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A STUDY ON “PSYCHOLOGICAL PRICING AND THE LEFT-DIGIT EFFECT: A REVIEW-BASED STUDY OF PRICE PERCEPTION AND PURCHASE DECISION IN ORGANIZED RETAIL”

Rohitha Melita Crasta*

Divine Light Kenjuru Kana Jokatte Post Via Bajpe Mangalore.

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*Corresponding Author: Rohitha Melita Crasta

Divine Light Kenjuru Kana Jokatte Post Via Bajpe Mangalore.

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ABSTRACT

Psychological pricing has emerged as a widely adopted strategy in organized retail, where prices such as ₹399, ₹499, and ₹999 are used instead of rounded figures to influence consumer perception and buying behaviour. This practice is primarily explained through the left-digit effect, a cognitive bias in which consumers focus disproportionately on the leftmost digit of a price, leading to a perception of lower cost and greater value. The present study aims to examine the role of psychological pricing and the left-digit effect in shaping consumers' price perception and purchase decisions within organized retail contexts. The study is based on a comprehensive analysis of secondary data, including peer-reviewed journal articles, retail industry reports, and institutional publications related to pricing strategies and consumer behaviour. By synthesizing findings from existing empirical studies, the research explores how odd pricing influences perceived affordability, perceived value, and purchase intention. The analysis is grounded in behavioural pricing theories, including Prospect Theory and the Stimulus–Organism–Response framework, to explain the cognitive mechanisms underlying consumer responses to price cues. The findings indicate that psychological pricing consistently enhances favourable price perception and indirectly influences purchase decisions through perceived value and perceived savings. Evidence also suggests that the effectiveness of the left-digit effect varies across consumer segments, with price-conscious and low-involvement consumers being more responsive to odd pricing strategies. The study contributes to the literature by consolidating existing evidence on psychological pricing in organized retail, particularly in emerging market contexts, and

highlights the need for ethically balanced pricing practices. The insights derived offer valuable implications for retailers and policymakers in designing effective and consumer-centric pricing strategies.

KEYWORDS: Psychological Pricing, Left-Digit Effect, Price Perception, Purchase Decision, Organized Retail, Consumer Behaviour.

INTRODUCTION

Pricing is one of the most critical strategic tools in marketing, as it directly influences consumer perception and purchase decisions. In organized retail, retailers frequently adopt psychological pricing strategies, particularly odd pricing formats such as ₹399, ₹499, and ₹999, instead of rounded figures. These pricing practices are designed to exploit the left-digit effect, a cognitive bias where consumers disproportionately focus on the leftmost digit of a price while evaluating its affordability. Although the monetary difference between ₹499 and ₹500 is minimal, such pricing often creates a perception of significant savings, thereby influencing buying behaviour.

With the rapid expansion of organized retail formats such as shopping malls, supermarkets, and branded outlets, understanding consumer price perception has become increasingly important. Indian retail consumers are exposed to standardized pricing displays, promotional cues, and competitive price comparisons, making psychological pricing a pervasive yet under-researched phenomenon. Existing literature has largely examined psychological pricing in developed markets, while empirical evidence from emerging economies like India remains limited.

This study seeks to critically examine the impact of psychological pricing and the left-digit effect on consumers' price perception and purchase decisions in organized retail settings. By integrating cognitive and behavioural perspectives, the study aims to contribute to pricing theory and provide actionable insights for retailers seeking to design effective and ethical pricing strategies.

Conceptual Background of the Study

Psychological pricing refers to pricing strategies that are designed to influence consumers' perceptions and judgments rather than merely reflecting the economic value of a product. One of the most widely used psychological pricing techniques in organized retail is odd or

charm pricing, where prices end in non-round numbers such as ₹99 or ₹499. The effectiveness of this strategy is largely explained by the left-digit effect, a cognitive bias in which consumers give greater weight to the leftmost digit of a price while evaluating its magnitude, leading to a lower perceived price.

The conceptual foundation of this study draws from Prospect Theory, which suggests that consumers evaluate outcomes relative to reference points rather than in absolute terms, and from price perception theory, which explains how consumers mentally process price information. Within the Stimulus–Organism–Response (S-O-R) framework, psychological pricing acts as the stimulus, influencing internal cognitive and emotional responses such as perceived affordability, perceived value, and perceived savings (organism), which subsequently shape behavioural outcomes such as purchase intention and actual buying decisions (response).

In organized retail environments, where consumers are exposed to multiple brands, standardized price displays, and promotional cues, the left-digit effect becomes particularly influential. However, consumer responses to psychological pricing may vary based on factors such as income level, price consciousness, and shopping involvement. This study conceptualizes these factors as moderating variables that condition the strength of the relationship between psychological pricing, price perception, and purchase decisions, thereby offering a comprehensive framework for understanding pricing effectiveness in organized retail.

Literature Review

1. Psychological Pricing: Concept and Theoretical Roots

Psychological pricing is an established pricing strategy that focuses on consumer perception rather than on cost-based pricing alone. According to Monroe and Lee (1999), pricing is not merely transactional; it serves as a symbolic cue that influences consumer evaluation and value perception. Psychological pricing encompasses several tactics, among which odd pricing (prices ending in 9, 99, or 95) is most researched due to its widespread use in retail (Thomas & Morwitz, 2005). Rooted in behavioral economics, psychological pricing aligns with the principles of Prospect Theory, which posits that consumers evaluate prices relative to reference points and perceived gains or losses rather than in absolute terms (Kahneman & Tversky, 1979).

2. The Left-Digit Effect and Price Perception

The left-digit effect represents a cognitive bias whereby consumers focus disproportionately on the leftmost digit of a price, often leading to misperception of price magnitude (Schindler & Kirby, 1997). For example, prices like ₹499 are perceived as closer to ₹400 than to ₹500, despite minimal objective difference. Research by Thomas and Morwitz (2005) confirmed that left-digit bias can lead to higher purchase intentions due to perceived affordability. More recent studies highlight the neurological basis for this effect, showing that left-digit pricing influences attention allocation in the brain during price evaluation (Gao & Simonson, 2011).

3. Price Perception and Consumer Behavior

Price perception refers to how consumers interpret and mentally represent price information, which is distinct from objective price itself (Zeithaml, 1988). Consumers form perceptions of fairness, value, and affordability, which affect their emotional and behavioral responses. The Stimulus–Organism–Response (S-O-R) framework posits that external pricing stimuli (odd pricing) trigger internal cognitive evaluations (price perception), leading to behavioral outcomes such as purchase decisions (Mehrabian & Russell, 1974). Empirical studies in retail have shown that positive price perception increases purchase intention, particularly when consumers perceive pricing as fair or advantageous (Lichtenstein et al., 1993).

4. Psychological Pricing in Organized Retail

Organized retail environments provide a unique context for studying pricing effects due to standardized displays, promotional signage, and direct price comparisons across brands and outlets. Research in developed markets suggests that charm pricing increases sales volume in supermarkets and department stores (Anderson & Simester, 2003). However, evidence from emerging markets, particularly in South Asia, is limited. Studies in the Indian retail context (e.g., Suresh & Bhuvanaiah, 2015) indicate that consumers are highly price-sensitive and responsive to promotional pricing, but the specific impact of odd pricing and left-digit effects remains under-explored.

5. Mediators and Moderators in Price Psychology

Perceived value and emotional response serve as key mediators in the pricing–behavior relationship. Studies by Dodds et al. (1991) show that perceived value mediates the influence of price on choice behavior, while emotional reactions to pricing have been linked to affective responses that shape purchase decisions (Bagozzi et al., 1999). Consumer traits such as price consciousness, shopping involvement, and income level have been identified as moderators that influence the strength of psychological pricing effects (Lichtenstein et al.,

1997). Price-conscious consumers, for instance, are more attentive to small price differences and therefore more susceptible to the left-digit effect.

Research Gap

Despite substantial literature on psychological pricing and the left-digit effect, several important gaps persist—especially for organized retail in emerging markets:

1. Limited Empirical Evidence from Organized Retail in Emerging Economies

Existing studies on psychological pricing and the left-digit effect are largely concentrated in developed markets. There is a lack of empirical, mall-based research examining how these pricing strategies influence price perception and purchase decisions in organized retail settings within emerging economies such as India.

2. Insufficient Integration of Cognitive and Emotional Responses

Prior research has predominantly focused on the cognitive aspects of psychological pricing, such as numerical processing and price perception, while largely overlooking emotional responses like perceived fairness, trust, and affect. An integrated framework combining both cognitive and emotional mechanisms remains underexplored.

3. Limited Use of Advanced Analytical Models

Many studies rely on basic experimental designs or regression analysis. There is a notable gap in the application of advanced analytical techniques such as Structural Equation Modelling (SEM) to examine direct, mediating, and moderating relationships in psychological pricing research.

4. Inadequate Examination of Moderating Consumer Characteristics

The influence of individual differences such as income level, price consciousness, and shopping involvement on the effectiveness of left-digit pricing has not been sufficiently examined, particularly in organized retail environments with diverse consumer segments.

5. Lack of Focus on Ethical and Long-Term Consumer Outcomes

Existing literature emphasizes short-term purchase intentions and sales outcomes, with limited attention to long-term effects such as consumer trust, perceived price fairness, and brand loyalty arising from sustained use of psychological pricing strategies.

Research Methodology

Research Design

This study follows a systematic narrative review approach rather than primary empirical investigation. The study adopts a descriptive and explanatory research design based on

secondary data analysis to examine the role of psychological pricing and the left-digit effect on price perception and purchase decisions in organized retail. A quantitative approach is employed to synthesize and analyze existing empirical evidence from prior studies, industry reports, and archival retail data.

Sources of Secondary Data

Secondary data for the study are collected from multiple credible sources to ensure reliability and academic rigor:

1. Peer-Reviewed Journals

Articles indexed in Scopus, Web of Science, and Google Scholar focusing on psychological pricing, odd pricing, left-digit effect, and consumer price perception.

2. Retail Industry Reports

Reports published by consulting firms and industry bodies such as McKinsey & Company, PwC, and the Retailers Association of India.

3. Government and Institutional Publications

Data from the Ministry of Commerce and Industry, National Sample Survey Office (NSSO), and related policy documents on retail trade.

4. Retail Sales and Pricing Databases

Aggregated pricing and sales datasets available through published case studies, annual reports of organized retail chains, and open-access retail analytics platforms.

Objectives of the Study

1. To examine the concept and application of psychological pricing strategies, particularly the left-digit effect, in organized retail.
2. To analyze the influence of odd pricing on consumers' price perception and perceived affordability.
3. To assess the relationship between price perception and purchase decision in organized retail settings.
4. To identify the role of perceived value in mediating the impact of psychological pricing on consumer buying behaviour.
5. To evaluate the implications of psychological pricing practices for retailers in terms of consumer trust and ethical pricing.

Scope of the Study

1. The study focuses on psychological pricing strategies, specifically odd pricing and the left-digit effect, used in organized retail formats such as malls and branded outlets.
2. The research is limited to secondary data sourced from published journals, industry reports, and institutional publications related to retail pricing and consumer behaviour.
3. The study examines price perception and purchase decision as key outcome variables without analyzing actual transaction-level consumer data.
4. The scope covers organized retail contexts primarily within emerging market economies, with emphasis on findings relevant to the Indian retail sector.
5. The study aims to develop a conceptual framework and theoretical insights rather than providing store-specific or product-level pricing recommendations.

Limitations of the Study

1. The study is based entirely on secondary data, which limits control over data quality, variables measured, and research design of the original studies.
2. Findings are dependent on existing literature and published reports, which may not fully capture recent changes in consumer behaviour or retail pricing practices.
3. The study does not include primary data or experimental validation, restricting the ability to establish causal relationships.
4. Generalization of results may be limited due to variations in retail formats, product categories, and consumer characteristics across different regions.

Findings and Interpretation

The findings presented in this section are synthesized from prior empirical studies and industry reports and do not represent results from primary data analysis.

1. Use of Psychological Pricing in Organized Retail

Finding:

The reviewed literature indicates that psychological pricing, particularly odd pricing formats such as ₹399, ₹499, and ₹999, is widely practiced across organized retail formats including malls, supermarkets, and branded outlets.

Interpretation:

This widespread adoption suggests that retailers perceive psychological pricing as a strategically effective tool for influencing consumer behaviour, reinforcing its relevance as a core pricing mechanism in competitive retail environments.

2. Existence of the Left-Digit Effect

Finding:

Secondary studies consistently confirm the presence of the left-digit effect, wherein consumers tend to perceive odd-priced products as significantly cheaper than those priced at the next rounded value.

Interpretation:

This finding highlights the role of cognitive bias in price evaluation, indicating that consumers rely on heuristic processing rather than precise numerical assessment when making purchase decisions.

3. Impact of Price Perception on Purchase Decision

Finding:

The literature reveals a strong association between favourable price perception—such as perceived affordability and fairness—and increased purchase intention.

Interpretation:

This suggests that consumer purchase decisions are influenced more by subjective price evaluation than by objective price levels, emphasizing the psychological dimension of pricing strategies.

4. Mediating Role of Perceived Value

Finding:

Prior empirical studies identify perceived value and perceived savings as significant mediators in the relationship between psychological pricing and purchase behaviour.

Interpretation:

This indicates that psychological pricing influences purchase decisions indirectly by enhancing consumers' perceived benefits, rather than through direct price reductions alone.

5. Differences Across Consumer Segments

Finding:

The reviewed literature shows that the effectiveness of psychological pricing varies across consumer segments, with price-conscious and low-involvement consumers being more responsive to odd pricing cues.

Interpretation:

This variation implies that a uniform pricing strategy may not be equally effective for all

consumer groups, highlighting the need for differentiated and segment-specific pricing approaches in organized retail.

DISCUSSION

The findings of the study reaffirm the strategic importance of psychological pricing in organized retail, particularly through the widespread use of odd pricing formats such as ₹399, ₹499, and ₹999. The extensive adoption of these pricing practices across retail formats suggests that retailers continue to rely on consumer psychology rather than purely economic rationality when designing pricing strategies. This aligns with established behavioural pricing literature, which argues that price functions as a cognitive cue influencing consumer judgment beyond its monetary value.

The consistent evidence supporting the left-digit effect highlights the role of heuristic processing in consumer decision-making. Consumers' tendency to focus on the leftmost digit of a price indicates limited numerical processing during routine shopping, especially in high-stimulus environments such as malls. This supports theoretical perspectives from Prospect Theory and the Stimulus–Organism–Response framework, which explain how minor numerical changes can produce disproportionate psychological effects on perceived affordability.

The strong relationship observed between price perception and purchase decision underscores that consumer responses to pricing are largely perceptual rather than objective. Psychological pricing appears effective because it reshapes internal evaluations of value and savings, reinforcing the mediating role of perceived value identified in the findings. This suggests that retailers achieve behavioural outcomes indirectly by influencing consumers' internal assessments rather than by offering real price reductions.

Variations in responsiveness across consumer segments further indicate that psychological pricing is not universally effective. Price-conscious and low-involvement consumers are more susceptible to left-digit cues, while highly involved consumers may rely on deliberate price evaluation. This implies that excessive or indiscriminate use of psychological pricing may reduce effectiveness and potentially affect perceptions of price fairness and trust. Consequently, retailers must balance short-term sales gains with long-term consumer relationships, emphasizing the ethical application of psychological pricing strategies in organized retail.

CONCLUSION

This study examined the role of psychological pricing and the left-digit effect in influencing consumers' price perception and purchase decisions within organized retail, drawing on evidence from secondary data sources. The findings highlight that odd pricing strategies, such as prices ending in ₹9 or ₹99, remain a prevalent and influential pricing practice in retail environments. The left-digit effect consistently emerges as a key cognitive mechanism through which consumers perceive such prices as more affordable, despite minimal objective differences from rounded prices.

The study demonstrates that psychological pricing does not directly influence purchase decisions through price reductions, but rather operates indirectly by shaping consumers' perceptions of value, affordability, and savings. These perceptual evaluations play a decisive role in guiding consumer behaviour, reaffirming the importance of cognitive and behavioural theories in understanding pricing effectiveness. Additionally, the analysis reveals that consumer responses to psychological pricing are not uniform, with price-conscious and low-involvement shoppers showing greater susceptibility to left-digit cues.

While psychological pricing offers clear short-term advantages in stimulating purchase intention, the study also underscores the importance of ethical considerations and consumer trust. Excessive or manipulative use of such pricing strategies may diminish perceived fairness and weaken long-term brand relationships. Overall, the study contributes to the existing literature by consolidating insights on psychological pricing within organized retail and emphasizing the need for balanced, transparent, and consumer-oriented pricing strategies. Future research may extend this work through primary data collection and experimental designs to further validate and refine these findings.

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