The effect of order of prices on customers' confidence levels

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ABSTRACT

This study examines the effect of retailers offering similar products at different prices and the consumer's ability to recall and select the best value. By analyzing product attributes and alternatives as measures of information, studies show there are finite limits to a person's attentional resources based on the effects of information load on decision making. However, few studies assess price as a measure of information. This study hypothesizes that different prices by different merchants for the same product will eventually lead to information overload creating consumer confusion by adding to the finite amount of information that a consumer can process. After a certain point, the consumer is unable to recall which seller is offering the best value; thus, the probability of his/her making a utility maximizing purchase decision follows a parabolic curve.

The study also assesses (1) if the consumer encounters the lowest price early in the search, the consumer is unlikely to purchase due to a lack of confidence whereas if the lowest prices are encountered mid to late in their search, consumers accept it as a good deal and make the purchase; and, (2) when multiple prices encountered by consumers are close to their internal reference prices with low deviations, consumers stop searching earlier and accept the price they see without too much searching. Based on theory related to consumer confusion, the effects of information overload due to overchoice are proposed to reduce confidence in the purchase which lead to increased confusion and decreased satisfaction from the purchase.

Keywords: Consumer confusion, pricing effects, information overload, information search, consumer confidence, overchoice

INTRODUCTION

Consumers are bombarded with information about different products being offered at different 'sales' or 'special deals.' Many retailing firms use price as a major differentiating factor to set themselves apart from other merchandisers, but with the glut of differently priced products in the market, it may not help much if the consumers are unable to assimilate and recall the information.

This study examines the effect of numerous retailers offering similar products at different prices and the consumer's ability to recall and pick the best 'value' deal. It builds on previous research by Jacoby, Speller & Kohn (1974), Scammon (1974) and Malhotra (1982). All these studies accepted that there are finite limits to a person's attentional resources. Most researchers investigated the effects of information load on consumer decision making by product attributes and alternatives as measures of information. However, there has not been much work which looks at price as a measure of information. We are looking at filling this gap with this paper.

LITERATURE REVIEW

Information Overload

Most of the research in the area of information overload has focused on purchase decisions using product attributes as a measure of information. Jacoby, Speller and Kohn (1974) measured the ability to select correctly the "best" brand at low, intermediate and high levels of information. Their experiment attempted to prove that performance accuracy tapered off when measured against total amount of information. These studies spawned a host of critics including Russo (1974), Summers (1974), Wilkie (1974). Most of their criticisms were regarding the measures used and empirical procedures employed, but most of them accepted that there were finite limits to a person's attentional resources.

The idea that there is too much information to process efficiently and effectively has led to the concept of information overload. While there is no universally accepted definition of information overload, the term is usually taken to represent a state of affairs where an individual's efficiency in using information in their work is hampered by the amount of relevant, and potentially useful, information available to them (Bawden and Robinson, 2009). Research in different fields has showed that the feeling of information overload leads to feelings of being overwhelmed and stressed. Increased amount of information regarding brand attributes leads to decline in decision quality (Lurie 2004).

Further work was done on this topic by Malhotra (1984) by reinterpreting data collected by Jacoby(1984) and then carrying out his own experiments to investigate effects of information load on consumer decision making. Again, he used attribute x alternative as a measure of information. Scammon (1974) also investigated this effect by keeping the number of brands constant and varying the number of attributes. What is missing is a study of different prices as a measure of information. This paper tries to investigate the effect of multiple prices on the buyer's decision making process.

Order Effects

The order in which information is encountered can also have an effect on how much impact that information may have on decision processing. Two main effects—primacy and recency-- have been well noted in research (see Kardes & Herr, 1990 for a list of authors with reviews on this subject). The primacy effect is when early information has more of an impact on decision making than later information, whereas the recency effect is when later information has more of an impact on decision making than earlier information. All of the studies on primacy and recency tend to agree that it is difficult to predict whether primacy or recency will occur in a given situation (Kardes & Herr, 1990).

With regard to order effects for advertising, little attention has been given to the preference ranking tasks where consumers seek to rank information in terms of helping them make decisions regarding products or purchase decisions (Xu & Wang, 2008, Brunel & Nelson, 2003). Most studies have concentrated on primacy and recency effects and have determined that (1) information presented early in a series and late in a series is recalled better than information presented in the middle of a series (Kardes & Herr, 1990), and (2) information that is received too early or too late in a search may not be considered as relevant as information seen in the middle of a search (Eisenberg & Barry, 1988; Huang & Wang, 2004: Purgailis Parker & Johnson, 1990).

According to Duffy (2003, pg. 458), when information is presented early in a list, that information "may help establish a cognitive framework or standard of comparison that influences the evaluations of later information." This earlier information may also inhibit the cognitive processing of later information because the task of processing a large amount of information may be difficult for the consumer, especially if the consumer has low involvement. The consumer that has low involvement may be satisfied with finding a satisfactory decision rather than determining the optimal decision (Simon, 1957; Krosnick, 1999). Therefore, the placement of the most appropriate item (in our case, the "best deal") may affect the search for information as well as the consumer's perception of the deal.

Internal Reference Price

According to Gotlieb and Dubinsky (1991), the adaptation level is based on an individual's cognitive schema developed over time from exposure to stimuli. New stimuli can shift the adaptation level up or down depending on the new information that is acquired. As applied to price perception research, adaptation level theory suggests that consumers have a range of internal reference prices against which advertised external prices are judged. The internal price range is affected by the (Gotlieb and Dubinsky 1991; Monroe 1990; Lichtenstein and Bearden 1989) promoted price and product information in retail ads as well as background information in the ad and other secondary stimuli to which the individual is not directly attending.

According to various pricing studies (Biswas and Blair 1991; Monroe, Della Bitta and Downey 1977; Urbany, Bearden and Weilbaker 1988), when the consumer lacks a well-established internal reference price or price range (e.g., for a new product) or when the consumer lacks confidence in his/her prior price beliefs, the promoted price and product information and the background information may play a larger role in evaluations of the advertised offer. This effect occurs because, according to the adaptation level theory (Monroe, Della Bitta and Downey

1977, p.279), "the adaptation process results in behavioral responses that are *accepting, rejecting,* or *neutral* to a given stimulus, depending on its quantitative relationship to the AL (adaptation level)." Therefore, if the adaptation level (or internal reference price) is lacking, other cues may play a more important role in affecting consumer perceptions.

The major implication derived from the adaptation level theory, however, is that consumers do perceive that there is a range of acceptable prices for any given product and any external price information which falls within this range is not likely to change or shift the consumer's internal reference price range (Biswas and Blair 1991; Lichtenstein and Bearden 1989; Lichtenstein, Burton, and Karson 1991; Monroe, Della Bitta and Downey 1977; Urbany, Bearden and Weilbaker 1988). In a pricing context the adaptation level theory would suggest that consumers have a range of "internal reference prices" against which the advertised sale prices are judged. If the "internal reference price" is lacking or the prior belief is weak, it is likely to change in response to an advertised sale price.

The concept of confusion

Consumers are presented with a mind-boggling range of products and decision making criteria. Increasing the choices leads to increasing complexity in decision making. As Drummond (2004) puts it:

> This effect is aggravated by customer advocates/advisors championing the necessity to "shop around". The process may leave the consumer frustrated, stressed and wondering if a good or bad purchase decision was made. In short, they are confused by information and/or product overload.

The concept of consumer confusion has been examined by a number of researchers (Mitchell and Papavassiliou, 1999; Turnbull, Leek, and Ying, 2000; Walsh and Hennig-Thurau, 2002). Weidmann, Walsh, and Klee (2001) provide a detailed, chronological listing of definitions and interpretations of the concept of consumer confusion from 1978 to 2000. Turnball, Leek, and Ying (2000, p. 145) define consumer confusion as "consumer failure to develop a correct interpretation of various facets of product/service, during the information processing procedure. As a result, this creates misunderstanding or misinterpretation of the market." Consumer confusion is thought to have three different sources (Mitchell and Papavassiliou, 1999; Mitchell, Walsh, & Yamin, 2004; Walsh, 2002; Weidmann, et. al., 2001): Mitchell and Papavassiliou (1999) describe three sources of consumer confusion: (1)overchoice (too many products, stores, prices etc), (2) similarity of products, (3)ambiguous, misleading or incomplete information conveyed through marketing communications.

Mitchell, Walsh and Yamin (2005) also proposed the three different types of confusion resulting from brand similarity, information overload and misleading or ambiguous information. Our research focuses on confusion arising from information overload. Overload confusion is caused by not only a proliferation of brands, but also an increase in the amount of information available to the consumer that s(he) considers before making a purchase decision. While having multiple sources on information available easily has helped consumers collect more 'decision-relevant' information, the 'bounded-rationality' of individuals has made making a choice more difficult (Miller 1956). Overload confusion has been defined as 'a lack of understanding caused by the consumer being confronted with an overly information rich environment that cannot be processed in the time available to fully understand, and be confident in, the purchase environment' (Mitchell, Walsh and Yamin, 2005).

Mitchell and Papavassiliou (1999) proposed that consumers deal with confusion by using the following confusion reduction strategies: (1)do nothing, (2)postpone/ abandon purchase, (3) clarify the buying goals, (4) seek additional information, (5) narrow down the set of alternatives, (6) share/delegate the purchase. Previous studies have focused on overchoice from a multitude of attributes of products or products themselves. This paper studies price as an additional source of information that can lead to consumer confusion.

PROPOSED STUDY

The proposed study will utilize an experiment with a student population. The sale prices for the product will be varied and only one store will have a significantly lower price than other stores—representing the "best deal" for the customer. The rest of the ads will have very similar prices. The placement of the "best deal" will be varied depending on the experimental condition. It will either be near the front, in the middle, or near the end. Actually placement will be determined based on a pretest. Respondents will complete a survey based on their choice of store from which to purchase. The survey will include questions related to perceptions of the deal, internal reference price for the product, and confidence in the decision to purchase.

HYPOTHESES OF THE CURRENT STUDY

This study puts forward the hypothesis that different prices by different merchandising firms for the same product will eventually lead to an information overload leading to consumer confusion by adding to the finite amount of information that a consumer can process. After a certain point, the consumer is unable to recall which seller is offering the best value and the probability of his/her making a utility maximizing purchase decision follows a parabolic curve. That is, at first, increasing the choice set presents the consumer with more options and increases her likelihood of finding a better deal. But as the choice set expands to a level where it takes up more of attentional resources than the consumer is willing to allocate to the purchase decision, (s)he may tune off and stop absorbing further information to try to reduce the information overload.

H1: Different prices by different firms for the same product will create information overload, thereby increasing consumer confusion.

We also look at the order in which the consumers encounter the low prices. While it may be tempting for a marketer to want to be the first lowest price seen by the consumer, we posit that if the consumer encounters the lowest price early in the search, it does not lead to the consumer making the purchase. Instead, because of a lack of confidence regarding the lowest price, the consumer continues searching. On the other hand, if the lowest prices are encountered mid to late in their search, consumers accept it as a good deal and make the purchase.

H2: The order in which consumers encounter the lowest price will influence the consumers search process.

- H2a: Consumers who encounter the lowest price early in the search process will continue to search for a lower price.
- H2b: Consumers who encounter the lowest price in the middle of the search process will stop the search process.
- H2c: Consumers who encounter the lowest price at the end of the search process will stop the search process.

Another variable we look at is the internal reference price. Internal reference price has been defined differently by different authors. Some studies refer to it as the "expected price" for durables (Winer 1985). Others see it as a summary of past experiences (Kalwani, Kin Yim, Rinnie, and Sugita 1990; Mayhew and Winer 1992). Chandrashekaran and Jagpal (1995) conclude that although the various definitions of internal reference price refer to constructs that are conceptually different, they all share the assumption that consumers use prices other than the retail price to make price comparisons. We propose that when multiple prices encountered by the customer are close to the internal reference price with low deviations, the customer stops the search process earlier and accepts the price they see without too much searching.

H3: When consumers encounter multiple prices that are close to their internal reference price with low deviations, the consumer will stop the search process early.

Another effect of the information overload will be reduced confidence from the purchase, since the consumer will be left wondering if his/her purchase was actually the value optimizing deal or if there is another retailer selling the desired product at a still lower price. Since confidence in the purchase decision reduces the perceived risk of the transaction, reduced confidence leads to a state of increased confusion and decreased satisfaction from the purchase.

H4: Consumers that are presented the lowest price early in the search process will have more confidence in their final product choice than those who are presented the lowest price mid to late search.

These hypotheses draw from theory explaining confusion and consumer confusion. One of the sources of consumer confusion is overchoice. Mitchell and Papavassiliou (1999) proposed that some of the ways consumers deal with confusion is by doing nothing, postponing or abandoning the purchase. Therefore, if more information does not increase confidence levels and leads to an overload, eventually, confusion could set in which could be followed by a decision of 'no-buy' or 'purchase postponement' which is the reverse of what the marketing efforts of different firms aim for. This happens when the consumer's confidence falls below a minimally acceptable threshold and she decides that no choice is better than a wrong choice which delivers less than the value expected.

PRETESTS

Pretest one was conducted to determine the most appropriate product for testing. A focus group was conducted with a class of eight graduating seniors marketing majors to determine with what products students would have familiarity. The product had to have price variations as well. The outcome was a list of four possible products that would be appropriate for pretesting—Van's shoes, scientific calculators, a school (university) sweatshirt, and teeth whitener.

In Pretest two, a survey was given to students in several marketing courses to be completed for extra credit. The course professor recruited a total of 69 students (39 males and 30 females) from the course. The majority of the sample (n=47) was between 18 and 24 years old. Of the remaining 22 participants, 16 were 25 to 34 years old, three participants were 35 to 44 years old, two participants were 45 to 54 years old, and one was 55 to 64 years old.

All participants in pretest 2 completed an anonymous survey indicating their thoughts on the pricing of the four products determined previously. For each product participants indicated the price he or she expected to pay if the product was not on sale, the highest sale price expected, and the lowest sale price expected. For each product participants also indicated how often he or

she had considered purchasing the product in the past, how knowledgeable he or she was about the product, and whether he or she had purchased the product in the past.

For each of the four products in the survey, the sample of participants was divided into two groups: those who had and those who had not purchased the product in the past. Means and standard deviations for expected regular prices, highest expected sale prices, and lowest expected sale prices were calculated for both groups. The results of these calculations are given in Table 1 (Appendix A). The purpose of pretest two was to identify a product that met several criteria necessary for the subsequent experiment. The appropriate product would: 1) have a roughly equivalent number of consumers who had and had not purchased it in the past, 2) have similar regular, high sale, and low sale price estimations for the two groups of consumers, 3) have low or at least similar standard deviations for each type of price estimation for the two groups of consumers, and 4) have a sufficient range between the mean high sale price estimation and the mean low sale price estimation. Of the four products tested, only Van's Tennis shoes met all four of these criteria to a sufficient degree.

The next pretest will be conducted to determine the number of ads needed to fulfill the experimental condition as well as ad placement. Students will be presented with 20 ads in an electronic format to determine how many ads they look through before making the decision to stop the search process. Based on this number as well as prior research from advertising, the subsequent placement of the "best deal" ads will be determined, after which the final study will be conducted.

RELEVANCE OF RESEARCH STUDY

This is highly significant for managers and academicians alike since pricing has been considered an important differentiating factor between different merchandisers. This study attempts to determine if pricing may be losing its significance as a differentiator since the marketplace is overloaded with too many merchandisers offering products at too many varying prices. Even worse, by causing potential buyers to postpone or even abandon their purchase plans, multiple prices may be driving some consumers out of the marketplace. Therefore the implications of this study are clear: having prices similar to other retailers may actually be creating confusion among consumers when trying to make purchase decisions, making consumers question their decisions about product purchase, thereby increasing cognitive dissonance, or worse, making consumers delay purchase altogether. Retailers may need to consider other variables in the marketing mix to make an impact instead of simply relying on a mantra of lowest price.

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APPENDIX A

Table 1

Mean expected prices of those who have and have not previously purchased the product

	Non Prior Purchasers		Prior Purchasers	
Price Type	Mean	Standard Deviation	Mean	Standard Deviation
	N=28	Teeth Whitener		N=27
Normal	$42.78	$91.33	$28.04	$13.68
High Sale	$35.75	$65.17	$23.41	$13.89
Low Sale	$24.14	$46.15	$16.37	$10.68
	N=36	Van's Tennis Shoes		N=21
Normal	$56.50	$17.66	$53.05	$18.79
High Sale	$51.36	$32.10	$42.67	$10.68
Low Sale	$31.97	$12.83	$27.71	$9.11
	N=4	Scientific Calculator		N=50
Normal	$98.75	$19.31	$90.58	$63.30
High Sale	$100.00	$36.51	$72.22	$35.95
Low Sale	$71.25	$24.62	$50.12	$30.76
	N=30	University Sweatshirt		N=32
Normal	$35.23	$12.25	$38.40	$13.52
High Sale	$29.43	$12.16	$30.62	$12.33
Low Sale	$18.80	$9.99	$19.28	$9.17