

# THE INFLUENCE OF PRICE ENDINGS ON CONSUMER BEHAVIOR: AN APPLICATION OF THE PSYCHOLOGY OF PERCEPTION

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## Abstract

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Price ending is an important pricing strategy that has been used by retailers over the years. The trend seems to be effective considering how consumers react especially to products with odd price endings. This review is aimed at providing an understanding of the psychological influences of price ending on buyers, using the theory of perception. It analysis theories and existing literature on the topic and brings out augmentative pricing strategies that retailers can adopt in consumer markets. Also, an exploratory study was conducted to identify the prevalence of odd prices in the Czech retail sector. The exploratory study was based on 16 different home-drop advertising material, short magazines and leaflets by retails shops in the Zlin region. These leaflets, short magazines and home-drop advertising material were collected and analyzed over 3 month period to identify the dominance of odd and even pricing strategy (total number of advertisements = 922). Also, in order to have a comprehensive coverage of the odd-even pricing phenomenon, opinions of some buyers were sought on their perception of odd-pricing and how the odd-pricing influence their buying decisions. Opinions of a total of 173 shoppers were sampled. The study found clear evidence of the predominant use and preference by shoppers for odd prices compared to even prices in different product categories, especially fast moving consumer goods. The paper concludes by providing the marketing implications and suggestions on when odd and even price ending strategies should be used and for what category of products this strategy can be used. Also, the implications of price endings on marketing communication are highlighted.

price ending, consumer behaviour, perception, psychology, price

Psychological pricing has been used by marketers over the years to influence buying behaviour of consumers. Many businesses use psychological tactics in pricing their product or service; sometimes unknowingly. Psychological pricing is the practice of structuring and presenting prices to appeal to consumers' emotions and to influence their decision-making processes (Pride and Ferrell, 1997). Pricing is more than just about numbers; it is a play on perception. To a large extent, it is the customers' perception of price that makes them buy a product and not the actual money price. In many cases, the psychology of pricing and price perception is more important than the actual price of the product or service; and businesses that understand the role

psychology plays in their pricing strategies can come out as winners.

Price is multi-faceted, therefore, after producing a commodity, the crucial question that needs to be answered is: "What price do I charge?" This question is not answered by only produces, but also wholesalers and most especially retailers. It is also important to consider the how, what, when, where and what form of pricing by asking the question: "How do I charge?" This is necessary because, customers react differently if the price is broken into parts, or the product or service is bundled with other items. When buyers have much more information on how to make a decision on the perceived value or quality of a product, price

moves up the ranking scale as a determiner of value. People process numbers differently, and they may never know what is in their minds when they consider prices and how this affects their behaviour. Traditional economic thinking assumes that markets are always efficient and participants always rational. However, consumers behave differently, sometimes even irrationally when presented with a variety of triggers. When setting prices, it is important to note that perception plays a large role in customers' purchasing decisions. If the right pricing strategy is used for a product and for the market, and such a strategy is supported with strong promotional and placement or distribution programs, the firm can increase sales and experience business growth (Stivings, 1996). But a wrong pricing strategy can be very costly. There are different price strategies that are used by firms. One of the most commonly used pricing strategies which is widely applied for consumer goods across different product categories in retail shops and newspaper advertisements is the price ending (odd-even) strategy.

The odd-even psychological pricing strategy, a common practice in the marketplace which uses certain odd and even digits as price endings (thus CZK 0.99 in CZK 4.99 and CZK 0.00 in CZK 3.00), which have the potential to influence consumers' perceptions of the price or the product (Nagle and Holden, 1995). Even though the actual origin of odd-even pricing is unclear (Dalrymple and Thompson, 1969; Friedman, 1967), the use of odd pricing has been evident for more than 100 years (Schindler and Wiman, 1989). Since that time the practice of odd pricing in retailing has become common in many countries. Even though results have been to some extent contradictory across product categories, the success of odd ending prices seems to be valid, especially regarding low-priced products which are purchased regularly. The use of odd ending prices, the practice of pricing just below the nearest round number (for example, CZK 9.99 instead of CZK 10.00, or CZK 99.95 instead of CZK 100), is very common in retail locations. The fundamental assumption of odd pricing is that prices set just below the nearest round figure produce higher than expected demand at that level. This denotes that the purchase probabilities for just-below prices are positioned well to the right of the estimated demand curves, generating a kink in the demand curves at these points. Odd prices, also stated in literature as magic prices, charm prices, psychological prices, irrational prices, intuitive prices or rule-of-thumb prices (Holdershaw, Gendall and Garland, 1997), are not rooted in strict mathematical calculations or long standing economic theory (Kreul, 1982).

### **Perception – price – consumer connections**

According to Lindsay and Norman (1997), perception is the process by which organisms interpret and organize sensation to produce a meaningful experience of the world. Perception is distinguished from sensation because whereas

sensation involves a relatively unprocessed result of stimulation of sensory receptors in the eyes, ears, nose, tongue, or skin, perception goes further to describe a person's experience of external stimulus in the environment and processes input from the senses (Lindsay and Norman, 1997). However, in practical terms, sensation and perception are impossible to separate, because they complement each other and form part of a continuous process. For example, the ways an individual perceives and react to prices and advertising information in general largely depends on how they perceive them through the senses and how it is interpreted through the mind.

A major theoretical issue on which psychologists are divided is the extent to which perception relies directly on the information present in the stimulus. Some argue that perceptual processes are not direct, but depend on the perceiver's expectations and previous knowledge as well as the information available in the stimulus itself. Relating perceptual process to pricing in this study, buyers' sensory experience of the price of a product involves both the recognition and the effect it has on them, and their willingness to buy the product. A buyer's expectation depends largely on their previous experiences and current perception of prices. Hence, the perceptual process is a sequence of steps that begins with the environment and leads to perception of a stimulus and an action in response to the stimulus. Through the perceptual process, an individual gains information about properties and elements of the environment.

Perception does not only create peoples experience of the world; it allows individuals to act within their environment. Individuals obtain information from the external world from the senses: taste, hearing, smell, touch, sight. Such information received is integrated and analyzed to make decisions. Decision is an outcome of mental processes (cognitive process) leading to the selection of a course of action among several alternatives. When a person enters a shop, he or she perceives the price tags on products and determine what action to take or how to relate to it. The price sensitive shopper will either perceive it as cheap or expensive and that subjective perception and interpretation will determine whether they will buy or not buy the product. The perception of price also causes consumers to buy on impulse. Human behaviour is such that people strive to maximize value whiles minimizing cost. When a buyer perceives that the utility derived from a product far exceeds the cost or price of it, there is a higher probability of them shelling out their money to buy it even if it is not in their plan.

Economists who study consumer 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, decoding prices in terms of their knowledge from previous

purchasing experience, formal communications (advertising and sales promotions), informal communications (friends, colleagues, or family members), and point-of-purchase or online resources (Kotler and Keller, 2005). The consumer behaviour theories suggest that consumer's understanding of right-hand digits influence the demand curve, thus prompting firms to use particular price endings. Consumer behaviour theories explain the supremacy of odd prices and classify them into level effects and image effects.

- Level effects, also known as underestimation effects, highlight the behaviours or fundamental processes that lead a buyer to twist their perception of the price. For instance, one frequent hypothesis concerning level effects is that buyers are inclined to rounding numbers down, making a buyer think that CZK 29.99 is much lower than CZK 30.00.
- Image effects, conversely, are those that lead a buyer to perceptions about the product, store, or competition, because of the right hand digits of the price. For instance, buyers may think that a product with a price that ends in 99 is on special offer. Each of the suggested level effects is a depiction of the way buyers' process information regarding the digits of a price (i.e., their mental processing), totally unrelated to firm behaviour. Alternatively, the image effects focus on buyers' perceptions of firm behaviour. Shoppers may deliberately try to discover firms' intentions when setting certain prices, or they may, over time, subconsciously realize the correlation between price endings and quality or discounted products.

### Literature review

Marketing researchers, as far back as the 1930s, have examined the extent to which the odd-even psychological pricing strategy has been used in the marketplace (Stiving, 2000; Stiving and Winer, 1997; Schindler and Kirby, 1997; Kreul, 1982; Friedman, 1967; Rudolph, 1954). These studies have identified a number digit combination like 95, 99 and 00 to be the predominant price endings used by firms, apparently depending on price level, market segment, and product category. Specifically, 00 is used by high-priced, high-quality, or upscale firms; whereas 95 is used by mid-priced or average quality firms; and 99 tends to be used extensively by low-priced, low-end firms or firms promoting a high-value image (Naipaul and Parsa, 2001; Stiving, 2000; Stiving and Winer, 1997; Friedman, 1967). In studying literature on the psychology of pricing, the contributions in the Czech Republic cannot be explained without the influence of Tomáš Bata. In the former Czechoslovakia, many buyers referred to this pricing strategy as "*batovská cena*" or "*Bata price*" attributable to Tomáš Bata, the Czech manufacturer of footwear. Tomáš Bata began to use this practice in 1920. This pricing system used by Tomas Bata gave the ending prices of goods almost always by number

9. Today, the "*Bata price*" method is still used in Bata shops within and outside the Czech Republic.

Actually the practice of odd pricing in retailing is so extensive that its effectiveness is generally taken for granted (Holdershaw *et al.*, 1997). The term odd pricing is used in several ways. It can refer to the practice of ending prices in odd numbers (1, 3, 5, 7, 9); that of ending prices in a number other than zero; or that of pricing just below a zero (for example, CZK 2.99, CZK 4.99 or CZK 19.95). The latter is the practice most commonly referred to when the term is used (Gendall, 1998). One use of psychological pricing is in price-ending numbers. Buyers believe that, prices ending in uneven, rather than even numbers such as, (CZK 9.99, CZK 199,999, etc.) are a better deal or a better price than even numbers (e.g. CZK 10 or CZK 200,000). If the products to be priced are to be in a price 'band' (such as on-line auctions, or cars or other sales listings), if the listing price is in the odd range, say CZK 99,000, it will appear in a lower price band than the CZK 100,000 listing and will be viewed as a product of better value. The challenge with this strategy is that, products ending in an odd number are also often perceived as being lower in value. It is important for retailers to choose the right strategy for pricing specific product or service (Blinder, 1998).

The widespread use of odd-even pricing suggests that, such price endings are important in the development of marketing strategies, especially for retailers of fast moving consumer goods. In the past, retailers have had a presumption that pricing a product just below a round number is beneficial (Holdershaw *et al.*, 1997). Although some researchers doubt the success of such a practice, its use has not ceased (Bray and Harris, 2006; Georgoff, 1972). A number of researchers have tested the impact of odd-even psychological pricing on consumers (Schindler and Kibarian, 1996; Schindler and Warren, 1989; Georgoff, 1972). Mixed results indicated that this pricing strategy will affect some consumers' perceptions of product or store quality and/or value. Also, some studies in the past have found conflicting results, with some products supporting prices with round figures while some products in which odd-pricing are used generates much higher sales.

In a study by Suri, Manchanda and Lee (2004) it was found that prices ending with number 9 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 3025 retail store advertisements in newspapers 64% of prices ended in odd digits. In another exploratory study of retail food prices it was revealed that prices ending in 9 were most popular, while prices ending in 5 being was second in terms of popularity (Twedt, 1965). Also, Friedman (1967) found that, about 80% of retail prices ended with 9s and 5s. Additionally, another extensive study of scanner data from a major supermarkets also showed that more than 80% of the prices in the shops ended with number

9 (Blattberg and Wisniewski, 1983). A more recent study by Harris and Bray (2007) revealed that 64% of prices in the United Kingdom ended with a 9 digit while another study with internet based shops also showed a 9-ending prices (Bergen, Kauffman and Lee 2004). Also, the same trends were found in other research in retail shops in western economies (Schindler, 2001; Gueguen and Legoherel, 2004).

## METHODOLOGY

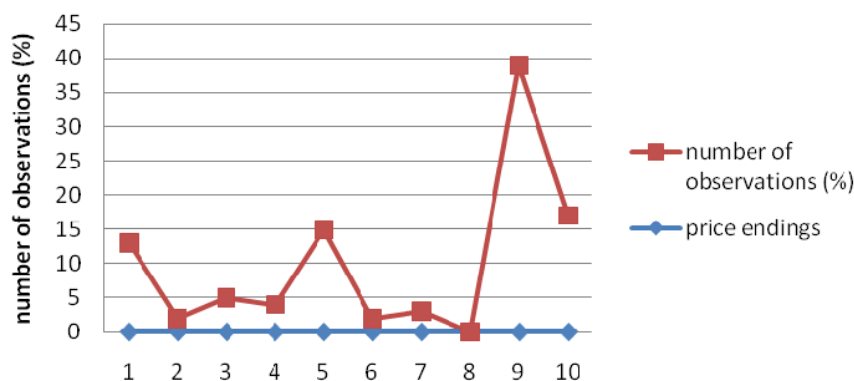
In the Czech Republic, there is evidence of the widespread observations of the use of odd pricing in the retail sector. This study was carried out in retail shops in the Zlin region of the Czech Republic. The exploratory study sought to identify the prevalence of odd prices in the Czech retail sector. The study was based on 16 home-drop advertising material, short magazines and leaflets by retail shops in the Zlin region. These leaflets, short magazines and home-drop advertising materials were analyzed over 3 month period to identify the dominance of odd pricing (total number of advertisements = 922). Also in order to have a comprehensive coverage of the odd-even pricing phenomenon, opinions of some buyers were sought on their perception of odd-pricing and how the odd-pricing influence their buying decisions. Opinions of a total of 173 shoppers were sampled. The advertisement were analysed using the right-most digit displayed. Therefore, regardless of the whole *koruna* amount displayed on a price of a product, the analysis was based on just the heller ending. In the survey, odd price were defined as a price which fell just below and within:

- 5 CZK of the nearest whole crown, example 50, 60, 70, 80, 90),
- 5 CZK of the nearest 100 CZK or 1000 CZK amount,
- 1 CZK of the nearest round crown amount, example 19, 29, 39).

Hence, not all the prices that ended with an odd number were included as an odd price. For example, a price of 1425 CZK, though ends with an odd number was not considered as an odd price. Furthermore, prices which were not placed on a single product were disregarded (e.g., products that are advertised as two for the price of one. Also, advertisement that indicated the base price measured in less than .5 cm (in column centimetres) was excluded.

## RESULTS AND DISCUSSIONS

The *Czech koruna* (*koruna* means crown; sign CZK) has been the currency of the Czech Republic since 1993. One *Czech koruna* equals 100 *hellers*. The Central Bank of the Czech Republic introduced coins of the *Czech koruna* in denominations of 10, 20 and 50 hellers, 1, 2, 5, 10, 20 and 50 crowns. However, by 31 October 2003, the 10 and 20 *heller* coins were withdrawn from circulation while the 50 *heller* coins were taken from circulation on 31 August 2008<sup>1</sup>. The withdrawal of the coins was as a result of diminishing purchasing power. Currently the coins in circulation in the market include 1, 2, 5, 10, 20 and 50 *koruna*, hence, the *heller* denomination has fizzled out of the market. Aside the coins, there are 50, 100, 200, 500, 1000, 2000 and 5000 denominations of banknotes in use. However, although the Czech currency does not have *hellers*, the bill presented to customers after shopping does contain rounded *heller* figures. This survey observed that, among all the retail shops and prices found in advertisement of products, there were prices indicated with decimals that reflect the *heller* value of products such as 49.90 CZK, 35.50 CZK among others. When such prices are shown on products, the expectation is that buyers pay the value as reflected in the nearest whole number. For instance, 59.90 CZK will become 60 CZK while 25.50 CZK will be rounded to 26 CZK and so on.



1: Number of price ending observation (in percentage)  
Source: Survey Data, 2011

<sup>1</sup> The CNB decides 50-heller coins will cease to be legal tender" (2007), Czech National Bank (on-line), August 2. [http://www.cnb.cz/en/public/media\\_service/press\\_releases\\_cnb/2007/070802\\_50heller.html](http://www.cnb.cz/en/public/media_service/press_releases_cnb/2007/070802_50heller.html)



From figure 1 above, it is seen that the most used price ending digits in the Czech retail sector are the numbers 0, 5 and 9. This finding in figure 1 above is consistent with the study by Rudolph (1954) that out of 3025 retail store advertisements in newspapers, 64% of prices ended in odd digits. Also, it is consistent with Twedt (1965) exploratory study which showed that, prices ending in 9 were most popular in retail food shops, while prices ending in 5 being second in terms of popularity. Researchers like Friedman (1967); Blattberg and Wisniewski (1983); Harris and Bray (2007); Bergen *et al.* (2004); Gueguen and Legoherel (2004); Schindler (2001) found from studies in different countries the dominance of 9 digit price endings in different shops.

In total, 597 advertisements (64.7%) displayed *hellers* endings (with decimals), and 325 (35.3%) ended in whole *koruna* prices. The findings are indicated in table I below. Another interesting trend was that all the 597 advertisements with *hellers'* displayed a .90-ending (e.g. 68.90 CZK).

I: Price endings with or without decimals (*hellers*)

Valid	Frequency	Percent
With decimals	597	64.7
Without decimals	325	35.3
Total	922	100

Source: Survey Data, 2011

Although it will sound sensible to assume that randomness would result from any pricing model in a retail market to make sure that, each of the 10 digits in the number system would arise roughly equally in retail pricing, that is, to say, each of the price endings would be equally distributed from numbers 0 to 9. Nevertheless, as shown in figure 1, number of price ending observation (in percentage) and table II, end number preference by customers, the frequency with which each digit occurs in retail pricing is far from equally distributed. This analysis disclosed that prices ending in the digit 9 (39%) clearly outnumbered all other price endings (figure 1). 13% of prices ended in the digit 0, with a further 15% of prices ending in the digit 5. That is to say that, 67% of prices ended in 0, 5 or 9. The remaining eight digits accounted for only 33%. It is hence concluded that, in the retail sector in Czech republic, whatever pricing methods retailers use, there is an explicit bias to favour odd price endings thus 0, 5 and 9 as end numbers compared to other odd numbers and even numbers.

It was found that, customers interviewed have the perception that odd prices are much cheaper than even prices. The perception was stronger for food items and fast moving consumer goods for every day usage such as detergents and cloths among others. This is an indication of the influence retail advertising have had on shoppers. Retailers demonstrated a much smaller number for *heller* digits than for whole *koruna* number; thus, emphasize

II: Frequencies of odd and even prices in the Czech retail sector

Valid	Frequency	Percent
Odd price	691.5	75
Even price	230.5	25
Total	922	100

Source: Survey Data, 2011

the *koruna* amount of the price. This trend in pricing strategy may account for the perception of savings and the delusion that prices that end in odd numbers is much cheaper than they really are. Furthermore, the study found from interviews with customers that, odd-pricing strategy generates a perception of savings to them. Because many retail shops in Czech Republic end the prices of most consumer goods with the ubiquitous CZK 0.99, instead of a "0" or "1" buyers who are price sensitive tend to view prices such as CZK 9.99 as much better than CZK 10.00. Such buyers tend to perceive that they stand the chance of making a CZK 0.01 savings. Generally, customers perceive items with prices ending with ".99" more favourably. The perception of savings is a powerful tool that marketers can leverage on to develop pricing strategies. A price of 99 or 19.99 looks apparently much better than rounded number such as 100 or 20, even though the difference is just 1 currency unit.

Customers were asked to indicate their preference for specific price endings digits. The results are indicated in table III below. In total, it was found that most of the respondents indicated their preference for prices ending with the 9 digit. As a result of the widespread use of odd pricing, the effectiveness of it may seem self evident. However, it must be emphasized that, the widespread nature of odd prices does not necessarily lead to greater than expected demand.

The consumer preference for odd price endings can also be attributed to the consequence or effect of the conditioning of market to influence consumers to expect odd price endings. In other words, the aggregate of the prevalence of odd pricing in the

III: End number preference by customers

Digit Ending	Frequency	Percent
0	35	20
1	9	5.2
2	1	0.57
3	5	2.8
4	6	3.4
5	52	30
6	1	0.57
7	2	1.69
8	1	0.57
9	61	35.2
Total	173	100

Source: Survey Data, 2011

Czech retail sector may automatically affect buyers' price expectations, which consecutively leads to a positive odd pricing effect on demand due to the fact that buyers expect it to come true (Holdershaw *et al.*, 1997). A reason that explains the preference for odd prices from the point of view of buyers was that, such prices tend to elicit a perception of discounted-price compared to round number prices although the overall effect was not so strong. However, some of the respondents indicated that, the perceived savings from such price endings are not so significant; hence they tend to sometimes underestimate odd prices by ignoring the *heller* endings. This was especially true for high priced products such as electronics, cars and home appliances among others. Buyers are also able to perceive and recall exactly the round reference prices. Although not confirmed, it is also probable that odd prices have some effect on consumers' heuristic choice strategies. Therefore, in using a dual display of figures in retail shops for the price of commodities it is important for retailers not to do it in an indiscriminate manner. It is not always the case that such odd prices are effective; hence it is important for marketers to exercise caution when using such pricing strategies.

### Implications for marketing

The implications of price endings on the marketing of a product or service cannot be over emphasized. Managers of firms especially retail shops must realize that price endings could have a significant influence on the level of sales of products. Conventional wisdom suggest that, if a particular pricing strategy, thus price endings strategy generates higher sales and revenue, then they should be used continuously by managers. As indicated by Blattberg and Wisniewski (1989), in their survey in the United States, when the price of margarine was lowered from 89 cents to 71 cents, sales volume increased a mere 65%, but when it was lowered from 89 to 69 cents, sales volume increased by 222%. Hence, it is important for managers to discover the pricing points that evoke a relatively high level of demand on increment in sales. In this study, it was found that retailers usually use even pricing strategy for products that is of high quality and expensive. This is mainly because, it prevents a tendency for shoppers to make a connection between lower price and lower quality (Nagle and Holden, 1995).

Managers of retail shops must be aware that, it is possible for buyers to have preference for round prices, rather than odd ones especially when they have difficulties in forming a reference price. Also, managers must take cognisance of the possibility that odd pricing strategy tends to elicit a discounted-price image than when round prices are used. However, the effect is not so strong and has not been empirically tested and proven. Managers of retail shops must take into consideration the facts that shoppers can ignore the rightmost numbers (or decimals) and they can easily recognize the

round figures of prices of products. Hence, retailers can stand a chance of gaining some positive effect if they are able to inculcate low-level odd prices in their strategy instead of high-level prices. This is because; the tendency or effect of underestimation is comparatively smaller. Also, retailers could gain certain benefits from employing the use of odd prices and round ones simultaneously. This is mainly because of the relativity in terms of the effect it elicits when it is placed on different product categories. That is to say, the effect of odd pricing strategy is more effective when it is used for fast moving consumer goods and the even pricing strategy has a potential of been efficient for luxury or high-end consumer products. The odd ending strategy has a tendency of providing significant implications for the positioning of retail goods.

Marketers must be aware that, the psychological price-ending strategy alone does not sell a product or service. Having a strong sales rapport or relationship with customers also contribute to the selling of products, but psychological pricing also complements the selling strategies. Pricing decisions need to include a thorough competitive intelligence and research, a strong understanding of the market and most importantly, the culture of buyers. Psychological pricing might be the best fit for a retailing business but care must be taken to ensure that the pricing strategy decisions are thoroughly tested to examine its viability in the market before it is implemented. A typical example is provided in the study by Blinder (1998). In the study, it was found that some prices, for instance round numbers for some products, have such psychological importance to consumers that they develop a kind of obstacle against price increases. Hence, the prices tend to get stuck at figures such as 8.99 or 29.95, rather than moving up to say 9 or 32. Such barriers can be curtailed, although it takes more effort to do so. In that sense, pricing points can be a cause of price stickiness (Blinder, 1998).

In order to gain the necessary attention for goods and services, marketers must ensure that their pricing strategies are targeted and focused on the ego and self image of buyers. This is a reality assessment of how price strategy can work to attract ego conscious buyers. If the product or service has some ego-sensitivity for the buyers and for the market as a whole, the odd-even price strategy is likely to be successful. This is because, the odd-even pricing strategy is based on the assumption that buyers are used to uneven (non-rounded) currency pricing and that they feel they are getting a 'deal' when this type of pricing is used. It is still a very common pricing strategy in consumer markets but is not used as often in markets focused on business to business selling. This study suggest that, the approach to using this strategy would be to test it; have one product priced at an uneven price and another, similar product at a rounded-to-the-nearest-10 price and measure the effect in terms of sales.

Some researchers also provide some recommendations for using price-ending strategies, for example, Stivings (1996) explains that, firms that want to signal quality of their products should use the digit 0 or 5 as the rightmost digit. Stivings (1996) further indicates that firms that operate in low quality market segments should use the digit 9 for their price endings. It must be emphasized that, there are some inherent difficulties in implementation of price endings among retailers. Producers of goods have to be listed in retail chains which often dictate sales themselves without consulting the producers. The producers do not have much control of the pricing strategy that is often used; hence, it becomes difficult to influence the perception of consumers as they would have wished. Furthermore, the owner of a brand has minimal influence on pricing. Thus brand managers have no motivation to participate in researches concerning pricing psychology.

In the price ending controversy, the perception of saving from the customers point of view is not dependent on only the product or the product category per say, rather the price consciousness of individual customers also have an impact on whether they will purchase a particular product or not. Also, the brand reputation also influences the rationality of the perception of saving attributed to odd price endings. Brand has an influence on price setting because certain categories of consumers are willing to pay premium prices for just "the name", or brand. From this study, it was realized that when firms that own leading brand reduce their prices, other firms with competing brands in the same product category tends to reduce their prices in order to stay competitive. this is especially true in cases where the competing brands see themselves as not reputable enough to match the lower prices offered by a more superior brand. Therefore, the behaviour of retailers is ultimately based not only on the pricing psychology, but also other marketing and economic variables like the brand strategy, integrated marketing communication (marketing mix) and the market structures that the firm operates.

Furthermore, the general state of the market can also influence buyer decisions. In certain product categories where buyers are so confused by constant

"sales", "discounting" and "actions" they have no idea about the real value of a product and cannot even guess the price. Therefore, any sign advertising "sale" can evoke an impression of savings and thus motivate them to purchase although there is no actual sale. This is quite apparent in discussion groups where the prices guessed by participants differ in the range of tens of *koruna* (for common fast moving consumer goods). Sale promotion (example, 2+1, special gift, 10% more among others.) appear more and more often because of the manipulations of prices, discounts and price endings may not bring desirable increase in sales. In the simplest terms, odd prices make sense, not only in businesses such as fast moving consumer goods but also for goods priced at higher levels, like luxury products. Among consumers with high interest in prices, odd prices can drive buying decisions.

### Suggestions for future studies

In the future, research could be conducted on with larger advertising materials and retail store observations to strengthen the generalisability of the findings to the entire Czech Republic. Also, it will be important to study the implications of gender, age, socioeconomic attributes and other demographic variables on buyers' perception of odd-price endings. A deeper analysis of brand reputation and price ending could be done. Such a study will reveal the implications of the interrelationship between branding and price endings on buyers. Findings from such a study will contribute immensely to the developing of branding strategies for consumer markets with reference to pricing. Empirical studies could be conducted to test the response of consumers to different pricing strategies. Furthermore, the perception of managers could be sought on the reasons for using odd pricing strategy and its direct impact on daily sales and revenue of retail shops. It will be important to look at the trends and application of the pricing strategy on different product categories. It will also be important to conduct further studies into the factors and variables that determine the general impact of odd pricing on consumer demand. Since this study is based on only products, studies into the pricing strategy of service based firms could provide some interesting results.

### SUMMARY

The objective of this study is to examine psychological influences of price ending on consumer behaviour. It analysis theories and existing literature on the topic and brings out an augmentative strategies that companies can adopt to leverage their brands in potential markets. Also, based on an exploratory study of 16 home-drop advertising material, short magazines and leaflets by retails shops in the Zlin region, the paper provides the marketing implications and suggestions on how price ending strategies should be used. The implication of price endings on marketing communication is also highlighted. These leaflets, short magazines and home-drop advertising materials were analyzed over 3 month period to identify the dominance of odd pricing (total number of advertisements = 922). Also in order to have a comprehensive coverage of the odd-even pricing phenomenon, opinions of

some buyers were sought on their perception of odd-pricing and how the odd-pricing influence their buying decisions. Opinions of a total of 173 shoppers were sampled.

This paper has elaborated on the theoretical concept and practical aspects of the odd-even price perception. It has provided ways on how psychology is applied by marketers in pricing of goods and services. Price endings influence perceptions of different categories of good and the perception of consumers determines their purchasing habits. The study concludes that, there are several moderating variables or factors that impact on the price perception. They include factors such as branding, advertisement, sales promotion, personal involvement and buyers' price interest. Personal involvement moderates price perceptions, such that, highly involved buyers are likely to react more strongly to odd pricing than even pricing than less involved ones. Another moderating effect comes from buyers' price interest, which strengthens the price image effects induced by price endings. Brand and its perceived value and position in a competitive field (price reduction of strong brands is perceived as suspicious; with strong and media supported brand advertising, a buyer may be willing to pay any price, regardless of price endings). It is recommended that, managers integrate the psychological pricing concept into their pricing strategies, particularly because of the predominance of price endings for both fast moving goods.

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