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**DESIGN FOR AFFECT: Emotional and Behavioral
Consequences of the Tradeoffs between Hedonic and Utilitarian
Attributes**

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Attributes**

by

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Dedication

This dissertation is dedicated to my sons, Abhinav and Akshay for sacrificing quality time with their father, to my wife, Pallavi for her support, and to my parents, Mrs. Lakshmi Chitturi and Mr. Narasimharao Chitturi for their appreciation for education.

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Attributes**

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The University of Texas at Austin, 2003

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“Design for Affect” as a research theme explores the mediating and/or moderating role of affect in the relationship between design and consumer behavior. This dissertation focuses on the product-elicited affect. It investigates pre-consumption and post-consumption consumer emotions and behavior as a result of the tradeoffs made between hedonic and utilitarian attributes. The work is presented as two essays. The first essay studies how the direction of the tradeoff between hedonic and functional attributes determines the dominant emotion (guilt or sadness) experienced by the consumer at the time of purchase. It also examines the behavioral consequences of the attribute tradeoffs on consumer choice and willingness to pay. The second essay investigates how the direction of the tradeoff between hedonic and functional attributes at the time of purchase in conjunction

with the valence of the consumption experience impacts the type and intensity of the post-consumption emotions of delight and anger. It also compares and contrasts post-consumption delight with post-consumption satisfaction and post-consumption anger with post-consumption dissatisfaction in the context of their relative influence on word of mouth (WOM) behavior and repurchase intentions.

The findings suggest that non-optimal combinations of hedonic and functional attributes with respect to customer requirements and the competing product can generate negative emotions of guilt or sadness for consumers. These negative emotions of guilt or sadness can motivate consumer behavior detrimental to a product's market share and profitability. The direction of the tradeoff between attributes also impacts post-consumption emotions. In the case of a positive consumption experience, consumers who choose a more hedonic product over a more functional product are likely to experience a higher intensity of delight. However, consumers are likely to experience a higher intensity of anger when they choose a more functional product over a more hedonic product, and experience negative disconfirmation with functional attributes. In addition, the results show that the direction of the tradeoff does not impact post-consumption satisfaction and dissatisfaction. In general, consumers who are hedonically delighted and functionally satisfied with the product are more likely to indulge in positive WOM behavior and have higher repurchase intentions compared to consumers who are functionally delighted and hedonically satisfied.

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Chapter 1: Introduction

Designing a product with the right mix of attributes continues to be a major hurdle in the successful development of new products. Product designers can benefit greatly from an improved understanding of how consumers evaluate and prioritize different attributes at the time of purchase as well as after consuming the product. It has been shown that consumers, broadly speaking, place product attributes into hedonic and utilitarian categories. Therefore, in order to improve the likelihood of success for a new product, designers and marketers need to understand the emotional, behavioral, and monetary consequences of the tradeoffs between hedonic and utilitarian attributes.

Recent developments in the marketplace suggest that there is growing recognition of the importance of marrying form—the design, aesthetic and hedonic aspects of products—and function—the utilitarian, practical or useful aspects of products (e.g., Dumaine 1991; Silvius 1998). An examination of the interplay between these dimensions has assumed special importance with the proposal that consumption offerings should be thought of as “experiences”—that stimulate both cognitions and feelings—, rather than as mere services or products (see Pine and Gilmore 1998; Schmitt 1999). Further, there is evidence that real-life consumer decisions are likely to be based on a trade-off between these dimensions (e.g., see Dhar and Wertenbroch 2000; see also Dhar and Simonson 1999 for related ideas).

Previous research has shown that consumers experience significant negative emotions in the process of making difficult trade-offs, and that these negative emotions affect purchase decisions (e.g., Luce 1998; Luce, Payne and Bettman 1999). For example, decisions involving a trade-off between safety of a car (high vs. low) and its price (low vs. high) induce negative emotions that affect subsequent purchase behavior (Luce, Payne, Bettman 1999). This research tests a model of how consumers prioritize between hedonic and functional benefits. This model is used to predict the emotional and behavioral consequences of trading off functional vs. hedonic attributes.

The proposed model of attribute tradeoffs (hedonic vs. functional) is further extended to include customer satisfaction, and the post-consumption emotions of delight and anger. Rust and Oliver (2000) make a business case for delighting consumers above and beyond the zone of mere satisfaction to improve customer loyalty. This raises an interesting question—can hedonic attributes, in combination with functional attributes, be used to add sufficient excitement (arousal and positive affect) during product selection and consumption to move a customer from mere satisfaction to delight? Also, is a hedonically delighted and functionally satisfied consumer more likely to indulge in positive behavior (WOM and repurchase intention) than a functionally delighted and hedonically satisfied consumer? Answers to the above questions would significantly improve the ability of designers and marketers to design and market a product with the right affect to increase its financial performance (market share and profitability).

THE NEED FOR DESIGN FOR AFFECT RESEARCH

“Design for Affect” as a research theme explores the mediating and/or moderating influence of affect on the relationship between design and consumer behavior. The focus of this dissertation is on the product-elicited affect and its impact on consumer behavior. Prior research has shown that product choices involve difficult tradeoffs, and these tradeoffs can generate negative affect. However, what has not been examined is the generation of different types of negative emotions depending on the direction of the tradeoff between hedonic and functional attributes. In addition, this dissertation studies the relationship between attribute tradeoffs, post-consumption emotions, and post-consumption consumer behavior.

The purpose of this dissertation is to develop a framework, consistent with Luce, Bettman, and Payne (2001), involving attribute tradeoffs, pre- and post-consumption emotions, and consumer behavior. The proposed framework (shown in Figure 1.0) provides a basis for studying a variety of pre- and post-consumption emotions as a result of the tradeoffs involving a variety of attributes.

ORGANIZATION OF THE DISSERTATION

The next chapter (Chapter 2) describes the emotional and behavioral consequences of the tradeoffs between hedonic and functional attributes at the time of purchase. Many important purchase decisions involve trading off functional attributes with hedonic attributes. This research focuses on identifying emotional and behavioral consequences of making such trade-offs. This research

demonstrates that the choice of a functionally inferior product evokes guilt, especially when the chosen product does not meet satisfactory levels of functional performance, and that the choice of a hedonically inferior product evokes sadness, especially if both products in the choice set meet functional requirements. As a consequence, subjects choose products that meet functional requirements (over one that do not) and, given a choice between two products that both meet functional requirements, they choose the one that is hedonically superior. The research also predicts and demonstrates that, while there is a general tendency to choose a functionally superior product over one that is hedonically superior, subjects are willing to pay more for the latter.

Chapter 3 describes the relationship between attribute tradeoffs and post-consumption emotions. This research examines how the direction of the tradeoff between hedonic and utilitarian attributes at the time of purchase, combined with the type of consumption experience, influences the post-consumption emotions of delight and anger. Building on research on customer satisfaction and attribute tradeoffs, the study proposes that 1) consumers experience a greater intensity of post-consumption delight when they choose a more hedonic product over a more functional product and have a positive consumption experience, 2) consumers experience a greater intensity of post-consumption anger when they choose a more functional product over a more hedonic product and have a negative consumption experience, 3) the direction of the attribute tradeoff does not influence post-consumption satisfaction and dissatisfaction, 4) in the case of a more hedonic product choice and consumption, consumer delight has higher

influence on positive WOM and repurchase intention than consumer satisfaction, 5) in the case of a more functional product choice and consumption, consumer satisfaction has higher influence on positive WOM and repurchase intention, 6) consumers delighted with a more hedonic product have a much stronger influence on positive WOM behavior and repurchase intention compared to those who are delighted with a more functional product. The theoretical contributions and managerial implications for product design and marketing are discussed. Chapter 4 summarizes the dissertation findings, discusses some limitations of the studies and proposes future research directions.

Chapter 2: Emotional and Behavioral Consequences of Hedonic vs. Functional Tradeoffs

Recent product announcements in the marketplace suggest that there is growing recognition of the importance of marrying form—the design, aesthetic and hedonic aspects of products—and function—the utilitarian, practical or useful aspects of products (e.g., Dumaine 1991; Silvius 1998). Beginning with the initial thrust from Holbrook and Hirschman (1982) on the significance of examining emotional consequences of consumption experiences, marketing literature has provided empirical support for the notion that both “utilitarian”/“functional” and “hedonic”/“aesthetic” dimensions capture distinct and critical aspects of product differences (e.g., Batra and Ahtola 1990; Bloch 1995; Dhar and Wertenbroch 2000; Mahajan and Wind 1999; Mano and Oliver 1993; Schmitt and Simonson 1997; Strahilevitz and Myers 1998; Veryzer 1995). An examination of the interplay between these dimensions has assumed special importance in recent times, with the proposal that consumption offerings should be thought of as “experiences”—that stimulate both cognitions and feelings—, rather than as mere services or products (see Pine and Gilmore 1998; Schmitt 1999). Further, there is evidence that real-life consumer decisions are likely to be based on a trade-off between these dimensions (e.g., see Dhar and Wertenbroch 2000; see also Dhar and Simonson 1999 for related ideas).

The objective of this research is to examine the emotional and behavioral consequences of trading off functional attributes with hedonic attributes in the context of product choice. Previous research has shown that consumers experience significant negative emotions in the process of making difficult trade-offs, and that these negative emotions affect purchase decisions (e.g., Luce 1998; Luce, Payne and Bettman 1999). For example, decisions involving a trade-off between safety of a car (high vs. low) and its price (low vs. high) induce negative emotions that affect subsequent purchase behavior (Luce, Payne, Bettman 1999). In general, decisions involving difficult trade-offs induce decision avoidance—the tendency to postpone purchase—because consumers feel uneasy about taking a decision without first resolving the negative emotions evoked by that decision situation (Luce 1998; see Luce, Bettman and Payne 2001, for a review).

We extend the previous research on difficult trade-offs to the context of hedonic vs. functional trade-offs to show that, in addition to evoking the tendency to avoid making decisions, such situations evoke the following systematic pattern of results. First, subjects report feeling guilty when considering the purchase of the hedonically superior (and functionally inferior) alternative, and report feeling sad when considering the functionally superior (and hedonically inferior) choice. The experience of these negative emotions, in turn, leads to asymmetric effects on the purchase decision. While the experience of guilt leads to an increased likelihood of choosing the alternative that meets functional requirements over one that does not meet functional requirements—regardless of the products' hedonic characteristics—, the experience of sadness leads to choice of the hedonically

superior product when the alternatives in the choice set meet functional requirements. Further, reminiscent of preference reversal effects documented in previous decision-research (e.g., Lichtenstein and Slovic 1973), while subjects choose products that meet functional requirements (over those that do not), they are willing to pay more for products that are hedonically superior. Together, these results suggest that marketers should focus first on providing a satisfactory level of functional performance. Once this is achieved, our results suggest that companies stand to gain significantly greater profits by enhancing the hedonic appeal of their offerings, rather than by further augmenting functional features.

The rest of the paper is structured as follows. In the next section, we build a model of how consumers prioritize between hedonic and functional benefits and, on the basis of this model, predict the emotional and behavioral consequences of trading off functional and hedonic attributes. We then test our propositions across three experiments and finally, end with a discussion of our theoretical contributions and managerial implications.

PRIORITIZING HEDONIC VS. FUNCTIONAL BENEFITS

How do consumers prioritize between hedonic and functional benefits? As mentioned earlier, both types of attributes are clearly important in many purchase decisions. However, we posit that functional attributes assume greater importance over hedonic attributes till a certain “required” level of functional performance is met; thereafter, hedonic attributes assume greater importance, as we explain in greater detail below.

Our model of the emotional and behavioral consequences of hedonic vs. utilitarian trade-offs involves two stages: a primary appraisal and a secondary appraisal (see Figure 1.1) and is conceptually compatible with that proposed by Luce et al. (2001).

First Stage Appraisal: Emotional Consequences

In the first stage of appraisal, the consumer assesses the potential consequences of making a particular choice for his goals, leading to negative emotions (see Luce, Bettman and Payne 2001). In choosing a hedonically more pleasing product over one that is functionally superior, negative emotions result from sacrificing important functional goals (such as, speed of running programs on a laptop). Conversely, in choosing a functionally superior product over one that is hedonically more pleasing, negative emotions results from sacrificing hedonic goals (such as, being associated with a “cool” looking laptop). Because the type of goal associated with the sacrifice of functional and hedonic attributes is different, the nature of emotional response resulting from such sacrifices is also likely to differ. Specifically, we predict that sacrificing functionality for aesthetics is likely to evoke guilt, whereas sacrificing aesthetics for functionality is likely to evoke sadness, as discussed below.

Social scientists generally agree that, compared to necessities, luxuries hold a lower status in terms of importance (e.g., Berry 1994; Maslow 1970; Weber 1998). Berry (1994), for example, proposes a “principle of precedence” to argue that there is a moral obligation to fulfill needs first, before looking to fulfill

luxuries. Weber (1998) similarly opines that the protestant work ethic prescribes spending money frugally, that is, on necessities, rather than on luxuries. When behavior contradicts this dictum—that is, money is spent on luxuries instead of on necessities—people are likely to feel a sense of guilt (Kivetz and Simonson 2002). Consistent with Kivetz and Simonson (2002), we view hedonic and functional dimensions as conceptually related to necessities and luxuries, respectively, that is, we believe that most luxuries are associated with hedonic experiences and most necessities represent functional items. Thus, it follows that a predilection towards a hedonically superior alternative (at the cost of functional performance) is likely to raise concerns that one is being extravagant or frivolous, resulting in feelings of guilt (Kivetz and Simonson 2002). Thus:

H1: Trading functional attributes for hedonic attributes is likely to evoke guilt

We now turn to the emotions associated with the choice of a functionally superior and hedonically inferior product. Hedonic attributes, by definition, have positive emotional appeal (e.g., Shiv and Fedorokhin 1999; see also Dhar and Wertenbroch 2000). Hence, consumers may feel sad or disappointed when sacrificing hedonic attributes for functional attributes. This is consistent with cognitive theories of affect, which propose that sadness related emotions result from the perceived loss of desirable objects or features (e.g., Ortony, Clore and Collins 1988; Roseman 1991). Thus:

H2: Trading hedonic attributes for functional attributes is likely to evoke
Sadness

Moderating role of Functional Requirement

Thus far, we have argued that the sacrifice of functional attributes results in guilt, and that the sacrifice of aesthetic attributes results in sadness. We introduce the concept of “functional requirement” to qualify this pattern of results. By functional requirement, we refer to a level of performance-related features that will satisfy the consumer. For example, one may be satisfied with a 440 MHz processor and a hard drive capacity of 20 GB in a laptop, or a certain level of audio clarity and coverage in major metropolitan areas when looking for a cell phone plan. Conceptually, the notion of functional requirement is similar to the “cut-off” or “threshold” levels commonly used by consumers in such decision-making rules as the conjunctive, disjunctive (e.g., Svenson 1979) and EBA (cf. Tversky 1972), and is useful in simplifying real-life decisions (e.g., Klein and Bither 1987; see Bettman, Payne and Johnson 1998 for a review).

The presence of functional requirement is posited to produce the following pattern of emotional consequences: the experience of guilt is more likely than when functional attributes are traded for hedonic gains *before* functional requirements are met, than when such a trade-off is made *after* functional requirements are met. Put differently, when considering two options—one that meets functional requirements and another that does not—a greater

proportion of consumers will experience guilt by choosing the product that does not meet functional requirements, compared to when a functionally inferior product that nevertheless meets functional requirements is chosen over one that is functionally superior. This proposition is consistent with the principle of precedence, which, as mentioned earlier, dictates that functional requirements should assume priority over hedonic wants. The predicted pattern with regard to guilt is captured by the following set of hypotheses:

H3: Trading functional (vs. hedonic) attributes for higher hedonics (vs. functionality) will lead to more intense guilt when functional requirements are not met than when functional requirements are met

The proportion of subjects feeling sad (with the sacrifice of hedonic attributes) is predicted to operate in a direction opposite to that predicted with guilt; that is, we predict that the a greater proportion of subjects will report feeling sad when hedonic attributes are sacrificed in order to *exceed* functional requirements, than when hedonic attributes are sacrificed in order to *meet* functional requirements. We posit that this pattern of results stems from, what we term, “the principle of hedonic dominance”. In short, the principle states that, once functional requirements are met, consumers will weigh sacrifices in hedonic (vs. functional) attributes more heavily.

The principle of hedonic dominance is broadly consistent with Scitvosky’s (1992) conceptualization of “comfort” goods and “pleasure” goods (see also

Hawtrey 1926). According to Scitovsky, comfort goods are meant to prevent pain whereas pleasure goods are meant to provide positive gratification (see 2003 Bianchi for a review). While the prevention of pain has a specific threshold level of satisfaction (e.g., one is satisfied when a headache has stopped), there is no analogous “threshold” for pleasure—that is, generally speaking, more pleasure is always better. We believe that functional and hedonic attributes are analogous to comfort and pleasure goods, respectively, that is, while people seek to satisfice on functional benefits, they seek to maximize on hedonic benefits. For example, our model suggests that, whereas one may not place great value improvements in functional features beyond what is seen as a satisfactory level (e.g., a 880 MHz processor may not be far more desirable than a 440 MHz processor when the latter is satisfactory), one will place greater value on a hedonically more pleasing (e.g., better designed) product. Thus:

H4: Trading hedonic (vs. functional) attributes for higher functionality (vs. hedonics) will lead to more intense sadness when functional requirements are met than when functional requirements are not met

In sum, as depicted in Figure 1.2, our model predicts the operation of the principle of precedence before functional requirements are met, and operation of the principle of hedonic dominance after functional requirements are met.

Second Stage Appraisal: Behavioral Consequences

In the second stage of appraisal, the consumer considers strategies for coping with the negative emotions evoked by the sacrifice of functional and hedonic attributes (see Figure 1.1). In essence, as our discussion thus far suggests, a trade-off between functional and hedonic attributes boils down to a choice between retaining feelings of guilt or retaining feelings of sadness. As suggested by H3 and H4, since guilt (associated with sacrifice of functional attributes) is more likely when functional requirements are not met, and sadness (associated with sacrifice of hedonic attributes) is more likely when functional requirements are met, the most judicious emotion-focused strategy (cf. Lazarus and Folkman 1984) is to eliminate feelings of guilt by meeting functional requirements first, and subsequently, to eliminate feelings of sadness by maximizing hedonic benefits once functional requirements are met. In line with this reasoning, we predict that:

H5: A greater proportion of subjects will choose a product that meets functional requirements, even if it is hedonically inferior over one that does not meet functional requirements.

H6: A greater proportion of subjects will choose the hedonically superior and functionally inferior product when both products meet functional requirements.

PREFERENCE REVERSAL IN CHOICE VS. WILLINGNESS TO PAY

We turn, finally, to an interesting possibility suggested by the types of emotions associated with the sacrifice of functional and hedonic attributes. We have predicted thus far that consumers will place greater emphasis on satisfying functional requirements (H5), before turning to fulfill hedonic benefits (H6), and that these patterns of behavior are mediated by feelings of guilt and sadness, respectively. It is interesting to speculate what might happen when consumers are uncertain whether a product satisfies functional requirements. Under such conditions, will consumers tend towards choosing the functionally superior product or will they favor the hedonically superior one? We predict that, when consumers are uncertain about their required level of functional performance, they will favor the functionally superior alternative in choice tasks while placing greater value on the hedonically superior alternative in willingness to pay tasks. These predictions may be derived directly from the types of emotions—guilt and sadness, respectively—associated with the sacrifice of functional vs. hedonic attributes.

Research has shown that feelings of guilt promote “responsible and appropriate” behavior (e.g., Manucia, Baumann and Cialdini 1984). Thus, when there is uncertainty about functional requirement levels, consumers will likely favor the functionally (vs. hedonically) superior alternative in choice tasks—since this allows them to avoid feeling guilty and thus puts them on “safer ground” in terms of justifying their decision (cf. Simonson 1988). In contrast, when assessing the monetary worth of the alternatives consumers may introspect on their feelings towards the alternatives in ascertaining how much the alternatives

are worth (e.g., see Pham 1998). Since feelings of sadness (associated with the sacrifice of hedonically attributes) increase the desire for rewarding, comforting and pampering products (e.g., Kacen 1993; Mick and DeMoss 1990; Raghunathan, Pham and Corfman 2003), consumers are likely to infer greater value in the hedonically superior alternative, and hence be willing to pay more for it.

Results from Dhar and Wertenbroch (2000) are broadly compatible with our predictions. In studies conducted, the subjects weighed hedonic (vs. utilitarian) attributes more in forfeiture (vs. acquisition) decisions. These results suggest that although consumers may choose a functionally superior product, they may place greater value on hedonically superior products. Indeed, our intuition appears to be validated in the real world as well—hedonically superior products are traditionally associated with higher prices. For example, products that are designed better and look aesthetically more pleasing (e.g., imac) are generally more expensive than products that are functionally superior (e.g., IBM pc). Thus:

H7: Although subjects are more likely to choose a functionally superior (and hedonically inferior) product over hedonically superior (and functionally inferior) product, they are likely to show higher willingness to pay for a hedonically superior product.

A series of three experiments were conducted to test our hypotheses. The objective in Experiment one was to demonstrate differences in the nature of

consumer emotions when trading off hedonic attributes for utilitarian attributes and vice versa (H1-H4). The objective in Experiment two was to provide behavioral evidence in support of both the principle of precedence—by showing that consumers give less importance to hedonic attributes till functional requirements are fulfilled (H5)—and for the principle of hedonic dominance—by showing that, once functional requirements are met, consumers weigh hedonic attributes more heavily (H6). Finally, the objective in Experiment three was to evidence for the preference reversal effects suggested by H7.

EXPERIMENT ONE: EMOTIONAL CONSEQUENCES

Pretests

We wished to identify a suitable set of stimuli for testing these hypotheses. Informal talks with representatives of the subject population indicated that cell phones were perceived to vary significantly in terms of both functional and hedonic features. Further, greater than 95% of these subjects considered both the functional and hedonic attributes to be important when making cell phone purchases. Based on this information, the category of cell phones was used to test our hypotheses. Two stimuli were constructed such that one (Cell Phone A) was superior in terms of aesthetic features and inferior in terms of functional features to the other (Cell Phone B). As depicted in Appendix 1.1, the cell phones' functional and hedonic levels were described using adjectives (“high” or “low”). These adjectives conveyed to the subject that the magnitude of difference in the functional and hedonic levels of the two alternatives was roughly equal. Previous

research (e.g., Hsee 1996; Hsee and Leclerc 1998) has shown that, when there is perceived difference in the magnitude of the differences, subjects tend to weigh the attribute on which there is lesser difference more heavily in joint evaluation tasks (such as choice tasks). It was thus important to rule out this potential alternative explanation for our results.

While photographs of the cell phones accompanied these verbal descriptions in order to further strengthen the manipulation of hedonic quality, no specific functional descriptions were provided, for the following reasons. Research (e.g., Heckler and Childers 1985, Yamamoto and Lambert 1994) has shown that individuals vary widely in terms of their imagery ability. Thus, it was necessary to display photographs in order to communicate the difference in the aesthetic (and hence hedonic) quality of the stimuli. In contrast, we felt that consumers would have a better grasp of functional features of products that they are familiar with. Further, we believed that consumers would have idiosyncratically different criteria for ascertaining whether a particular product meets their functional requirements. For instance, while some may seek audio clarity, others may seek greater coverage. Hence, specifying functional attributes in detail may contradict our manipulation of functional requirement levels (described in the next section).¹

The objective of the pre-test (n = 15) was to test whether the constructed stimuli were perceived to be different—in the ways intended—in terms of their

¹ Results from Experiment three, in any case, suggest that providing more detailed descriptions of the products will not significantly affect the overall pattern of results obtained.

hedonic features. 15 undergraduates were exposed to pictures of the two cell phones, and were asked to rate them on an 11-point scale on attractiveness [1 = “Low style & attractiveness”; 11 = “High style & attractiveness”]. As expected, Cell phone A was perceived to be more attractive ($M = 7.1$), compared to Cell Phone B ($M = 2.9$), $t(14) = 18.837$, $p < .0001$.

Main Study

Eighty-two undergraduates (39 men, 43 women) participated in the main experiment for course credit. Subjects in this experiment were handed a packet of questionnaires to fill out, including the one relevant to this experiment, titled, “Consumer Decision Making Questionnaire”. Subjects were assigned randomly to one of two experimental conditions: Low vs. High requirement. Subjects in the Low (High) requirement condition were asked to imagine that they were looking to purchase a cell phone that was low (high) in terms of both hedonic features and functionality. This manipulation helped test for the hypotheses sets H3 and H4, as explained later in the results section.

Across both the Low and High requirement conditions, the first page of the questionnaire asked subjects to imagine that they had two alternatives to choose from: Cell Phone A, which was high on hedonics, but low on functionality, and Cell Phone B, which was low on hedonics, but high on functionality. As in the pre-test, pictures of both cell phones were provided to give the students a better idea of how each cell phone looked.

Subjects were asked to indicate, after reviewing information about the stimuli and considering their requirement levels (low vs. high), whether choosing Cell Phone A or Cell Phone B would make them feel more: a) guilty and b) sad. Subsequently, subjects also indicated which course of action they would choose among the following: a) purchase one of the two cell phones, b) continue searching for a cell phone and c) postpone purchase decision. Subjects were finally let off after they had provided some demographic details.

Results

Greater than 75% of the subjects indicated that they had used cell phones for over 2 years, thereby indicating that these subjects were generally familiar with the category of cell phones, and could therefore be expected to form their own idiosyncratic judgments of the cell phones based on the adjectives (high vs. low) used to describe them in terms of functionality.

We predicted that purchase of the hedonically superior alternative would make subjects feel guilty (H1), whereas purchase of the functionally superior alternative would make them feel sad (H2). H1 and H2 were tested by examining the proportion of subjects reporting guilt with the purchase of the Cell Phone A (vs. Cell Phone B), and sadness with the purchase of Cell Phone B (vs. Cell Phone A), and contrasted these proportions with an equal distribution of subjects feeling guilty and sad across the two choices (i.e., a 50-50 distribution).

Results of our analyses are depicted in Table 1.1. As predicted by H1, the proportion of subjects who indicated that they would feel guilty with the purchase of the hedonically superior alternative (83%) was significantly greater than those who indicated that they would feel guilty with the purchase of the functionally superior alternative (17%), $\chi^2 = 19.94$, $p < .0001$, $\phi = .35$. Likewise, as predicted by H2, the proportion of subjects who indicated that they would feel more sad with the purchase of the functionally superior alternative (72%) was significantly greater than those who indicated that they would feel sad with the purchase of the hedonically superior alternative (28%), $\chi^2 = 8.3$, $p < .01$, $\phi = -.22$.

We now turn to proportion of subjects reporting guilt and sadness in the low and high requirement-level conditions. Note that, for subjects in the low requirement condition, both Cell Phone A and Cell Phone B met or exceeded the required level of performance and hedonic quality. In contrast, for subjects in the High requirement condition, both cell phones were below the required levels on at least one—functional or hedonic—dimension, and just met their required level on the other attribute. We predicted that the intensity of guilt would be higher among subjects in the high (vs. low) requirement condition (H3) and that sadness would be higher among subjects in the low (vs. high) requirement condition (H4).

Indeed, as attested by a marginally significant Breslow-Day test for homogeneity of odds ratios, $\chi^2 = 3.62$, $p = .06$, the intensity of guilt differed by the level of customer requirements. A separate chi-square test, conducted within the high and low requirement groups revealed that the proportion of subjects

indicating guilt (associated with choice of the hedonically superior alternative) was higher in the High requirement-level condition (92%), than in the Low requirement-level condition (73%). This pattern of results is consistent with H3, and suggests—in line with the principle of precedence—that functional (vs. hedonic) attributes are more important before functional requirements are met.

Turning to the results with sadness, the Breslow-Day test for homogeneity of odds ratios was once again marginally significant, $\chi^2 = 2.77$, $p < .10$, suggesting that the intensity of sadness differed by satisfaction level. Indeed, confirming H4, the proportion of subjects indicating sadness (associated with choice of the functionally superior alternative) was higher in the Low requirement-level condition (83%) than in the High requirement-level condition (60%). This pattern of results confirms our intuition and the principle of hedonic maximization that, hedonic (vs. functional) attributes assume greater importance after functional requirements are met.

Finally, consistent with results obtained by Luce and her colleagues (e.g., Luce 1998; Luce, Bettman and Payne 1998), subjects exhibited an overwhelming preference for avoiding the purchase decision, as indicated by the higher proportions choosing either the option of continuing search (67%), or of literally postponing purchase (6%), rather than choosing one of the two available alternatives (27%), $\chi^2 = 25.53$, $p < .0001$, $\phi = .40$.

Discussion

These results provide some important insights into the emotional consequences of trading off functional vs. hedonic attributes. First, they suggest that choice of a functionally inferior alternative leads to feelings of guilt (H1) and that choice of a hedonically inferior alternative leads to feelings of sadness (H2). Second, a greater proportion of subjects report feeling guilty with the choice of a product that does not meet functional requirements (over one that does), whereas, a greater proportion of subjects report feeling sad with the choice of a product that does not meet hedonic requirements that is functionally superior (over one that is hedonically superior and meets functional requirements).

These results suggest the following important implications for consumer choice in trade-offs involving hedonic and functional attributes. First, it appears that consumers will pay little attention to hedonic characteristics before functional requirements are met and hence, given a choice between an option that meets functional requirements and one that does not, they will prefer the former, in accordance with H5. Second, once functional requirements are met, consumers become interested in maximizing hedonic quality. Thus, given a choice between two options that both meet functional requirements, consumers will choose the hedonically superior alternative, in accordance with H6. The objective in the next experiment was to provide evidence consistent with H5 and H6, while overcoming the following limitation.

The required level of functional and hedonic attributes was set at Low or High levels in Experiment one. This operationalization of the requirement manipulation, while useful for a first demonstration of our predictions, suffers

from the limitation that it is not realistic. Consumers, in general, are likely to want a product that is “average” or “medium” in terms of performance on important attributes. This limitation is addressed in Experiment two.

EXPERIMENT TWO: BEHAVIORAL CONSEQUENCES

Seventy-seven undergraduates (35 men and 27 women) participated in this experiment for course credit. Overall, the procedure was similar to the one used in Experiment one, except for the following two changes. First, the dependent variable of interest was not the emotional consequences of trading off hedonic and functional attributes, but rather, the behavioral consequences, that is, subjects in this experiment were asked to choose one of the two cell phones. Further, subjects in this experiment were informed that their requirements were “medium” on both the functional as well as hedonic dimension, since, as explained above, a medium (rather than a high or low) level of requirement is more realistic.

The stimuli used in this experiment are depicted in Appendix 1.2. To test for H5, one set of subjects was given a choice between one product (Cell Phone A) that just met functional requirements, but failed to meet hedonic requirements, and another product (Cell Phone B) that did not meet functional requirements, but was well above the hedonic requirements. The offerings were deliberately designed to be asymmetric, that is, one cell phone (A) was “medium” on functionality and “low” on hedonic attributes, whereas the other was “low” on functionality and “high” on hedonic attributes, allowing us to provide a conservative test for H5. Specifically, if consumers weigh both hedonic and

functional features relatively equally, we should see a strong preference for Cell Phone B. However, even a marginal preference for Cell Phone A over Cell Phone B would indicate strong support for H5.

H6 holds that hedonic attributes are weighed more heavily once functional requirements are met, and was tested in this experiment by providing another set of subjects with two options—one (Cell Phone A) that met functional requirements and exceeded hedonic requirements, and another (Cell Phone B) that met hedonic requirements and exceeded functional requirements. If consumers weigh functional attributes more heavily even after their functional requirements are met, we should expect a preference for Cell Phone A. If, on the other hand consumers tend to weigh hedonic attributes more heavily once functional requirements are met—as predicted by H6—we should see a preference for Cell Phone B.

Results and Discussion

The dependant variable of interest is the proportion of subjects choosing one cell phone vs. the other. We first report results from the group of subjects used to test for H5. A greater proportion of subjects preferred the product (Cell Phone A) that satisfied functional requirements and did not meet hedonic requirements (84%) than that (Cell Phone B) which exceeded hedonic requirements, but did not meet functional requirements (16%), $\chi^2 = 8.71$, $p < .01$, $\phi = -.37$. This result supports H5 and is conceptually consistent with findings from Experiment one, in which a greater proportion of subjects reported feeling

guilty with the choice of functionally unsatisfactory (vs. satisfactory) option. Further, given that Cell Phone B would have emerged as a favorite even if functional attributes had been weighed only slightly more heavily than hedonic attributes, it should be noted that these results provide particularly strong evidence in support of H5. In essence, these results suggest the inviolability of sacrificing functional attributes for hedonic benefits when functional requirements have not yet been met.

Turning to the results pertaining to H6, a greater proportion of subjects reported a preference for the hedonically superior and functionally adequate alternative (80%) over the functionally superior and hedonically adequate alternative (20%), $\chi^2 = 9.39$, $p < .01$, $\phi = .32$. This result supports H6 and is conceptually consistent with findings from Experiment one, in which a greater proportion of subjects reported feeling sad with the choice of hedonically adequate and functionally superior (vs. hedonically superior and functionally adequate) option.

Taken together, the results of Experiment one and Experiment two provide strong support for our model, depicted in Figure 1.1. Specifically, they suggest that the emotions of guilt and sadness, produced by trading off functional and hedonic attributes against the other, are responsible for: 1) ensuring that a functionally satisfactory alternative is chosen over one that is not, and 2) when both alternatives are functionally satisfactory, the hedonically superior alternative is chosen.

Whereas experiments one and two provide support for our model by documenting evidence of emotional and behavioral consequences of trading off functional and hedonic attributes, the focus in Experiment three was to show that, given the nature of emotions elicited by the sacrifice of functional vs. hedonic attributes, consumer preferences would show a reversal when preference was elicited via a choice task vs. a willingness to pay measure.

As explained earlier, the feeling of guilt associated with the sacrifice of functional attributes is likely to lead to a preference for the more responsible and appropriate course of action (e.g., Manucia et al. 1984) —viz., choice of the functionally superior alternative. However, the feeling of sadness associated with the sacrifice of hedonic attributes is likely to increase the desire for, and consequently, value of hedonic attributes (e.g., Raghunathan et al. 2003).

EXPERIMENT THREE: PREFERENCE REVERSAL IN CHOICE VS. WILLINGNESS TO PAY

One hundred and forty-three undergraduates (68 men and 75 women) participated in this experiment for course credit. The stimuli used in this experiment were similar to the ones used in Experiment one, that is, subjects were provided with information on two cell phones, one that was functionally inferior and hedonically superior (Cell Phone A) and another that was functionally superior, but hedonically inferior (Cell Phone B). However, the products were described in greater detail in terms of functional features (see Appendix 1.2), for two reasons, both aimed at improving the generalizability of our results. First, we

wished to demonstrate that, even with a detailed description of the functional features, the pattern of results obtained in Experiments one and two would be conceptually replicated. Further, we wished to simulate real-life sources of product information (e.g., Consumer Reports).

The procedure was similar to that employed in experiment one, except for the following differences. First, subjects in this experiment were not asked to report their emotions, but rather, were either asked to indicate: 1) which cell phone they would choose (n = 70) or, 2) which cell phone they thought was more expensive (n = 73). Further, subjects were not given functional or hedonic requirement levels, in order to explore for the predicted reversal in preference patterns when the consumers are uncertain about the required level of functionality.

After subjects indicated their preferences (through the choice or willingness to pay measures), they reported how much *more* they would be willing-to-pay for product they had chosen or had expressed a willingness to pay more for by checking one of the following four options: 1) willing to pay 1-5% more, 2) willing to pay 6-10% more, 3) willing to pay >10%, 4) not willing to pay more. Subjects then indicated, through an open-ended response, their reasons for choosing or paying more for their preferred product. Finally, subjects were let off after they had provided us with information on their cell phone usage and other demographic details.

Results and Discussion

As suggested by H7, we predicted that a greater proportion of subjects would prefer the functionally superior (and hedonically inferior) product in the choice task—since this alternative presumably has a greater chance of meeting functional requirements and thus mitigating guilt—but that subjects would find the hedonically superior (and functionally inadequate) product to have greater monetary worth—since the sadness associated with the sacrifice of hedonic attributes is likely to make this product appear more attractive. Indeed, consistent with our predictions, a greater proportion of subjects preferred the functionally superior (and hedonically inferior) product (70%) over the alternative (30%) in the choice task, whereas a greater proportion of subjects indicated willingness to pay higher amounts for the hedonically superior (and functionally inferior) product (87%) over the other alternative (13%). The differences in proportion of subjects preferring one cell phone vs. the other differed significantly, depending on how the preference was elicited, $\chi^2 = 49.30$, $p < .0001$, $\phi = .59$.

This pattern of results was corroborated by the measures of the amount of money they were willing to pay for the hedonically superior cell phone. As indicated in Table 1.2, subjects in the choice-task condition were willing-to-pay, on average, lower amounts of extra money for the product of their choice, compared to those asked to indicate their willingness-to-pay. In particular, whereas about 40% of the subjects in the first group were willing to pay less than 1% extra money for their preferred choice, more than 50% of the subjects in the latter group were willing to pay more than 10% for their preferred choice.

A perusal of the open-ended responses provided some insights consistent with the reasoning we have extended for the obtained pattern of results. Specifically, subjects in the choice condition focused on the functional features of the cell-phone, and indicated that it was important that the product met functional requirements (e.g., “it is important that I have geographic coverage”)—thus supporting the idea that functionality is more important in joint evaluations—whereas those asked for willingness-to-pay measures focused on hedonic attributes and indicated that the “consumers value style more,” indicating that hedonic benefits have positive emotional appeal.

GENERAL DISCUSSION

Recent developments in the marketplace has brought to attention the growing importance of design elements of many consumer durables, including automobiles, cell phones, lap tops etc (Business Week 2000). Practitioner-oriented academics have strongly advocated recognition of this trend, and have suggested many ways in which marketers can help take advantage of it (e.g., Schmitt and Simonson 1997; Pine and Gilmore 1998). In essence, if both “functionality” and “hedonics” of products are critical dimensions of consumer durables, it is both important to examine their interplay in product choice contexts. The objective of this research was to examine how consumers trade-off attributes that relate to functional features with those that relate to form or hedonic features, and what consequences this has for their emotional states, and consequently, for the nature of their preferences.

The category of cell phones—which vary widely in terms of functional and hedonic benefits and for which both types of attributes are perceived to be important (as indicated by our pretest)—was used to test for the emotional and behavioral consequences of trading off functional vs. hedonic attributes. Building on the principle of precedence (cf. Berry 1994), we posited that consumers feel guilty if they sacrifice functional features for hedonic benefits, especially when functional requirements are not met. Further, building on cognitive theories of affect (e.g., Ortony, Clore and Collins 1988; Roseman 1991), we posited that consumers will feel sad if they sacrifice hedonic features for functional benefits, especially after functional requirements are met. As a consequence, we predicted that consumers will tend to choose a product that meets functional requirements over one that does not, and that, given a choice between two products that both meet functional requirements, they will choose the product that is hedonically superior. Finally, based on the differences in the emotions associated with the sacrifice of functional vs. hedonic attributes, we posited that, while the functionally superior product will be chosen, consumers will be willing to pay more money for the hedonically superior product. Results from three experiments provided systematic support for each of these predictions.

Theoretical Contributions

This research adds to the important and growing body of work on the emotional and behavioral consequences of making difficult trade-offs in three significant ways. First, whereas previous work in this area has demonstrated that

difficult trade-offs evoke negative emotions, our results document evidence for differences in the types of negative emotions evoked by trade-offs. Specifically, we hypothesize and find that the type of negative emotion evoked by a trade-off situation depends on the direction, at least when deciding between hedonic and functional attributes. This is the first demonstration (as far as we know) of the differences in the nature of emotional consequences in trade-off situations and thus points to the possibility that trading off other types of attributes may produce other emotions. For example, based on cognitive theories of affect (e.g., Roseman 1991; Ortony, Clore and Collins 1988 etc.) it is possible to derive the emotional consequences of trade-offs involving a compromise of a moral or ethical value—such as those involved in the choice between a cheaper piece of clothing made with child labor and one that is made with adult labor, but is much more expensive, or those involving compromise of personal safety (such as that between a safer alarm system for the house and one that is less expensive, but also less safe). Specifically, cognitive theories of affect would suggest that while the former situations will evoke anger (associated with perception of unfair behavior), the latter will evoke anxiety (associated with uncertainty). The behavioral consequences of these emotional states may be derived based on the informational value of these affective states, as we have done for the states of guilt and sadness in this research. For example, anger may lead consumers to boycott the piece of clothing made using child labor, the experience of anxiety in the latter situation may lead to the preference of the “safe” option in the latter situation (e.g.,

Raghunathan and Pham 1999; Raghunathan, Pham and Corfman 2003). These may be potentially useful avenues for research in the future.

This paper also adds to our understanding of what happens, specifically, in trade-offs involving functional and hedonic attributes (vs. other types of attributes examined in previous research; see Luce, Bettman and Payne 2001 for a review). Overall, as mentioned earlier, the model extended in this paper is compatible with the two-stage model proposed by Luce et al. (2001). Building on Lazarus' model of coping strategies (e.g., Lazarus 1991; Lazarus and Folkman 1984; Folkman and Lazarus 1988), Luce et al. (2001) suggest that difficult trade-offs evoke negative emotions through primary appraisals and impact purchase or avoidant behavior through secondary appraisals. Our research suggests some refinements to this model. First, as mentioned earlier, our results suggest that the type of emotion evoked by a trade-off situation will depend on what attributes are involved in the trade-off. We may therefore augment Luce et al.'s (2001) model by adding the type of attributes involved in the trade-off, as well as the direction of trade-off as potential moderators of the relationship between the primary appraisal and emotional consequences. Second, our research suggests that functional requirements or other such cut-offs may also play a moderating role between the same two variables.

A third theoretical contribution of our research stems from the directed behavior paradigm used in our experiments. As revealed in Experiment one while, consistent with earlier research on difficult trade-offs (e.g., Luce 1998; Dhar 1997), consumers may prefer to avoid making a choice, there are systematic

patterns of choice—mediated by emotions—that emerge in forced-choice situations. Given that consumers are routinely forced to make a choice even in situations involving difficult trade-offs, it is useful to gain insights into the direction of choices. We find that consumers focus first on meeting a functionally satisfactory level of performance, and thereafter, focus on maximizing hedonic benefits, in accordance with what we have termed the “principle of hedonic dominance”. It should be noted, however, that the mode of preference elicitation may have significantly determine which product is preferred. As revealed in Experiment three, whereas subjects may choose the functionally superior alternative in accordance with the principle of precedence, they may simultaneously indicate a willingness to pay greater sums of money for the hedonically superior alternative. It may be worthwhile to explore if similar preference reversals are obtained in trade-offs involving other attribute dimensions. For instance, given that anxiety is associated with making a “safe” choice, whereas sadness is associated—as demonstrated in this experiment—with increased value for hedonic attributes, it is likely that consumers will indicate a preference for a safer (vs. more comfortable) automobile in choice tasks, while simultaneously indicating willingness to pay more for a more comfortable and luxurious automobile.

Managerial Implications

The findings in this research have some important implications for both manufacturers and retailers. Overall, our results suggest that manufacturers

should focus first on satisfying functional requirements of consumers and, once these are met, they should focus on maximizing hedonic benefits. This recommendation may be easier said than done, however, given that consumers' perceptions of what they require is likely to constantly evolve. In general, consumers expect higher levels of functional performance with time. For example, what may have been considered a satisfactory level of processor speed (in a computer) in the latter part of the last century—around 128 MHz—may no longer appear satisfactory. A recommended strategy would, therefore, be to project what consumers may want in the future—in terms of functionality—and ensure that it is provided, and, thereafter, direct attention to enhancing hedonic benefits (e.g., by incorporating better designs, color schemes etc.). Results from Experiment three, which shows that consumers are willing to pay more for hedonically pleasing products, suggests that the focus on hedonic features (after functional requirements are met) may produce higher profit margins.

From the retailer's perspective, our results suggest implications for product placements. If a product that meets functional requirements has a higher profit margin than one that does not, then a retailer will do well to place the products adjacent to each other, since results from Experiment one and two suggest that consumers will tend to choose the former product under such circumstances. Alternatively (and this is the more likely scenario), if a functionally inferior, but hedonically pleasing product has a higher profit margin than one that is functionally superior, but hedonically less pleasing, then the product placement strategy will depend on whether or not these alternatives meet

functional requirements. If both offerings meet functional requirements, then, results from Experiments 1 and 2 suggest that the retailer will benefit from placing these products adjacent to each other. This way, the consumer is likely to choose the hedonically superior (and more profitable) product. On the other hand, if the hedonically more pleasing product does not meet functional requirements, the retailer's optimal strategy would be to keep the alternatives separate since, as indicated by results from Experiment three, the consumer may be willing to purchase this product at a higher price.

Chapter 3: Tradeoffs, Post-Consumption Emotions and Consumer Behavior

Consumers often make purchases based on a combination of needs and desires. They want products that appeal to their heart as well as their mind (Shiv and Fedorikhin 1999). Of late, the market has seen an increase in products that compete on hedonic benefits in addition to functional benefits (e.g., PCs, Cell-phones, Laptops etc.). This often puts a demand on the consumer to make choices that involve tradeoffs between hedonic and functional attributes. The literature on tradeoffs points to a negative affect resulting from tradeoffs involving emotion-laden attributes (Luce, Payne, and Bettman 1999; Luce, Bettman, and Payne 2001). Recent research has shown that at the time of purchase consumers experience different types of negative emotions (guilt or sadness) depending on the direction of the tradeoff between hedonic and functional attributes (Chitturi, Raghunathan, and Mahajan 2003). Consumers lack a sense of excitement if the product just meets their basic needs and provides no exciting “frills” such as entertainment in a restaurant or a theater. Hirschmann and Holbrook (1982) refer to these psychological benefits as “hedonic consumption”. The relationship between attribute tradeoffs (hedonic vs. functional), customer satisfaction, and the post-consumption emotions of delight and anger has not been fully studied. Rust and Oliver (2000) make a business case for delighting consumers above and

beyond the zone of mere satisfaction to improve customer loyalty. This raises an interesting question—can hedonic attributes, in combination with functional attributes, be used to add sufficient excitement (arousal and positive affect) during product selection and consumption to move a customer from mere satisfaction to delight?

In this article we examine the relationship between the direction of the tradeoff involving hedonic and functional attributes, valence of consumption experience, and the post-consumption emotions of delight and anger. Previous research has shown that the type of consumption experience (positive or negative) determines the level of customer satisfaction (Oliver 1997). Product performance has been shown to be the most diagnostic determinant of post-consumption satisfaction compared to its other antecedents (e.g., expectations, disconfirmation) (Mittal, Ross, and Baldasare 1998; Westbrook 1987). Further, satisfaction does not respond well to increases in quality much above expectations (Anderson and Sullivan 1993). On the other hand, customer delight has been shown to respond well to a combination of surprising performance (much above expectation), arousal, and positive affect (Oliver, Rust, and Varki 1997).

We extend the previous research on tradeoffs between hedonic and functional attributes to post-consumption emotions. We intend to show that well designed, stylish, and attractive attributes combined with satisfactory functionality in a product can generate a high intensity positive affect, leading to consumer delight (Oliver 1993; Rust and Oliver 2000; Oliver, Rust, and Varki 1997). Our study leads to the following results. First, subjects experience greater post-

consumption delight when they choose a more hedonic product over a more functional product and have a positive consumption experience. Second, subjects experience greater post-consumption anger when they choose a more functional product over a more hedonic product and have a negative consumption experience. Third, subjects do not report greater satisfaction with either hedonic or functional product choice compared to the other, when they have a positive consumption experience. Fourth, subjects do not report greater dissatisfaction with either functional or hedonic product choice compared to the other, when they have a negative consumption experience. Finally, subjects who are delighted with a more hedonic product have a stronger influence on positive WOM and repurchase intention compared to those who are delighted with a more functional product. Together, these results suggest that a high level of hedonics combined with a satisfactory level of functionality is more likely to delight customers than a high level of functionality with a satisfactory level of hedonics. Further, hedonically delighted customers are more likely to indulge in positive WOM and have higher repurchase intentions compared to functionally delighted customers.

The remainder of the article is organized as follows. Research relevant to tradeoffs, emotions, and satisfaction is reviewed. This is followed by a brief discussion on how a more hedonic choice can lead to delight and a more functional choice can lead to anger. We also discuss post-consumption satisfaction and dissatisfaction, and how they are primarily determined by the valence of the consumption experience and not by the direction of the tradeoffs. Next, we test these predictions in three studies. We manipulate the direction of

the tradeoff between hedonic and functional attributes, valence of consumption experience, and the levels of attributes involved in the tradeoff. We conclude with a discussion of the theoretical and managerial implications of our findings for product designers and marketing managers.

POST-CONSUMPTION EMOTIONS OF DELIGHT AND ANGER

Recent research on tradeoffs has shown that emotionally difficult tradeoffs generate a negative affect (Luce, Payne, and Bettman 1999; Luce, Bettman, and Payne 2001). Consumers also experience different types and intensities of negative emotions depending on the direction of the tradeoff at the time of purchase (Chitturi, Raghunathan, and Mahajan 2003). When consumers choose a functionally inferior product for higher levels of hedonic attributes, they are likely to feel guilty. However, when they choose a hedonically inferior product they feel sad. What has not been examined previously, however, is whether or not consumers experience different types and intensities of post-consumption emotions depending on the direction of the tradeoff between hedonic and functional attributes at the time of purchase. This paper studies the relationship between the type of the chosen product (more hedonic vs. more functional) and post-consumption emotions of delight and anger. It further explores the relationships involving post-consumption emotions, word of mouth behavior, and repurchase intention. The proposed model is shown in Figure 2.1. The focus of this paper is on products that are a combination of different levels of hedonic and functional attributes. Consumers choose products in the context of their hedonic

and utilitarian ‘wants and needs’ (Shiv and Fedorikhin 1999). Choosing a product from a set of products with different levels of hedonic and utilitarian attributes involves making tradeoffs between attributes.

This paper studies consumer choice involving gain-gain tradeoffs. It involves choosing a product from a set of two products that meet or exceed consumer needs on both (hedonic and functional) dimensions (please see Appendix 1.3). The paper studies four combinations of consumption experience with hedonic and functional attributes. The four combinations are: 1) meets expectations on hedonics and functionality, 2) meets expectations on hedonics, but not on functionality, 3) does not meet expectations on hedonics, but meets on functionality, 4) does not meet expectations on hedonics and functionality. The customer requirements for hedonic and functional attribute were set at medium for all subjects across the four conditions. The choice set with the photographs of the two cell-phones is shown in Appendix 1.3.

Hedonic Attributes and Post-Consumption Delight

High levels of hedonic attributes are likely to have an affective and sensory experience of aesthetics or sensual pleasure, fantasy and fun (Hirschmann and Holbrook 1982). When this sensual pleasure is combined with a positive consumption experience, consumers go beyond mere satisfaction and experience delight. This feeling of delight is due to a combined sense of positive affect from two sources. At the time of purchase, consumer chooses a more hedonic product over a more functional product to enhance sensual pleasure from its aesthetic

design. Post-consumption, the consumer's sense of sensual pleasure is further enhanced by a positive consumption experience with the functionality of the product. Therefore, we hypothesize that this combination generates a high intensity positive affect leading to customer delight above and beyond the zone of mere satisfaction (Bagozzi, Gopinath, and Nyer 1999; Rust and Oliver 2000; Oliver 1997; Keiningham and Vavra 2001). This discussion leads to the following hypothesis.

H1: In the presence of a positive consumption experience, a more hedonic product choice leads to greater consumer delight compared to a more functional product choice

Functional Attributes and Post-Consumption Anger

When consumers compromise on the sensory experience from the aesthetics of a product and choose a product with a high level of functionality, they are more likely to experience sadness (Chitturi, Raghunathan, and Mahajan 2003). In addition, a tradeoff in favor of higher functionality raises the stakes with the functional performance of the product (Strahilevitz and Myers 1998). This sacrifice of hedonic pleasures in favor of higher functionality makes product functionality even more salient in the customer's mind. In this situation, if the product does not deliver the promised level of functionality, the consumer is likely to be angry and blame the manufacturer or the retailer for the negative consumption experience. This feeling of anger is due to a combined sense of

negative affect from two sources: 1) sadness due to a loss of hedonics, and 2) a negative consumption experience with product functioning below expectations. We hypothesize that this combination is likely to generate a highly negative affective state leading to anger.

H2: In the presence of a negative consumption experience, a more functional product choice leads to greater consumer anger compared to a more hedonic product choice

THE PROPOSED TRADEOFF-EMOTION-BEHAVIOR MODEL

We developed our model based on findings from the literature on attribute tradeoffs, disconfirmation theory, and customer satisfaction (Luce, Bettman, and Payne 2001; Oliver, Rust, and Varki 1997; Rust and Oliver 2000; Mittal, Ross, and Baldasare 1998; Oliver 1997). We hypothesize that the post-consumption emotions of delight and anger are a combination of the affect due to the attribute tradeoffs at the time of purchase and the affect from consumption experience. Depending on the direction of the tradeoff between hedonic and functional attributes, and the valence of the consumption experience, consumers are likely to experience either greater post-consumption delight or greater post-consumption anger. The proposed model adds to the customer satisfaction model by including the direction of the tradeoff between attributes as a possible antecedent of consumer delight and anger (Oliver 1993; Oliver 1997; Oliver, Rust, and Varki 1997). It is expected that the tradeoff based positive affect does significantly

enhance the level of satisfaction. However, it is unclear if the measure of satisfaction can capture the high intensity positive affective state as well as the measure of delight. There is evidence in the literature (Anderson and Sullivan 1993) that shows that customer satisfaction does not respond well to the much higher levels of quality above expectations. Rust and Oliver (2000) provides the conceptual basis for customer delight as a better measure than satisfaction to capture these highly positive affective states. In the case of consumer dissatisfaction, it is unlikely to respond well to the highly negative affective state resulting from the loss of hedonics and unsatisfactory performance. In this situation involving blame, anger is more likely to capture the highly negative affective state. When manufacturers and retailers do not deliver the promised level of functional performance, consumers are likely to blame them and feel angry. The anger is likely to be directed at the manufacturer or the retailer. The model proposes that the attribute tradeoff affect is an antecedent of the post-consumption emotions of delight and anger, but not of the post-consumption measures of satisfaction and dissatisfaction. Therefore, we include the measures of delight and anger in addition to the measures of satisfaction and dissatisfaction in the proposed model. We measure delight, anger, satisfaction, and dissatisfaction in order to compare and contrast delight with satisfaction, and anger with dissatisfaction.

DELIGHT AND SATISFACTION

Although the measures of post-consumption delight and post-consumption satisfaction are expected to capture positive affect—they are qualitatively different measures (Rust and Oliver 2000; Oliver, Rust, and Varki 1997). While the measure of delight responds to the high intensity positive affect generated due to arousal from surprisingly good performance—the measure of satisfaction has been shown to respond poorly to the levels of quality much above expectations (Anderson and Sullivan 1993). Unlike post-consumption delight, customer satisfaction is not likely to be significantly influenced by the direction of the tradeoff between hedonic and functional attributes at the time of purchase. As shown in Figure 2.1, post-consumption delight is a function of attribute tradeoff affect and consumption experience affect. When consumers choose a more hedonic product over a more functional product, they experience sensory pleasure from high style and attractiveness of the product. A positive consumption experience with functionality adds to this positive affect. This combination moves the customer into a highly positive affective state of delight. Consistent with the proposed model, the relationship between post-consumption delight and its antecedents is expressed below.

Post-consumption Customer Delight = f (positive affect from hedonic attributes, affect from positive consumption experience)

Post-consumption Customer Satisfaction = f (affect from positive consumption experience)

Based on our discussion so far, we hypothesize that the direction of the tradeoff between hedonic and functional attributes is unlikely to significantly influence customer satisfaction.

H3: In the presence of a positive consumption experience, consumers are likely to experience the same level of satisfaction with either a more hedonic or a more functional product choice

ANGER AND DISSATISFACTION

Although the measure of post-consumption dissatisfaction captures the affect from the consumption experience well, it is inadequate for capturing highly negative affective states resulting from loss of hedonics associated with a more functional choice and negative disconfirmation with functional performance. As shown in Figure 2.1, post-consumption anger is a function of the attribute tradeoff affect and consumption experience affect. When consumers choose a more functional product over a more hedonic product, they experience sadness from the loss of sensory pleasure from the high style and attractiveness of the forgone product. If the feeling of sadness is further compounded by the negative affect due to disconfirmation on the functional dimension, it is likely to lead to an even higher intensity negative affective state. When this highly negative affective state is accompanied by the need to attribute blame for negative disconfirmation, it is

likely to make the consumer angry. Therefore, we propose the following relationship between post-consumption anger and its antecedents.

Post-consumption Customer Anger = f (negative affect from loss of hedonic attributes, affect due to a negative disconfirmation of functionality)

Post-consumption Customer Dissatisfaction = f (affect due to a negative disconfirmation of functionality)

Based on our discussion so far, we hypothesize that the direction of the tradeoff between hedonic and functional attributes is unlikely to significantly influence customer dissatisfaction.

H4: In the presence of a negative consumption experience, consumers are likely to experience the same level of dissatisfaction with either a more hedonic or a more functional product choice

POST-CONSUMPTION EMOTIONS AND CONSUMER BEHAVIOR

The preceding discussion was about the relationships involving the attribute tradeoffs, consumption experience, and the measures of post-consumption delight, anger, satisfaction, and dissatisfaction. Now we advance the discussion to the relationships of the measures of post-consumption delight and satisfaction, with the behavioral measures of positive WOM and repurchase

intention. We explore the relationship between attribute tradeoff direction, post-consumption measures (delight and satisfaction), WOM behavior, and repurchase intentions. The proposed model shows the antecedents of the post-consumption measures of delight and satisfaction. Recent ACSI (American Customer Satisfaction Index) data (1994-1999) from Walmart, Southwest Airlines, and the Hotel/Motel industry show that there is a disconnect between ACSI and financial performance (Keiningham and Vavra 2001). The ACSI index has dropped on average by 5-10 points between 1994-1999, while financial performance (Income, profitability etc.) has gone up significantly during the same period. Oliver, Rust, and Varki (1997) make a case for customer delight as a more objective measure than satisfaction for highly positive affective states. Therefore, one possible explanation could simply be the limitation of the construct of satisfaction. It is possible that the path to more favorable consumer behavior (positive WOM and repurchase intention) leading to improved financial performance is through customer delight and not just customer satisfaction. Up to a point satisfaction captures the positive affect adequately, but beyond a certain level of positive affect, delight is likely to be a better measure of highly positive affective state. If it is so, then it is expected that customer delight will have a stronger influence on positive WOM and repurchase intention than customer satisfaction. Therefore, we hypothesize the following relationships.

H5a: Post-consumption consumer delight is a better predictor of higher positive WOM behavior and re-purchase intentions compared to post-consumption consumer satisfaction

H5b: Post-consumption consumer anger is a better predictor of lower positive WOM behavior and re-purchase intentions compared to post-consumption consumer dissatisfaction

It has been shown that the consumer is likely to be delighted when he experiences a surprisingly positive performance (Rust and Oliver 2000; Oliver, Rust, and Varki 1997). It is possible that consumers who choose a more functional product are delighted because the product functionality far exceeds their needs. Although the consumer is happy to note that the product he chose offers high functionality—he also realizes that it is much more than what he needs at the moment. Therefore, he derives limited immediate utility from surplus functionality. In this case, there is only one source of delight and the consumer still feels residual sadness from the loss of hedonics from the forgone alternative. This residual sadness further takes away from the functional delight. In the case of a consumer who is delighted with a more hedonic choice, there are two sources of delight: 1) the excitement of owning a highly stylish and attractive product, and 2) the positive experience with product functionality. In this case the level of hedonics far exceeds customer's requirement of medium level of hedonics. Unlike high product functionality, the characteristics of the attribute of style and attractiveness allow the consumer to derive immediate hedonic benefits from

higher than needed level of hedonics. In the case of style and attractiveness, what you see is what you experience. This additional source of positive affect from high hedonics when combined with positive experience with functionality leads to a more complete fulfillment experience. Therefore, it is hypothesized that consumers who are delighted with a more hedonic product are more likely to indulge in positive WOM behavior and have higher repurchase intentions compared to those who are delighted with a more functional product.

H6a: Consumers of a more hedonic product are more likely to indulge in higher positive WOM behavior compared to the consumers of a more functional product

H6b: Consumers of a more hedonic product are more likely to have higher re-purchase intentions compared to the consumers of a more functional product

STUDY 1: POST-CONSUMPTION EMOTIONAL CONSEQUENCES

The objective of study 1 was to demonstrate differences in the nature of the post-consumption emotions resulting from attribute tradeoffs and the valence of consumption experience. Specifically, we wished to show that: 1) a positive consumption experience with a more hedonic product leads to higher customer delight compared to a positive consumption experience with a more functional product (H1), and 2) a negative consumption experience with a more functional

product leads to higher customer anger compared to a negative consumption experience with a more hedonic product (H2).

Pretests

We wished to identify a suitable set of stimuli for testing these hypotheses. Informal talks with representatives of the subject population indicated that cell phones were perceived to vary significantly in terms of both functional and hedonic features. Further, greater than 95% of these subjects considered both the functional and hedonic attributes to be important when making cell phone purchases. Based on this information, the category of cell phones was used to test our hypotheses. Two stimuli were constructed such that one (Cell Phone A) was superior in terms of aesthetic features and inferior in terms of functional features compared to the other (Cell Phone B). As depicted in Appendix 1.3, the cell phones' functional and hedonic levels were described using adjectives ("high" or "medium"). When photographs of the cell phones accompanied these verbal descriptions in order to further strengthen the manipulation of hedonic quality, no specific functional descriptions were provided, for the following reasons. Research (e.g., Childers, Houston, and Heckler 1985, Yamamoto and Lambert 1994) has shown that individuals vary widely in terms of their imagery ability. Thus, it was necessary to display photographs in order to communicate the difference in the aesthetic (and hence hedonic) quality of the stimuli. In contrast, we felt that consumers would have a better grasp of the functional features of products that they are familiar with. Further, we believed that

consumers would have idiosyncratically different criteria for ascertaining whether a particular product meets their functional requirements. For example, while some may seek audio clarity, others may seek greater coverage. Hence, specifying functional attributes in detail may contradict our manipulation of functional requirement levels (described in the next section).² The objective of the pre-test (n = 15) was to test whether the constructed stimuli were perceived to be different—in the ways intended—in terms of their hedonic features. 15 undergraduates were exposed to pictures of the two cell phones, and were asked to rate them on an 11-point scale on attractiveness [1 = “Low style & attractiveness”; 11 = “High style & attractiveness”]. As expected, Cell phone A was perceived to be more attractive (M = 7.1), compared to Cell Phone B (M = 2.9), $t(14) = 18.837, p < .0001$.

Main Study

One hundred and sixteen undergraduate and graduate students (51 men, 65 women) at a large public university were recruited for this experiment with flyers posted around the campus. The stimuli used in the experiment were photographs of the two cell-phones. Subjects were assigned randomly to one of four experimental conditions. We manipulated the type of consumption experience on hedonic and functional dimensions. This created four combination conditions (confirm/confirm, confirm/disconfirm, disconfirm/confirm, disconfirm/disconfirm). The customer requirements for hedonic and functional

attribute were set at medium for all subjects across the four conditions. Subjects were asked to imagine that they were looking for a cell-phone that was rated medium in terms of both hedonic and functional features. Across the four groups with different consumption experience treatments, the first page of the questionnaire asked subjects to imagine that they had two alternatives to choose from: Cell Phone A, which was high on hedonics, but medium on functionality, and Cell Phone B, which was medium on hedonics, but high on functionality. As in the pre-test, pictures of both cell phones were provided to give the students a better idea of how each cell phone looked. On the second page, students were given a description of two purchase and consumption scenarios. Both scenarios were treated to an identical consumption experience on both dimensions. The only difference was that in the first scenario consumers chose the better looking cell phone with medium performance, and in the second scenario consumers chose the higher performance cell-phone with a medium level of style & attractiveness. Subjects were asked to indicate, after reviewing information about the stimuli and the two scenarios, whether scenario 1 or scenario 2 would make them feel more: a) delight, b) anger, c) satisfaction, and d) dissatisfaction. Subjects were asked to mark the intensity of their emotion for each scenario on a scale of 0-10. Zero indicated no emotion and 10 indicated high level of emotion.

Results

More than 75% of the subjects indicated that they had used cell phones for over 12 months, thereby indicating that these subjects were generally familiar

with the category of cell phones, and could therefore be expected to form their own idiosyncratic judgments of the cell phones based on the adjectives (high vs. medium) used to describe them in terms of functionality. We predicted that scenario 1 (a more hedonic product choice) is more likely to lead to greater post-consumption delight than scenario 2 (a more functional product choice) in the case of a positive consumption experience (H1), whereas scenario 2 (a more functional choice) is more likely to lead to greater post-consumption anger than scenario 1 (a more hedonic choice) in the case of a negative consumption experience (H2). H1 was tested by examining the averages of reported delight levels experienced by the subjects in the two scenarios. The paired-sample t-test was used to test the difference between the two means of post-consumption delight. We compared the average level of delight reported by subjects in a more hedonic choice scenario with the average level of delight reported in a more functional choice scenario. The group was treated to a positive consumption experience on both dimensions (hedonic and functional). Subjects reported an average delight level of 6.75 with a more hedonic choice, compared to an average delight level of 4.93 with a more functional choice (Table 2.1). As predicted by H1, the mean level of reported post-consumption delight (6.75) with a more hedonic choice was significantly greater than the mean (4.93) level of reported delight with a more functional choice. The mean difference of 1.81 was found to be significant, $t = 2.72$, $p < .011$. Similarly, we predicted that scenario 2 (a more functional product choice) is more likely to lead to greater post-consumption anger than scenario 1 (a more hedonic product choice) in the case of a negative

experience (H2). H2 was tested by examining the means of reported anger levels experienced by the subjects in the two scenarios. The paired-sample t-test was used to test the difference between the two means of post-consumption anger. We compared the means in the group that was treated to a negative consumption experience with both the attributes (hedonic and functional). Subjects reported a mean anger level of 6.7 with a more functional choice, compared to a mean anger level of 5.10 with a more hedonic choice (see Table 2.2). As predicted by H2, the mean level of reported post-consumption anger (6.7) with a more functional choice was significantly greater than the mean (5.10) level of reported anger with a more hedonic choice. The mean difference of 1.6 was found to be significant, $t = 2.14, p < .03$.

Discussion

These results provide some important insights into the post-consumption emotional consequences of trading off functional vs. hedonic attributes. First, they suggest that the choice of a hedonically superior alternative leads to post-consumption feelings of delight with positive confirmation on both dimensions (H1) and that the choice of a hedonically inferior alternative leads to post-consumption feelings of anger in the case of a negative disconfirmation on both dimensions (H2). Second, the valence of consumption experience influences the relationship between the direction of the tradeoff between hedonic and functional attributes and the post-consumption emotions of delight and anger. Third, the intensity of delight and anger moved in the opposite direction. The experimental

condition that generated the highest level of delight also generated the least level of anger and vice versa. This experiment demonstrated that the post-consumption emotions of delight and anger have two antecedents. One is the affect from attribute tradeoffs and the other is the affect from the type of consumption experience. Depending on the experimental treatment conditions, these two types of affect combine to determine the overall post-consumption affect (delight or anger). In the next study we compare and contrast post-consumption delight and post-consumption satisfaction. We also measure and compare post-consumption anger and post-consumption dissatisfaction.

STUDY 2A: DELIGHT AND SATISFACTION

One hundred and sixteen undergraduate and graduate students at a large public university were recruited for this experiment with flyers posted around the campus. The stimuli used in the experiment were photographs of the two cell-phones. To test for H3, each subject was asked to report on the level of delight they would experience with the two scenarios described in the questionnaire. The same subject was also asked to indicate the level of satisfaction he/she would feel with the two scenarios on a 0-10 point scale. The only difference between the two scenarios was the choice of a more hedonic or a more functional product. Within each of the four conditions, the consumption experience was the same for the two scenarios. The consumption experience was manipulated between groups.

Results and Discussion

We have already shown in the first study that post-consumption delight is influenced significantly by the direction of the attribute tradeoffs. Now, we are interested in showing that this is not so with post-consumption satisfaction. We also want to show that the absence of a significant attribute tradeoff effect is observed in the positive as well as in the negative consumption experience conditions. The Paired-sample t-test shows that for the positive experience group the difference in mean satisfaction for the two scenarios is not significant ($p < .210$). The results are shown in Table 2.1. We observe the same non-significant difference between the two scenario averages for the negative experience condition ($p < .303$). The results indicate that hedonic attributes contribute significantly to enhancing post-consumption delight, whereas, the same increase in hedonic attributes does not seem to impact the measure of customer satisfaction significantly. This is consistent with literature on customer satisfaction (Anderson and Sullivan 1993; Oliver, Rust, and Varki 1997; Rust and Oliver 2000).

STUDY 2B: ANGER AND DISSATISFACTION

One hundred and twenty undergraduate and graduate students at a large public university were recruited for this experiment with flyers posted around the campus. The stimuli used in the experiment were photographs of two cell-phones (Please see Appendix 1.1). To test for H4, each subject was asked to report on the level of anger they would experience with the two scenarios described in the questionnaire. The subjects were also asked to report the level of dissatisfaction

they would feel with the two scenarios. The only difference between the two scenarios was the direction of the tradeoff involving hedonic and functional attributes. Within each of the four conditions, the consumption experience was the same for the two scenarios. The consumption experience was manipulated between groups.

Results and Discussion

We have already shown in the first study that post-consumption anger is influenced significantly by the direction of attribute tradeoffs. Now, we are interested in showing that this is not the case with post-consumption dissatisfaction. We also want to show that the absence of significant attribute tradeoff effect on dissatisfaction is observed in the positive as well as in the negative consumption experience conditions. A paired-sample t-test shows that for the positive experience group the difference in mean dissatisfaction for the two scenarios is not significant ($p < .37$). We observe the same non-significant difference between the two scenario means for the negative experience condition ($p < .47$). The results are shown in Table 2.2.

The results indicate that the loss of sensual pleasure from pleasing aesthetic design contributes significantly to enhancing post-consumption anger in the case of a negative disconfirmation with product performance, whereas, the same decrease in hedonic attributes does not seem to impact customer dissatisfaction significantly. When a consumer chooses a more functional product over a more hedonic product and then finds out that product functionality did not

meet expectations, he or she is more likely to blame the manufacturer or the retailer for it. This attribution of blame is captured by the measure of post-consumption anger. The measure of post-consumption dissatisfaction is relatively more product centric. It captures the unsatisfactory product performance adequately, but is unable to capture the attribution of blame to a manufacturer or retailer adequately. This is consistent with literature on customer satisfaction (Oliver 1997; Oliver, Rust, and Varki 1997; Anderson and Sullivan 1993).

STUDY 3: DELIGHT, SATISFACTION, WOM BEHAVIOR, AND REPURCHASE INTENTION

One hundred and nineteen students participated in this experiment at a large public university. The visual stimulus used in this experiment was similar to the first two studies. Subjects were first asked to report the level of post-consumption delight, satisfaction, anger, and dissatisfaction with the two scenarios described in the questionnaire. Then they were asked to report the likelihood of recommending the cell-phones to their friends. They were also asked to report the likelihood of them repurchasing the cell-phones. A regression model of the dependent variable of WOM behavior with the independent variables being the measures of consumer delight and satisfaction is shown in Table 2.3. The levels of delight and satisfaction were measured with a more hedonic as well as a more functional product choice scenario.

Results and Discussion

Simple linear regression finds that both delight and satisfaction significantly influence positive WOM and repurchase intention. Consumer delight was more influential than satisfaction in the case of a more hedonic choice and consumer satisfaction was more influential than delight in the case of a more functional choice. Simple linear regression finds that both anger and dissatisfaction significantly influence WOM behavior and repurchase intention. Consumer dissatisfaction was more influential than anger in the case of a more functional choice for consumer WOM behavior and repurchase intention. The results are shown in Table 2.3 & 2.4. To test H5a, we regressed WOM behavior with delight from a more hedonic choice. As shown in the table, the adjusted R square is .52. We also regressed WOM behavior with the measure of satisfaction with a more hedonic choice. We found the R sq. value to be .395. As expected the R square was much higher (12% higher) for delight with a more hedonic choice than satisfaction with a more hedonic choice. Consistent with H5a, the regression model reveals that delighted customers are more likely to indulge in positive WOM behavior than satisfied customers. Similarly we compared R square values for the dependent variable of repurchase intention and found that the R sq. value was higher for delight with a more hedonic choice compared to the R sq. value for satisfaction with a more hedonic choice. Also, when WOM is regressed with the delight and satisfaction together, we find that delight from a more hedonic product is a better predictor of positive WOM behavior than satisfaction with a more hedonic product. To test H6a we used a simple paired t-test. It shows that consumers who have a positive experience with the

consumption of a more hedonic product are more likely to indulge in positive WOM behavior compared to those who have the same positive experience with a more functional product. Similarly, the paired t-test with the dependant variable of repurchase intention demonstrates that the results are consistent with H6b. The results are shown in Table 2.4

GENERAL DISCUSSION

Managers are surprised to find out that more than 60% of customers who leave to find another brand would classify themselves as “satisfied” (Keiningham and Vavra 2001). Recent data have shown that there is a low correspondence between satisfaction data and favorable consumer behavior (Reichheld 1993). Many practitioners are beginning to realize that it is no longer sufficient to merely satisfy customers (Schmitt 1999). Customers expect to be delighted in return for their loyalty (Rust and Oliver 2000). For example, Schlossberg (1990) quotes the Vice President of Quality at Milliken as saying that “You must delight customers not just satisfy them”. The chairman and CEO of Eastman Kodak, states that, “We must take quality beyond customer satisfaction to customer delight” (Chandler 1989). Unexpected value and pleasant surprise have been cited as conditions for delighting customers (Rust and Oliver 2000; Oliver, Rust, and Varki 1997). The objective of this research was to demonstrate how hedonic attributes in a product could help move a customer from the zone of mere satisfaction to the zone of delight. The paper also demonstrates that delighted

customers are more likely to indulge in positive WOM and show higher repurchase intentions compared to satisfied customers.

Theoretical Contributions

This research adds to the growing body of literature on the emotional and behavioral consequences of attribute tradeoffs in three significant ways. First, it adds to the body of knowledge on hedonic vs. utilitarian tradeoffs (Dhar and Wertenbroch 2000) and their emotional consequences (Chitturi, Raghunathan, and Mahajan 2003). Prior work has looked at changes in salience of hedonic vs. utilitarian attributes in the context of the direction of the trade (selling vs. buying) (Carmon and Ariely 2000). The direction of attribute tradeoffs has been shown to generate different types of emotions at the time of purchase (Chitturi et al. 2003). This research extends this work to the post-consumption emotions of delight and anger. The study finds that the direction of the tradeoff between hedonic and functional attributes at the time of purchase combined with the valence of disconfirmation can lead to post-consumption customer delight or anger. Second, the study shows that post-consumption delight and satisfaction measures are influenced differently by the attribute tradeoffs at the time of purchase. While post-consumption delight varies significantly with the direction of the tradeoff between hedonic and functional attributes, it is not so with the measure of post-consumption satisfaction. This is consistent with Anderson and Sullivan (1993). It has been shown that attribute performance could directly influence customer satisfaction and dissatisfaction (Oliver 1993). This paper extends this model to

include the direction of the tradeoff in addition to attribute performance as an antecedent of customer delight and anger. The proposed model is shown in Figure 2.1. Similarly, research shows that post-consumption anger and dissatisfaction measures respond differently to pre-consumption tradeoffs between attributes. While post-consumption anger varies significantly with the direction of the tradeoff between hedonic and functional attributes, it is not the case with post-consumption dissatisfaction. Third, the intensity of delight experienced with a more hedonic product when coupled with positive confirmation, has a higher influence on positive WOM behavior and repurchase intentions compared to delight from a more functional product. The results also show that delighted customers are more likely to indulge in positive WOM behavior compared to satisfied customers. In general, the research finds that customers who are hedonically delighted and functionally satisfied are likely to have a stronger influence on positive WOM behavior and repurchase intentions compared to the customers who are functionally delighted and hedonically satisfied.

Managerial Implications

The findings in this paper could have significant implications for decision makers in product development and marketing organizations. At the product level, firms must consider the potential financial benefits of competing with hedonically superior and functionally satisfying products. To the extent the firms can segment their markets efficiently based on different levels of utilitarian

thresholds, they have an opportunity to maximize financial performance. Firms must focus on satisfying the utilitarian needs first and then focus on maximizing hedonic delight for the customers. At the strategic level, firms must include customer delight as a measure of performance in addition to measuring satisfaction. They must also track customer anger and dissatisfaction to identify areas to improve. Given the positive relationship between hedonic attributes and customer delight as well as the relationship between customer delight and positive WOM behavior and repurchase intentions--decision makers at the executive level must develop a core competency in the hedonic aspects of products and services. The design and integration of hedonics with the functional aspects of a product could be a source of sustainable competitive advantage.

Chapter 4: Conclusion

Recent developments in the marketplace has brought to attention the growing importance of design elements of many consumer durables, including automobiles, cell phones, lap tops etc (Business Week 2000). Practitioner-oriented academics have strongly advocated recognition of this trend, and have suggested many ways in which marketers can help take advantage of it (e.g., Schmitt and Simonson 1997; Pine and Gilmore 1998). In essence, if both “functionality” and “hedonics” of products are critical dimensions of consumer durables, it is important to examine their interplay in product choice contexts. The objective of this research was to examine how consumers trade-off attributes that relate to functional features with those that relate to form or hedonic features, and what consequences this has for their emotional states, and consequently, for the nature of their preferences.

ESSAY ONE

This research extends the previous work on difficult trade-offs to the context of hedonic vs. functional trade-offs to show that, in addition to evoking the tendency to avoid making decisions, such situations evoke the following systematic pattern of results. First, subjects report feeling guilty when

considering the purchase of the hedonically superior (and functionally inferior) alternative, and report feeling sad when considering the functionally superior (and hedonically inferior) choice. The experience of these negative emotions, in turn, leads to asymmetric effects on the purchase decision. While the experience of guilt leads to an increased likelihood of choosing the alternative that meets functional requirements over one that does not meet functional requirements—regardless of the products’ hedonic characteristics—, the experience of sadness leads to choice of the hedonically superior product when the alternatives in the choice set meet functional requirements. Further, reminiscent of preference reversal effects documented in previous decision-research (e.g., Lichtenstein and Slovic 1973), while subjects choose products that meet functional requirements (over those that do not), they are willing to pay more for products that are hedonically superior. Together, these results suggest that marketers should focus first on providing a satisfactory level of functional performance. Once this is achieved, our results suggest that companies stand to gain significantly greater profits by enhancing the hedonic appeal of their offerings, rather than by further augmenting functional features.

The findings in this research have some important implications for both manufacturers and retailers. Overall, our results suggest that manufacturers should focus first on satisfying functional requirements of consumers and, once these are met, they should focus on maximizing hedonic benefits. This recommendation may be easier said than done, however, given that consumers’ perceptions of what they require is likely to constantly evolve. In general,

consumers expect higher levels of functional performance with time. For example, what may have been considered a satisfactory level of processor speed (in a computer) in the latter part of the last century—around 128 MHz—may no longer appear satisfactory. A recommended strategy would, therefore, be to project what consumers may want in the future—in terms of functionality—and ensure that it is provided, and, thereafter, direct attention to enhancing hedonic benefits (e.g., by incorporating better designs, color schemes etc.). Results from Experiment three, which shows that consumers are willing to pay more for hedonically pleasing products, suggests that the focus on hedonic features (after functional requirements are met) may produce higher profit margins.

From the retailer's perspective, our results suggest implications for product placements. If a product that meets functional requirements has a higher profit margin than one that does not, then a retailer will do well to place the products adjacent to each other, since results from Experiment one and two suggest that consumers will tend to choose the former product under such circumstances. Alternatively (and this is the more likely scenario), if a functionally inferior, but hedonically pleasing product has a higher profit margin than one that is functionally superior, but hedonically less pleasing, then the product placement strategy will depend on whether or not these alternatives meet functional requirements. If both offerings meet functional requirements, then, results from Experiments 1 and 2 suggest that the retailer will benefit from placing these products adjacent to each other. This way, the consumer is likely to choose the hedonically superior (and more profitable) product. On the other hand,

if the hedonically more pleasing product does not meet functional requirements, the retailer's optimal strategy would be to keep the alternatives separate since, as indicated by results from Experiment three, the consumer may be willing to purchase this product at a higher price.

ESSAY TWO

Managers are surprised to find out that more than 60% of customers who leave to find another brand would classify themselves as "satisfied" (Keiningham and Vavra 2001). Recent data have shown that there is a low correspondence between satisfaction data and favorable consumer behavior (Reichheld 1993). Many practitioners are beginning to realize that it is no longer sufficient to merely satisfy customers (Schmitt 1999). Customers expect to be delighted in return for their loyalty (Rust and Oliver 2000). For example, Schlossberg (1990) quotes the Vice President of Quality at Milliken as saying that "You must delight customers not just satisfy them". The chairman and CEO of Eastman Kodak, states that, "We must take quality beyond customer satisfaction to customer delight" (Chandler 1989). Unexpected value and pleasant surprise have been cited as conditions for delighting customers (Rust and Oliver 2000; Oliver, Rust, and Varki 1997). The objective of this research was to demonstrate how hedonic attributes in a product could help move a customer from the zone of mere satisfaction to the zone of delight. The paper also demonstrates that delighted customers are more likely to indulge in positive WOM and show higher repurchase intentions compared to satisfied customers.

This research extends the previous work on tradeoffs between hedonic and functional attributes to post-consumption emotions and post-consumption behavior. It shows that well designed, stylish, and attractive attributes combined with satisfactory functionality in a product can generate a high intensity positive affect, leading to consumer delight (Oliver 1993; Rust and Oliver 2000; Oliver, Rust, and Varki 1997). Our study leads to the following results. First, subjects experience greater post-consumption delight when they choose a more hedonic product over a more functional product and have a positive consumption experience. Second, subjects experience greater post-consumption anger when they choose a more functional product over a more hedonic product and have a negative consumption experience. Third, subjects do not report greater satisfaction with either hedonic or functional product choice compared to the other, when they have a positive consumption experience. Fourth, subjects do not report greater dissatisfaction with either functional or hedonic product choice compared to the other, when they have a negative consumption experience. Finally, subjects who are delighted with a more hedonic product have a stronger influence on positive WOM and repurchase intention compared to those who are delighted with a more functional product. Together, these results suggest that a high level of hedonics combined with a satisfactory level of functionality is more likely to delight customers than a high level of functionality with a satisfactory level of hedonics. Further, hedonically delighted customers are more likely to indulge in positive WOM and have higher repurchase intentions compared to functionally delighted customers.

The findings in this paper could have significant implications for decision makers in product development and marketing organizations. At the product level, firms must consider the potential financial benefits of competing with hedonically superior and functionally satisfying products. To the extent the firms can segment their markets efficiently based on different levels of utilitarian thresholds, they have an opportunity to maximize financial performance. Firms must focus on satisfying the utilitarian needs first and then focus on maximizing hedonic delight for the customers. At the strategic level, firms must include customer delight as a measure of performance in addition to measuring satisfaction. They must also track customer anger and dissatisfaction to identify areas to improve. Given the positive relationship between hedonic attributes and customer delight as well as the relationship between customer delight and positive WOM behavior and repurchase intentions--decision makers at the executive level must develop a core competency in the hedonic aspects of products and services. The design and integration of hedonics with the functional aspects of a product could be a source of sustainable competitive advantage.

LIMITATIONS

As with any research, the current research has some limitations that suggest the need for additional work. In this section a few of the most pressing needs are discussed, including the need to 1) test the hedonic vs. utilitarian tradeoff framework with more products in the same product category, 2) test the

proposed theory across different product categories, 3) investigate the models studied for sub-groups, or segments, of customers, 4) strengthen support for the causal nature of the relationships (design→affect→behavior) suggested by the models, and 5) find evidence for the experimental results in the data from the retailers.

Tables

Table 1.1 Level of Guilt and Sadness as a Function of Choice

Proportion of subjects reporting guilt and sadness as a function of choice of Functionally (vs. Hedonically) superior alternative and level of Functional Requirement

	Choice Of Hedonic Option A			Choice of Functional Option B		
	High Requirement	Low Requirement	Total	High Requirement	Low Requirement	Total
Guilt	92%	73%	83%	8%	27%	17%
Sadness	40%	17%	28%	60%	83%	72%

Table 1.2 Experiment three: Consumer Preference vs. Perceived Price tasks

	1-5% More	6 – 10% More	> 10% More	Not willing to Pay more
Perceived Price Task	n = 7 (15%)	n = 18 (33%)	n = 28 (52%)	n = 1 (2%)
Choice Task	n = 15 (28%)	n = 8 (15%)	n = 8 (15%)	n = 22 (42%)

Table 2.1 Attribute Tradeoffs and the Post-Consumption Emotions of Delight and Satisfaction

Attribute-Tradeoff Effect

SOURCE OF EFFECT	Positive Consumption Experience		Sample size & Significance
	Hedonics over Functionality	Functionality Over Hedonics	
Attribute Tradeoff Effect			
Average Level of Delight	6.75	4.93	N = 29 Sig. p < .011
Average Level of Satisfaction	6.51	5.75	N = 29 NS p < .210

Table 2.2 Attribute Tradeoffs and the Post-Consumption Emotions of Anger and Dissatisfaction

Attribute-Tradeoff Effect

SOURCE OF EFFECT	Negative Consumption Experience		Sample size & Significance
	Hedonics over Functionality	Functionality Over Hedonics	
Average Level of Anger	5.1	6.73	N = 30 Sig. p < .03
Average Level of Dissatisfaction	6.58	7.31	N = 29 NS, p < .37

Table 2.3 Dependent Variable: Positive Word of Mouth Behavior

<i>Independent Variable</i>	<i>Consumer DELIGHT with a More HEDONIC product</i>	<i>Consumer SATISFACTION with a More HEDONIC product</i>	<i>Difference Test</i>
Adjusted R ²	.52	.395	N = 118 Sig. p<.05
Standardized Beta Coefficient	.565	.215	N = 118 Sig. p<.05

<i>Independent Variable</i>	<i>Consumer ANGER with a More FUNCTIONAL product</i>	<i>Consumer DISSATISFACTION with a More FUNCTIONAL product</i>	<i>Difference Test</i>
Adjusted R ²	.229	.397	N = 118 Sig. p<.05
Standardized Beta Coefficient	-.006	-.629	N = 118 Sig. p<.05

<i>Dependent Variable</i>	<i>Positive WOM behavior after consuming a more HEDONIC product</i>	<i>Positive WOM behavior after consuming a more FUNCTIONAL product</i>	<i>Mean 9Difference Test</i>
Mean t-value	4.58	3.20	N=118 1.378 p< .000
Std. Error	.2738	.2459	

Table 2.4 Dependent Variable: Repurchase Intention

Independent Variable	Consumer DELIGHT with a More HEDONIC product	Consumer SATISFACTION with a More HEDONIC product	Difference Test
Adjusted R ²	.43	.349	N = 118 Sig. p<.05
Standardized Beta Coefficient	.484	.237	N = 118 Sig. p<.05

Independent Variable	Consumer ANGER with a More FUNCTIONAL product	Consumer DISSATISFACTION with a More FUNCTIONAL product	Difference Test
Adjusted R ²	.138	.278	N = 118 Sig. p<.05
Standardized Beta Coefficient	-.059	-.578	N = 118 Sig. p<.05

<i>Dependent Variable</i>	<i>Positive Repurchase Intentions after consuming a more HEDONIC product</i>	<i>Positive Repurchase Intentions after consuming a more FUNCTIONAL product</i>	<i>Mean Difference Test</i>
Mean t-value	3.39	2.09	N = 118, 1.302, p< .000
Std. Error	.2991	.2261	

Figures

Figure 1.0 Proposed Tradeoff-Affect-Behavior Framework

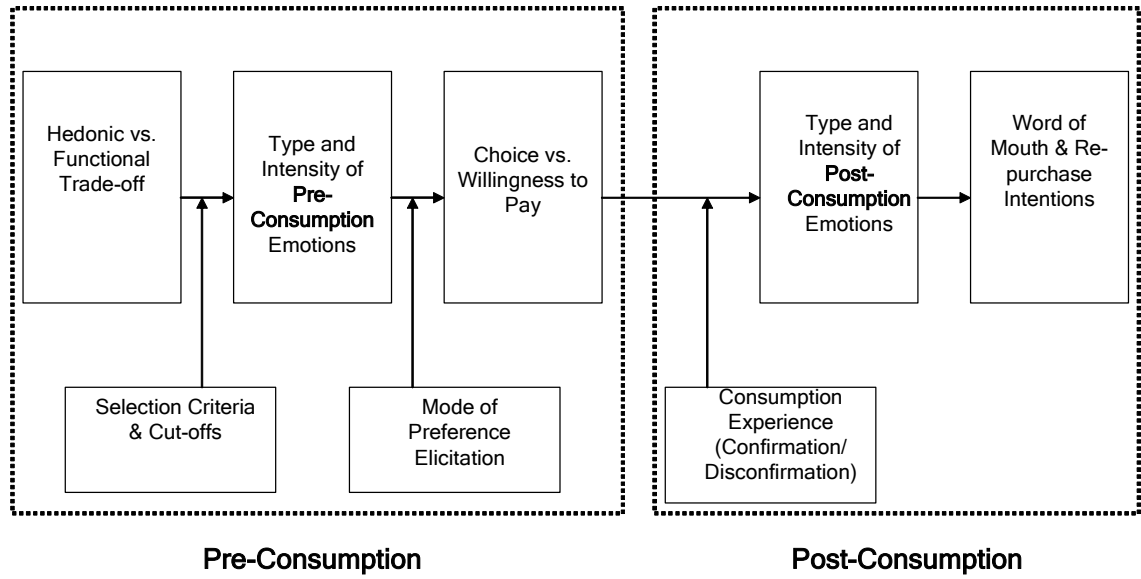


Figure 1.1 Emotional and Behavioral Consequences of Trade-Offs

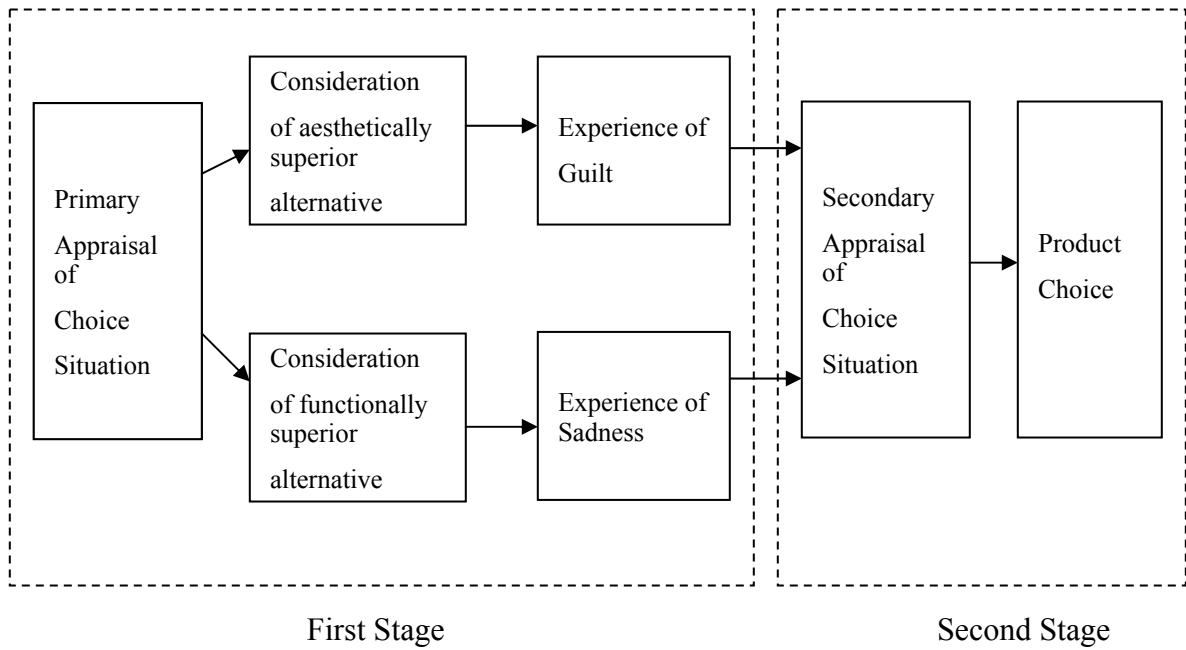


Figure 1.2 Relative importance of functional vs. hedonic benefits

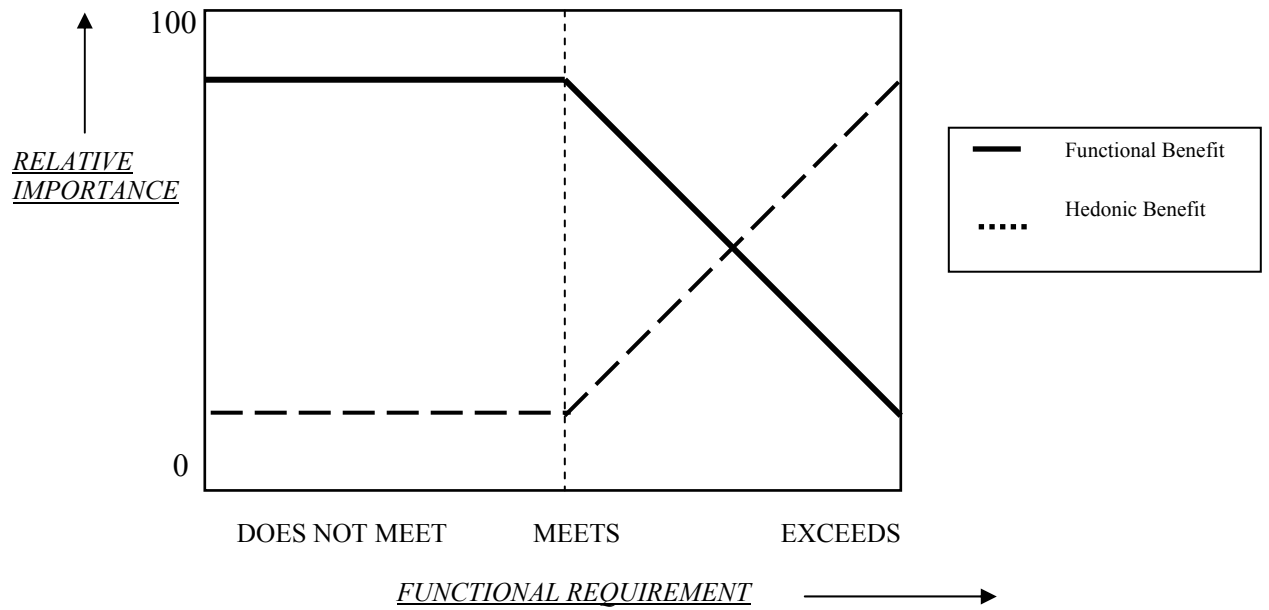
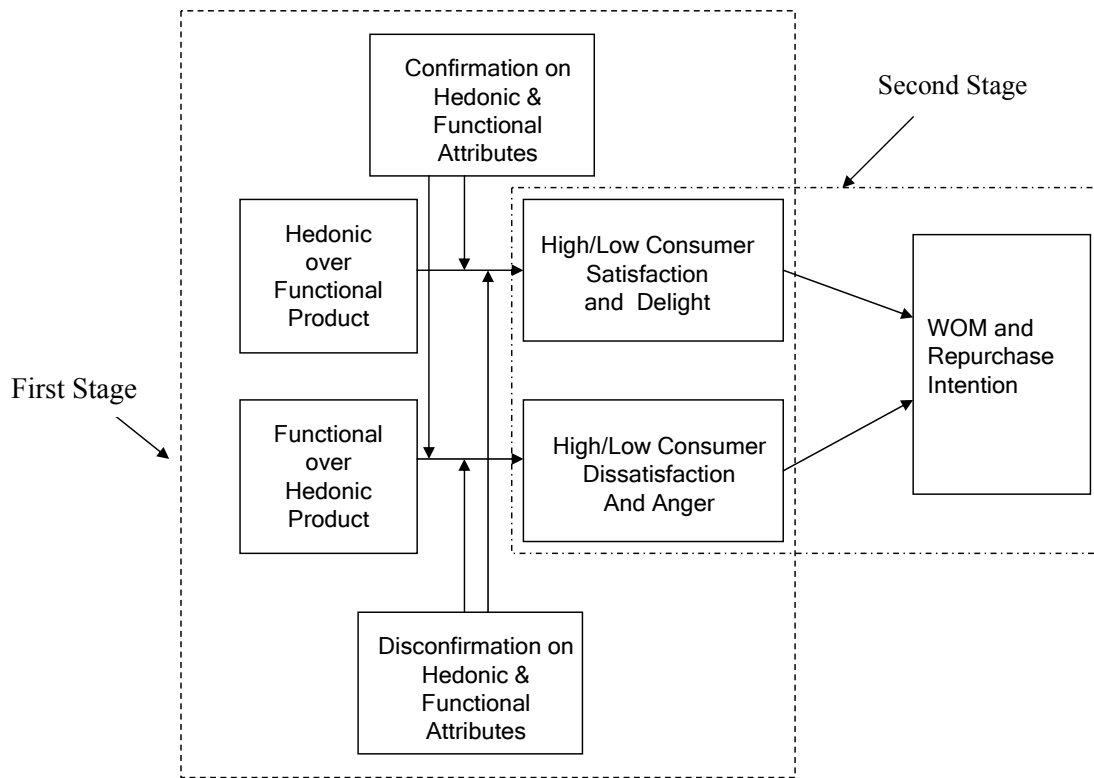


Figure 2.1 Tradeoff, Post-consumption Emotions, and Behavior Model



Appendices

APPENDIX A PRODUCT CHOICE SET FOR STUDY 1

**Product choice set for
Experiment #1**

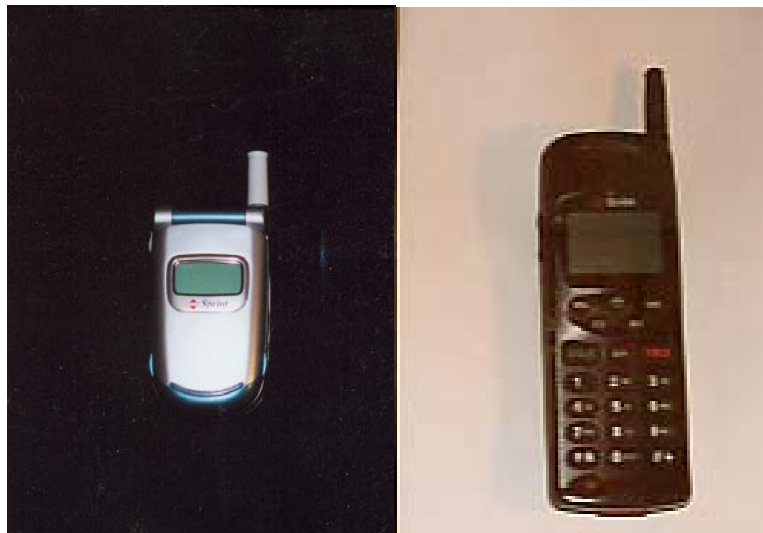
Cell-Phone A	Cell-Phone B
High Style Low Performance	Low Style High Performance

Customer Requirements:

High Style & Attractiveness and High Performance
OR
Low Style & Attractiveness and Low Performance

CELL-PHONE A

CELL-PHONE B



APPENDIX B PRODUCT CHOICE SET FOR STUDY 2A

**Product choice set for
Experiment #2**

Cell-Phone A	Cell-Phone B
Low Style Medium Performance	High Style Low Performance

Customer Requirements:

Medium Style & Attractiveness and
Medium Performance

APPENDIX C PRODUCT CHOICE SET FOR STUDY 2B

**Product choice set for
Experiment #2**

Cell-Phone A	Cell-Phone B
High Style Medium Performance	Medium Style High Performance

Customer Requirements:

Medium Style & Attractiveness and
Medium Performance

APPENDIX D PRODUCT CHOICE SET FOR STUDY 3

PRODUCT CHOICE ALTERNATIVES

CELL-PHONE A	CELL-PHONE B
<p><u>HIGH</u> Style & Attractiveness</p> <ul style="list-style-type: none"> - <i>Excellent style & attractiveness rating (4.5 out of 5)</i> - <i>Rated by Consumer Reports as one of the most stylish & attractive cell-phones in the market</i> 	<p><u>LOW</u> Style & Attractiveness</p> <ul style="list-style-type: none"> - <i>Poor style & attractiveness rating (2.5 out of 5)</i> - <i>Rated by Consumer Reports as one of the most unstylish & unattractive cell-phones in the market</i>
<p><u>LOW</u> Performance</p> <p>1. Sound quality rating by (2.5 out of 5)</p> <ul style="list-style-type: none"> - <i>Acceptable sound quality and volume in a quiet area</i> - <i>You have to strain to hear a caller's voice in a crowded place like a shopping mall</i> - <i>You have to speak loud to ensure that the other person can hear you clearly</i> <p>2. Geographical coverage (2.5 out of 5)</p> <p><i>-provides coverage for 90% of your operational area without any roaming charges</i></p>	<p><u>HIGH</u> Performance</p> <p>1. Sound quality rating by (4.5 out of 5)</p> <ul style="list-style-type: none"> - <i>Excellent sound quality and volume. Easy to hear the caller even in a crowded place like a shopping mall</i> - <i>Caller can hear you well if you speak in your normal voice</i> <p>2. Geographical coverage (4.5 out of 5)</p> <p><i>-provides coverage for 98% of your operational area without any roaming charges</i></p>

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Vita

Ravindra Chitturi was born in 1961 in New Delhi, India to Narasimharao Chitturi and Lakshmi Chitturi. He graduated from Bhilai Vidyalaya High School in 1977 and attended National Institute of Technology at Trichy in India. He graduated from NIT-Trichy with a Bachelor of Engineering in Electrical Engineering in 1982. He graduated from Illinois Institute of Technology in Chicago with a Master of Science in Computer Science in 1984.

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