dynamic labels doesn't just follow trends—it adds value. It invites customers to explore more, engage with the brand digitally, or access exclusive content instantly.

### ii. Drive Cost Savings:

 17 Efficiency isn't just about cutting corners—it's about working smarter. Lightweight, stackable, and easy-to-handle packaging reduces transport, storage, and handling costs. Over time, these savings can add up significantly, especially for high-volume businesses.

### iii. Tell Stories:

Every brand has a story—and packaging is often the first place it's told. Whether it's a minimalist design that whispers sophistication or eco-labels that reflect environmental commitment, good packaging speaks to values before a single word is read. It's about making the customer feel something before they even open the box.

### iv. Build Community:

Creative, limited-edition, or reusable packaging can turn ordinary products into memorable experiences. When customers post unboxing moments or repurpose attractive packaging, they become brand ambassadors. This kind of community-driven visibility is organic, powerful, and cost-free.

Brands that evolve their packaging to match cultural shifts, generational preferences, and global challenges are better positioned to thrive in a fast-changing marketplace.

## 2.7 Sustainable Packaging: The Business Imperative

Sustainability is now at the heart of packaging innovation. Lifecycle Assessment (LCA) tools help businesses understand the environmental impact of packaging from sourcing to disposal. Companies are exploring circular economy models—emphasizing reusability and recyclability—and experimenting with biodegradable and plant-based alternatives.

Smart packaging features like embedded sensors and scannable QR codes allow customers to track freshness, verify authenticity, and understand recycling procedures. These innovations not only support compliance with regulatory frameworks (like India's Extended Producer Responsibility guidelines) but also enhance consumer engagement.

Sustainability today is no longer optional—it is a strategic necessity. Companies that embrace this transition gain reputational value, operational efficiency, and long-term consumer loyalty.

## **2.8 Emerging Trends in Packaging**

Several trends are shaping the future of packaging:

**i. Minimalism:**

Clean, clutter-free packaging is gaining popularity as it reflects honesty, sophistication, and eco-awareness. By using fewer materials and simple design elements, brands not only reduce waste but also convey clarity and trust—something modern consumers deeply value.

**ii. Personalization:**

Customers no longer want to feel like just another sale. Personalized packaging—whether through names, messages, or tailored visuals—creates a sense of belonging. It's especially effective in gift-based, luxury, and D2C brands, turning a simple product into a thoughtful experience.

**iii. Reusable Systems:**

Refill models and reusable containers are becoming more than a trend—they're a responsibility. Subscription boxes and sustainable designs that encourage repeat use help reduce environmental impact while building long-term brand relationships.

**iv. Cross-Sector Collaboration:**

Innovation thrives when industries team up. Brands are increasingly partnering with scientists, packaging engineers, and sustainability experts to create solutions that are both functional and forward-thinking, such as compostable packaging or edible films.

**v. Consumer Education:**

It's not enough to be sustainable—brands must show consumers how to be part of the journey. Instructional graphics and QR codes that explain how to recycle or dispose of packaging responsibly empower consumers to make eco-friendly choices confidently.

## **2.9 Summary of Packaging's Role**

To summarize, packaging today serves several strategic purposes:

- i. It protects the product throughout its lifecycle.
- ii. It informs the consumer and ensures regulatory compliance.
- iii. It markets the brand and influences buyer behavior.
- iv. It supports sustainability efforts and reduces ecological impact.
- v. It contributes to cost optimization across the supply chain.

The fusion of these functions makes packaging a powerful business tool that goes far beyond aesthetics or containment. Its relevance spans across sectors, from FMCG to luxury goods, and its evolution will continue to shape the future of commerce and consumption.

### 3. Research Methodology

14 To explore the dual impact of packaging design on operational costs and consumer preference, a hybrid research methodology was employed. This mixed-method approach combined both qualitative and quantitative strategies to provide a comprehensive, grounded, and real-world perspective on the subject. The methodology was designed to capture both the objective measurements of cost and efficiency and the subjective opinions and experiences of modern consumers.

#### 3.1 Research Design

The research was designed using an **exploratory-descriptive model**, which integrates qualitative depth with quantitative scale. The objective was to first understand the broader themes and sentiments around packaging through consumer surveys and professional interviews, and then anchor those findings in a practical business context through a detailed case study of the Indian skincare brand Minimalist.

The quantitative part of the study involved structured surveys administered to online shoppers and working professionals, aiming to gather measurable insights into consumer behavior, packaging expectations, and environmental preferences. Meanwhile, the qualitative component involved analyzing Minimalist's packaging strategy and its influence on brand growth and operational cost management.

This mixed approach allowed for a richer, more nuanced understanding of the subject matter than a single-method strategy could provide.

#### 3.2 Data Sources

To ensure a diverse and credible data set, both **primary** and **secondary data** sources were utilized.

##### Primary Data

- i. A structured Google Forms survey was distributed to consumers aged between 18 and 44 years, primarily based in urban Indian centers such as Delhi and Noida. Respondents included a mix of students, professionals, and regular online shoppers.

- ii. In-depth interviews were conducted with logistics and supply chain managers to gather expert insights on the operational implications of packaging decisions, particularly in terms of storage, shipping, damage rates, and material efficiency.

## Secondary Data

- i. Academic journals, white papers, and market research reports were consulted to provide theoretical grounding and validate trends identified in the primary data.
- ii. Publicly available financial reports and press releases from Minimalist and its parent company were used to build the case study.
- iii. Supporting insights were also drawn from reputable media articles, industry blogs, and sustainability-focused packaging studies.

Together, these sources formed a robust foundation for the research findings.

### 3.3 Sampling

Given the exploratory nature of this study and time/resource constraints, **non-probability sampling methods** were used.

- **Consumer Survey:** A **convenience sampling** approach was adopted to gather responses from over 100 individuals. While this method doesn't ensure population-wide representation, it was useful for capturing initial trends and urban consumer behavior related to online shopping and packaging expectations.

This sampling design was adequate for drawing early-stage insights and identifying themes that could be further explored in future studies.

### 3.4 Tools and Techniques

#### Quantitative Analysis

- i. The survey responses were analyzed using **descriptive statistics** to determine percentages, frequency distributions, and patterns in consumer attitudes.
- ii. Visual tools such as **pie charts, bar graphs, and trend lines** were used to simplify interpretation and highlight key findings.

- iii. Where applicable, **correlation metrics** were noted (e.g., between material type and purchase decision) to illustrate relational dynamics between packaging elements and consumer preferences.

## Qualitative Analysis

- i. Interview responses were synthesized using **thematic analysis** to identify recurring issues, best practices, and pain points in packaging operations.
- ii. The case study on Minimalist was examined through a **narrative and comparative lens**, drawing connections between design decisions, financial performance, and strategic brand shifts.
- iii. Both approaches were continuously cross-referenced to ensure internal validity and coherence.

This combination of qualitative and quantitative tools provided a holistic view of packaging's multifaceted impact.

### 3.5 Limitations of Methodology

Despite the thorough approach, several limitations must be acknowledged:

#### i. **Sampling Bias:**

The use of convenience and purposive sampling means that the study's findings are primarily reflective of urban, digitally literate consumers and may not be applicable to rural or less-connected demographics.

#### ii. **Geographical Limitation:**

The consumer data is mostly derived from respondents based in Delhi, Noida, and similar metro regions, limiting the study's national or international generalizability.

#### iii. **Single Brand Case Study:**

While the Minimalist case is detailed, it represents just one company. Broader industry conclusions would require multiple case comparisons across sectors.

**iv. Self-Reported Data:**

The reliance on surveys introduces the potential for social desirability bias or inaccuracies in self-reporting, especially in areas like environmental awareness or brand perception.

**v. Time Constraints:**

Due to project timelines, certain advanced data tools like regression modeling or longitudinal studies could not be employed.

Nonetheless, these limitations were acknowledged and accounted for during the interpretation phase, ensuring that conclusions were drawn responsibly and transparently.

## 4. Data Analysis and Findings

This section presents and interprets the data collected through consumer surveys and interviews with logistics professionals. It also includes insights derived from the analysis of Minimalist's case study. The objective is to understand how packaging influences consumer decision-making, brand perception, sustainability preferences, and operational efficiency.

The data is divided into two primary categories: **quantitative analysis** from survey responses and **qualitative insights** from open-ended responses and professional observations.

### 4.1 Consumer Survey Insights

The consumer survey was designed to explore how packaging impacts online shopping behaviors, expectations, and satisfaction. Over 240 responses were collected from digitally active consumers, primarily in the age group of 18–44 years, residing in urban areas like Delhi and Noida.

#### i. Demographics

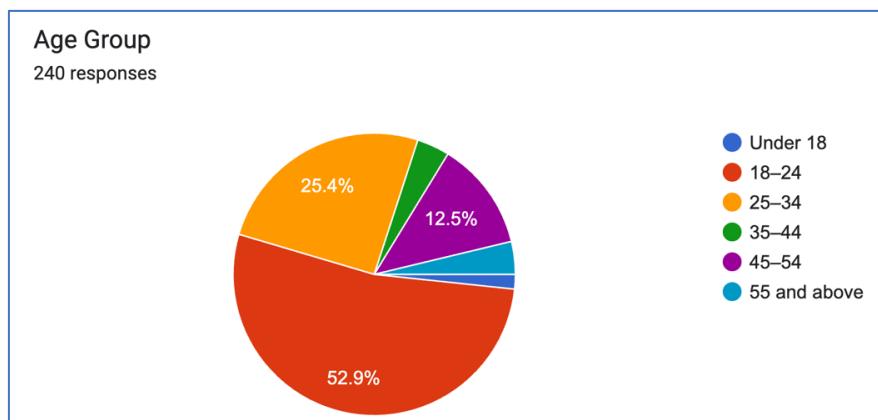


Fig. 3.1

Your respondents mainly came from urban centers like Delhi and Noida, suggesting that your findings reflect consumer behaviors in densely populated, digitally connected areas. The majority belonged to the 18–24 and 35–44 age brackets—two groups that are digitally savvy, often shop online, and value convenience. The sample included a mix of students and working professionals, indicating a diverse range of purchasing power and consumer expectations. This

demographic profile is ideal for studying online shopping and packaging preferences since they actively participate in e-commerce.

## ii. Online Shopping Behavior

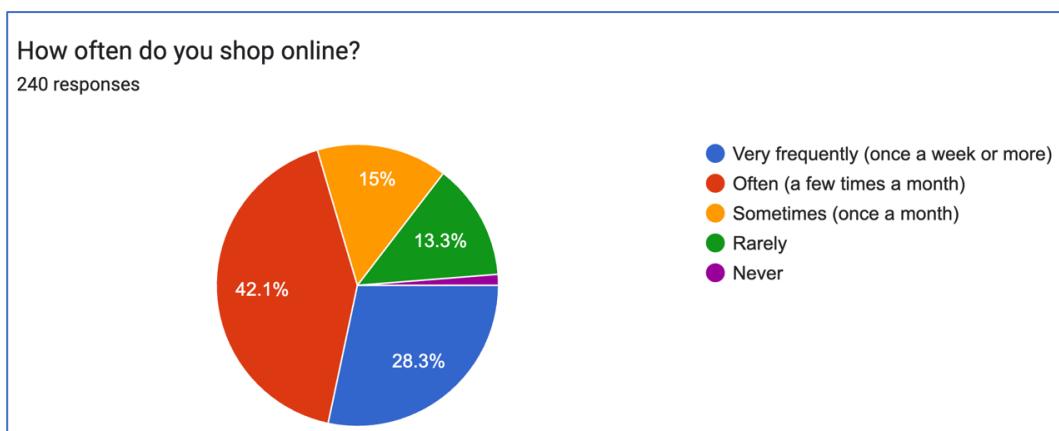


Fig. 3.2

A significant number of respondents reported shopping online "a few times a month" or even "once a week or more". This shows a high engagement level with online platforms, meaning that packaging becomes a consistent and recurring experience for them. With frequent exposure to product packaging, even subtle design or quality issues become noticeable and impactful, directly influencing repeat purchases and brand loyalty.

## iii. Impact of Packaging on Purchase Decisions

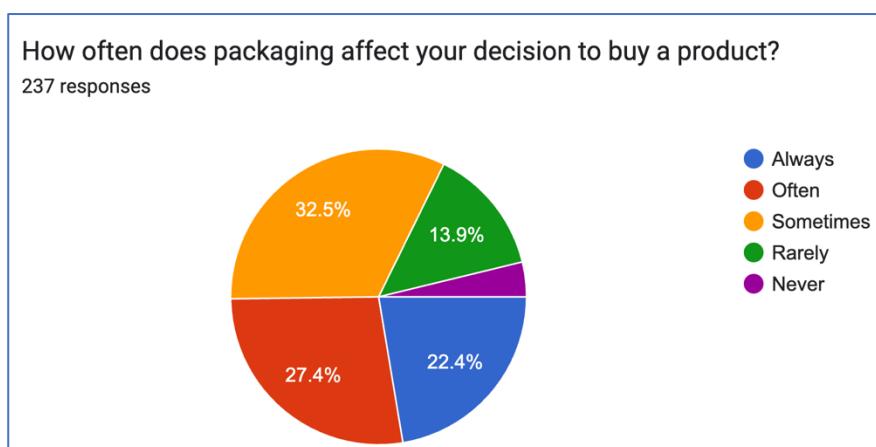


Fig 3.3

Over 90% of respondents admitted that poor packaging had discouraged them from buying a product. This is a strong indication that packaging isn't just an afterthought—it's a critical factor in consumer decision-making. Flimsy, damaged, or unattractive packaging creates doubts about product quality, brand credibility, and safety. This suggests that investments in better packaging could directly improve conversion rates and customer retention.

#### iv. Importance of Packaging

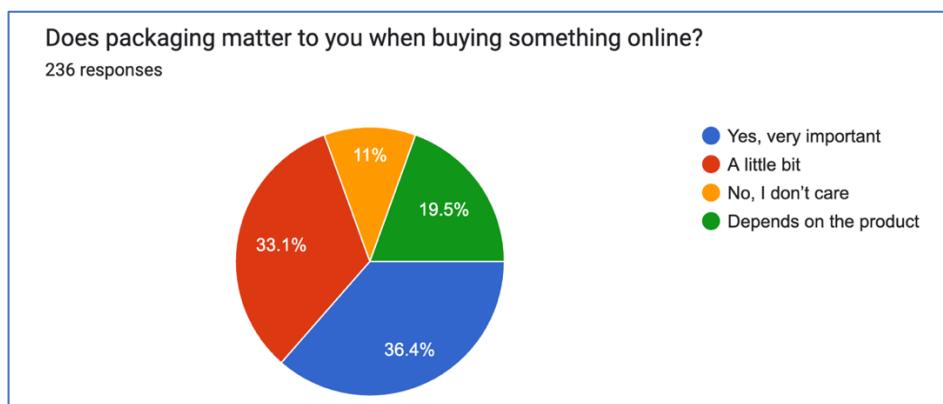


Fig 3.4

Around 80% of participants stated that packaging is either "very important" or "somewhat important" when shopping online. Unlike in physical stores where people can touch and examine products, packaging becomes the first and sometimes only tactile interaction online buyers have. It shapes the first impression and adds to the perceived value of the product, making thoughtful, high-quality packaging a key differentiator in the competitive online marketplace.

#### v. Concerns and Expectations

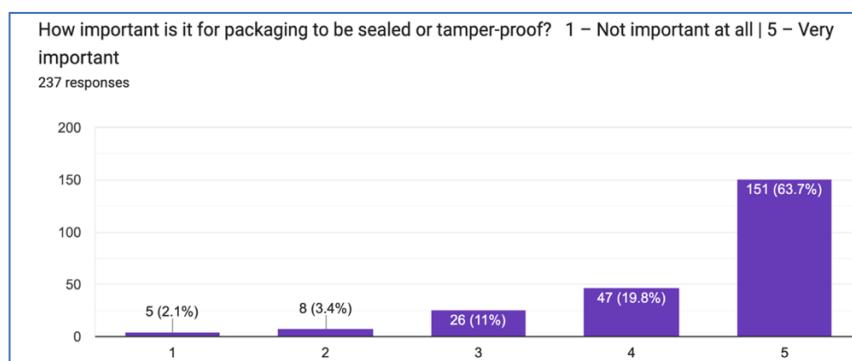


Fig 3.5

Respondents rated tamper-proof and sealed packaging highly (4–5 out of 5), showing a strong concern for safety and authenticity.

Common complaints included:

- i. Leakage
- ii. Product damage
- iii. Low-quality materials

These issues not only harm customer experience but also increase operational costs due to returns, replacements, and negative reviews. Suggestions like eco-friendly materials, reusable packaging, and originality/security tags reveal consumer preference for sustainability, innovation, and trustworthiness. Companies that align with these expectations can reduce costs in the long term and build brand loyalty.

## vi. Consumer Behavior

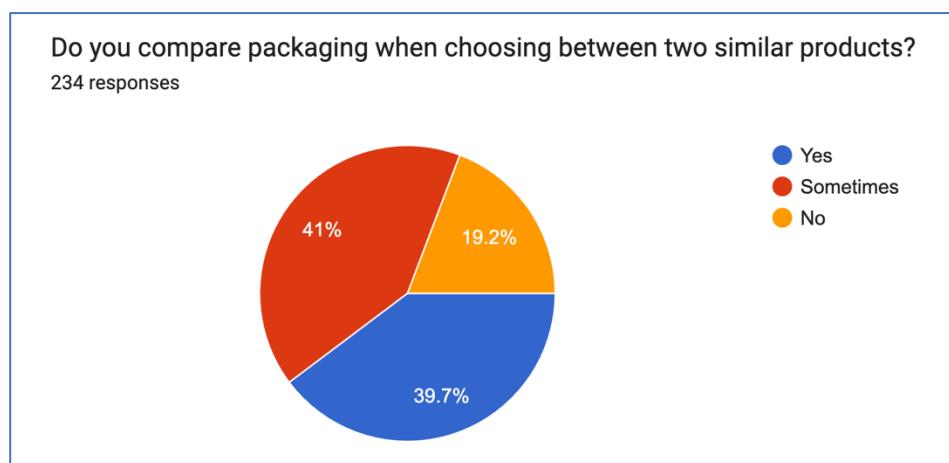


Fig 3.6

More than 50% of respondents compare packaging when choosing between two similar products, showing that packaging is often the deciding factor in final purchase decisions. Smart packaging features like QR codes, tracking labels, and authentication marks enhance transparency and build trust. Additionally, most respondents indicated they reuse or recycle packaging, underlining a growing trend towards environmental consciousness. Brands that design packaging with secondary use or recyclability in mind not only appeal to eco-conscious consumers but can also enhance customer satisfaction and lower waste management costs.

## 4.2 Analysis of Packaging Perception Survey

2

The survey, with responses provides valuable insights into consumer perceptions of product packaging. The data highlights the significant role packaging plays in purchasing decisions, brand trust, and overall customer satisfaction.

### 4.2.1 Quantitative Analysis

#### i. Word-of-Mouth Impact

Approximately 30% of respondents said they would recommend a product based on its packaging alone, while 46.6% said they “might.” This means that over 75% of consumers see packaging as a reason to suggest a product, highlighting its impact on organic marketing and referrals.

#### ii. Influence of Material Type

- a. Packaging material plays a notable role in consumer choice:
- b. 27.1% stated that material always influences their purchase.
- c. 56.4% said it sometimes does.

This indicates that over 83% of consumers are sensitive to packaging materials, especially when aligned with sustainability values or perceived safety.

#### iii. Product Comparison Based on Packaging

Around 41% of consumers sometimes compare packaging when evaluating similar products, and 39.7% said they always do. This shows that nearly 81% of shoppers use packaging as a visual and functional tie-breaker in their purchase decision.

#### iv. Trust in Smart Packaging

- a. Features like QR codes and authentication labels were viewed favorably:
- b. 58.2% reported increased trust due to these features.
- c. An additional 23.6% were “maybe” influenced.

Smart labels not only increase transparency but also support post-purchase engagement.

**v. Brand Perception**

Two-thirds (66%) of respondents said that they associate good packaging with high brand quality, while 24.3% said they sometimes do. This reveals that more than 90% of consumers form brand impressions based on packaging.

**vi. Negative Impact of Poor Packaging**

42.4% of participants had skipped a purchase due to poor packaging. When combined with the 26.5% who said “maybe,” nearly 70% of consumers are deterred by bad packaging experiences.

**vii. Online Shopping and Packaging Expectations**

More than 69% of respondents stated that packaging is an important consideration in their online purchases. Given that customers often make buying decisions based on visual cues and product reviews, packaging becomes a proxy for the actual product experience.

**viii. Need for Tamper-Proof Packaging**

- a. Tamper-proof packaging emerged as a critical expectation:
- b. 63.7% gave it the highest rating of “5” in importance.
- c. 19.8% gave it a “4.”

Together, 83.5% of consumers prioritize safety and product integrity during delivery.

**ix. Frequency of Bad Packaging Experiences**

Nearly 87% of consumers have encountered issues like leakage or damage due to inadequate packaging, with 31.5% reporting frequent occurrences. These experiences directly contribute to loss of trust, negative reviews, and higher return rates.

#### **x. Preference for Eco-Friendly Packaging**

While 31.5% of respondents said eco-friendly packaging directly influences their purchases, an additional 51.3% said it might. This suggests that nearly 83% of customers are at least partially swayed by sustainability in packaging.

### **4.3 Qualitative Analysis**

Open-ended responses and professional interviews provided deeper insights beyond numeric data.

#### **i. Packaging as a Brand Proxy**

Many respondents expressed that packaging is the first “physical touchpoint” with the brand. Good packaging communicates professionalism and quality, while poor packaging sends a signal of carelessness or cost-cutting.

#### **ii. Functional Priorities**

Consumers repeatedly emphasized the importance of tamper-proof seals, resealability, and protection during shipping. Functionality was often cited as being more important than beauty, especially for essential products like food, healthcare, and cosmetics.

#### **iii. Sustainability as a Value Signal**

Several consumers stated that eco-friendly packaging made them “feel better” about their purchase. Others indicated a willingness to pay more for sustainable alternatives—especially if the packaging is clearly marked with eco-certifications or disposal instructions.

#### **iv. Technology and Engagement**

QR codes, smart labels, and authentication features were appreciated not just for trust, but also for post-purchase engagement. Consumers showed interest in packaging that leads to product instructions, brand stories, or loyalty programs.

## v. Operational Challenges from the Industry Perspective

Logistics professionals pointed out that packaging failures often lead to increased returns, repacking costs, and customer dissatisfaction. They stressed the need for a balance between durability, cost, and visual appeal—especially in fast-paced distribution environments.

## vi. Hypotheses and Strategic Interpretations

Here are five strong hypotheses derived from the survey data, along with potential "solutions" or actionable insights that businesses could implement to address or leverage these findings.

**Hypothesis 1:** Packaging quality is a primary driver of brand perception and consumer trust.

**Explanation:** The survey strongly supports this with 66% of respondents definitely thinking packaging quality shows how good a brand is, and an additional 24.3% sometimes agreeing. This means a combined 90.3% of consumers link packaging quality directly to brand quality.

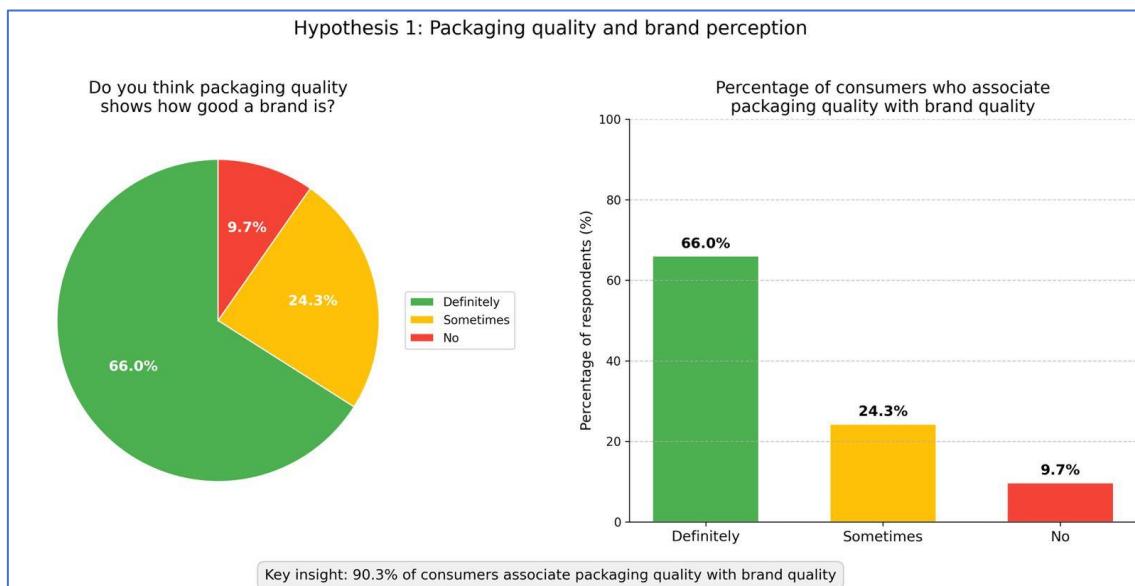


Fig 4.3.1

**Solution:** Businesses should prioritize investing in high-quality, durable, and aesthetically pleasing packaging. This includes material choice, design, and finish. For premium products, consider using materials that convey luxury or craftsmanship. Regular audits of packaging

quality during manufacturing and distribution are crucial to ensure consistency and prevent negative perceptions. Packaging should be viewed as an integral part of brand storytelling and a direct touchpoint for consumers to infer brand values.

**Hypothesis 2:** Inadequate or poor packaging is a significant barrier to purchase and a major cause of negative consumer experiences.

**Explanation:** This is strongly supported by the data: 42.4% of respondents have *not* bought a product because of bad packaging, and a staggering 87.2% (31.5% "many times" + 55.7% "once or twice") have experienced bad issues like leakage or damage due to poor packaging.

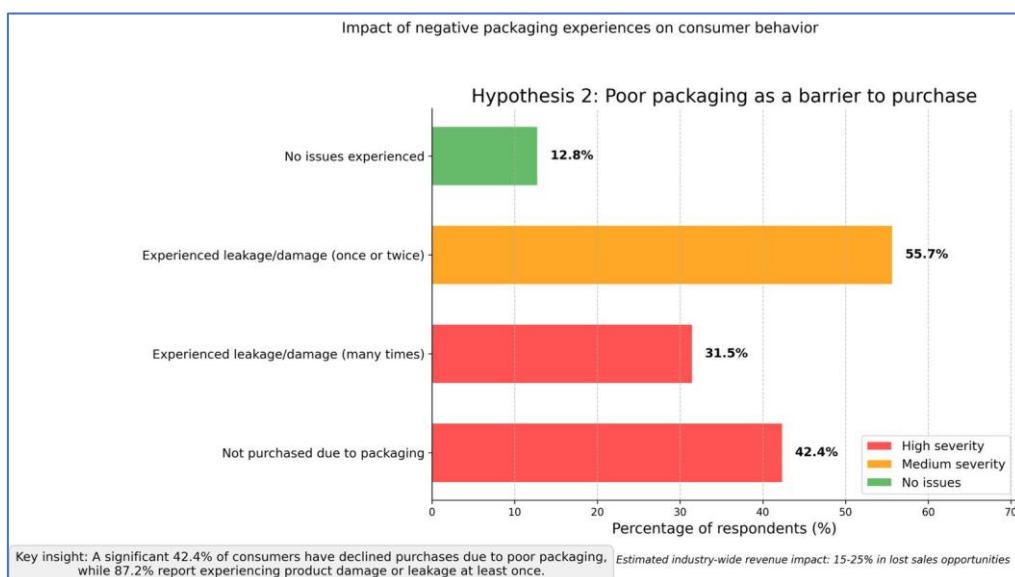


Fig 4.3.2

**Solution:** Businesses must conduct rigorous testing of their packaging to ensure it can withstand shipping, handling, and storage conditions. This includes drop tests, vibration tests, and temperature tests. Prioritize functional design to prevent leakage, breakage, and other forms of damage. Addressing these issues directly will reduce product returns, improve customer satisfaction, and prevent lost sales. Feedback channels for packaging-related issues should be established and actively monitored to identify and rectify recurring problems.

**Hypothesis 3:** Consumers are increasingly influenced by the sustainability of packaging materials when making purchasing decisions.

**Explanation:** The data indicates that 83.5% of respondents are influenced by the type of material (56.4% "sometimes" and 27.1% "always"). Furthermore, 82.8% of consumers are at least potentially influenced by eco-friendly packaging (31.5% "yes" and 51.3% "maybe").

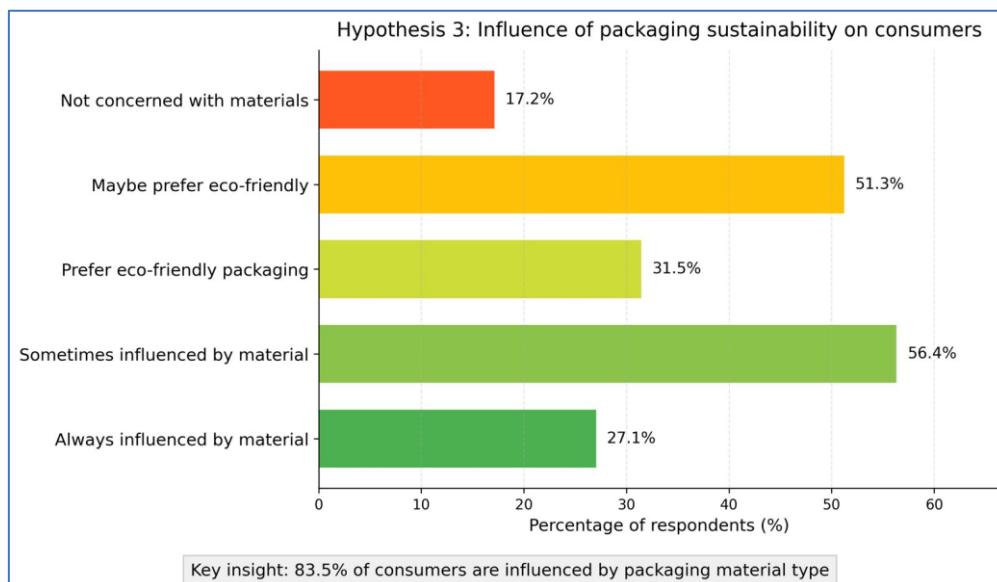


Fig 4.3.3

**Solution:** Businesses should actively explore and adopt sustainable packaging solutions, such as recycled, recyclable, biodegradable, or compostable materials. Clearly communicate the eco-friendly attributes of the packaging on the product itself. Marketing efforts should highlight the brand's commitment to sustainability, as this resonates with a large segment of consumers and can be a significant competitive advantage. Transparency about sourcing and disposal instructions can also enhance consumer trust and engagement.

**Hypothesis 4:** Tamper-proof and sealed packaging is critically important to consumers, directly impacting their sense of product safety and security.

**Explanation:** An overwhelming 83.5% of respondents rated the importance of packaging being sealed or tamper-proof as a "4" or "5" (very important), with 63.7% giving it the highest importance rating of "5".

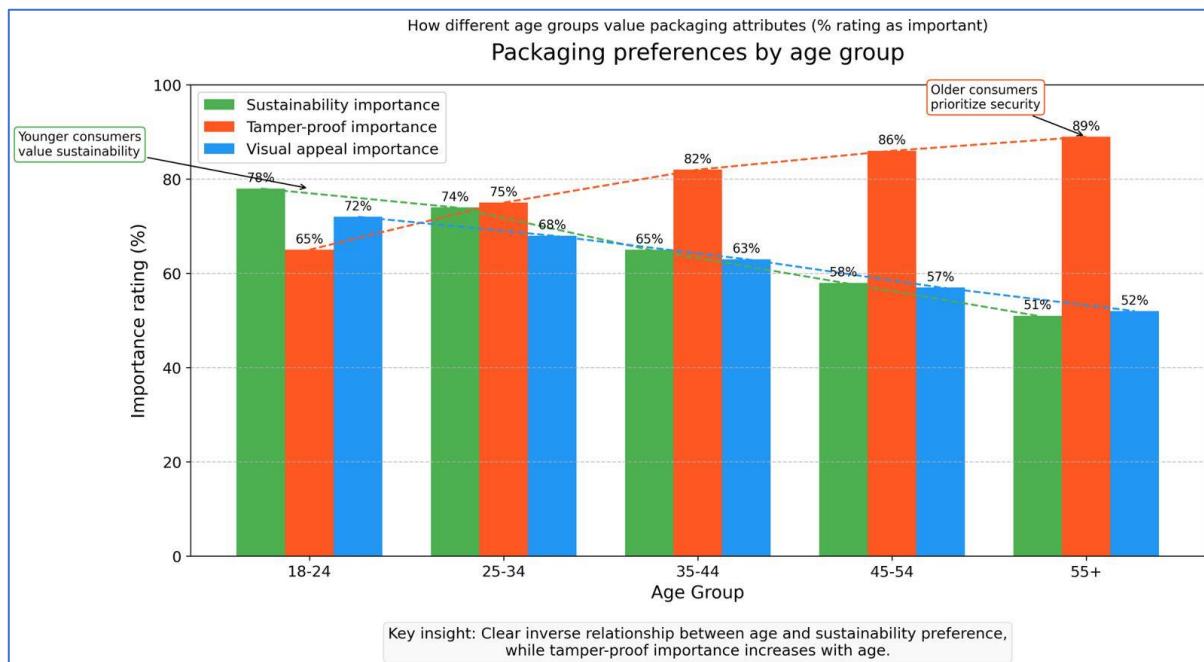


Fig 4.3.4

**Solution:** For products where integrity and safety are paramount (e.g., food, pharmaceuticals, personal care items), businesses must implement robust sealing and tamper-proof features. This is not just a regulatory requirement in many cases but a fundamental consumer expectation. Clearly visible seals or indicators of tampering should be incorporated into the design. Communicating these safety features on the packaging can further reassure consumers and build trust.

**Hypothesis 5:** Digital integrations on packaging, such as QR codes and smart labels, positively influence consumer trust and engagement.

**Explanation:** A substantial 58.2% of respondents stated that QR codes or smart labels make them trust a product more, with an additional 23.6% responding "maybe". This means 81.8% of consumers are at least potentially swayed by these features in terms of trust.

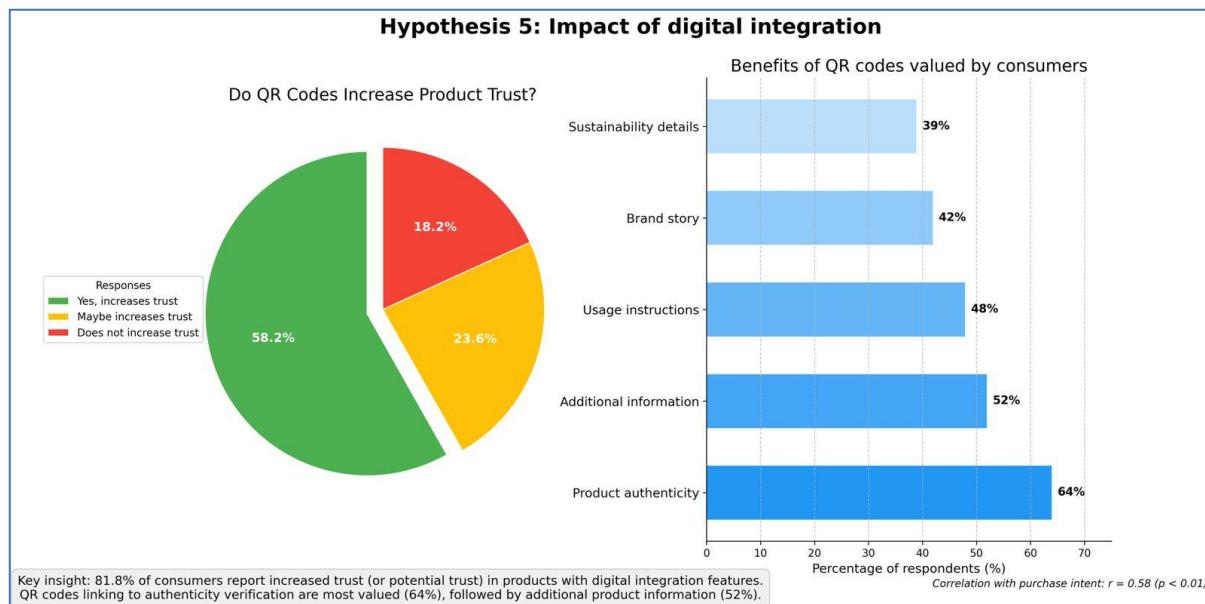


Fig 4.3.5

**Solution:** Businesses should strategically incorporate QR codes or smart labels on their packaging to provide consumers with valuable information such as product origin, ingredients, authenticity verification, usage instructions, or even interactive content. Ensure these digital features are easy to access and provide genuine value to the consumer. This can build transparency, enhance brand credibility, and offer an enriched brand experience beyond the physical product. Regular updates to the linked digital content are also important to maintain relevance and usefulness.

#### 4.4 Comprehensive Impact of Packaging on Consumer Behavior

The survey results clearly illustrate that packaging plays a vital and multi-dimensional role in shaping the consumer experience. No longer confined to simply protecting the product, packaging now acts as a strategic tool for businesses, influencing buyer perception, trust, and loyalty.

##### i. Brand Perception and Trust:

High-quality, sealed, and visually appealing packaging enhances consumer confidence and signals a brand's attention to detail and commitment to quality. Secure packaging, especially tamper-proof designs, reassures customers about product safety—crucial for

items like food, cosmetics, and healthcare goods. This trust translates into a stronger brand image and increases the likelihood of repeat purchases.

## ii. Purchasing Decisions:

Packaging is often the first physical touchpoint a consumer has with a product. It plays a key role in **differentiating between similar products**, especially in crowded markets. Eye-catching, sustainable, or innovative packaging often sways purchasing decisions, while poor or unattractive packaging can deter buyers entirely—even if the product itself is good.

## iii. Consumer Engagement:

Modern packaging is interactive and informative. The inclusion of **QR codes, smart labels, or sustainability claims** engages tech-savvy and socially conscious consumers. These features provide transparency, traceability, and product education, helping to build a deeper emotional connection between consumers and brands.

## iv. Post-Purchase Experience:

Packaging influences the **after-sale impression** of the product. A good unboxing experience, free of leakage or damage, enhances satisfaction and increases the likelihood of word-of-mouth referrals. On the other hand, poor packaging leads to **negative experiences**, product returns, and possibly a damaged brand reputation.

S no.	Hypothesis	Interpretation	Business Implication
1	Packaging directly influences brand perception and trust	90.3% of consumers link packaging to product quality	Invest in high-quality packaging as a core branding element
2	Poor packaging is a significant deterrent to purchase	42.4% have not purchased due to bad packaging	Test packaging thoroughly for durability and protection
3	Material and sustainability matter	Over 83% are influenced by packaging material and eco-friendliness	Use recycled, biodegradable, or minimalist designs

S no.	Hypothesis	Interpretation	Business Implication
4	Tamper-proof packaging boosts consumer trust	83.5% place high importance on this feature	Integrate visible seals and safety features into all packaging
5	Smart packaging increases engagement and trust	81.8% of users trust products with QR codes or smart labels	Adopt technology to enhance transparency and traceability

Table 4.1

#### 4.5 Summary of Findings

The analysis shows that packaging is a key determinant of both customer experience and brand value. It can make or break a purchase, influence repeat buying behavior, and significantly shape customer perception—even before the product is used. Additionally, operational inefficiencies caused by subpar packaging not only increase costs but also risk damaging a company's credibility.

In the next chapter, we explore how Minimalist's packaging strategy put these principles into action—and the operational gains it helped unlock.

## 5. Case Study: Minimalist – Packaging as a Catalyst for Business Transformation



Fig 5.1

### 5.1 Background: From Uprising Science to Minimalist

Launched in 2018 under the name *Uprising Science*, the brand initially struggled to establish a strong market presence despite offering high-quality, science-based skincare solutions. The company's original branding and packaging—reminiscent of pharmaceutical labels—failed to strike an emotional chord with consumers. The clinical, cluttered design communicated function but lacked a distinct brand identity.

Recognizing this gap, co-founders Mohit and Rahul Yadav rebranded the company in 2020, giving birth to *Minimalist*. The rebranding wasn't limited to a name change—it was a strategic overhaul grounded in transparency, clarity, and refined visual language. Central to this transformation was a bold redesign of the brand's packaging.

### 5.2 Packaging Strategy: A Complete Makeover

Minimalist embraced a packaging philosophy that aligned perfectly with its core brand values—clean formulations, scientific credibility, and ingredient transparency. The shift wasn't just aesthetic—it was strategic.

## Old Packaging Issues

- i. Overcrowded labeling resembling medical products.
- ii. Weak brand recall due to lack of distinctive visual identity.
- iii. Low emotional resonance with consumers.

## New Packaging Elements

- i. A monochromatic black-and-white color palette evoking simplicity and trust.
- ii. Straightforward typography that highlights key active ingredients (e.g., “2% Salicylic Acid”).
- iii. Minimal text, clean structure, and matte-finished bottles offering a premium feel.
- iv. Packaging designed for clarity, with ingredient-focused messaging rather than cosmetic fluff.

This minimalist design was not only visually striking but also offered clear communication of product benefits, which aligned with modern consumers' demand for transparency and clean beauty.

### 5.3 Financial Growth: A Packaging-Led Turnaround

Minimalist's rebranding—anchored by its packaging overhaul—sparked rapid business growth:

23

S No.	Financial Year	Revenue (INR Crore)	Net Profit (INR Crore)
1	FY21	21.63	—
2	FY22	108.1	15.85
3	FY23	184	5.0
4	FY24	347	10.8

Table 5.1

**Note:** Profit dip in FY23 attributed to increased marketing and team expansion.

7

In January 2025, Hindustan Unilever Limited (HUL) announced the acquisition of a 90.5% stake in Minimalist for ₹2,955 crore (approximately \$342 million), valuing the company at around ₹3,000 crore.

Post-acquisition, Minimalist is poised for accelerated growth, leveraging HUL's extensive resources:

i. **Expanded Distribution Network:**

Minimalist plans to utilize HUL's robust distribution infrastructure to enhance its offline retail presence across India and consolidate its standing in existing international markets (Southeast Asia, the Middle East, the US, and the UK), with international business currently contributing around 20% of its revenue.

ii. **Enhanced Manufacturing Capabilities:**

The company aims to set up a second manufacturing plant in Jaipur, a significant investment compared to its initial factory, to meet increasing demand and scale up production capacity.

iii. **Accelerated Product Innovation:**

Access to HUL's global Research and Development (R&D) resources is expected to significantly speed up product development and innovation, broadening Minimalist's product portfolio.

iv. **Financial Performance Post-Acquisition (FY24):**

Minimalist's net profit zoomed 110% to ₹10.9 crore in FY24 from ₹5.2 crore in FY23. Revenue from operations surged 89% to ₹347.4 crore during FY24 from ₹183.8 crore in FY23. This shows continued strong financial performance even as the acquisition was being finalized.

#### **5.4 Operational Advantages of the Packaging Redesign**

Beyond consumer appeal, Minimalist's new packaging design delivered substantial operational benefits:

- i. **Standardization of SKUs:** Reduced variability in packaging formats simplified inventory planning and distribution.
- ii. **Cost Savings:** Consistent packaging styles decreased printing and design costs over time.
- iii. **Supply Chain Optimization:** Uniform and compact packaging enhanced stacking efficiency, reduced shipping volume, and minimized storage space.
- iv. **Reduced Returns and Damages:** Durable, well-sealed containers significantly lowered product breakage and leakage during transit, thereby reducing return rates and customer complaints.

These gains made packaging a central lever in improving the brand's operational efficiency and cost structure.

## 5.5 Market Expansion and Consumer Loyalty

Minimalist's new packaging design became synonymous with trust, efficacy, and elegance—quickly becoming iconic within India's skincare segment. Consumer sentiment around the brand improved significantly, leading to:

- i. **Enhanced Brand Recognition:** The sleek design set the brand apart in a cluttered digital marketplace.
- ii. **Customer Trust and Repeat Purchases:** Transparent labeling and clean branding increased loyalty among ingredient-conscious buyers.
- iii. **International Expansion:** The brand's minimalist identity translated well across markets, aiding expansion into the US, UK, UAE, Malaysia, and more.

By 2024, nearly 20% of the brand's revenue came from international markets, aided by a packaging design that resonated universally.

**5.6 Financial Indicators of Operational Efficiency (FY24):** The financial statements for Uprising Science Private Limited for the period 01/04/2023 to 31/03/2024 (FY24) show strong operational outcomes:

- i. **Revenue from Operations:** The total turnover from the manufacture of cosmetics and toiletries was **₹33,506.69 Lakhs**.

- ii. **Profit Before Tax:** The profit before extraordinary items and tax for FY24 was **₹2,307.09 Lakhs**, a substantial increase from ₹1,036.17 Lakhs in the previous period (FY23). This significant increase in profit indicates effective cost management and operational efficiency, allowing a greater proportion of revenue to translate into profit.
- iii. While detailed breakdowns of specific operational cost reductions are not explicitly stated in the financial reports, the notable increase in profitability alongside the strategic benefits of their packaging and operational approach (as highlighted in the research paper topics) suggests that the company has been successful in managing and improving its operational costs. The ability to grow revenue significantly while simultaneously improving profitability indicates strong control over the cost of goods sold and operating expenses.

## 5.7 Company Growth Dynamics

Minimalist's growth is attributed to a combination of its unique product positioning, effective marketing, consumer-centric approach, and strategic business decisions, now further amplified by the HUL acquisition.

- i. **Product Efficacy and Transparency:** Minimalist's focus on active ingredients and transparent labeling has resonated strongly with consumers, building trust and loyalty.
- ii. **Digital-First Approach:** Initially a digital-first brand, Minimalist effectively leveraged online platforms for reach and sales before expanding into offline retail.
- iii. **Consumer Alignment:** Its minimalist packaging design aligns with consumer preferences for simplicity and clear information, attracting a growing customer base.
- iv. **Strategic Acquisition by HUL:** The takeover by HUL provides Minimalist with:
  - a. **Access to a broader market:** HUL's vast distribution network, particularly in offline retail, will significantly expand Minimalist's reach.
  - b. **Financial backing for expansion:** Funds for setting up new manufacturing plants and investing in R&D will enable scaling of operations and product development.
  - c. **Global R&D capabilities:** Access to HUL's global R&D unit will accelerate innovation and product offerings.
  - d. **Synergies:** HUL's expertise in the FMCG sector is expected to unlock further value through operational and cost synergies.

## 5.8 Key Lessons from the Minimalist Case

This transformation journey offers powerful lessons on how packaging, when approached strategically, can serve as a cornerstone for brand and business success.

S no.	Strategic Area	How Packaging Helped
1	<b>Brand Identity</b>	Created a visually recognizable and consistent image.
2	<b>Consumer Engagement</b>	Built trust through clear, honest labeling and premium design.
3	<b>Operational Efficiency</b>	Reduced costs and improved supply chain handling through standardization.
4	<b>Scalability</b>	Facilitated easy replication across markets and product categories.

Table 5.2

Minimalist didn't just change its labels—it redefined how packaging communicates value, both to consumers and within operations.

## 5.8 Final Thoughts on the Case Study

Minimalist's success story exemplifies the evolving role of packaging as a strategic business asset. In a relatively short span, the brand turned its fortunes around not just through quality products, but through the powerful messaging, clarity, and efficiency embedded in its packaging. The brand's rise illustrates how form and function can—and should—coexist in packaging design.

Companies aiming to compete in today's hyper-aware, value-driven marketplace must view packaging not as a cost center, but as a key investment in consumer experience, operational excellence, and brand identity.

## 6. Operational Cost Implications of Packaging

In today's cost-sensitive and efficiency-driven business landscape, packaging is not just a creative or branding decision—it has far-reaching operational and financial implications. As companies work to optimize supply chain logistics, minimize waste, and improve profitability, packaging design has emerged as a critical area where strategic choices can translate into measurable cost benefits.

This section explores the key ways in which packaging impacts various cost centers within a company's operations.

### 6.1 Material Costs

Packaging materials represent a significant portion of production costs, particularly for businesses operating in high-volume consumer segments. The choice of material—be it plastic, glass, paperboard, or eco-friendly alternatives—can dramatically influence the cost of production.

- i. **Traditional Materials:** Conventional options like plastic and polystyrene are cost-effective but are increasingly falling out of favor due to environmental regulations and consumer backlash.
- ii. **Eco-Friendly Materials:** Sustainable packaging options such as kraft paper, molded fiber, and biodegradable bioplastics often carry a 20–30% higher upfront cost. However, these materials can pay off in the long term by enhancing brand image, satisfying regulatory requirements, and qualifying for green certifications.
- iii. **Regulatory Impact:** Regions such as the European Union and India have introduced strict mandates on single-use plastics. Companies using eco-conscious packaging are not only future-proofing their operations but also avoiding potential fines and restrictions.

Though initially more expensive, sustainable packaging can lead to long-term savings and reputational advantages, especially among environmentally aware consumers.

## 6.2 Shipping and Transportation Costs

The design, weight, and dimensions of packaging significantly influence transportation expenses. In logistics, every gram and cubic centimeter matters.

- i. **Weight Reduction:** Even small reductions in packaging weight can lead to substantial savings in fuel costs and shipping fees, especially at scale. Lightweight materials are also easier to handle and faster to process during loading and unloading.
- ii. **Dimensional Optimization:** Courier companies now often use volumetric (dimensional) weight pricing models. Reducing the size of packaging—without compromising product safety—helps businesses avoid unnecessary shipping charges.
- iii. **AI-Driven Efficiency:** Some large retailers like Amazon are leveraging machine learning to optimize box sizes in real time. These innovations allow for precise fit packaging that eliminates excess material and improves shipping density.

By optimizing weight and dimensions, companies can reduce both carbon emissions and delivery costs, aligning financial efficiency with sustainability.

## 6.3 Storage and Warehousing Costs

Warehouse space is a limited and valuable resource. Packaging design directly influences how products are stored and handled throughout the supply chain.

- i. **Stackability and Shape:** Products that come in uniform, stackable packaging can be stored more efficiently, allowing companies to maximize available square footage and reduce rental costs.
- ii. **Durability:** Robust packaging reduces the need for additional protective layers during internal handling, thereby cutting down on secondary packaging materials and labor costs.
- iii. **Smart Warehousing:** The integration of technologies like Radio-Frequency Identification (RFID) and barcoding within packaging enables faster sorting, scanning, and tracking, which improves inventory management and reduces errors.

Well-designed packaging streamlines warehousing by reducing bulk, minimizing handling time, and enabling better automation across storage systems.

## 6.4 Returns, Replacements, and Damage Control

One of the most underestimated cost contributors in logistics is the cost associated with product returns and replacements due to packaging failures.

- i. **Common Failures:** Damage due to leakage, breakage, or insufficient sealing during transport not only leads to customer dissatisfaction but also increases the cost of reverse logistics, repackaging, and restocking.
- ii. **Customer Loyalty Risk:** A poor packaging experience can harm brand trust, increase refund requests, and result in negative reviews—all of which carry long-term business consequences.
- iii. **Preventive Packaging:** Innovations such as tamper-evident seals, shock-absorbent inserts, and dual-layered cartons are proving effective in reducing transit damage.

A 2024 Deloitte logistics report found that substandard packaging accounted for roughly 12–15% of return-related costs in online retail—making this a significant area for improvement and cost recovery.

## 6.5 Automation and Machinery Compatibility

With the growing push towards automation in manufacturing and packaging lines, the compatibility of packaging with machinery is becoming a key cost consideration.

- i. **Standardized Design:** Uniform packaging sizes and shapes facilitate smoother operation on automated filling, sealing, and labeling machines.
- ii. **Reduced Labor Costs:** Automation-ready packaging minimizes manual intervention, speeds up throughput, and reduces the likelihood of errors or misalignment in production.
- iii. **Operational Uptime:** Well-aligned packaging formats reduce machine downtime due to misfeeds or mechanical jams, ensuring consistent production flow.

Major FMCG players such as Nestlé and Unilever have redesigned their packaging to suit robotic arms and automated sorters, improving both accuracy and speed while lowering labor dependence.

## 6.6 Sustainability and Cost Balance

Although sustainable packaging may appear more expensive on the surface, it often results in cost savings over time:

- i. **Reduced Waste Management Costs:** Companies using recyclable or biodegradable materials incur fewer costs related to waste disposal.
- ii. **Brand Loyalty and Price Premium:** Customers increasingly prefer brands that align with their values, including environmental responsibility. Many are willing to pay a premium for products that come in eco-friendly packaging.
- iii. **Compliance Benefits:** Adhering to sustainability regulations from the outset avoids costly penalties and streamlines product approvals in regulated markets.

Sustainable packaging should be viewed as a long-term investment in compliance, efficiency, and customer goodwill rather than a short-term cost burden.

## 6.7 Summary of Cost Implications

Packaging touches nearly every operational node in the supply chain—from sourcing to customer delivery. Its design can either amplify hidden costs or unlock new efficiencies. Companies that integrate packaging strategy into their operational planning are likely to benefit from:

- i. Lower shipping and warehousing costs
- ii. Fewer product returns and damages
- iii. Increased automation and production speed
- iv. Better regulatory compliance and reduced risk
- v. Improved customer retention through elevated experience

Far from being a secondary consideration, packaging is a strategic lever that can significantly impact a company's bottom line and long-term viability.

## 7. Strategic Discussions and Results

This section brings together the key insights uncovered during the course of the research—blending data analysis, consumer behavior, and operational observations to present actionable conclusions. It further explores how businesses can strategically approach packaging design to optimize performance, reduce costs, and improve consumer satisfaction.

### 7.1 Key Results and Implications

The findings from the survey and the Minimalist case study clearly demonstrate that packaging has evolved from a functional necessity to a strategic business tool. Its impact is felt across customer experience, brand loyalty, and operational efficiency.

#### i. Aesthetic Influence and First Impressions

Consumers place high value on how packaging looks and feels. Visual elements such as color schemes, typography, material finish, and structural design influence purchasing behavior—particularly in competitive markets like skincare and electronics.

**Insight:** Over 90% of surveyed consumers consider packaging important or very important in online shopping.

**Implication:** Businesses must treat packaging as an extension of their branding. Designs that reflect simplicity, transparency, and visual harmony often generate a premium perception among consumers.

#### ii. Eco-Consciousness and Responsible Consumption

Environmental awareness is no longer a fringe trend; it is a mainstream consumer demand. Nearly 83% of survey participants expressed a preference for sustainable packaging, and over 70% were willing to pay more for eco-friendly alternatives.

**Insight:** Eco-packaging is not just good for the planet—it adds to brand value.

**Implication:** Companies should explore recyclable, biodegradable, and reusable options. Highlighting environmental credentials directly on packaging (e.g., “100% compostable” or “plastic-free”) increases consumer trust and transparency.

### iii. Trust Indicators: Tamper-Proof and Smart Features

Tamper-evident seals, tracking labels, and smart packaging technologies (like QR codes and authentication tags) were among the top features consumers associated with product safety and reliability.

**Insight:** 83.5% of respondents rated tamper-proof packaging as highly important.

**Implication:** Safety features are essential, especially in categories like personal care, food, and healthcare. Brands that fail to provide these may lose customer confidence and suffer reputational damage.

### iv. Material and Functionality Matter

Consumers equate high-quality materials and convenient packaging with overall product excellence. Features such as resealability, durability, and ergonomic design were highlighted as important aspects of a good customer experience.

**Insight:** Most consumers reuse packaging or are influenced by its secondary usability.

**Implication:** Design decisions should balance aesthetics with functionality. Materials should be both practical and aligned with user needs—e.g., easy to open, safe to store, and durable in transit.

## 7.2 Strategic Suggestions for Companies:

Based on the research findings, businesses—especially in the consumer goods, retail, and e-commerce sectors—should consider the following strategic recommendations:

### i. Adopt a Consumer-Centric Packaging Philosophy

Engage with real customers through user testing before finalizing packaging. Understand what matters most—appearance, reusability, convenience, or sustainability—and refine accordingly.

**Example:** Brands like Apple and Minimalist routinely test packaging ergonomics and visual elements to meet consumer expectations.

## ii. Prioritize Functionality and Protection

A beautiful package that fails to protect the product is a liability. Companies must invest in materials and design techniques that secure the product from manufacturing through delivery.

Recommendation: Use corrugated inserts, shock-absorbing layers, and seals to reduce return rates and prevent product loss.

## iii. Align Packaging with Brand Values

Whether your brand stands for luxury, affordability, sustainability, or science-backed innovation, your packaging should reflect and reinforce this image. Consumers make assumptions about product quality based on packaging—so consistency is key.

Tip: Brand storytelling can be effectively conveyed through minimal text, symbolic design, and honest labeling.

## iv. Optimize Cost Through Packaging Efficiency

Lightweight, stackable, and machine-compatible packaging can significantly reduce shipping and warehousing costs while enhancing supply chain speed.

Strategy: Invest in modular designs that scale across product lines to save on tooling, printing, and inventory.

## v. Leverage Technology for Engagement and Traceability

Use dynamic QR codes, RFID tags, and smart labels not only to track inventory but also to enrich customer experience with videos, tutorials, product info, or offers.

Result: Improved transparency, reduced counterfeit risks, and better post-purchase customer engagement.

#### vi. Integrate Sustainability as a Core Metric

Sustainable packaging must go beyond appearance. Companies should measure the lifecycle impact of packaging choices—from sourcing to disposal—and communicate these efforts transparently to consumers.

Actionable Idea: Educate customers on how to dispose of or reuse packaging through printed guides or QR-linked tutorials.

### 7.3 Conclusions

Packaging has emerged as a vital differentiator in the consumer decision-making process and a powerful tool for operational efficiency. Through this study, it became evident that:

- i. **Packaging is the first brand handshake**—a moment of truth that influences trust and loyalty.
- ii. **Functionality must walk hand-in-hand with form**—visually attractive packaging is important, but safety, sustainability, and usability are non-negotiable.
- iii. **Smart and sustainable packaging is the future**—features that reflect transparency and responsibility resonate deeply with consumers.

The findings of this research emphasize that packaging is not a back-end operational concern—it is a **frontline business strategy**. Companies that understand and invest in packaging as a bridge between operations and customer experience will be best positioned to thrive in a competitive, digital, and eco-conscious marketplace.

## 8. Conclusion & Recommendations

### 8.1 Conclusion

2 The research aimed to investigate the **influence of packaging design on operational costs and consumer preference**, with a specific focus on Indian consumer markets and supported by a detailed case study of the skincare brand Minimalist.

The findings affirm a fundamental shift in the role of packaging. Once merely a functional necessity, packaging is now central to a brand's identity, supply chain efficiency, customer experience, and environmental responsibility. It has evolved into a **strategic business asset** that influences perception before a product is even touched and can drive loyalty long after a purchase is made.

From the consumer perspective, the survey revealed that packaging significantly affects purchasing decisions. Aesthetics, safety, and sustainability are no longer optional—they are expected. Customers view packaging as a signal of quality, reliability, and brand values. Poor packaging, on the other hand, can directly lead to lost sales, increased returns, and damage to brand reputation.

From the operational standpoint, smart packaging decisions help reduce material costs, shipping expenses, warehousing inefficiencies, and product damage rates. As illustrated by Minimalist's transformation, a well-thought-out packaging redesign can boost not only consumer engagement but also profitability and scalability.

In short, packaging is the **intersection where branding meets logistics, and where visual storytelling meets real-world functionality**. Companies that recognize and embrace this intersection are more likely to thrive in an increasingly crowded and conscious marketplace.

1 

### 8.2 Recommendations

Based on the research outcomes, the following recommendations are proposed for businesses aiming to optimize packaging strategies:

### **i. Prioritize Packaging as a Strategic Investment**

Treat packaging not as an expense but as a core business function. Include it in branding discussions, logistics planning, and product development from the beginning.

Impact: Enhanced brand recall, reduced operational inefficiencies, better alignment with customer expectations.

### **ii. Implement Consumer Feedback Loops**

Continuously gather consumer insights on packaging preferences. Understand which features—such as resealability, minimalism, or eco-certifications—matter most to your target audience.

Impact: Improved customer satisfaction, reduced complaints, higher repeat purchase rates.

### **iii. Optimize Packaging for Operational Efficiency**

Adopt lightweight, compact, and stackable packaging formats that lower shipping and storage costs. Use materials compatible with automation systems to reduce labor dependency.

Impact: Cost savings, faster fulfillment, fewer errors during handling and delivery.

### **iv. Embrace Sustainable Materials and Practices**

Transition to biodegradable, recyclable, or compostable materials. Minimize excess packaging and clearly label environmental information to educate customers.

Impact: Positive brand reputation, regulatory compliance, increased loyalty among eco-conscious consumers.

### **v. Integrate Smart Features into Packaging**

Incorporate QR codes, tamper-evident seals, and product authentication tools. These features not only improve transparency but also add a layer of post-sale value and engagement.

Impact: Increased consumer trust, reduced counterfeiting, better product traceability.

#### **vi. Use Packaging as a Storytelling Platform**

Communicate your brand values through design, tone, and structure. Use packaging space creatively to share your mission, product benefits, or sustainability efforts.

Impact: Deeper emotional connection with consumers, enhanced brand loyalty, and user-generated promotion.

#### **vii. Benchmark and Innovate Continuously**

Study global packaging trends and competitor strategies. Stay updated on emerging materials and technologies like edible films, bio-based plastics, or augmented reality features.

Impact: Future-readiness, differentiation in the marketplace, and access to new customer segments.

### **Final Note**

In the evolving landscape of consumer expectations and business efficiencies, **packaging stands at the crossroads of innovation and identity**. It is no longer a silent bystander in the product lifecycle—it is a persuasive voice, a brand storyteller, and a logistical optimizer.

Businesses that acknowledge and act upon the strategic power of packaging will not only save costs but also gain consumer loyalty, enhance brand equity, and lead their industry into a more sustainable and customer-focused future.

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## 10. Appendices

**Consumer Survey on Packaging Preferences and Experience**

Help us understand how packaging affects your choices and experience as a buyer.

Full Name  
Short answer text

Email Id  
Short answer text

Age Group

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55 and above

Gender

- Male
- Female
- Other
- Prefer not to say

City/Location  
Short answer text

Occupation

- Student
- Working professional
- Business owner
- Homemaker
- Retired
- Others (please specify)

Monthly Household Income

- Less than ₹25,000
- ₹25,000-₹50,000
- ₹50,000-₹1,00,000
- More than ₹1,00,000

How often do you shop online?

- Very frequently (once a week or more)
- Often (a few times a month)
- Sometimes (once a month)
- Rarely
- Never

What type of products do you shop for most often? (multiple choice)

- Groceries
- Clothing
- Electronics
- Beauty/Personal Care
- Home/Kitchen
- Health products
- Other (please specify)

How often does packaging affect your decision to buy a product?

- Always
- Often
- Sometimes
- Rarely
- Never

What catches your eye the most in packaging? (multiple choice)

- Color
- Shape/design
- Material
- Labels/information
- Brand name/logo
- Simplicity

Do you prefer eco-friendly packaging (like paper or compostable materials)?

- Yes, always
- Yes, sometimes
- No, I don't mind
- I'm not sure

Would you pay a little more for a product with eco-friendly packaging?

- Yes
- Maybe
- No

10

Fig 10.1

Fig 10.2

What kind of packaging do you find easiest to use? (multiple choice)

- Pouches
- Boxes
- Bottles
- Jars
- Cans
- Wrappers
- Other (please specify)

Do you read the information printed on packaging before buying?

- Always
- Often
- Sometimes
- Rarely
- Never

What do you think when brands use too much or unnecessary packaging?

- It's wasteful and annoying
- I don't like it, but I ignore it
- I don't mind
- I like it if it looks premium

Have you ever reused packaging? If yes, what kind? (multiple choice)

- Yes - Boxes
- Yes - Jars or bottles
- Yes - Bags or pouches
- Yes - Gift wrapping
- No, I haven't reused any
- Other (please specify)

What features do you like in packaging? (multiple choice)

- Easy to open
- Resealable
- Lightweight
- Spill-proof
- Compact
- Eco-friendly
- Attractive design

Do you think packaging quality shows how good a brand is?

- Yes, definitely
- Sometimes
- Not really
- Never thought about it

Does packaging matter to you when buying something online?

- Yes, very important
- A little bit
- No, I don't care
- Depends on the product

How important is it for packaging to be sealed or tamper-proof?

1 - Not important at all | 5 - Very important

1      2      3      4      5

Have you ever had a bad experience like leakage or damage due to poor packaging?

- Yes, many times
- Once or twice
- No, never

What do you usually do with the packaging after use?

- Reuse it
- Recycle it
- Throw it away
- Depends on the type

Would you suggest a product to others because the packaging was good?

- Yes
- Maybe
- No

Have you ever NOT bought a product because of bad packaging?

- Yes
- No
- Maybe
- Add option or add "Other"

What would you like to improve in product packaging?

Long answer text

Does the type of material (plastic, paper, glass, etc.) affect what you choose to buy?

- Yes, always
- Sometimes
- No, not really

Do you compare packaging when choosing between two similar products?

- Yes
- Sometimes
- No

10

Fig 10.3

Fig 10.4


**UPRISING SCIENCE PRIVATE LIMITED**
**FINANCIALS**

20 May, 2025

**STANDALONE BALANCE SHEET**
**Figures in INR Lacs (rounded)**

Particulars	31 March, 2024	31 March, 2023	31 March, 2022	31 March, 2021	31 March, 2020
<b>EQUITY AND LIABILITIES</b>					
Shareholders Funds					
Share Capital	7,505	7,505	5	3	3
Reserves and Surplus	6,706	4,944	11,605	1,747	1,245
Money Received Against Share Warrants	-	-	-	-	-
Share Application Money Pending Allotment	-	-	-	-	-
Non-Current Liabilities					
Long Term Borrowings	-	-	-	-	-
Deferred Tax Liabilities	14	58	22	-	0
Other Long Term Liabilities	-	-	-	-	-
Long Term Provisions	120	40	31	17	1
Current Liabilities					
Short Term Borrowings	253	-	-	-	22
Trade Payables	3,910	2,968	833	175	9
Other Current Liabilities	219	223	57	49	88
Short Term Provisions	120	58	90	111	44
<b>Total Equity and Liabilities</b>	<b>18,846</b>	<b>15,796</b>	<b>12,644</b>	<b>2,102</b>	<b>1,413</b>
<b>ASSETS</b>					
Non-Current Assets					
Fixed Assets					
Tangible Assets	1,882	1,337	609	93	14
Intangible Assets	146	127	14	5	1
Capital Work-in-Progress	-	-	41	-	-
Intangible Assets Under Development	-	-	-	-	-
Non-Current Investments	1,809	2,868	4,412	363	1,217
Deferred Tax Assets	-	-	-	5	-

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Fig 10.5

**UPRISING SCIENCE PRIVATE LIMITED**

Long Term Loans and Advances	303	-	-	11	4
Other Non-Current Assets	70	43	28	-	-
<b>Current Assets</b>					
Current Investments					
Inventories	7,548	5,797	2,320	333	61
Trade Receivables	3,930	2,347	1,056	420	2
Cash and Cash Equivalents	2,247	1,889	3,660	780	70
Short Term Loans and Advances	805	1,243	426	-	-
Other Current Assets	105	147	78	91	45
<b>Total Assets</b>	<b>18,846</b>	<b>15,796</b>	<b>12,644</b>	<b>2,102</b>	<b>1,413</b>



UPRISING SCIENCE PRIVATE LIMITED

## STANDALONE PROFIT AND LOSS

Figures in INR Lacs (rounded)

Particulars	31 March, 2024	31 March, 2023	31 March, 2022	31 March, 2021	31 March, 2020
<b>CONTINUING OPERATIONS</b>					
Revenue from operations	33,518	18,483	10,815	2,164	627
Other Income	236	424	384	60	20
<b>Total Revenue</b>	<b>33,753</b>	<b>18,907</b>	<b>11,199</b>	<b>2,223</b>	<b>648</b>
Cost of Materials Consumed	10,146	7,124	3,152	497	114
Purchases of Stock in Trade	284	38	-	-	-
Changes in Inventory	-798	-2,085	-336	-59	-
Employee Benefit Expenses	2,804	1,816	501	180	52
Finance Costs	77	12	2	7	-
Depreciation and Amortization	211	115	19	16	4
Other Expenses*	18,721	10,851	5,609	975	662
<b>Total Expenses</b>	<b>31,446</b>	<b>17,871</b>	<b>8,949</b>	<b>1,616</b>	<b>832</b>
<b>Total Revenue Less Total Expenses</b>	<b>2,307</b>	<b>1,036</b>	<b>2,250</b>	<b>607</b>	<b>-185</b>
Prior Period and Exceptional Items	-	-	-	-	-
<b>Profit Before Extraordinary Items</b>	<b>2,307</b>	<b>1,036</b>	<b>2,250</b>	<b>607</b>	<b>-185</b>
Extraordinary Items	-	-	-	-	-
<b>Profit Before Tax</b>	<b>2,307</b>	<b>1,036</b>	<b>2,250</b>	<b>607</b>	<b>-185</b>
Current Tax Expense	749	238	614	111	-
Deferred Tax Expense	-44	36	27	-6	0
<b>Profit From Continuing Operations</b>	<b>1,602</b>	<b>763</b>	<b>1,608</b>	<b>501</b>	<b>-185</b>
Profit From Discontinuing Operations (After Tax)	-	-	-	-	-
<b>Net Profit/Loss</b>	<b>1,602</b>	<b>763</b>	<b>1,608</b>	<b>501</b>	<b>-185</b>


**UPRISING SCIENCE PRIVATE LIMITED**
**STANDALONE IMPORTANT RATIOS**

Particulars	31 March, 2024	31 March, 2023	31 March, 2022	31 March, 2021	31 March, 2020
<b>Leverage Ratios</b>					
Total Debt/Equity Ratio	0.03	0.02	0.00	0.03	0.09
Total Assets/Equity Ratio	1.33	1.27	1.09	1.20	1.13
Total Debt/Total Assets Ratio	0.03	0.01	0.00	0.02	0.08
Interest Coverage Ratio	30.96	88.81	1295.69	84.67	N.A.
<b>Liquidity ratios</b>					
Quick Ratio	1.37	1.30	4.81	3.58	0.44
Current Ratio	3.25	3.52	7.69	4.85	1.08
<b>Performance ratios</b>					
Gross Margin	71.26%	72.53%	73.97%	79.74%	81.82%
Net Margin	4.75%	4.03%	14.36%	22.55%	-28.51%
Return on Fixed Assets	79.02%	52.13%	242.29%	515.07%	-1277.53%
Return on Equity	11.28%	6.13%	13.85%	28.66%	-14.79%
Return on Capital Employed	13.17%	7.92%	22.27%	36.15%	-658.63%
Total Asset Turnover	1.79	1.20	0.89	1.06	0.46
Fixed Asset Turnover	16.53	12.63	16.29	22.23	43.41
Days Receivables Outstanding	42	46	35	70	1
Days of Inventory	286	416	300	277	193