

Mental Math Pricing, Transparent Price Framing, and Social Media Amplification: A Large-Scale Field Experiment in India's Low-Speed Electric Vehicle Market

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Abstract

Pricing is generally viewed as a financial decision. However, behavioural economics suggests that the psychological presentation of price often influences consumer decision-making more strongly than the numerical value itself. This paper presents findings from a 2.5-year field experiment conducted across approximately 500 high-performing dealerships within a nationwide network of more than 1,200 electric vehicle dealerships in India.

The study investigated whether combining (1) mental math pricing, (2) transparent pricing communication, and (3) short-form social media marketing could significantly improve consumer inquiry rates, dealership performance, and overall brand perception without substantially altering the underlying economics of the product.

Instead of advertising the individual scooter price, marketing campaigns highlighted a bundle offer of **₹100,000 for three scooters**, followed by disclosure that one scooter remained available at ₹35,000 and two scooters at ₹68,500. Although purchasing three scooters is uncommon for most retail consumers, the bundle created a powerful cognitive reference point that encouraged consumers to mentally divide the amount and perceive greater affordability.

The experiment demonstrated that strategic price framing combined with transparent communication substantially increased customer inquiries, dealership engagement, and brand visibility. Over the study period, participating dealerships became market leaders within their respective cities while the brand expanded to become one of India's leading low-speed electric vehicle networks.

Keywords: Behavioural Economics, Mental Math, Price Framing, Anchoring Effect, Consumer Psychology, Social Media Marketing, Electric Vehicles, Retail Pricing, Transparency, Field Experiment

1. Introduction

Traditional pricing research assumes consumers make purchasing decisions through rational comparison of product prices and features. Modern behavioural economics challenges this assumption by demonstrating that consumers frequently rely on cognitive shortcuts when evaluating prices.

This paper examines whether carefully designed price presentation can alter perceived affordability while maintaining complete pricing transparency.

Unlike laboratory-based behavioural experiments, this research was conducted within an operating commercial network involving approximately 500 dealerships over a continuous period beginning January 9, 2024.

The objective was not merely to reduce prices but to redesign how customers mentally process pricing information.

2. Research Problem

Many businesses compete primarily by reducing prices.

However, continuous price reductions often damage profitability and brand value.

This research investigates an alternative question:

Can consumer perception of affordability be significantly improved without relying solely on discounts, by changing the psychological presentation of identical prices?

3. Research Objectives

The objectives of this study were:

- To evaluate whether mental math influences perceived affordability.
- To examine the impact of transparent pricing on customer trust.
- To investigate the interaction between social media and behavioural pricing.
- To observe long-term dealership performance following implementation.
- To propose an integrated behavioural pricing framework applicable to retail businesses.

4. Literature Background

This study draws upon several established behavioural theories.

4.1 Mental Accounting

Consumers categorise financial information into simplified mental budgets rather than processing exact calculations.

4.2 Anchoring Effect

The first number presented establishes a psychological reference point that influences subsequent price evaluation.

4.3 Cognitive Fluency

Simple numerical information is processed more easily, leading consumers to perceive offers more positively.

4.4 Price Framing

Different presentations of identical prices often produce significantly different consumer responses.

4.5 Transparency Theory

Transparent communication reduces uncertainty and increases consumer trust, particularly in high-involvement purchases.

5. Research Methodology

Research Design

Longitudinal Field Experiment

Duration:

Approximately 2.5 years

Starting Date:

9 January 2024

Industry:

Low-Speed Electric Vehicles

Country:

India

Dealer Network:

More than 1,200 dealerships

Experimental Sample:

Approximately 500 active dealerships

6. Experimental Pricing Strategy

Instead of advertising:

₹35,000 per scooter

the campaign prominently displayed:

₹100,000 for 3 Scooters

Consumers naturally performed the mental calculation:

₹100,000

↓

₹33,333 per scooter (approximate perception)

After establishing this mental benchmark, the advertisement transparently disclosed:

One Scooter = ₹35,000

Two Scooters = ₹68,500

Three Scooters = ₹100,000

Importantly, there was no hidden pricing.

Every purchasing option remained clearly available.

7. The Mental Math Mechanism

The pricing strategy deliberately encouraged consumers to perform a simplified division.

Although most buyers intended to purchase only one scooter, the initial bundled presentation generated an internal perception that the effective value per scooter was lower than the individually advertised price. The strategy therefore shifted consumer perception without misleading customers regarding actual purchase options.

8. Transparency Principle

Behavioural pricing often risks consumer skepticism if perceived as manipulative.

To mitigate this concern, the campaign disclosed all available purchasing options.

Transparency reinforced trust while preserving the psychological benefits of the initial bundle framing.

This combination distinguished the strategy from conventional discount advertising.

9. Dealer Communication Strategy

Many dealers initially questioned why identical prices should be presented differently.

To explain the concept, a familiar retail analogy was used.

Successful neighbourhood grocery stores frequently earn strong customer loyalty not because their products differ significantly but because every customer receives identical pricing regardless of age, bargaining ability, or purchasing experience.

Consumers perceive fairness.

Fairness creates trust.

Trust generates repeat business.

The pricing strategy was therefore positioned as an extension of transparent retail practices rather than aggressive discounting.

10. Social Media Integration

Short-form videos lasting approximately 40–50 seconds communicated:

- Bundle Offer (₹100,000 for 3 scooters)
- Key scooter features
- One scooter pricing
- Two scooter pricing
- Dealer showroom information

Local content creators amplified these messages within city-specific audiences.

The combination of behavioural pricing and localised digital marketing substantially increased customer inquiries.

11. Proposed Behavioural Pricing Framework

This study proposes the **MTS Framework** consisting of three integrated elements:

M — Mental Math Pricing

Consumers mentally simplify numerical information.

T — Transparent Pricing

Every purchasing option remains openly disclosed.

S — Social Media Amplification

Digital distribution accelerates psychological adoption.

Together, these three mechanisms reinforce one another to influence purchase intention.

12. Observed Business Outcomes

Following implementation:

- Approximately 500 dealerships adopted the pricing strategy.
- Participating dealerships became leading sellers within their respective cities.
- Brand awareness increased substantially through localised digital marketing.
- Customer inquiries increased significantly according to internal business observations.
- The dealer network expanded to more than 1,200 locations during the observation period.

These findings suggest that behavioural pricing can influence retail performance beyond traditional discount-based strategies.

13. Practical Implications

The framework developed in this study may be applicable to:

- Automotive Retail
- Electric Vehicles
- Consumer Electronics
- Furniture
- Real Estate
- Franchises
- Consumer Durables
- Grocery Retail
- E-commerce

14. Limitations

Several limitations should be acknowledged.

The study was conducted within a single industry.

Sales data remain proprietary and therefore detailed statistical analysis is not included in this version.

Future research should compare behavioural pricing against randomised control groups and incorporate quantitative econometric modeling.

15. Future Research

Future studies may examine:

- Cross-cultural applicability
- Different bundle sizes
- AI-generated pricing optimisation
- Neuroeconomic analysis
- Eye-tracking during price evaluation
- Online versus offline purchasing behavior

16. Conclusion

This field experiment demonstrates that consumer perception of affordability is influenced not only by the numerical price itself but also by the cognitive process through which the price is presented.

The integration of mental math pricing, transparent communication, and localised social media marketing produced sustained improvements in dealership engagement and brand visibility over a multi-year period. Rather than viewing pricing solely as an economic variable, businesses should recognise pricing as a psychological communication tool capable of shaping consumer perception while maintaining transparency and trust.

The proposed MTS Framework provides a practical behavioural pricing model that can be tested and expanded across multiple retail industries.