ResearchGate

See discussions, stats, and author profiles for this publication at: https://www.researchgate.net/publication/312011520

The impact of psychological pricing strategy on consumers' buying behaviour: A qualitative study

Article *in* International Journal of Business and Systems Research · January 2017

DOI: 10.1504/IJBSR.2017.080843

CITATIONS
15

READS
29,692

2 authors:



Santosh Kumar
Indian Institute of Technology Dhanbad
3 PUBLICATIONS **15** CITATIONS
SEE PROFILE



Mrinalini Pandey
Indian Institute of Technology Dhanbad
43 PUBLICATIONS **222** CITATIONS
SEE PROFILE

All content following this page was uploaded by Santosh Kumar on 29 December 2021.

The user has requested enhancement of the downloaded file.

The impact of psychological pricing strategy on consumers' buying behaviour: a qualitative study

Santosh Kumar* and Mrinalini Pandey

Department of Management Studies,
Indian School of Mines,
Dhanbad, 826004 Jharkhand, India
Email: santoshgyan03@gmail.com
Email: mrinal_nalini@yahoo.co.in
*Corresponding author

Abstract: The recognition of consumers' behaviour is crucial for effective marketing plans. Evidences explain that the psychological pricing communicates meaning to consumers. This study theoretically examines the impact of psychological pricing on consumers' buying behaviour. The study has used secondary data from research papers, monographs, theses, popular articles, and newspapers. Findings show that socio demographic factors like age, income, education, gender, lifestyle, family size, reference groups, social roles and status and the psychological patterns like representativeness, availability of products and the anchoring heuristics are key factors which influence consumers' buying behaviour. Additionally, the consumers, who are more price cognisant are more probable to select nine-ending prices. Indeed, low involved customers, those with a small hedonic and symbolic attachment profile, low educated, low income and younger customers are prone to select the nine-ending priced products and services. The findings can have implications for retailers, pricing managers, researchers, academicians, society and government.

Keywords: psychological pricing; nine-ending prices; consumers' behaviour; strategy; influence; perception; odd-even prices; retail prices; consumers' attitude; consumer psychology.

Reference to this paper should be made as follows: Kumar, S. and Pandey, M. (2017) 'The impact of psychological pricing strategy on consumers' buying behaviour: a qualitative study', *Int. J. Business and Systems Research*, Vol. 11, Nos. 1/2, pp.101–117.

Biographical notes: Santosh Kumar is a doctoral student at the Department of Management Studies, Indian School of Mines, Dhanbad, Jharkhand, and India. He received his MBA from Vinoba Bhave University, Hazaribag, India. He published some articles in the peer reviewed international journal and conference proceedings.

Mrinalini Pandey is an Assistant Professor at the Department of Management Studies, Indian School of Mines, Dhanbad, Jharkhand, and India. She received her MBA from ISM-Dhanbad, India, and PhD in Management from ISM-Dhanbad, India. She obtained her Master's in English. She published several research articles in reputed and peer reviewed national and international journals and conference proceedings. She has written several books.

Copyright © 2017 Inderscience Enterprises Ltd.

This paper is a revised and expanded version of a paper entitled 'Psychological pricing strategy and consumers' buying behavior: a review' presented at ICEBM-2015, BITS-Pilani, India, 20–21 March 2015.

1 Introduction

Contemporary market of the world is highly stiff and competitive, and it is very challenging for the business organisations to sustain and grow in such a cut throat business world. It is very vital to recognise the consumers' behaviour also. The growing pressures of extremely competitive marketing environments make it crucial that organisations realise consumers and, in particular, consumers' decision-making process as they seek to gain competitive advantage. In the current economic system, the survival and growth of the organisations require accurate knowledge about consumers: how they buy, why they buy and where they buy from as well as what they buy. Hence, contemporary marketing thought stresses the need of business managers to know who their customers are and why they choose their products and services rather than those of competitors. The success of any retail organisations depends above all on the consumers and what they are willing to accept and pay for. Top management must achieve the integration of all elements of marketing strategy (i.e., 4P's product, price, place and promotion) into a single strategic plan based upon knowledge of consumer behaviours. According to the society for consumer psychology, division 23 of the American Psychological Association, consumer psychology employs theoretical psychological approaches to understanding consumers (Cherry, 2014).

For sustainability and continuous growth; capital is required, and to get capital the organisations have to price their products and services using an appropriate pricing strategy. Price is the only pillar of the marketing mix which generates revenues while the others, such as product, place, and promotion are expenses for the organisations. To develop the effective marketing plans consumers' behaviour is crucial. The Pricing strategy is one of the marketing strategies which can make the organisations progressive with augmented sales and profitability. There are several pricing strategies and psychological pricing is one of them. The psychological pricing is a marketing or pricing strategy based on the theory that certain prices have psychological impacts on the consumers' price perception, attitude and their buying behaviour. This strategy has been exercised by the marketers and the organisations to influence the consumers' decision-making process for a long period of time, especially in the retail sector and in the price advertisements. The retail prices are often expressed as 'psychological prices', i.e., a little less than an encircling figure (e.g., ₹20.49, ₹99.95, ₹92.99, ₹99 or ₹199). The Consumers tend to perceive psychological prices as being significantly lower than they actually are, and tending to encircle to the next lowest monetary unit. Thus, a price such as ₹5.99 is associated with spending ₹6.00 rather than ₹5.00

Pride and Ferrell (1997) suggest that, the psychological pricing is an art of scheming prices to appeal to consumers' emotions and psyche in order to influence their purchasing behaviour. Pricing is a play on the customers' price perception. It is the consumers' perception of the price that influences them to purchase products or services, and not the actual money price. In several situations, the psychology of pricing and price perception are more significant than the actual price of the products or services. The organisations

that understand the role psychology plays in their pricing strategies can succeed in the market. Stivings (1996) suggests that pricing is a multi-faceted technique, so, after producing a product, the vital concern that must be considered is: how much the customers should be charged for a product? This problem is not solved only by manufacturers, but also wholesalers and most especially the retailers. This is necessary to understand that, customers respond differently if the price is broken into parts (e.g., ₹99.99 instead of ₹100 or ₹49.95 instead of ₹50), or the products or services are bundled with other items (e.g., buy one and get one free). The customers process prices differently, and they may never know what is in their minds when they perceive prices, and how this affects their buying behaviour. The customary economic thinking assumes that marketers are always efficient whereas the participants are always rational. However, the consumers behave differently, sometimes even irrationally when offered with a variety of triggers. While setting prices, it is important to note that price perception plays a big role in customers' purchasing decisions. If the right pricing strategy is used for a product in the market, and such a strategy is supported with robust promotional and placement or distribution programs, the business can have leveraged sales and can experience business growth. However, a wrong pricing strategy can be very costly for the organisations. There are different pricing strategies that are used by firms. One of the most commonly used pricing strategy which is widely applied for consumer goods across different product categories in retail markets and newspaper advertisements is the psychological pricing or nine-ending pricing strategy.

Nagle and Holden (1995) suggest that the psychological pricing strategy is a common practice in the marketplace which uses certain odd and even digits as price endings (examples: $ 0.99 in $4.99 and $0.00 in $3.00), and has the potential to influence consumers' perception of the price of the product. Friedman (1967) and Dalrymple and Thompson (1969) suggest that the actual origin of nine-ending pricing is not very clear. On the contrary, Schindler and Wiman (1989) found that the use of psychological pricing or nine-ending pricing has been evident for more than 100 years. Asamoah and Chovancová (2011) suggest that the practice of psychological pricing in retailing has become widespread in many countries. Even though, the results have been to some extent contradictory across the product categories and the countries. The accomplishment of nine-ending prices seems to be suitable, especially regarding low-priced products, which are bought often. The fundamental assumptions of psychological pricing are that, prices set just below the nearest encircled figures produce a higher demand than the expected demand at that level. This indicates that the purchasing probability for just-below price is positioned well to the right of estimated demand curves that generates a kink in the demand curves at these points. According to Holdershaw et al. (1997), the psychological prices are known as magic prices, charm prices, odd prices, irrational prices, intuitive prices or rule-of-thumb prices as cited in Asamoah and Chovancová (2011). Kreul (1982) states that these are not rooted in the strict mathematical calculations or long standing economic theory.

Kotler and Keller (2005) suggest that, economists who study consumers' behaviour are of the view that consumers are price takers and accept prices at face value or as given by the producers. Marketers acknowledge that consumers often vigorously assess price information, decode prices in terms of their knowledge from previous buying experiences, formal communications (advertising and sales promotions), informal communications (friends, colleagues, family people), and point of purchase. Asamoah and Chovancová (2011) suggest one of the views, that there are two distinct effects

associated with psychological pricing strategy and consumers' buying behaviour. The first one is 'the Level effects' which is also known as underestimation effect. It highlights the behaviours or fundamental processes that lead buyers to twist their perception of the price. For instance, one frequent hypothesis concerning level effects is that buyers are inclined to encircling numbers down, making a buyer thinks that $28.99 is much lower than $ 30.00

The second is 'the image effects', which leads a buyer to form perceptions about the product, store or competition, on the basis of the right hand digits of the price of the products or services. For instance, buyers may think that a product with a price that ends in nine is on special offer. Each of the suggested level effects is an interpretation of the way buyers' process the information regarding the digits of the price of the products (i.e., it is their mental processing), totally unrelated to business behaviour. Alternatively, the image effects focus on buyers' perceptions of organisation behaviour. The customers may, deliberately try to discover organisations' intentions while decoding certain prices, or they may, over time, subconsciously realise the correlation between price endings and quality of the products.

2 History of practice of psychological pricing strategy

O'Reilly (2014) states that, the psychological pricing strategy came into practice in the USA in the late 19th century. This strategy was first used in a newspaper pricing competition by Melville E. Stone, who started the Chicago Daily News in 1875. In1876, Stone observed that Chicago required one cent Newspaper to compete with the Nickel Papers of the day. Therefore, he decided to price his newspaper at one cent. Those days, as most of the goods and the services were priced at even-dollar figure. The current competition provoked Stone to think of a strategy. He tried to understand the consumers' psyche and persuaded many Chicagoan merchants, who used to advertise their products and services in his newspaper. The merchants were told to drop the price of their products and services by one cent. They were explained that impulsive buyers would more readily purchase a $5.00 item if it cost only $4.99. The merchants who used this strategy observed that it really worked. This strategy increased the sales of the newspaper and at the same time the sales of the products priced with this strategy got increased by 60%. However, there was a problem that, there were not sufficient pennies in the general circulation, therefore, Stone import barrel of pennies from the Philadelphia to meet the shortage. The cost of importing the pennies was less than the profit made on sales of the newspaper. It has been explained by some researchers (Burns, 1995; Hower, 1943) as cited in Harris and Bray (2007), that odd-ending pricing was brought into practice for operational reasons with the introduction of cash registers in 1879. The reason behind this was assumed to be that shop proprietors wanted to make sure that tills were open for every transaction to prevent the dishonest cashiers from pocketing the cash. However, opposing operational considerations have also been offered, explaining that several retailers have adopted round-ending prices to prevent the need to provide change, thus speeding transaction and reducing in-store queues (Stiving and Winer, 1997). There is another explanation for the practice of odd ending prices (Asamoah and Chovancová, 2011), in 1920, this pricing system was used by Tomas Bata that gave the ending price of goods almost always in number nine. Even today, the 'Bata price' method is used in Bata shops within and outside.

3 Rationale of the study

The modern market is global and at the same time extremely competitive. Therefore, an appropriate pricing strategy should be used by the organisations to sustain in the market. Why do the retail organisations use psychological pricing strategies? Do these strategies augment sales and profitability of the organisations? If yes, then what are the reasons behind consumers' preferences for nine-ending pricing? What kinds of consumers are more likely to go for nine-ending pricing? What are the factors which make the consumers go for nine-ending pricing? The psychological pricing strategies are widespread in the retail sector and in the price advertising?

4 Literature review

A number of research studies have demonstrated that psychological pricing strategies do impact consumers' buying behaviour. An attempt has been made to review the studies associated with the psychological pricing strategies, that are practiced by business organisations, especially dealing with FMCG and Home Appliances in the retail sector, and the price advertising to influence consumers' buying behaviour, as consumers are influenced by socio-demographic factors (ex. age, income, education, gender, lifestyle, family size, reference groups, and social roles and status), and psychological patterns (ex. representativeness, availability of products and anchoring heuristics).

Rudolph (1954), Friedman (1967), Kreul (1982), Stiving and Winer (1997), Schindler and Kirby (1997) and Stiving (2000) have considered that psychological pricing strategy or nine-ending pricing strategy has been used since 1875. Several marketing researchers have been studying about it since 1930, and have examined the extent to which the psychological pricing strategy has been used in the marketplace. Friedman (1967), Stiving and Winer (1997), Stiving (2000) and Naipaul and Parsa (2001) have studied and identified a numeral digit combination like 95, 99, and 00 as the principal price endings used by organisations depending on price level, market segment, and product category. The 00-ending price is used for high-priced, high-quality, or upscale organisations; whereas 95-ending price is used for mid-priced or average quality organisations; and 99-ending price tends to be used extensively for low-priced, low-end organisations or organisations promoting a high-value image. Kalyanam and Shively (1998) and Schindler and Kibarian (1996) suggest that customers are sensitive to small differences in price; such that a penny reduction reflected in a nine-ending decreases the perception of a price, often, leading to a considerable augment in sales. Manning and Sprott (2009) found that, the extant study has paid significant attention to the impact of nine-ending prices on purchase decisions and a few studies have examined its usefulness in conjunction with other critical components of an advertisement. Holdershaw et al. (1997) suggests that, the application of psychological pricing in retail sectors is so extensive that its effectiveness is generally considered guaranteed. The term psychological pricing is used in several ways. It can be referred as the exercise of ending prices in odd numbers (examples: 1, 3, 5, 7, 9); that of ending prices in a numeral other than zero; or that of pricing just below a zero numeral (examples: $1.99, $6.99 or $8.95). Gendall (1998) supports the assumption that odd prices generate greater than expected demand. Also, the widespread practice of setting retail prices that end in 95 cents or 99 cents. One of the uses of psychological pricing is in the price-ending numeral. The buyers believe that, the prices ending in

uneven, rather than even numbers such as $9.99, $199,999 are a better deal or a better price than even numbers (e.g., $10.00 or $200,000.00). If the products, to be priced are in a price 'band'(such as online auctions, or cars or other sales listings), and if the listing price is in the odd range, say $99,000, it will appear in a lower price band than the $100,000 listing and will be viewed as a product of better value. The challenge with this strategy is that, products ending in odd numerals are also often thought as being lower in value. Therefore, Blinder (1998) suggests, it is very significant for marketers and retailers to define the right strategy for pricing specific product or service.

Holdershaw et al. (1997) has researched about the widespread use of psychological pricing and suggests that, such price endings are important in the development of marketing strategies, especially for retailer of fast moving consumer goods. In the past, retailers had a presumption that pricing a product just below an encircling number was beneficial. Georgoff (1972) and Bray and Harris (2006) found although, some researchers doubt the success of such a practice, but its use has not ceased. A number of researchers such as Schindler and Kibarian (1996), Georgoff (1972) and Schindler and Warren (1988) have tested the impact of psychological pricing on consumers. Mixed results indicate that this pricing strategy will affect some consumers' perception of a product or store quality and/or value. Also, some studies in the past had found conflicting results, with some products supporting prices with encircling figures while some products in which psychological pricing strategies were used to generate much higher sales.

In a study by Suri et al. (2004a), prices ending with numeral nine were less common and less accepted as a fair price in retail shops in Poland's compared to countries like the USA. Also, Rudolph (1954) found that out of 3,025 retail stores-advertisements in newspapers 64% of the prices ended in odd digits. In another exploratory research on retail food prices it was found that prices ending in nine were most popular. Twedt (1965) found that, prices ending in digit 5 are the second largest in terms of popularity. Also, Friedman (1967) found that, about 80% of retail prices ended with 9s and 5s. Additionally, Blattberg and Wisniewski (1989) did another extensive analysis of scanner data from a major supermarket also showed that more than 80% of the prices in the shops ended with numeral nine. A more recent research by Harris and Bray (2007) discovered that 64% of prices in the UK ended with a digit-nine and other researches by Bergen et al. (2004) with internet-based shops also showed a nine-ending price. Also, Schindler (2001) and Guéguen and Legoherel (2004) found the presence of the same trends in the retail shops in western economies. Nguyen et al. (2007) found that, the nine-ending pricing or psychological pricing is a common and perhaps overused marketing technique in western markets. Schindler and Kirby (1997), Stiving and Winer (1997) and Schindler (2009) observe that up to 65% of all prices end with a digit-nine in the USA. Gendall et al. (1997) finds the same in New Zealand. Suri et al. (2004b) finds the same in European markets such as Poland and Finland (Aalto-Setala, 2005). The underlying assumption which encourages retailers to apply these prices is that consumers may underestimate the value of nine-ending prices or psychological prices for two main reasons. First by encircling down nine-endings or by considering that nine-ending prices are the cheapest options. These effects are respectively called 'the level effects' (Thomas and Morwitz, 2005) and 'the image effects' (Schindler, 2001), and have been made clear, however, separately identified, which do not account for their relative significance.

Guéguen and Legoherel (2004) states that, the empirical research associated with the psychological pricing strategy indicates a great variability in the impact of nine-endings on the consumers' perception. Schindler and Wiman (1989) and Bizer and Schindler

(2005) state the same for the recall. Baumgartner and Steiner (2007) and Manning and Sprott, 2009) state the same for the choice. Stiving and Winer (1997) finds the same for the sales including effects, that are substantial, medium, weak, and even negative in some situations. In turn, there is a compelling need to explain, under which processes and conditions nine-ending prices are effective.

A study in the UK based on non-fashion retailers discovered that sales in most of the instances rose when product prices were augmented from odd ending to even ending prices (Bray and Harris, 2006). A study by Harris and Bray (2007) demonstrates that men and women do take price endings differently, and that women are more likely to favour odd-ending prices. The odd-ending prices or the psychological prices create psychological illusion (Basu, 1997) because of this the customers get attracted toward the products priced with odd-ending prices. The odd-ending prices do affect the attitude and buying behaviour of the consumers (Schindler and Kirby, 1997) i.e., the sales of the products get increased. According to Wedel et al. (1998), consumers take price endings as an indicator of product quality and the consumers are very heterogeneous to the price endings. By analysing diverse responses and cost functions, Gedenk and Sattler (1999) explained that a retailer should normally set nine-ending prices unless he has doubts for robust quality image-effects of price endings. Approximately 90% of all the prices of consumer goods and services in the Netherlands are psychological prices (Folkertsma, 2002). According to Hoffman et al. (2002), retail service pricing strategies have aspects and features that make them unique from the pricing of goods. A study by Thomas and Morwitz (2005) explains that reducing a price by one cent to a 99-ending affects amount perceptions when the left digit of the price changes (e.g., \$5.00 to \$4.99) however, does not affect amount perceptions when the left digit of the price is unchanged (e.g., \$5.20 to \$5.19 or \$4.80 to \$4.79) also, nine-ending prices may sometimes but not always be perceived to be lower than a price one cent higher.

According to Schindler (2006), analysis of two samples of price advertising points that there is a strong and robust correlation between the practice of the 99-ending prices and the presence of the low price appeal such as a claimed discount. Also, that the salience of price advertising leads it to dominate other sources of information in the customers' learning of price-ending meanings. Also, that the retailers, the regulators and the customers should give explicit consideration to the meaning that can be transmitted by the rightmost digits of the product prices and the price advertising. Baumgartner and Steiner (2007) analysed consumers' preferences for nine-ending versus zero-ending prices at the individual level and observed that some consumers strongly prefer nine-ending prices, whereas the other consumers favour zero-ending prices. Also, observed that few consumers behave rationally in the sense that they prefer lower prices to higher prices. 38% of the consumers favour the round price and probably use it as a quality indicator, while 29% of the consumers prefer nine-ending prices and seem to associate the digit nine with the opportunity to buy brand cheaper. According to Guéguen et al. (2009), an augment in the choice of the target pizza by the customers was observed when the price of this item was nine-ending price and the prices of the other items ended with zero. Ngobo et al. (2010) conducted an analysis on over 11,000 stock keeping units in 102 product categories of two grocery retailers and found that the effect of 99-ending prices on the SKU's category choice are larger in concentrated and promotional categories but smaller in classy categories. However, their influence on purchase quantity is larger in classy categories, but smaller in concentrated categories. A study by Kleinsasser and Wagner (2011), explains that consumers of higher-priced goods might be

influenced by the price endings, just as consumers of lower-priced good are. Also, personal involvement and price interest have a moderating effect on perceptions of such price endings. Also, odd prices make sense for sellers of higher-priced goods. A study by Bambauer-Sachse and Grewal (2011) reveals that reframed prices are more favourable than cumulative pries for high-price products, especially in combination with even price endings, a cumulative price that normally refers to a comparatively short time period, or customers with poor computation affinities. Cumulative prices offer more benefits than reframed prices for low-priced products, odd price endings, cumulative prices that refer to longer periods, and customers with brilliant computation affinities. According to Grewal et al. (2011), innovations in the retail pricing and promotions increase the sales. Carver and Padgett (2012) state that, when a product is priced above/below a stimulus set, using 99-ending prices for the highest and the lowest prices in the stimulus set lessens target price attractiveness compared to when the highest and lowest prices are 00-ending. The charisma of targets priced within the stimulus set was not affected by the practice of 99 versus 00-ending pricing. Overall, participants appear to use an assimilation/contrast approach based upon left-digit processing in determining target price attractiveness. A study by Macé (2012), the impact of nine-ending can lead to sales losses (e.g., premium brands); however, a nine-ending price is more effective for increasing sales of small brands (e.g., low market share, low price, and low items) that belong to weaker categories (e.g., low price, low budget-share). The impacts wear down as the store's nine-ending pricing practices strengthened. For category sales, a simulation unveils the existence of threshold for which over practice is counterproductive.

According to Murthi and Rao (2012), in a scanner data on ketchup and peanut butter category, it was found that between 40% and 50% of the purchases were made by consumers using expectations of prices rather than posted prices. Consumers using price expectation may be thought of as being unaware of prices. It was also found that promotions cause some consumers to focus exclusively on promoting brands, and this effect was greater on the price aware consumers than on the price unaware consumers. Also, it was observed that the rationality of consumers' expectation of prices, especially of the promoted or advertised products or services. Price aware consumers acted as a check against firms promoting without accompanying price cuts. A study by Olavarrieta (2012), explains that a variety of in-store price knowledge antecedents by section. In particular, the outcome of price symbols was significant in the female sample, while the outcome of shopping frequency was significant in the male sample. The consumers choose round prices and/or sales amounts more often than expected by the chance (Lynn et al., 2013). A study by Hackl et al. (2014), has shown that price points (especially prices ending in nine or zero) were not-the-less prevalent in e-commerce. Also, it was found that prices ending in nine were stickier than regular or even prices. Ahmetoglu et al. (2014) explain that the clean presentation of price alone – that is, independently from an actual price change have a significant impact on the consumers' price perceptions and buying behaviour.

A recent study by Mulky et al. (2014) in India, explains that the Indian consumers perceive nine-ending prices as an indicator of high value and the product is on sale and also the consumers remember the products and priced using odd-pricing.

A more recent study by Kumar and Pandey (2015) explains that, the psychological pricing strategy is an augmentative technique that organisations can adopt to increase their sales of products and services in the potential markets.

5 Major gaps for future research (RI = recent issues)

While investigating the literature for this study, it became evident that the number of research publications that pertained to retail pricing issues was scarce. In an attempt to raise awareness and spark interest in pricing issues, this article has attempted to present insights into the basic differences that should be considered when pricing retail products and services. In developing these differences, a number of potential research issues emerged. Table 1 provides an inventory of potential future research issues. It is hoped that this inventory will help those interested in pursuing a pricing research stream.

Table 1 Future research issues of psychological pricing

RI 1	First of all, it can be said that previous research on several pricing strategies has been rambling and irregular. The reference pricing, bundling products, and drip have gained the most amount of attention and the proof is relatively consistent about their impact. But, there are relatively scarce study of 'free' offers, bait pricing, and time limited offers. There is an important gap in the studies with respect to the impact of individual differences upon the weakness to pricing practices. Thus, the study of individual differences may give a fruitful opportunity for further research and may show to be very relevant for retailers and manufacturers.
RI 2	In the future, a study of brand reputation and price ending may be done. And such a study may disclose the implications of the interrelationship between branding and price endings on the customers. Moreover, the perception of managers may be sought on the reasons for practicing odd pricing strategy and its direct impact on daily sales and revenue of retail organisations. It would be crucial to look at the trends and implications of the psychological pricing strategy on different product categories. It would also be crucial to conduct further research into the factors and variables that determine the general impact of odd pricing on customers' demand.
RI 3	Since, round prices were on an average more than prices ending in nine, and prices ending in nine were on an average more than prices ending in 5, customers would logically prefer a five-ending to a nine-ending, and a nine-ending with a zero-ending. Further research can be conducted on this issue to explore the implications from different price level settings concerning the correlation between price ending and total price.
RI 4	A study can be conducted to examine whether psychological pricing strategy plays role in the industrial pricing strategy.
RI 5	It would be interesting to examine whether the brand image influences the effectiveness of sequential price reframing. For example, customers might be less cynical of temporally reframed price if the organisations practicing them have a very good reputation.
RI 6	The study has explained store quality image theory to explain the nine-ending prices. However, the behavioural and operational theory of nine-ending prices can be examined.
RI 7	It may be worthwhile to examine why relatively high levels of motivation to carefully provide estimates led to weaker nine-ending effects. Future research may also be carried out to determine precisely wherein price-information processing the drop-off effect takes place.
RI 8	Further research is needed to see what degree of form loyalties exist (e.g., tub versus stick margarine buyers, oil versus water tuna buyers etc.,), and/or if such loyalties can be related to price differentials caused by differing ingredients and production technologies.

Table 1 Future research issues of psychological pricing (continued)

RI 9	A further research can be conducted to examine *why* customers select certain products, merely to measure the impact of different price endings.
RI 10	It is found that when consumers possess low to moderate levels of familiarity with the product category; practice of nine-versus zero-ending pricing significantly affects target price magnetism (Carver and Padgett, 2012). However, a study can be conducted to examine the practice of nine-versus zero-ending prices when consumers are highly familiar or entirely not familiar with the product categories.
RI11	'Consumer preferences for 99-ending prices: the mediating role of price consciousness' is significant (Gaston-Breton, 2011). However, he has failed to examine whether consumer preferences for 99-ending prices is also significant to shopping markets (e.g., countries or stores) in which 99-endings are not widely used, to product types (e.g., hedonic products, services), and situational variables (e.g., time pressure, complexity of the task) that would probably affect the impact of nine-endings on choice.
RI 12	Hackl et al. (2014) conducted a study on 99 cents: price points in e-commerce and for the purpose, the data were taken from an Austrian price comparison site and was found a remarkable prevalence of such price setting. Do Indian price comparison sites show any remarkable prevalence of nine-ending price in e-commerce?
RI 13	The price endings affect price perception of higher-priced goods. Addition to personal involvement and price interest, other moderating variables might influence perceptions of price endings, such as consumers' lifestyle and purchasing experience or the social, situational, or demographic factors which are evident in the buying context. However, do price endings influence price perceptions of low priced or moderately priced goods or groceries?
RI 14	The preference for round prices on self-pumped gasoline purchases exists (Lynn et al., 2013). However, it does not demonstrate that this preference actually underlies the clustering of market prices.
RI 15	The impact of nine-endings can lead to sales losses (e.g., premium brands); however, a nine-ending price is more effective for increasing sales of small brands (e.g., low market-share, low price, and new items) which belong to weaker categories (e.g., low price, low budget-share). The effect erodes as the store's nine-ending pricing practices intensify. The rival brands are likely affected by competitors' nine ending pricing and could suffer from decreased sales as a result of switching effects. Which brands suffer most from rival nine ending pricing? Do these effects match the price tier predicted by theory? In other words, are high-priced brands more powerfully affected by the nine-ending pricing policy of a lower-priced competitor? Further research should address these problems, which can have major consequences for a retailer's global performance.

6 Objective of the study

The objective of this study is to examine theoretically the influences of nine-ending prices or psychological pricing strategy on consumers' buying behaviour.

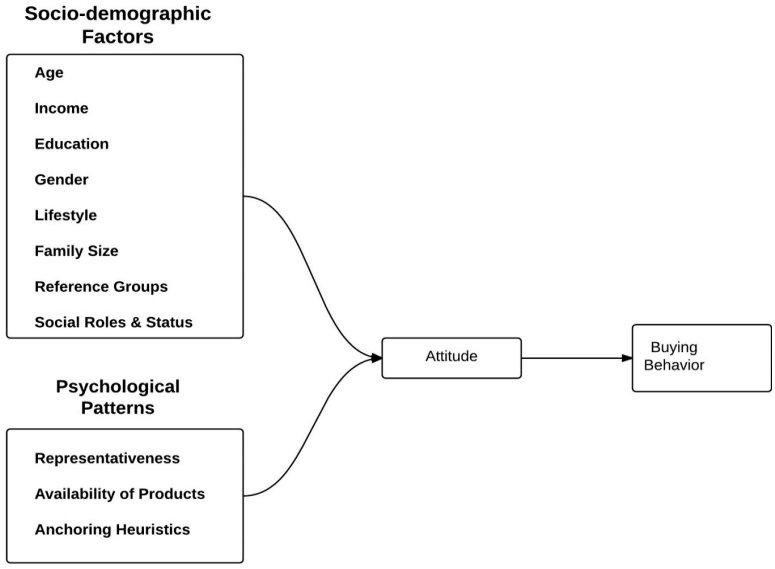
7 Data and methodology

The data for this study have been taken from the secondary sources. Several journals, publications, working papers, books and published articles have been reviewed for the purpose. The whole of the study is based on the conceptual framework, which has been framed on the basis the factors found in the various psychological pricing-based literatures, and on their relationships. The main elements in the framework are consumers' socio-demographic factors, psychological patterns, attitude and buying behaviour.

8 Conceptual framework and discussion

Our conceptual framework is presented in Figure 1 and is elaborated upon in the sections as follows

Figure 1 Showing the conceptual framework of the psychological pricing strategy and the consumers' buying behaviour



Source: Kumar and Pandey (2015)

8.1 Socio-demographic factors

The factors which influence the customers socially and demographically to choose nine-ending price or psychological price to buy a product or service are called socio-demographic factors. These factors include age, income, education, gender, lifestyle, family size, reference groups, and social roles and status (Gaston-Breton, 2011). The low income people prefer the psychologically priced products and services. The younger buyers, low educated people, women, simple life styled people; people having a large family size and the people having medium social status are prone to choose the

nine-ending priced products and services. The reference group a person has also influences the customers for choosing the psychologically priced products and services. Gerontologists and psychologists specialised in cognitive ageing have demonstrated that relative to younger adults, older adults appear to exhibit greater use of schema-based as opposed to detailed processing strategies (Phillips and Sternthal, 1977). In other words, older consumers rely more on heuristics than younger consumers. Low educated and high income consumers are also expected to engage in heuristic information processing because, respectively, they should have less ability to actively process the information and less motivation to do so. The shoppers, who are relying on a heuristic process of the information, ought to be more sensitive to nine-endings. Therefore, while little attention has been directed to exhibit the effect of age, education, gender, lifestyle, and family size of nine-ending choice (with the exceptions of Harris and Bray, 2007; Macé, 2008).

8.2 Psychological patterns

The psychological patterns like representativeness, availability of products and anchoring heuristics influence the customers to go for nine-ending options. The representativeness and the availability of the products influence the customers with a positive attitude that leads them to buy the products and service of nine-ending prices. The anchoring heuristics refer to the customer's tendency to accept and rely on, the first piece of information received before making a purchase decision. That first piece of information is the anchor and sets the tone for everything that follows. For example, a retailer might suggest a price for a product and the customer will try to negotiate down from that price, even if the price suggested is more than the blue book value.

The socio-demographic factors (e.g., age, income, education, gender, lifestyle, family size, reference groups and social-roles and status) and psychological patterns (e.g., representativeness, availability of products and anchoring heuristics together influence the attitude of customers, which make the customers buy nine-ending priced products or services.

9 Findings

The Psychological pricing strategy has a greater influence on the consumers' buying behaviour. The results indicate that, the consumers who are more price conscious are more likely to choose nine-ending prices. Indeed, low involved shoppers (especially those with a low hedonic and symbolic involvement profile), low income, low educated and younger shoppers are prone to choose the nine-ending option. It is also found that the magnitude of this nine-ending price effect depends upon the price level of the products and the positioning of the brands. Overall, like Baumgartner and Steiner (2007), we argue that consumers are heterogeneous in their preferences for nine-ending prices. On extending this idea, results show that involvement and especially its hedonic and symbolic profiles have direct and indirect effects on nine-ending preferences. Socio-demographic factors like age, income, education, gender, lifestyle, family size, reference groups, and social roles and status indirectly affect preference for nine-endings through the mediation of price consciousness. The nine-ending prices or psychological pricing effects are mostly due to a conscious process of price, which means that consumers are more likely to choose the nine-ending price option because they consider

that it makes them save money. The nine-ending price effects are stronger for the intermediate priced product category and lesser for higher brands. The psychological patterns like representativeness, availability of products and anchoring heuristics also influence the attitude of consumers, which lead them to buy the products or services.

10 Conclusions

It is concluded that the psychological pricing strategy is an augmentative strategy that companies can adopt to leverage their sales and profits in the potential markets. This paper elaborates the theoretical, conceptual and practical aspects of the psychological price perception. It provides ways about how psychology is applied by marketers in the pricing of goods and services. Psychological pricing or nine-ending influences perceptions of the consumers on different categories of goods such as FMCG and Home Appliances and determines their purchasing habits. The study concludes that socio-demographic factors like age, income, education, gender, lifestyle, family size, reference groups, and social roles and status and the psychological patterns like representativeness, availability of products and the anchoring heuristics of consumers influence them to choose the psychological pricing strategy that leads to their buying behaviour.

11 Managerial implications

The implications of psychological pricing strategy or nine-ending prices for marketing of a product or service cannot be overemphasised. Managers of firms, especially retail stores must realise that nine-ending prices would have a significant influence on the level of sales of products. Conventional wisdom suggests that, if a particular pricing strategy, i.e., psychological pricing strategy generates higher sales and revenue then, it should be practiced by the managers. The managers of retail stores must be aware that, it is possible for buyers to have a preference for round prices, rather than odd ones especially when they have difficulties in forming a reference price. Also, the managers should take cognisance of the possibility that odd pricing strategy tends to elicit a discounted-price image when round prices are used. That is to say that, the effect of psychological pricing strategy is most effective when it is used for fast moving consumer goods and the even pricing strategy has a potential of being efficient for luxury or high-end consumer products. The psychological pricing strategy has a propensity of providing significant implications for the positioning of retail goods. The managers must be aware that, the psychological pricing or nine-ending pricing alone does not sell a product or service. However, a strong sales rapport or relationship with customers also contributes to the selling of the products; it should be known that psychological pricing also complements the selling strategies. The results of this review paper can be implemented by the marketers to understand the psychology of the consumers and their buying behaviour that is influenced by the socio-demographic factors like age, income, education, gender, lifestyle, family size, reference groups, and social roles and status and the psychological patterns like representativeness, availability of products and the anchoring heuristics.

12 Academic implications

This study would be beneficial for academicians because the findings provide an important insight to them and they can use its results for empirical verification, that is to say whether, this strategy also works in other product categories and also for imparting knowledge to the management students. Pricing decisions need a thorough competitive intelligence and research for a strong understanding of the market and most importantly the culture of buyers. Psychological pricing may be the best fit for a retail business, but care must be taken to ensure that the pricing strategy decisions have been thoroughly tested to examine its viability in the market before it would be implemented. This study provides various theory-based explanations and suggests predictions in a systematic and structured way. This article provides a more thorough understanding of nine-ending pricing implications. The findings of this study could have implications for the future researchers, marketers, government agencies and various business organisations, also.

13 Limitations

Since, there are limited researches on psychological pricing strategy or nine-ending prices to declare that this strategy influences consumers' buying behaviour in India. The present study is based on the studies mostly done in the western countries. Further the study uses only secondary data solely based on the researches fully available on the topic. There may be some instances where important papers could have been missed out. An empirical study can be conducted to know the impact of psychological pricing on Indian consumers.

14 Scope of future research

Though in practice psychological pricing is used across sectors but there is a dearth of studies in this area, specifically on effect of psychological pricing on Indian consumers. Therefore, there is a definite scope of research in this domain. As it is a review paper and so there is a scope to do empirical research on psychological pricing strategy and consumers' buying behaviour.

References

Aalto-Setala, V. (2005) 'How do markets behave? The adjustment of price-endings', *Journal of Product & Brand Management*, Vol. 14, No. 7, pp.455–459.

Ahmetoglu, G., Furnham, A. and Fagan, P. (2014) 'Pricing practices: a critical review of their effects on consumer perceptions and behavior', *Journal of Retailing and Consumer Services*, Vol. 21, No. 5, pp.696–707.

Asamoah, E.S. and Chovancová, M. (2011) 'The influence of price endings on consumer behavior: an application of the psychology of perception', *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, Vol. 59, No. 7, pp.29–38.

Bambauer-Sachse, S. and Grewal, D. (2011) 'Temporal reframing of prices: when is it beneficial?', *Journal of Retailing*, Vol. 87, No. 2, pp.156–165.

Basu, K. (1997) 'Why are so many goods priced to end in nine? And why this practice hurts the producers', *Economics Letters*, Vol. 54, No. 1, pp.41–44.

Baumgartner, B. and Steiner, W.J. (2007) 'Are consumers heterogeneous in their preferences for odd and even prices? Findings from a choice-based conjoint study', *International Journal of Research in Marketing*, Vol. 24, No. 4, pp.312–323.

Bergen, M., Kauffman, R.J. and Lee, D. (2004) 'Store quality image and the rational inattention hypothesis: an empirical study of the drivers of $9 and 9¢ price endings among internet-based sellers', *Proceedings of the 9th INFORMS Conference on IS and Technology*, pp.23–24.

Bizer, G.Y. and Schindler, R.M. (2005) 'Direct evidence of ending – digit drop – off in price information processing', *Psychology & Marketing*, Vol. 22, No. 10, pp.771–783.

Blattberg, R.C. and Wisniewski, K.J. (1989) 'Price-induced patterns of competition', *Marketing Science*, Vol. 8, No. 4, pp.291–309.

Blinder, A., Canetti, E.R., Lebow, D.E. and Rudd, J.B. (1998) *Asking about Prices: A New Approach to Understanding Price Stickiness*, Russell Sage Foundation, New York, USA.

Bray, J.P. and Harris, C. (2006) 'The effect of 9-ending prices on retail sales: a quantitative UK based field study', *Journal of Marketing Management*, Vol. 22, Nos. 5–6, pp.601–617.

Carver, J.R. and Padgett, D.T. (2012) 'Product category pricing and future price attractiveness: 99-ending pricing in a memory-based context', *Journal of Retailing*, Vol. 88, No. 4, pp.497–511.

Cherry, K. (2014) *What is Consumer Psychology: The Psychology of Consumer Behaviour* [online] http://psychology.about.com/od/branchesofpsycholog1/a/consumer-psychology.htm.

Dalrymple, D.J. and Thompson, D.L. (1969) *Retailing – An Economic View*, The Free Press, USA.

Folkertsma, C.K. (2002) 'The euro and psychological prices: simulations of the worst-case scenario', *De Economist*, Vol. 150, No. 1, pp.19–40.

Friedman, L. (1967) 'Psychological pricing in the food industry', in Phillips, A. and Williamson, O.E. (Eds.): *Prices: Issues in Theory, Practice, and Public Policy*, pp.187–201, University of Pennsylvania Press, Philadelphia, PA.

Gaston-Breton, C. (2011) *Consumer Preferences for 99-Ending Prices: The Mediating Role of Price Consciousness*, Business Economic Series 03 (Spain), pp.1–39.

Gedenk, K. and Sattler, H. (1999) 'The impact of price thresholds on profit contribution: should retailers set 9-ending prices?', *Journal of Retailing*, Vol. 75, No. 1, pp.33–57.

Gendall, P. (1998) 'Estimating the effect of odd pricing', *Journal of Product and Brand Management*, Vol. 7, No. 5, pp.421–432.

Gendall, P., Holdershaw, J. and Garland, R. (1997) 'The effect of odd pricing on demand', *European Journal of Marketing*, Vol. 31, Nos. 11/12, pp.799–813.

Georgoff, D.M. (1972) *Odd-Even Retail Price Endings*, Bureau of Business and Economic Research, Graduate School of Business Administration, Michigan State University, East Lansing.

Grewal, D., Ailawadi, K.L., Gauri, D., Hall, K., Kopalle, P. and Robertson, J.R. (2011) 'Innovations in retail pricing and promotions', *Journal of Retailing*, Vol. 87S, No. 1, pp.S43–S52.

Guéguen, N. and Legoherel, P. (2004) 'Numerical encoding and odd-ending prices: the effect of a contrast in discount perception', *European Journal of Marketing*, Vol. 38, Nos. 1/2, pp.194–208.

Guéguen, N., Jacob, C., Legoherel, P. and Ngobo, P. (2009) 'Nine-ending prices and consumer's behavior: a field study in a restaurant', *International Journal of Hospitality Management*, Vol. 28, No. 1, pp.170–172.

Hackl, F., Kummer, M.E. and Winter-Ember, R. (2014) '99 cent: price points in e-commerce', *Information Economics and Policy*, Vol. 26, No. 1, pp.12–27.

Harris, C. and Bray, J., (2007) 'Price endings and consumer segmentation', *Journal of Product and Brand Management*, Vol. 16, No. 3, pp.200–205.

Hoffman, K.D., Turley, L.W. and Kelley, S.W. (2002) 'Pricing retail services', *Journal of Business Research*, Vol. 55, No. 12, pp.1015–1023.

Holdershaw, J., Gendall, P. and Garland, R. (1997) 'The widespread use of odd-pricing in the retail sector', *Marketing Bulletin*, Vol. 8, No. 1, pp.53–58.

Kalyanam, K. and Shively, T.S. (1998) 'Estimating irregular pricing effects: a stochastic spline regression approach', *Journal of Marketing Research*, Vol. 35, No. 1, pp.16–29.

Kleinsasser, S. and Wagner, U. (2011) 'Price endings and tourism consumers' price perceptions', *Journal of Retailing and Consumer Services*, Vol. 18, No. 1, pp.58–63.

Kotler, P. and Keller, K.L. (2005) *Marketing Management*, 12th ed., Prentice Hall, USA.

Kreul, L.M. (1982) 'Magic numbers: psychological aspects of menu pricing', *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 23, No. 2, pp.70–75.

Kumar, S and Pandey, M. (2015) 'Psychological pricing strategies and consumers' buying behavior: a review', *Conference Proceedings of (ICEBM 2015)*, 20–21 March, BITS-Pilani, Rajasthan, India (Vol. 2), Excellent Publishing House, 110070 New Delhi, pp.283–285, ISBN: 978-93-84935-18-4.

Lynn, M., Flynn, S.M. and Helion, C. (2013) 'Do consumers prefer round prices?: evidence from pay-what-you-want decisions and self-pumped gasoline purchases', *Journal of Economic Psychology*, Vol. 36, No. 1, pp.96–102.

Macé, S. (2008) 'Assessing and explaining the impact of 99-ends on sales with store-level scanner data', *Proceedings from the 37th EMAC Conference*, Reykjavik, Iceland.

Macé, S. (2012) 'The impact and determinants of nine-ending pricing in grocery retailing', *Journal of Retailing*, Vol. 88, No. 1, pp.115–130.

Manning, K.C. and Sprott, D.E. (2009) 'Price endings, left-digit effects, and choice', *Journal of Consumer Research*, Vol. 36, No. 2, pp.328–335.

Mulky, A., Prahalad, M. and Venkateswaran, K.N. (2014) *Price Endings and Consumer Perception* [online] http://tejas.iimb.ac.in/articles/08.php.

Murthi, B.P.S. and Rao, R.C. (2012) 'Price awareness and consumers' use of deals in brand choice', *Journal of Retailing*, Vol. 88, No. 1, pp.34–46.

Nagle, T.T. and Holden, R.K. (1995) *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 2nd ed., Prentice Hall, Englewood Cliffs, NJ.

Naipaul, S. and Parsa, H.G. (2001) 'Menu price endings that communicate value and quality', *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 42, No. 1, pp.26–37.

Ngobo, P.V., Legohérel, P. and Guéguen, N. (2010) 'A cross-category investigation into the effects of nine-ending pricing on brand choice', *Journal of Retailing and Consumer Services*, Vol. 17, No. 5, pp.374–385.

Nguyen, A., Heeler, R.M. and Taran, Z. (2007) 'High-low context cultures and price-ending practices', *Journal of Product & Brand Management*, Vol. 16, No. 3, pp.206–214.

O'Reilly, T. (2014) *The Psychology Behind Prices* [online] http://www.cbc.ca/radio/undertheinfluence/the-psychology-of-price-1.2801793.

Olavarrieta, S., Hidalgo, P., Manzur, E. and Farías, P. (2012) 'Determinants of in-store price knowledge for packaged products: an empirical study in a Chilean hypermarket', *Journal of Business Research*, Vol. 65, No. 12, pp.1759–1766.

Phillips, L.W. and Sternthal, B. (1977) 'Age differences in information processing: a perspective of the aged consumer', *Journal of Marketing Research*, Vol. 14, No. 4, pp.444–457.

Pride, W.M. and Ferell, O.C. (1997) *Marketing Concepts and Strategies*, 10th ed., Houghton Mifflin Co, New York.

Rudolph, J.J. (1954) 'Pricing for today's market', *Printers' Link*, May, Vol. 247, No. 1, pp.22–24.

Schindler, R.M. (2001) 'Relative price level of 99-ending prices: image versus reality', *Marketing Letters*, Vol. 12, No. 3, pp.239–247.

Schindler, R.M. (2006) 'The 99 price ending as a signal of a low-price appeal', *Journal of Retailing*, Vol. 82, No. 1, pp.71–77.

Schindler, R.M. (2009) 'Patterns of price endings used in the US and Japanese price advertising', *International Marketing Review*, Vol. 26, No. 1, pp.17–29.

Schindler, R.M. and Kibarian, T.M. (1996) 'Increased consumer sales response through use of 99-ending prices', *Journal of Retailing*, Vol. 72, No. 2, pp.187–199.

Schindler, R.M. and Kirby, P.N. (1997) 'Patterns of rightmost digits used in advertising prices: implications for nine-ending effects', *Journal of Consumer Research*, Vol. 24, No. 2, pp.192–201.

Schindler, R.M. and Warren, L.S. (1988) 'Effect of odd pricing on choice of items from a menu', *Advances in Consumer Research*, Vol. 15, No. 1, pp.348–353.

Schindler, R.M. and Wiman, A.R. (1989) 'Effects of odd pricing on price recall', *Journal of Business Research*, November, Vol. 19, No. 3, pp.165–177.

Stiving, M. and Winer, R.S. (1997) 'An empirical analysis of price endings with scanner data', *Journal of Consumer Research*, Vol. 24, No. 1, pp.57–67.

Stiving, M.A. (2000) 'Price-endings: when prices signal quality', *Management Science*, Vol. 46, No. 12, pp.617–629.

Stivings, M.A. (1996) *An Economic Theory of Price Endings*, PhD dissertation, University of California, Berkeley.

Suri, R., Anderson, R.E. and Kotlov, V. (2004a) 'The use of 9-ending prices: contrasting the USA with Poland', *European Journal of Marketing*, Vol. 38, Nos. 1/2, pp.56–72.

Suri, R., Manchanda, R.V. and Lee, S. (2004b) 'A Wxed price vs. a price discount: effect of cultural differences on the effectiveness of price presentation format', in Hung, K. and Monroe, K.B. (Eds.): *Advances in Asian Consumer Research*, Vol. 3, Association for Consumer Research, Provo, UT.

Thomas, M. and Morwitz, V. (2005) 'Penny wise and pound foolish: the left-digit effect in price cognition', *Journal of Consumer Research*, Vol. 32, No. 1, pp.54–64.

Twedt, D.W. (1965) 'Does the 9 fixation in retail pricing really promote sales?', *The Journal of Marketing*, Vol. 29, No. 4, pp.54–55.

Wedel, M. and Leeflang, P.S. (1998) 'A model for the effects of psychological pricing in Gabor-Granger price studies', *Journal of Economic Psychology*, Vol. 19, No. 2, pp.237–260.

View publication stats