

Original Research Article

A Study on Product Packaging and Its Influence on Consumer Purchasing Decisions

Gurkirat Singh,^{1*} Devansh Modi,² and Shubham Raut³

^{1,2,3}Student Researchers, Bachelor of Commerce (Banking and Insurance), The Sia College of Higher Education (Autonomous), India

Corresponding author E-mail: gurkiratsinghshamby@gmail.com^{1*}

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Abstract

Product packaging has evolved from a purely functional necessity into a strategic marketing tool that actively shapes how consumers perceive, trust, and ultimately purchase a product. This study examines the influence of packaging on consumer purchasing decisions through a structured survey of 70 valid respondents, supported by a review of existing academic literature and a real-world business case study. The research finds that packaging measurably affects attention, trust, and purchase intent: 44.9% of respondents said attractive packaging genuinely catches their attention, 46.4% said good packaging builds trust, and 46.4% said poor packaging would strongly discourage a purchase. When shown two identical products differing only in packaging quality, with no price attached, 65.7% of respondents chose the better-packaged option, indicating that packaging alone carries substantial purchasing weight. Design and layout emerged as the single most valued packaging element (31.4%), ahead of material, eco-friendliness, product information, shape, and colour. A supporting case study of Tropicana's 2009 packaging redesign illustrates the commercial risk of poor packaging decisions, with the brand experiencing an estimated 20% sales decline within two months of an unrecognisable redesign. The study also explores how artificial intelligence is beginning to reshape packaging design, testing, and quality control. The study concludes

that packaging is not a cosmetic afterthought but a measurable, quantifiable driver of consumer behaviour, and offers practical recommendations for businesses seeking to use packaging as a competitive tool.

Keywords: Product Packaging, Consumer Behaviour, Purchasing Decisions, Packaging Design, Brand Perception, Artificial Intelligence, Marketing.

1. Introduction

Packaging has long been treated as a functional requirement of product distribution a means of containing, protecting, and transporting goods from producer to consumer. In contemporary marketing, however, packaging has taken on a far more strategic role. It performs four distinct functions: containment and protection, ensuring the product survives its journey to the consumer; convenience, enabling ease of storage, transport, and use; communication, carrying brand identity and product information; and persuasion, shaping consumer perception before the product is even used.

For many consumers, packaging is the only point of contact they have with a brand at the moment of purchase. In a retail environment crowded with competing products, packaging often does the work of a salesperson communicating quality, trustworthiness, and value within seconds of being seen. Understanding how packaging influences consumer decisions is therefore of direct commercial importance to businesses across every product category, from fast-moving consumer goods to premium retail products.

This study investigates the relationship between product packaging and consumer purchasing behaviour, combining primary survey data with a review of existing literature and a real-world business case, to build a practical, evidence-based understanding of how packaging shapes buying decisions.

2. Objectives of the Study

- To examine how packaging elements design, colour, material, product information, and eco-friendliness influence consumer perception of a product.
- To test whether consumers prioritise premium packaging or lower price when choosing between two otherwise similar products.
- To identify which product categories are most sensitive to packaging quality.
- To evaluate which brands consumers associate with the strongest packaging, and to understand why.

3. Research Methodology

This study adopts a descriptive and exploratory research design, combining primary quantitative data collected through a structured survey with secondary insights drawn from published academic literature.

Table 1: Research Design

Aspect	Description
Research Type	Descriptive and Exploratory
Method	Structured Google Form survey (primary data)
Sample Size	82 total responses; 70 valid after excluding 12 incomplete or test entries

Aspect	Description
Sampling Technique	Convenience sampling (non-probability)
Target Population	General consumers aged 15 and above, across occupations
Data Collection Period	July 2026

4. Review of Literature

4.1 Silayoi and Speece (2004)

Silayoi and Speece (2004), in a study published in the *British Food Journal*, used focus groups to examine how packaging influences purchase decisions. Their research found that visual package elements rather than written text dominate buying decisions, particularly for low-involvement purchases and time-pressured shoppers. Consumers reported reading label information, but in practice relied far more heavily on visual cues to make quick decisions.

4.2 Mazhar, Daud, Arz Bhutto and Mubeen (2015)

Mazhar et al. (2015) surveyed 300 respondents in Karachi to assess the impact of packaging on consumer buying behaviour. Their findings identified colour, packaging material, wrapper design, and innovation as the strongest, statistically significant drivers of purchase decisions, reinforcing the importance of visual and tactile packaging elements over written information.

Research Gap

Existing literature on packaging and consumer behaviour is concentrated primarily in Southeast Asian and South Asian contexts such as Thailand and Pakistan, and rarely tests a direct trade-off between price and premium packaging. This study addresses that gap by applying a similar analytical lens to an Indian, multi-category consumer sample, and by directly testing whether consumers favour packaging quality over price when the two are placed in competition.

5. Consumer Psychology and Packaging

Packaging influences purchase decisions through several interconnected psychological mechanisms:

5.1 First Impression

Shoppers form an impression of product quality within seconds of seeing a package on the shelf, well before any deliberate evaluation takes place.

5.2 Brand Recognition

Consistent colours, shapes, and logos allow consumers to identify a familiar brand instantly, without needing to read any text.

5.3 Trust Building

Clean, well-finished packaging signals reliability and quality, while poor or damaged packaging raises doubt about the product inside.

5.4 Emotional Buying

Colours, imagery, and texture create an emotional response before any rational, feature-based comparison occurs.

5.5 Impulse Purchasing

Bold, attention-grabbing packaging at the point of sale can trigger unplanned, impulsive purchase decisions.

6. Survey Findings: Demographic Profile of Respondents

The survey received 70 valid responses after excluding 12 incomplete or test submissions. The demographic profile is summarised below.

Table 2: Demographic Profile of Respondents (n = 70)

Variable	Distribution
Age Group	18–24: 46% · 25–34: 17% · 35–44: 14% · 45 & above: 14% · Below 18: 9%
Gender	Female: 57% · Male: 41% · Unspecified: 1%
Occupation	Student: 40% · Working Professional: 29% · Business Owner: 13% · Homemaker: 10% · Other: 7%
Shopping Frequency	Weekly: 34% · Daily: 33% · Monthly: 17% · Occasionally: 16%

7. Survey Findings: Packaging's Influence on Buying Behaviour

Respondents rated three statements on a five-point scale (1 = strongly disagree, 5 = strongly agree):

- “Attractive packaging catches my attention while shopping” 44.9% rated this 4 or 5.
- “Good packaging increases my trust in a product” 46.4% rated this 4 or 5.
- “Poor or damaged packaging discourages me from purchasing a product” 46.4% rated this 4 or 5.

The near-equal strength of these three findings indicates that packaging works in both directions: it is nearly as capable of losing a sale as it is of winning one.

Table 3: Most Influential Packaging Element (Ranked)

Packaging Element	Share of Respondents
Design / Layout	31.4%
Eco-Friendly Packaging	21.4%
Material	17.1%
Product Information	12.9%
Shape	11.4%
Colour	5.7%

On brand perception, Cadbury was named most often as having the best packaging (16 responses), followed by Amul (13), Starbucks (12), Apple (10), and Nike (7). Further analysis of Cadbury's respondents found that 81% also identified Food & Beverages as the category most influenced by packaging Cadbury's own category and that 10 of the 16 respondents who named Cadbury also selected its actual product wrapper in a separate visual comparison test, suggesting that stated brand preference aligned with real purchasing choice, although the small sample size ($n = 16$) limits how far this finding can be generalised.

8. The Packaging Experiment: Premium Look versus Price

To directly test the trade-off between packaging quality and price, respondents were first asked to choose between a Product A priced at ₹180 with premium packaging, and a Product B priced at ₹150 with simple packaging. The results were: 44.9% said their choice “depends on the product,” 29.0% chose the lower-priced Product B, and 26.1% chose the premium-priced Product A.

Respondents were then shown an actual product image a fully branded Cadbury Dairy Milk wrapper alongside an identical but unbranded “Dairy Milk” wrapper and asked which they would choose based purely on packaging, with no price attached. Here, 65.7% chose the branded, better-packaged product, 18.6% chose the plain version, and 15.7% expressed no preference.

The contrast between these two results is instructive: when price is introduced, consumer choice fragments and becomes conditional on the product category. When price is removed from the equation, however, a clear majority gravitate toward the better-packaged option indicating that packaging quality exerts a strong, direct pull on consumer choice independent of price.

9. Case Study: Tropicana's Packaging Redesign Failure

9.1 Background

In January 2009, PepsiCo redesigned the packaging of Tropicana Pure Premium, a leading orange juice brand generating over \$700 million in annual revenue, replacing its iconic “orange with a straw” imagery with a plain, minimalist image of a glass of juice.

9.2 Problem

Loyal customers were unable to recognise the brand on the shelf. A \$35 million advertising campaign supporting the redesign failed to offset the resulting confusion among consumers.

9.3 Consumer Reaction and Business Impact

Sales fell by approximately 20% within two months of the redesign's launch, resulting in an estimated \$30 million in lost sales as competitors gained shelf share. Tropicana reverted to its original packaging design within less than two months, but the total cost of the redesign, advertising campaign, and reversal is estimated at over \$50 million.

9.4 Key Lesson

The Tropicana case demonstrates that brand recognition cues colour, imagery, and shape can matter more to consumers than a modern aesthetic redesign. Packaging familiarity functions as a form of brand equity that should be changed with caution and, ideally, tested before a full-scale rollout.

10. Discussion

The findings of this study are consistent with, and extend, the existing literature reviewed in Section 4. Silayoi and Speece (2004) and Mazhar et al. (2015) both found that visual packaging elements outweigh written information in shaping purchase decisions; this study's finding that Design and Layout is the single most valued packaging element (31.4%) directly supports this conclusion in an Indian consumer context.

The packaging experiment described in Section 8 provides a further, more direct contribution: when price is removed from the decision, a clear majority of consumers (65.7%) choose the better-packaged product. This confirms that packaging is not merely a secondary influence operating alongside price, but a genuinely independent driver of consumer choice. The Tropicana case study in Section 9 illustrates the commercial cost of ignoring this reality even a well-resourced, established brand suffered a significant and rapid sales decline when it disregarded the recognition value of its existing packaging.

Taken together, the survey data, literature, and case study point to the same conclusion: packaging functions as a measurable driver of consumer trust and purchase intent, on a scale comparable to more traditionally emphasised marketing variables such as price and product quality.

11. The Role of Artificial Intelligence in Product Packaging

Alongside the human, psychological factors discussed above, a newer force is beginning to shape how packaging is designed, tested, and produced: artificial intelligence (AI). AI simply means computer systems that can learn from data and perform tasks that normally need human judgement recognising patterns, predicting outcomes, and even generating new designs. In the packaging industry, AI is moving from an experimental idea to a practical, everyday tool, used by companies ranging from large global brands to small direct-to-consumer startups. This section explains, in simple terms, the main ways AI is now being used in product packaging.

11.1 AI in Packaging Design

The most visible use of AI in packaging is generative design software that can create hundreds or even thousands of possible packaging designs from a single brief, instead of a designer sketching each one by hand. These tools, sometimes built on technology called Generative Adversarial Networks (GANs), study successful existing designs and combine elements from them to propose new layouts, colour schemes, and shapes that still fit a brand's identity. Platforms such as Pacdora now offer an end-to-end AI system that speeds up the entire design and prototyping process. Even large food companies have adopted this approach: Nestlé's research and development team has used generative AI to help identify entirely new types of packaging material, not just new designs. The main benefit is speed what once took weeks of manual design work can now be explored in days, with far more options considered before a final choice is made.

11.2 AI-Powered Consumer Testing

Traditionally, testing how consumers react to a new package design required physical eye-tracking laboratories an expensive and slow process. AI has changed this. Predictive testing platforms can now simulate how a real shopper's eyes would move across a shelf, which parts of a package they would notice first, and which parts they would ignore completely, all without a single physical prototype being printed. Some modern systems have been trained on data from thousands of real packaging tests across categories such as cosmetics, food, and beverages, allowing them to predict not just where attention goes, but whether that attention actually leads to a purchase decision. For a

business, this means packaging mistakes the kind that hurt Tropicana in the case study above can potentially be caught and corrected before a single unit is printed, at a fraction of the traditional cost.

11.3 AI for Trend Prediction

AI systems can also study large amounts of social media activity, market reports, and consumer behaviour data to predict which colours, styles, and design trends are likely to become popular sometimes before consumers themselves would say they want them. This gives brands a data-driven starting point for design, rather than relying purely on a designer's personal instinct or guesswork about what will appeal to shoppers next season.

11.4 AI in Sustainable Packaging

Because packaging waste is a growing environmental and regulatory concern, AI is increasingly used to optimise how much material a package actually needs. By analysing production data, AI systems can suggest more efficient cutting patterns and material combinations, reducing waste in some reported cases by 15 to 30 percent, while still keeping the package strong enough to protect the product. Large retailers have applied similar thinking at scale: Amazon has used AI-driven packaging optimisation to meaningfully cut the amount of material used in its shipping boxes across its global operations. This links directly to one of this study's own recommendations adopting sustainable, eco-friendly packaging by giving businesses a practical, technology-based way to achieve it.

11.5 AI in Quality Control

On the production line itself, AI-powered computer vision systems now inspect packaging for defects things like a misaligned label, a weak seal, or an incorrect print far more reliably than manual human inspection. Research has found that traditional manual inspection can miss 20 to 30 percent of real defects, largely due to fatigue and inconsistency, whereas properly trained AI vision systems now regularly reach 94 to 99 percent accuracy. Because these systems can make a decision in a fraction of a second, they can be built directly into a fast-moving production line, rejecting a faulty package automatically before it ever reaches a customer. This matters directly to consumer trust: this study's own survey found that 46.4% of respondents said poor or damaged packaging would strongly discourage them from buying a product AI-based quality control is one of the most direct, practical ways a business can prevent that damage from ever leaving the factory.

11.6 A Note of Caution, and the Indian Context

AI is best understood as a powerful assistant, not a replacement for human judgement. AI can generate a design and predict how consumers might react to it, but it cannot create a brand's identity, meaning, or emotional connection with customers that remains a human responsibility. The most effective use of AI in packaging today is as a validation tool: generating and narrowing down options quickly, and testing them cheaply, before final decisions are made by human designers and marketers. India is beginning to adopt these tools as well the Indian Institute of Packaging opened a new centre in Bengaluru in 2025 offering AI-enabled testing and smart packaging facilities, signalling that this is no longer a trend limited to large global markets.

Table 4: Key AI Applications in Product Packaging

AI Application	What It Does
Generative Design	Creates hundreds of design options automatically from a single brief
Predictive Consumer Testing	Simulates shopper eye movement and attention without a physical prototype
Trend Prediction	Analyses market and social data to forecast upcoming design trends
Sustainability Optimisation	Reduces material waste while keeping packaging strong enough to protect the product
Quality Control	Uses computer vision to catch defects on the production line in real time

Connecting this back to the present study, the survey findings in Sections 7 and 8 show precisely the kind of consumer response attention, trust, and purchase choice driven by design and layout that AI-powered predictive testing tools are now built to measure and optimise for, before a product ever reaches a real shelf. In this sense, AI does not change what matters to consumers; it changes how quickly and cheaply a business can find out what matters, and correct course before an expensive mistake is made.

12. Recommendations for Businesses

- Invest in packaging research and consumer testing before finalising a design, rather than after launch.
- Preserve core brand recognition cues colour, shape, and logo placement even when modernising packaging design.
- Prioritise design and layout investment, given its outsized influence on consumer preference relative to other packaging elements.
- Invest in bold, distinctive packaging to improve shelf visibility in competitive retail environments.
- Adopt sustainable, eco-friendly packaging materials, particularly given their rising importance among younger consumers.
- Pilot new packaging designs on a small scale before full rollout, to identify potential consumer resistance early.
- Adopt AI-powered design and predictive testing tools to generate and validate packaging options before mass production, reducing both cost and the risk of a Tropicana-style mistake.
- Use AI-based computer vision quality control on production lines to catch defects before damaged packaging ever reaches a customer.

13. Future Scope

- Extending this research to a larger, stratified sample beyond convenience sampling, to improve generalisability.
- Conducting category-specific studies for instance, focusing solely on cosmetics or electronics to obtain sharper, more targeted insights.

- Incorporating eye-tracking technology or in-store behavioural observation to validate and extend the self-reported survey findings presented here.
- Studying how AI-generated packaging designs perform against traditionally designed packaging in real, controlled consumer trials.

14. Conclusion

This study set out to examine how product packaging influences consumer purchasing decisions, drawing on primary survey data from 70 respondents, a review of existing academic literature, and a real-world business case study. The findings consistently show that packaging is not a cosmetic afterthought but a measurable driver of consumer attention, trust, and purchase intent. Design and layout emerged as the single most influential packaging element, and a direct experimental comparison confirmed that a clear majority of consumers choose better-packaged products even when price is not a factor. The Tropicana case study further demonstrates the tangible commercial risk of disregarding packaging's role in brand recognition. Artificial intelligence is now adding a further, practical dimension to this picture giving businesses faster, cheaper ways to design, test, and quality-check packaging before it ever reaches a shelf. For businesses, the practical implication is clear: packaging deserves the same strategic attention as pricing, product quality, and advertising, and modern AI tools make it more affordable than ever to give it that attention.

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