Product Involvement as a Moderator in

Hedonic Versus Utilitarian Attribute Trade-Offs

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ABSTRACT

Product Involvement as a Moderator in Hedonic Versus Utilitarian Attribute Trade-Offs and Related Consumer Preferences

Cathy Kittson

This study focuses on how the process of trading off hedonic and utilitarian attributes evokes various types of anticipatory emotions and how those emotions may then be translated into affective evaluations of products to influence the way consumers construct their preferences. Understanding the role of affective product involvement within this framework is another major objective of the study. Trade-offs are one of the important ingredients in preference construction (Slovic 1996), and their study is both theoretically and managerially important in marketing.

 This study, building on Chitturi, Raghunathan, and Mahajan (2007), suggests that the affective component of consumer involvement with products/services is a moderator of the intensity of anticipatory emotions that are evoked during trade-offs. Findings from a laboratory experiment suggest that higher affective involvement intensifies six of the eight related anticipatory emotions. An interaction between the affective component of product involvement and the desired values (goal levels) of hedonic and utilitarian attribute values is also hypothesized. The results do not confirm the hypothesis.

This experiment also examines how the affective evaluations of the products that are involved in the trade-off are related to anticipatory emotions, and whether the emotions or the affective evaluations of the products better predict preference. Different emotions are related to the affective evaluations of the hedonic versus utilitarian product. Results also show the fit of the models for preferences and affective evaluations versus preferences and mixed emotions is

better when the affective evaluations are the regressors supporting the "common currency"

hypothesis (Cabanac 1992; Peters 2006).

ACKNOWLEDGEMENTS

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INTRODUCTION

How consumers trade-off product/service attributes of choice alternatives has been an area of intense study in marketing as well as psychology, finance, and economics for a long time. Attribute trade-offs are the building blocks of consumer preferences and choices. The rich literature on human preferences and choice behavior in marketing, sociology, psychology and economics is a testament to the practical and also theoretical importance of the topic.

Within this broad stream of research on human preferences and choice behavior, a number of studies in marketing recently focused on the choice between hedonic and utilitarian *products* examining probability and mode of acquisition effects (O'Curry and Strahilevitz 2001), price sensitivity (Wakefield and Inman 2003), effort as a determinant of frequency program reward preferences (Kivetz and Simonson 2002), licensing effects of a prior charitable act on a subsequent product choice (Khan and Dhar 2006), donations to charity as purchase incentives (Strahilevitz and Myers 1998), and justification of hedonic consumption (Okada 2005) . Several other studies examined how consumers trade off hedonic and utilitarian *attributes* (Chernev 2004; Chitturi, Raghunathan, and Mahajan 2007, 2008; Dhar and Wertenbroch 2000; Wang and Lee 2006) because such trade-offs are encountered in many consumer contexts (such as the tradeoff between a healthy food item and a desert on a lunch menu, functional versus aesthetic feature of a cellular phone, convenience versus luxury of a hotel room, etc.).

A subset of literature on the trade-offs associated with hedonic and utilitarian attributes (Chernev 2004; Chitturi, Raghunathan, and Mahajan 2007) emphasizes the importance of consumers' emotions in their reactions to hedonic and utilitarian product features and argues

that the intensities of certain positive and negative emotions mediate product choice in hedonic versus utilitarian attribute trade-offs. Using the Regulatory Focus Theory (Higgins 1997, 1998) as their theoretical guide, these studies have empirically demonstrated that prevention and promotion goals play a critical role in the choice between hedonic and utilitarian attributes. Chernev (2004) showed that compatibility between goals and product attributes can predict whether the trade-off will be in favor of a hedonic or utilitarian attribute. Chitturi, Raghunathan, and Mahajan (2007) extended Chernev's (2004) research to show that the hedonic versus utilitarian trade-off is mediated by the intensities of positive emotions such as excitement, cheerfulness, security, and confidence, and negative emotions such as guilt, anxiety, disappointment and sadness. Their results suggest that consumers satisfy utilitarian goals before hedonic ones, and that regulatory focus (Higgins 1997), that is whether the individual wants to satisfy promotion goals or prevention goals, affects the trade-off between hedonic and utilitarian attributes.

This study builds on the mentioned papers and their theoretical framework that is rooted in the Regulatory Focus Theory (Higgins 1997) to examine if the effects that have been observed previously are moderated by product involvement (Laurent and Kapferer 1985; Zaichkowsky 1985, 1986a) , an important construct that has been shown to operate as a moderator in various consumer behavior contexts. Product involvement contains an affective component which evokes emotions (McGuire 1974; Zaichkowsky 1986b, 1994). It is expected that the level of product involvement affects the intensity of consumers' emotional responses to hedonic versus utilitarian attributes and therefore affects how they are traded-off under high versus low product involvement conditions: as the level of product involvement decreases, the intensity of

consumers' emotional responses are also expected to decrease reducing the effects that may be

due to prevention versus promotion goals in the Regulatory Focus Theory.

LITERATURE REVIEW

HEDONIC VERSUS UTILITARIAN PRODUCTS AND ATTRIBUTES

A large number of studies in marketing have examined how consumers choose between dominantly hedonic and utilitarian products (Chernev 2004; Hirschman and Holbrook 1982; Voss, Spangenberg, and Grohmann 2003). Chernev (2004, p. 143) defines hedonic products/services (such as ice cream, desert, designer clothes, several relaxing days at a spa, etc.) as products that are typically linked to pleasure oriented, fun, and experiential consumption. In contrast, utilitarian products/services (such as a calculator, laundry detergent, salt, carpet cleaning etc.) are practical and are associated with necessary functions in life. Diet choices of individuals sometimes involve hedonic (e.g. desert) versus utilitarian (e.g. salad) trade-offs and may directly affect their health (Kidwell, Hardesty, and Childers 2008). Researchers have also described hedonic goods as luxury, frivolous, or affect-rich goods and utilitarian goods as necessities, practical, or affect-poor goods (Dhar and Wertenbroch 2000).

Just like the products can be classified as hedonic versus utilitarian, product and service attributes can be classified as hedonic versus utilitarian (for example, the design of a smartphone involving appearance, style and colour versus battery life of the same smartphone). Products can be high or low on the utilitarian/hedonic dimensions or both. A cellphone may have an attractive design (high hedonic) but have a low battery life (low utilitarian). A product is said to be primarily utilitarian or hedonic based on the salience of its product attributes (Chernev 2004).

This thesis examines trade-offs between two products where one product is primarily hedonic and the other is primarily utilitarian. The experiential and functional needs of the consumer

which map onto the utilitarian and hedonic attribute dimensions and have important

consequences on choice (Khan, Dhar, and Wertenbroch 2005).   Trade-offs regarding hedonic

versus utilitarian attributes are significant in many different contexts related to human

preferences (Dhar and Wertenbroch 2000). For example, product design involves critical

decisions regarding how to allocate limited resources to the design of aesthetic and style

dimensions versus functional attributes (Chitturi, Raghunathan, and Mahajan 2007, 2008).

CONSUMERS' EMOTIONAL RESPONSES TO PRODUCTS AND SERVICES

Consumer choice between hedonic versus utilitarian products and also the trade-offs between

hedonic and utilitarian attributes typically involves emotional reactions to the choice

alternatives that are available (Adaval 2001; Chitturi, Raghunathan, and Mahajan 2007; Idson,

Liberman, and Higgins 2000). Much of the research has focused on reducing the guilt evoked by

consumption of hedonic products (Khan, Dhar, and Wertenbroch 2005; Okada 2005). Kivetz and

Simonson (2002) found that increasing the level effort reduces the guilt associated with hedonic

consumption and leads to increased preference for luxuries. Khan and Dhar (2006) found that a

prior intent to commit a virtuous act licenses the choice of a luxury items over a necessity in a

subsequent choice. Similarly, Strahilevitz and Myers (1998) found that charity donations as

purchase incentives promote the purchase of a frivolous over a practical item. Increased effort,

prior intent to commit a virtuous act, and charity donations as purchase incentives act as guilt-

reducing mechanisms which lead to increased preference for the hedonic product.

In addition to guilt, Chitturi, Raghunathan, and Mahajan (2007) suggested and provided

empirical evidence that the hedonic versus utilitarian trade-off evokes the seven emotions of

cheerfulness, excitement, anxiety, security, confidence, sadness, and disappointment. They

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found that consumers first satisfy their utilitarian needs and then attempt to maximize the positive emotions associated with hedonic attributes.

An important theoretical framework that has been widely used in marketing to understand how various types of emotions are related to different types of goals (namely, promotion versus prevention goals) is Regulatory Focus Theory (Higgins 1997). To be able to better theorize the links between different types of emotions and goals and how they may affect hedonic versus utilitarian choices regulatory focus theory is reviewed briefly below.

REGULATORY FOCUS THEORY: PROMOTION VERSUS PREVENTION FOCUS

Regulatory focus theory proposed two regulatory systems: promotion and prevention. Each system conceptualizes goals and success/failure in goal pursuit differently (Higgins 1997, 1998). Promotion orientation focuses on advancement and accomplishments. Those individuals with promotion focus self-regulate their behavior towards their *ideals;* goals that are represented by hopes, wishes and aspirations. Promotion focused individuals experience pleasure based on the presence of positive outcomes (gain) or pain based on the absence of positive outcomes (nongain). This contrasts with prevention focused regulatory orientation which focuses on goals related to security and protection. Those individuals with prevention focus self-regulate towards their *oughts;* goals that are represented by duties, obligations or responsibilities (Higgins 1997; Pham and Higgins 2005). Prevention focused individuals experience pleasure based on the absence of negative outcomes (nonloss) and pain based on the presence of negative outcomes (loss) (Higgins 2001; Idson, Liberman, and Higgins 2000).

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Higgins (1997)argues that the regulatory focus of an individual can be chronic. Caretaker-child socialization results in either a *chronic* prevention or promotion regulatory focus (Higgins 1997). However, individuals can also be primed with states of regulatory focus. Activation of an individual's ideals or oughts can *temporarily* induce a promotion or prevention regulatory focus respectively (Chernev 2004; Freitas and Higgins 2002; Higgins, Friedman, Harlow, Idson, Ayduk, and Taylor 2001; Higgins, Roney, Crowe, and Hymes 1994).

SUCCESS AND FAILURE IN GOAL PURSUIT AND THEIR EMOTIONAL CONSEQUENCES

There is strong evidence in the literature that success and failure in goal pursuit evokes strong emotions (Förster, Higgins, and Idson 1998; Higgins, Grant, and Shah 1999; Higgins, Shah, and Friedman 1997). Promotion success (gain) generates cheerfulness-related emotions (such as cheerfulness and excitement) whereas prevention success (nonloss) generates quiescence-related emotions (such as security and confidence). Promotion failure (nongain), on the other hand, evokes dejection-related emotions (such as sadness and disappointment) whereas prevention failure (loss) arouses agitation-related emotions (such as guilt and anxiety).

Two studies in marketing (Chernev 2004; Kivetz and Simonson 2002) deserve further discussion below since they relate an individual's regulatory focus to hedonic versus utilitarian attribute trade-offs and product preferences. Together they form a significant part of the theoretical foundation for the current research. Chernev (2004) relates the trade-offs of product attribute types to regulatory focus theory to predict choice. Chitturi, Raghunathan, and Mahajan (2007) propose a two-stage framework where the specific emotion types produced by regulatory success and failure influence product preferences and choice. Chernev (2004) findings are briefly

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presented first since they serve as a theoretical foundation for the theoretical framework in
Chitturi, Raghunathan, and Mahajan (2007) .

PROMOTION AND PREVENTION FOCUS AND THEIR RELATIONSHIPS TO HEDONIC AND
UTILITARIAN TRADE-OFFS

Chernev (2004) proposed that "goal-attribute compatibility", the fit between attribute type and
regulatory focus influences product choice in a hedonic versus utilitarian trade-off. His central
theoretical argument is that promotion orientated individuals, who are more likely to focus on
pleasure, find hedonic attributes to be more relevant to their regulatory focus (Chernev 2004).
Similarly, prevention orientated individuals, who are more likely to focus on security and
protection needs, find the utilitarian attribute to be relevant to their regulatory focus. Because
of such goal-attribute compatibility consumers are expected to pay more attention to and
therefore overweight the product attribute which fits with their regulatory focus, leading to the
choice of the product that is superior on that product attribute. This concept of *regulatory*
relevance (Aaker and Lee 2001, 2006; Avnet and Higgins 2006; Higgins 2002) is similar to the
concept of regulatory fit which states that consumers derive additional utility when the means
used to pursue a goal fit with the individual's regulatory focus.

In order to test this hypothesis, Chernev (2004) assigned two hundred eighteen university
undergraduate students either to a promotion or prevention focused group that was
experimentally constituted using priming. Subjects were then presented with a choice situation
for one of four product categories (lunch destination, group member selection, toothpaste, or
shampoo). Each of the products was described in terms of a hedonic and utilitarian attribute:
one product was superior on the hedonic dimension while the other product was superior on

the utilitarian dimension. Chernev (2004) findings confirmed the goal-attribute compatibility

hypothesis. Subjects who were primed with a promotion focus were more likely to select the

hedonic product than subjects who were primed with a prevention focus. Similarly, subjects

primed with a prevention focus were more likely to select the utilitarian product than subjects

primed with a prevention focus.

Chitturi, Raghunathan, and Mahajan (2007) extended the theoretical framework presented by

Chernev (2004) and showed that hedonic versus utilitarian attribute trade-offs are moderated

by the intensities of the emotions associated with "gains" and "losses" depending on the

regulatory focus of the individuals. Chitturi, Raghunathan, and Mahajan (2007) proposed a two-

stage model where the functional versus hedonic trade-off generates specific emotions of

various types (stage 1) which, in turn, influence product preference (stage 2) in a hedonic versus

utilitarian trade-off (see Figure 1).

FIGURE 1: Two-Stage Model of Functional Versus Hedonic Trade-off Resolution [a]
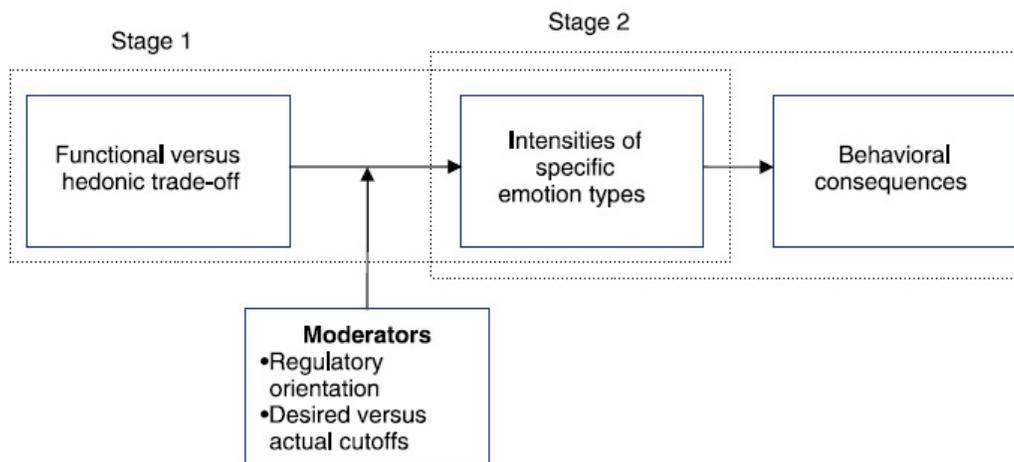
[a] Figure adapted from Chitturi, Raghunathan, and Mahajan (2007).

The emotions that may be evoked in hedonic versus utilitarian trade-offs are summarized by

Chitturi, Raghunathan, and Mahajan (2007) as in Table 1: Both positive and negative emotions

may be aroused as a result of trade-offs: positive emotions are expected to be evoked in the

case of "gains and non-losses" (success) and negative emotions are evoked in the case of "losses

and non-gains" (failure). Trading a utilitarian product for a hedonic product satisfies promotion

goals so the consumer experiences gain related emotions of cheerfulness and excitement (cell

2). Trading a hedonic product for a utilitarian product satisfies prevention goals so nonloss

related emotions of security and confidence are evoked (cell 4). Similarly, prevention loss

related emotions of anxiety and guilt (cell 1) are evoked when the utilitarian product is traded

for the hedonic product and promotion nongain emotions of sadness and disappointment (cell

4) are evoked when the hedonic product is traded for the utilitarian product (Chitturi,

Raghunathan, and Mahajan 2007; Higgins 1989, 2001).

TABLE 1: Eight Emotions Evoked as a Result of the Hedonic Versus Utilitarian Trade-off [a]

	Negative Emotions	*Positive Emotions*
Trading functionality for hedonics (e.g., choosing a better-looking phone over a more functional one)	Cell 1: Guilt Anxiety	Cell 2: Cheerfulness Excitement
Trading hedonics for functionality (e.g., choosing a more functional phone over a better-looking one)	Cell 3: Sadness Disappointment	Cell 4: Security Confidence

[a] Table adapted from Chitturi, Raghunathan, and Mahajan (2007).

Chitturi, Raghunathan, and Mahajan (2007) suggested four hypotheses corresponding to the cells of Table 1 regarding which of the emotions would be aroused and when. The hypotheses were tested in a laboratory experiment with one hundred one undergraduate students as subjects. Participants began by completing a regulatory-focus questionnaire which determined their chronic regulatory focus. Following a filler task, the subjects were asked to imagine that they were looking to purchase a cellphone. They were exposed to two cellphone options, where one cellphone was high on the hedonic attribute and low on the utilitarian attribute and the other cellphone was low on the hedonic attribute and high on the utilitarian tribute. Next, the subjects were asked which cellphone they would select if they had to make a choice. After making a choice, they were instructed to indicate on a seven-point scale the intensities of 13 emotions that they experienced. The 13 emotions included the negative emotions of guilt and anxiety, sadness and disappointment, and the positive emotions of excitement and cheerfulness, and security and confidence, along with five filler emotions of jealousy, disgust, anger, surprise, and love. Chitturi, Raghunathan, and Mahajan (2007) results revealed that participants who selected the hedonic option experienced greater intensity of excitement, cheerfulness, guilt and anxiety, whereas participants who selected the utilitarian option experienced greater intensity of security, confidence, sadness and disappointment. The results confirmed also that the intensities of emotions did not depend on attribute type (hedonic versus utilitarian) only but were moderated by regulatory focus.

The second experiment by Chitturi, Raghunathan, and Mahajan (2007) explored "Stage 2" of the model in Figure 1. The authors hypothesized that goal level (high versus low) that is specified as the desired (cutoff) values of the two attributes that are presented to the subjects   affects the intensity of the positive and negative emotions which determine choice. The authors predicted

that product preference in the high goal condition (when the desired (cutoff) values of the attributes are high) would be determined according to the *Principle of Precedence (Berry 1994)*: the subjects first focus on meeting the goals associated with functionality since such a strategy minimizes negative emotions. Hence, meeting utilitarian goals has precedence over meeting hedonic goals. The authors also predicted that product choice in the low goal condition when the desired attribute values are relatively low would be determined by a strategy of satisfying the utilitarian goals and then paying more attention to the alternative with the superior hedonic attributes therefore maximizing positive emotions. They labeled such a strategy as *the principle of dominance*. The principle states that once minimum cut-off values for utilitarian needs are met, improving hedonics gain greater subjective importance.

Chitturi, Raghunathan, and Mahajan (2007) argue that the principles of precedence and dominance can be deduced from the nature of the imposed cutoff values (or goals) in the trade-off context. Utilitarian goals are more likely to be perceived as "must-meet" minimal goals by the individuals whereas hedonic cutoffs (goals) are more likely to be perceived as "hope-to-meet" maximal goals (Brendl and Higgins 1996; Idson, Liberman, and Higgins 2000). The minimal nature of "must meet" goals make them more like prevention goals that consumers will want to satisfy first. Once, "must-meet" goals are satisfied, the consumer turns to maximizing "hope-to-meet" goals.

Chitturi, Raghunathan, and Mahajan (2007) tested the effects of the desired (cutoff) values of traded attributes on the intensity of various emotions by a creative manipulation of the goal (cutoff) values of attributes in a paired comparison of laptops. Each laptop in the pair was either superior on a hedonic (design) attribute or utilitarian (performance) attribute, "High-goal

condition" specified goal attribute values that can be met only on one of the attributes of the alternatives in the pair. "Low-goal condition", on the other hand, specified cutoff attribute values that can be met or exceeded by both alternatives. "Low-goal" condition was called "gain-gain" condition since both alternatives met and exceeded the goal values and the choice of hedonically superior or more utilitarian product lead to a bigger gain on that attribute compared to the other alternative in the pair. Either choice led to a gain although they were "gains" in different types of attributes (gain on hedonic or utilitarian attribute). The "high-goal" condition, however, was called "loss-loss" condition by the authors since high cutoff values on both attributes meant that either the utilitarian or the hedonic attribute would not be met by the presented alternatives. So, depending on whether the subject chose the hedonically superior or more utilitarian alternative, s(h)e would "lose" on the other attribute (loss on either hedonic or utilitarian attribute). The high-goal condition in Chitturi, Raghunathan, and Mahajan (2007) experiment instructed the subjects that they needed a powerful and attractive laptop that would be used for presentations. The low-goal condition specified that the subjects were looking for a laptop that they would use at home for simple word processing. [1]

Given the "high-goal" versus "low-goal" manipulations described above, Chitturi, Raghunathan, and Mahajan (2007) expected that if a subject considers preferring the more hedonic alternative in the "high-goal" condition and gives up the more utilitarian alternative, the relative "loss" on the utilitarian attribute will evoke the negative emotions of anxiety and guilt (for example, "I will have a better looking laptop but its performance will not be as good as the

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[1] It is important to underline that the terminology used by Chitturi, Raghunathan, and Mahajan (2007) regarding their experimental manipulation of the goal (cut-off) values in relation to the attribute values of the presented alternatives as "gain-gain" and "loss-loss" is different than the conceptualization of gains and losses in Regulatory Focus Theory where it is important to distinguish among (a) gains versus non-gains, and (b) losses versus non-losses depending on whether the subject's regulatory focus is (a) promotion or (b) prevention.

alternative I give up"). In contrast, if the subject considers preferring the more utilitarian alternative ("leaning towards the utilitarian alternative") the relative "loss" on the hedonic attribute will generate sadness and disappointment (for example, I will have a more functional laptop with better performance, but it will not be as attractive as the laptop I give up"). Similarly, the emotions that are likely to be aroused in the case of "low-goal" condition may be specified: since both alternatives meet or exceed the goal (cutoff) values, leaning towards the alternative that is superior in terms of the hedonic attribute will evoke positive feelings of excitement and cheerfulness ("I will have a laptop that meets my performance goals and is more attractive than the other laptop in terms design"). If the subject considers as a potential choice the alternative that is superior in terms of the utilitarian attribute this may evoke positive feelings of security and confidence ("I will have a laptop that looks good but is superior in terms of functionality"). These expectations regarding how the intensity of emotions are moderated by the high versus low-goal condition were confirmed in a study that included 90 university students as subjects (Chitturi, Raghunathan, and Mahajan 2007). In the loss-loss condition, the intensity of overall negative emotions was higher when respondents were asked to imagine that they were temporarily leaning towards the hedonic alternative (giving up the utilitarian alternative) than the utilitarian alternative (giving up the hedonic alternative). In the gain-gain condition, the intensity of overall negative emotions was higher when respondents were asked to imagine that they were temporarily learning towards the hedonic alternative than the utilitarian   alternative.

A key feature of the above discussion is that the trade-offs among hedonic versus utilitarian attributes evoke various types of emotions the intensities of which are moderated by goals associated with the values of the attributes that are traded. Chitturi, Raghunathan, and

Mahajan (2007) seem to implicitly assume that the eight types of different discrete emotions to which they refer are psychologically reduced down to single affects as "positive" and "negative" emotions and, in turn, affect consumer choice. They do not offer any hypotheses as to whether any of the types of emotions may be more or less influential in consumer preferences. Neither do their findings offer any clues regarding the relative impact of various types of emotions. The This study extends the Chitturi, Raghunathan, and Mahajan (2007) framework by tracing the influence of each of the emotions evoked as a result of leaning towards the hedonic product and giving up the utilitarian product and each of the emotions evoked as a result of leaning towards the utilitarian product and giving up the hedonic product individually on final product preference. Examining the role of each of the eight types of emotions separately may provide a better insight into how emotions affect attribute trade-offs and preference.

CONSUMER INVOLVEMENT WITH PRODUCTS/SERVICES AS A POTENTIAL MODERATOR

Product involvement is a construct with important consequences in consumer behavior. Consumers who are involved engage in more extensive search for product information, spend more time evaluating and comparing product alternatives, have greater perception of attribute differences, and perceive the product to be of greater importance (Howard and Sheth 1969; Zaichkowsky 1985). Consumers who are not involved with the product are less engaged in these behaviors. Of particular interest to this paper is how the level of involvement influences preference in a utilitarian versus hedonic trade-off. Specially, how low and high involvement products influence the intensity of emotions generated by the trade-off.

Zaichkowsky (1985, p. 342) defines involvement with an object as a person's perceived relevance of the object based on inherent needs, values and interests. She argues that involvement is a motivational construct (Zaichkowsky 1986a) which touches the "self", and involves both cognitive and affective components (Zaichkowsky 1994). *Cognitive involvement* emphasizes the individual's information processing and achievement of idealization states. This differs from *affective involvement* which emphasizes individual feelings and achievement of emotional states (McGuire 1974). Following McGuire's arguments (1974), Zaichkowsky (1994) stresses that affective involvement describes all emotions, moods, and feelings evoked by an object. Zaichkowsky (1985) reported that her subjects rated automobiles, calculators, jeans and color TVs as high involvement products. By contrast, instant coffee, bubble bath and breakfast cereals were rated as low involvement products.

The affective component of product involvement was initially tested by Zaichkowsky (1986b) using the Foote, Cone and Belding (FBC) model (Vaughn 1980, 1986). The FBC framework suggests that product categories can vary on level of involvement but also on a thinking/feeling dimension, which represent the cognitive/affective components of involvement (Vaughn 1980). The framework suggests that products fall within four quadrants: a high involvement/thinking quadrant, high involvement/feeling quadrant, low involvement/thinking quadrant, and a low involvement/feeling quadrant. Although Zaichkowsky (1986b) treated thinking and feeling as opposite sides of the same scale, a person may be cognitively or affectively involved with a product, or both. Zaichkowsky performed a second study on the affective component of product involvement which confirmed the cognitive and affective subscales of involvement (Zaichkowsky 1994).

The affective component of product involvement has important consequences on the affective reactions of the utilitarian versus hedonic trade-off. Stimuli that are highly involving should generate more intense and arousing affective reactions than low involvement stimuli (Cohen and Areni 1991).The product stimuli in the Chitturi, Raghunathan, and Mahajan (2007) studies were a cellphone and laptop, both of which were considered high involvement products in past studies (Voss, Spangenberg, and Grohmann 2003; Zaichkowsky 1986b). This research investigates whether Chitturi, Raghunathan, and Mahajan (2007) findings regarding the intensity of emotions on attribute trade-offs and preferences holds for high versus low involvement products.

THEORETICAL FRAMEWORK OF THE STUDY

Figure 2 summarizes the theoretical framework of this study, its critical constructs and their

relationships. As in Chitturi, Raghunathan, and Mahajan (2007), trade-offs involving hedonic

and utilitarian attributes are expected to evoke eight types of emotions where the intensities of

these emotions are expected to be moderated by the goal (desired) and actual values of the

available alternatives (please see Boxes A, B, and D in Figure 2). Goal condition (high versus low-

goals) affects the intensities of the eight emotions as summarized above (Chitturi, Raghunathan,

and Mahajan 2007).

FIGURE 2: The Theoretical Framework for This Study
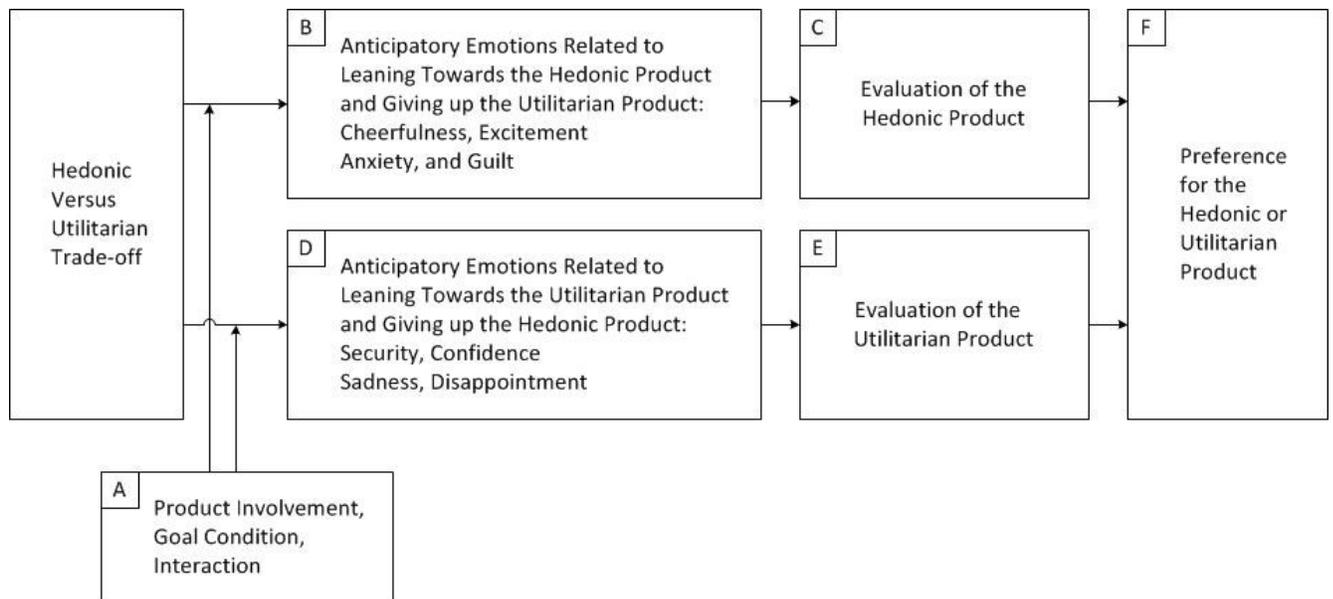
There are several differences between the theoretical framework suggested Chitturi,

Raghunathan, and Mahajan (2007) and the framework in Figure 2. Regulatory focus of the

consumer who is involved with the hedonic versus utilitarian trade-off is a key moderator in the

model by Chitturi, Raghunathan, and Mahajan (2007). However, it is not a construct of

immediate interest in this research admitting that it is a potentially significant variable. Distinctly

from the model that is proposed by Chitturi, Raghunathan, and Mahajan (2007) product

involvement is introduced as an additional moderator that may intensify evoked emotions. As in

the second experiment discussed by Chitturi, Raghunathan, and Mahajan (2007), we assume

that as the consumer tries to trade-off the hedonic and utilitarian attributes of two alternatives

and considers what would happen if (s)he leans towards one then the other alternative, certain

types of positive and negative emotions are evoked which may differ in terms of their

intensities. The intensities of these emotions are expected to affect the consumer preferences.

Therefore, the evoked emotions are the antecedents of preference rather than its consequence.

Furthermore, the theoretical framework in Figure 2 separates the eight types of emotions to

those that are associated with the hedonic and utilitarian products (boxes A and D) and suggests

that the *overall affective evaluations* of the two alternatives (degree of liking or disliking of each

product as presented in boxes C and E) are likely to be affected by the associated emotions

(boxes A and D, respectively) and be reflected in preferences (box E).

It is crucial to distinguish the emotions in boxes B and D of Figure 2 from the overall affective

evaluation regarding each of the pair of alternatives represented in boxes C and E. Boxes B and

D represent various positive and negative feelings experienced by the individual during the

process of trading-off hedonic and utilitarian attributes. These feelings are experienced simply

because of the inherent difficulty of the constraints of the preference context where the

individual is forced to give up something desirable on an attribute to be able to gain a desirable

thing on a different attribute. These are discrete emotions that are the results of the appraisal of

the trade-off situation along the dimensions such as motive consistency, intensity, degree of

uncertainty, cause (circumstance, other, self), level of uncertainty, and whether the appraised

situation or event is appetitive or aversive as discussed in the appraisal theory of emotions

(Frijda 1986; Roseman, Antoniou, and Jose 1996; Roseman and Smith 2001; Scherer 1999):

Boxes C and E, however, denote the *overall affective evaluation of each of the two alternatives*

about which the individual eventually expresses a preference. In this context, the overall

affective evaluations can be regarded as the affective component of attitude towards each

alternative (Bagozzi and Burnkrant 1979; Ostrom 1969; Peters and Slovic 2007). Also, this

affective evaluation is assumed to be a holistic, bipolar and valenced evaluation ranging from a

negative (dislike) to positive (like) (Peters and Slovic 2007).

HYPOTHESES OF THE STUDY

Given the findings of the closely related studies by Chernev (2004) and Chitturi, Raghunathan, and Mahajan (2007),the literature review regarding the relationship of affective consumer product involvement to emotion arousal and the theoretical framework presented in Figure 2, the hypotheses of the study are specified below.

Since consumers' degree of affective involvement with products and services may vary, and since higher levels of involvement may evoke more intense emotions , it is hypothesized that trade-offs of hedonic versus utilitarian attributes are affected by the degree of consumer involvement with the related products/services because of more (less) intense emotions associated high (low) involvement products. The moderating role of product involvement (in Box A in Figure 2) on appraisal related emotions (boxes B and C) can be expressed in terms of "negative" and "positive" emotions. The negative emotions associated with the hedonic versus utilitarian trade-off in cell 1 and 3 of Table 1 will be moderated by product involvement such that:

> **H1:** Trading utilitarian attributes for the hedonic ones evokes **loss** related emotions of guilt and anxiety, especially for products that consumers are emotionally more (versus less) involved with.

> **H2:** Trading hedonic attributes for utilitarian ones evokes **nongain** related emotions of sadness and disappointment, especially for products that consumers are emotionally more (versus less) involved with.

The positive emotions associated with the hedonic versus utilitarian trade-off in cell 2 and 4 of Table 1 will be moderated such that:

H3: Trading utilitarian attributes for hedonic ones evokes **gain** related emotions of excitement and cheerfulness, especially for products that consumers are emotionally more (versus less) involved with.

H4: Trading hedonic attributes for utilitarian ones evokes **nongain** related emotions of confidence and security, especially for products that consumers are emotionally more (versus less) involved with.

Just like product involvement is a moderator of the intensity of emotions as discussed above, high versus low goals of the individual in terms of the desired attributes of the alternatives are expected to moderate the intensity of anticipatory emotions that are evoked during the course of the appraisal of a trade-off. The moderating effect of goal condition (high versus low-goals) is expected to take the form of an interaction with product involvement where the intensity of emotions that are presented in Table 1 are expected to exhibit their maximum values depending on whether the goal values are "high" or "low" when the consumers are more rather than less involved with the product. Reviewing Table 1 with an eye towards the effect of high versus low goals helps to explain the nature of this interaction.

The emotions that are listed in the columns that are labeled "Negative Emotions" and "Positive Emotions" correspond to "goal failure" and "goal success", respectively, where the goal value associated with at least one of the two attributes of the alternatives is not met ("goal failure"), or goal values on both attributes are met ("goal success"). Goal success is observed in the "low goals" condition since each alternative meets the goal value on one attribute and exceeds the goal value on the other attribute. Therefore, positive emotions of cheerfulness and excitement that are related to a gain on the hedonic attribute, and security and confidence emotions that are related to a nonloss on the utilitarian attribute are likely to be observed especially in the

case of low goals. Conversely, goal failure is observed in the "high goals" condition since each

alternative does not meet the goal value on one of the attributes. Therefore, negative emotions

of guilt and anxiety that are related to a loss on a utilitarian attribute, and sadness and

disappointment emotions that are related to a non-gain on a utilitarian attribute are likely to be

observed especially in the case of high goals. Since product involvement is expected to increase

the intensity of emotions in Table 1, it is expected that relatively high intensity of emotions will

be observed for cheerfulness, excitement, security, and confidence in the "high-involvement

and low-goal" condition and relatively high intensity of emotions will be observed for anxiety,

guilt, sadness and disappointment in the "high-involvement and high-goal" condition.

Therefore, it is hypothesized that:

> **H5**: Relatively high intensity of emotions will be observed for cheerfulness, excitement,
> security, and confidence in the "high-involvement and low-goal" condition.

and

> **H6:** Relatively high intensity of emotions will be observed for anxiety, guilt, sadness and
> disappointment in the "high-involvement and high-goal" condition.

The last set of hypotheses concerns (1) how various types of anticipatory emotions associated

with hedonic and utilitarian alternatives are related to the holistic affective evaluations of the

alternatives in a trade-off context (boxes B and D and their relationships to boxes C and E,

respectively, in Figure 2) and (2) whether the preferences associated with hedonic versus

utilitarian alternatives are better explained by anticipatory holistic affective evaluations (boxes C

and E and their link to box F) or anticipatory emotions directly without the mediation of holistic

affective evaluations (boxes B and D and their relationships to box E in Figure 2).

Strong empirical support has been provided especially in psychology for the underlying

theoretical premise of the following hypotheses that affect (feelings) has multiple functions in

the construction of preferences (Peters 2006; Peters and Slovic 2007) and decision making and

risk taking (Loewenstein and Lerner 2003; Loewenstein, Weber, Hsee, and Welch 2001) .

Focusing on anticipatory (immediate) emotions that may be evoked during the process of

trading off of hedonic and utilitarian attributes rather than anticipated (expected) emotions that

may be felt in the future (Baumgartner, Pieters, and Bagozzi 2008; Loewenstein and Lerner

2003), the emotions that are listed in Figure 1 and the holistic affective evaluations of the

alternatives may be expected to function as (1) information, (2) common currency, (3) spotlight,

and (4) motivator (see Peters (2006) for a very relevant review of the literature). The first two

functions, affect as information and affect as a common currency are critically important in the

current context of attribute trade-offs and preference construction. [2]

A number of theories suggest that feelings carry information that humans input into their

decision (Damásio 1994; Loewenstein and Lerner 2003; Slovic, Finucane, Peters, and MacGregor

2002). Damásio (1994), based on a rich program of neurological basis of feelings, argued that life

experiences lead decision options and their attributes to be "marked" by positive and negative

feelings that are linked to bodily and somatic states. Thus, somatic markers that are linked to

positive and negative outcomes set off the alarm for approach and avoidance. Such information

provides what to seek and what to avoid in judgment and decision making. Damásio (1994),

whose research seems to have affected many researchers studying the effects of emotion on

judgment and decision making, argues that feelings as information add meaning to decision, and

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[2] Incidental affect, positive and negative feelings such as mood states are not directly studied in this research although they could influence the trade-offs and preferences as shown in the literature (Peters 2006; Lowenstein and Lerner 2003).

without them the resulting decision suffers. Peters (2006) concludes after a review of the literature that "Without affect, information appears to have less meaning and to be weighted less in judgment and choice processes." Affect-as-information theory (Clore 1992; Pham 1998; Schwarz and Clore 1988) represents one of the most developed theories inspired by the findings of Damásio (1994). According to this theory, people ask themselves "How Do I Feel about It?" and then use their current feelings to form the judgment that they are trying to construct. If the current feelings are positive the evaluation of the related object or event is likely to be affected in a positive way. Negative effect is expected if the immediate feelings are negative. Such influence of emotions on judgments and decisions is expected especially when the emotions are relevant to the judgment (Pham 1998).

The review above strongly suggest that the eight emotions that are suggested to be relevant in goal pursuit from a regulatory focus perspective (Idson, Liberman, and Higgins 2000) and later shown to operate in the context of hedonic versus utilitarian attribute trade-offs as in Table 1 (Chitturi, Raghunathan, and Mahajan 2007) are likely to affect consumer preferences. However, how is this set of emotions that include qualitatively different mixed emotions (such as excitement, anxiety, security, sadness, etc.) (Aaker, Drolet, and Griffin 2008; Larsen and McGraw 2011; Larsen, McGraw, and Cacioppo 2001; Williams and Aaker 2002) is going to be integrated into preferences is not very clear. For example, if a consumer feels cheerful, excited, guilty and anxious as a result of leaning towards a hedonic product during the trade-off, it is not clear how and to what extent these potentially opposing feelings (cheerful and excited versus guilty and anxious) are going to affect the expressed preferences. This brings the discussion to the second function of emotions in judgment and decision making: emotion as common currency.

One of the ways in which the mixed emotions can be integrated into preferences is to psychologically transform the mixed emotions that arise from the appraisal of the trade-off into a holistic affective evaluation related with the objects (products) under consideration. Such summary evaluations are "object-based" (Ortony, Clore, and Collins 1988). They are typically measured in marketing on a rating scale that varies from like to dislike, constitute the affective component of attitude (Bagozzi and Burnkrant 1979; Ostrom 1969) and reflect that human assessment of objects, events etc. are generally made along an evaluative continuum that varies from desirable to undesirable, or good to bad (Osgood, Suci, and Tannenbaum 1957). Affective evaluations as such are linked to behavioral tendencies where items that are liked (good) elicit approach tendencies and items that are not liked (bad) elicit avoidance tendencies (Chen and Bargh 1999). Hence, object related affective evaluations regarding the products ("I like this product") may provide better predictions of preferences than discrete emotions such as excitement, anxiety, sadness, or confidence that are evoked during the course of the trade-off. More importantly, affective evaluations play a role as a common currency (Cabanac 1992) which allows humans to compare alternatives that may vary on multiple attributes or objects that evoke different and mixed emotions as presented in Table 1. Based on the above discussion, it is hypothesized that the mixed emotions that are evoked during the comparison of the hedonic and utilitarian attributes are transformed into holistic affective evaluation associated with each product involved in the comparison. These affective evaluations, in turn, will affect consumer preferences.

> **H7:** Overall affective evaluation of the hedonic product is affected by anticipatory emotions of cheerfulness, excitement, guilt, and anxiety.

> **H8:** Overall affective evaluation of the utilitarian product is affected by anticipatory emotions of security, confidence, sadness, and disappointment.

H9: Preference for the hedonic or utilitarian product depends on the overall affective evaluation of each product.

and

H10: Overall affective evaluations of products predict preference better than anticipatory emotions associated with the appraisal of the trade-off.

The last hypothesis simply reflects that it will be much easier for the consumers to use the overall affective evaluations that are represented similarly by a "common currency" than different mixed emotions evoked by the trade-off in expressing preferences.

METHODOLOGY

OVERVIEW

The hypotheses that are summarized in the previous chapter were tested in a laboratory

experiment using a self-administered paper-and-pencil questionnaire. The experiment was

preceded by a pretest in order to determine the high and low product involvement

manipulation to be used in the experiment. The laboratory experiment reflected a 2x2 factorial

design with the following factors and their levels: (1) degree of involvement with the product

(high versus low), and (2) goal condition ("high" versus "low" goals in terms of the desired

values of the hedonic and utilitarian attributes). The 2x2 factorial design led to four different

questionnaires as presented in Table 2. Each of the questionnaires can be found in Appendix C.

TABLE 2: Questionnaire Legend For 2x2 Factorial Design

Survey Number	Involvement	Goal Condition
1	High	High
2	High	Low
3	Low	High
4	Low	Low

PRETEST

Twenty eight undergraduate students took part in an online pretest developed on

FluidSurveys.com. Respondents were first asked for their consent to participate in a study about

personal involvement. Participants then evaluated six products (smartphone, laundry detergent,

lunch destination, toothpaste, group membership, and shampoo) using Zaichkowsky (1994) 10-

item Revised Personal Involvement Inventory scale. Zaichkowsky (1994) Revised Personal

Involvement Inventory Scale was selected as the measure for product involvement because it

measures both the affective and the cognitive components of consumers' product involvement,

it has been shown to have desirable psychometric properties, and because the number of items in the scale is not excessive. The pretest is available in Appendix A.

The means for product involvement scores for the mentioned six products were calculated using the sum of scores for all 10 items to denote overall product involvement (which includes the cognitive and affective items) and using the sum of five affective involvement items (interesting, appealing, fascinating, exciting, and involving) to compute the means to represent the affective component of consumer involvement. The average product involvement ratings for the six products are displayed in the Table 3 for overall product involvement and Table 4 for the affective component.[3] The difference between the mean scores for smartphone and laundry detergent was the largest among all pairwise mean differences for the six products in the pretest not only for the affective component of involvement (including only five items of the personal involvement inventory) but for both the cognitive and affective components of involvement combined (including all 10 items of the personal involvement inventory). These two products were chosen as the "high versus low" manipulation of consumer involvement in the laboratory experiment to follow.

TABLE 3: Means of Product Involvement Scores Computed From All Ten Items for Each of Six Products

Variable	Minimum	Mean	Maximum	Variance	Lower 90% CL For Mean	Upper 90% CL for Mean
Cellphone	1.1000	5.5643	7.0000	1.3750	5.1868	5.9417
Laundry Detergent	2.2000	3.9214	5.5000	0.5632	3.6799	4.1630
Lunch	2.2000	5.0321	6.6000	1.1489	4.6871	5.3772
Toothpaste	2.4000	4.3464	5.8000	0.5544	4.1067	4.5861
Group Membership	4.3000	5.4607	6.7000	0.5151	5.2297	5.6917
Shampoo	2.5000	4.6571	6.7000	1.3455	4.2838	5.0305

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[3] All of the analyses that are reported in this research were carried out using SAS software, Version 9.3 of the SAS System for Windows. Copyright © 2010 SAS Institute Inc. SAS and all other SAS Institute Inc. Product or service names are registered trademarks or trademarks of SAS Institute Inc., Cary, NC, USA.

TABLE 4: Means of Affective Component of Product Involvement Scores Computed From the Five Items Interesting, Appealing, Fascinating, Exciting, and Involving

Variable	Minimum	Mean	Maximum	Variance	Lower 90% CL For Mean	Upper 90% CL for Mean
Cellphone	1.0000	5.6429	7.0000	1.4411	5.2564	6.0293
Laundry Detergent	1.0000	2.5071	4.6000	0.9377	2.1954	2.8189
Lunch	1.0000	4.8000	6.6000	1.6533	4.3861	5.2139
Toothpaste	1.0000	3.0143	5.0000	1.1642	2.6670	3.3616
Group Membership	2.2000	4.6857	6.4000	1.0472	4.3563	5.0151
Shampoo	1.0000	3.8357	6.4000	2.1690	3.3616	4.3098

EXPERIMENT

Procedure

One hundred and twenty undergraduate students at a major North American university participated in the study. All respondents demonstrated adequate command of English by responding to the three language screening questions in Appendix B prior to beginning the questionnaire. The language screening questions were intended to include in the experiment only those subjects who had sufficient command of English to understand the differences in emotion types such as sadness, disappointment, excitement, cheerfulness, security, confidences, and anxiety. After signing a consent form participants were handed one of four questionnaire booklets. Participants were randomly assigned to either a "high involvement" (smartphone) or a "low involvement" (laundry detergent) condition with a "high" or "low" level of goals to be met. In both the high and low goal conditions participants were presented with the same pair of products that were described in terms of two attributes only: a hedonic and a utilitarian attribute. As presented in Appendix C, one of the products in the presented pair was superior on the hedonic attribute while the other one was superior on the utilitarian attribute. In the "low-goal" condition, the desired value of each attribute was specified in such a way that both alternatives either met or exceeded the goal values. In the "high-goal" condition, the

desired value of each attribute was relatively higher than the "low-goal" condition such that the more hedonic alternative (product A) exceeded the desired goal value for the hedonic attribute but did not meet the desired utilitarian goal level. The more utilitarian alternative (product B) exceeded the desired goal value of the utilitarian attribute but did not meet the desired goal value of the hedonic attribute. The manipulation of the high versus goal values follows the manipulation of the same construct by Chernev (2004), Chitturi, Raghunathan, and Mahajan (2007), and Dhar and Wertenbroch (2000).

After reading the desired attribute goal levels and the descriptions of the two alternative products, the respondents indicated which product they preferred (Product A or Product B) and were asked to evaluate each product on a holistic and affective scale ranging from 1="dislike very much" to 7="like very much". The holistic and affective rating for each product measured the overall evaluation of the hedonic and utilitarian product in boxes C and E of the theoretical framework. Next, respondents were then asked to imagine that they were temporarily leaning towards choosing Product A (more hedonic product) and giving up Product B (more utilitarian product). They rated the intensity with which they felt the eight emotions of guilt, anxiety, cheerfulness, excitement, sadness, disappointment, security, and confidence listed in Table 1 during the process of trading off the two attributes on a 7-point scale (1 = "not at all" and 7= "extremely"). Although all eight emotions were measured, only the emotional intensities of cheerfulness, excitement, guilt, and anxiety were used in the analysis, which represent box B in the theoretical framework. The same set of ratings were requested again but this time by asking the subjects to imagine that they were leaning towards product B (more utilitarian product) and giving up product A (more hedonic product). Of the eight emotions measured only the emotional intensities of security, confidence, sadness, and disappointment were used in the analysis, which represent box D in the theoretical framework.

Experimental Stimuli: Details about Product Involvement and Goal Level Manipulation

Consumers' product involvement was manipulated using smartphone versus laundry detergent as stimuli. In the low involvement condition, laundry detergent was described in terms of the utilitarian attribute "ability to remove different kinds of stains" and the hedonic attribute "ability to retain the color of fabric after many washes". For example, Laundry Detergent A, the primarily hedonic option, was described as "**not very effective** at removing a wide range of stains such as grass, chocolate, red wine, coffee, etc." and "colored fabrics begin to fade only **after 20 washes** or so". Laundry Detergent B, the primarily utilitarian option, was described as "**highly effective** at removing a wide range of stains including grass, chocolate, red wine, coffee, etc." and "colored fabrics begin to fade **after 5 washes** or so". So, product A was relatively more hedonic than product B, and product B was relatively more utilitarian than product A. In the high product involvement condition, smartphones were described in terms of the hedonic attribute "design" and the utilitarian attribute "battery life". For example, Smartphone A, the primarily hedonic option, was described as "**thin and sleek** design available in three colors" with "**3 hours of battery life** for web browsing and talking on the phone". Smartphone B, the primarily utilitarian option, was described as relatively "**Bulky design** available in one color" with "**12 hours of battery life** for web browsing and talking on the phone".

The low and high goal levels were manipulated by varying the desired level (high versus low) of the hedonic and utilitarian attributes mentioned above. Subjects in the low goal condition had low desired attribute cut-off values whereas subjects in the high goal condition had high desired attribute cut-off values. Subjects in the "low-involvement, low-goal" condition were instructed:

> Imagine that you are at the grocery store to purchase laundry detergent. You are very careful not to dirty your clothing so a laundry detergent that **removes a wide range of stains is not important**. Also, you don't own many colored clothes so a laundry

detergent that **retains the color of the fabric despite many washes is not important**. You are deciding between the two laundry detergents described below. Both laundry detergents are similar in all other respects (ex: cost, size, etc.).

For the subjects in the "low-involvement, high-goal" condition the instructions stated:

> Imagine that you are at the grocery store to purchase laundry detergent. You are a messy eater and frequently spill food on your clothing. For this reason, your laundry detergent should be **highly effective** at removing a wide range of stains. Also, you would like your clothing to **retain its color despite many washes**. You are deciding between the two laundry detergents described below. Both laundry detergents are similar in all other respects (ex: cost, size, etc.).

In the high involvement condition, subjects were asked to imagine that they were purchasing a smartphone. Similar to the "low-involvement, low-goal" manipulation, subjects in the "high-involvement, low-goal" condition were told that they were looking for a product that was relatively low on both the hedonic and utilitarian attribute:

> Imagine that you are purchasing a new smartphone. You only use your cellphone for emergencies so the **design and battery life of the phone are not important**. You are deciding between the two cellphones described below. Both phones are similar in all other respects (for example: cost, operating system, etc.).

Subjects in the "high-involvement, high-goal" condition were told that they were searching for a smartphone that was high on the hedonic and utilitarian attributes:

> Imagine that you are purchasing a new smartphone. You consider your phone to be a fashion statement. Therefore, your phone should have an **attractive design**. You spend a lot of time web browsing and talking on the phone so your phone should have a **long battery life**. You are deciding between the two smartphones described below. Both phones are similar in all other respects (for example: cost, operating system, etc.).

RESULTS AND DISCUSSION

INTENSITIES OF ANTICIPATORY EMOTIONS

Product Involvement (H1-H4)

Hypotheses H1 to H4 were tested by multiple regression analysis and also ANOVA (Analysis of Variance) using each emotion type as the dependent variable and product involvement (high versus low), goal level (high versus low) and their interaction as the independent variables. Since there are eight emotion types, eight different regression models were estimated. Table 5 summarizes the results of the analysis.[4] Both multiple regression and ANOVA were run since the presented statistics regarding to the total variance explained by the model (R-square) and Semipartial ω^2 are not available in the same procedure.

Some explanation regarding the columns that are titled β and Semipartial ω^2 is useful to better interpret the results. The β column presents the estimates of the regression coefficients. Since both the product involvement and goal condition are a binary variable (that is, dummy coded) and code "0" was used to indicate low product involvement and also the low goal level, the presented estimates of regression coefficients indicate "the change" with respect to the reference category of "0". So, for example, the estimate 1.900 in the first row for product involvement indicates that high product involvement (which is coded "1") increases the mean rating of cheerfulness by 1.900 in comparison to the reference category of low product involvement (which is coded "0"). In fact, 1.900 is the least squares estimate of the mean difference that one would obtain in ANOVA comparing the means for high versus low product

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[4] Regression analysis and ANOVA (analysis of variance) in this context give identical results. Results of regression analysis were presented since the regression procedure in SAS optionally provides estimates of Semipartial ω^2, a measure of effect size, and the confidence interval associated with it give a level of significance. Please see the last two columns of Table 5.

involvement. Semipartial ω^2 is a measure of the effect size for each effect in the design and represents the adjusted effect size for an effect as a proportion of the total variation in the dependent variable after all other effects are partialed out of the effect in question. The last column on Table 5 presents a 95-percent confidence interval for Semipartial ω^2.

Hypothesis H1 predicts that while trading-off the utilitarian attribute for the hedonic one, the consumers will feel higher intensity of guilt and anxiety when they are emotionally more involved with the product than when they are less involved with it. Hypothesis one was only partially confirmed. High product involvement increased the estimated intensity of guilt by 0.433 (t=1.95, df=116, p-value=0.022). Anxiety was not affected by high versus low product involvement. It is important to note that product involvement accounted for only Semipartial ω^2=0.022 percent of the variance in the ratings for guilt after partialing out the effects of the remaining independent variables.

Hypothesis H2 predicted that during the course of trading hedonic attributes for utilitarian ones the consumer will feel higher intensity of sadness and disappointment when the consumers are emotionally more involved with the product than when they are less involved with it. Hypothesis two was confirmed for both sadness and disappointment. Considering the possibility of giving up the hedonic product increased mean ratings of sadness by 1.467 and disappointment by 1.133. The related statistics regarding these differences as represented by the regression coefficients were t=3.18, df=116, p-value=0.002, and t=1.74, df=116, and p-value=0.085. Adjusted effect sizes for sadness and disappointment were larger than that for guilt mentioned above with Semipartial ω^2 values of 0.08 and 0.04 for sadness and disappointment, respectively.

Hypothesis H3 predicted that while trading-off the utilitarian attribute for the hedonic one, the consumers will feel higher intensity of excitement and cheerfulness, especially for products that they are emotionally more (versus less) involved with. Hypothesis three was confirmed for both emotions. The estimated means for cheerfulness and excitement increased by 1.900 and 2.567 when the consumer's emotional involvement with the product was higher than when it was lower. The related statistics were t=6.31, df=116, p-value <0.0001, and t=4.98, df=116, p-value<0.001 for excitement and cheerfulness respectively.   Estimated Semipartial ω^2 values of 0.362 and 0.294 for excitement and cheerfulness suggest that the effect of higher product involvement on the intensity of these two emotions is rather large.

Hypothesis H4 predicted that during the course of trading hedonic attributes for utilitarian ones the consumers will feel higher intensity emotions of confidence and security, especially for products that consumers are emotionally more (versus less) involved with. Hypothesis four was not confirmed for either type of anticipatory emotion.

TABLE 5: Anticipatory Emotions and Their Linear Relationships with Experimental Manipulations

Anticipatory Emotion (Dependent Variable)	R^2 for full model [a]	Independent Variable	β	Standard Error of β	t	p-value	Semipartial ω^2	95% Confidence Interval for Semipartial ω^2
Cheerfulness	0.3316	Product Involvement	1.9000	0.3813	4.98	<.0001	0.2939	0.1702 - 0.4179
		Goal Condition	-0.6667	0.3813	-1.75	0.0831	0.0242	0.0000 - 0.1118
Excitement	0.4008	Product Involvement	2.5667	0.4071	6.31	<.0001	0.3621	0.2348 - 0.4799
Anxiety	0.0163	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Guilt	0.0390	Product Involvement	0.4333	0.4610	1.95	0.0533	0.0228	0.0000 - 0.1137
Security	0.08056	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Confidence	0.00164	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Sadness	0.11583	Product Involvement	1.4667	0.4608	3.18	0.0019	0.0840	0.0171 - 0.1992
		Goal Condition	0.8000	0.4608	1.74	0.0852	0.0080	0.0000 - 0.0848
Disappointment	0.0551	Product Involvement	1.1333	0.4934	2.30	0.0234	0.0418	0.0019 - 0.1433

Goal Condition and Product Involvement Interaction (H5-H6)

Both H5 and H6 were based on an expected interaction of product involvement and goal condition. H5 hypothesizes that most intense positive emotions (higher means) of cheerfulness, excitement, security and confidence would be observed in the "high involvement x low goal" condition where either alternative meet the desire hedonic and utilitarian goals. H6, on the other hand, hypothesized that most intense negative emotions anxiety, guilt, sadness and disappointment would be observed in the "high involvement x high goal" condition since the consumer would not be able to meet the desired goals on one of the two attributes in either option.

The results related to hypotheses H5 and H6 are summarized in Table 6 below. As presented in Table 6, product involvement and goal level interaction was not statistically significant for any of the eight anticipatory emotions studied. Only the main effect of goal condition was statistically significant for cheerfulness and sadness. As it would be expected, in the case of cheerfulness, higher goals reduced cheerfulness ratings associated with giving up the utilitarian product in favor of a hedonic product (β= - 0.667, t=-1.75, df=116, p-value<0.001), and in the case of sadness, higher goals increased sadness ratings associated with giving up the hedonic product in favor of a utilitarian product (β=1.467, t=1.74, df=116, p-value=0.008). Despite the disappointing results regarding the interaction of product involvement and goal level, further examination of the means as in Table 6 below encourages further examination of this interaction.

TABLE 6: Mean Ratings for Anticipatory Emotions for All Cells of Product Involvement x Goal Condition Interaction

Nature of Trade-Off	Anticipatory Emotion	High Product Involvement		Low Product Involvement	
		High Goals	Low Goals	High Goals	Low Goals
Trading off functionality for hedonics	Cheerfulness	4.300	4.867[a]	2.300[b]	2.967[b]
	Excitement	4.500b	5.333[a]	2.201[b]	2.767[b]
(leaning towards hedonic product)	Anxiety	3.567[a]	3.233	3.700	3.161
	Guilt	2.867[a]	2.977	2.500	2.067[b]
Trading off hedonics for functionality	Security	4.900	4.533[a]	3.533[b]	3.933
	Confidence	3.700	3.533[a]	3.600	0.917
(leaning towards utilitarian product)	Sadness	3.500[a]	3.367	2.700[b]	1.900[b]
	Disappointed	4.033[a]	4.267	3.433	3.133[b]

[a] The mean that was hypothesized to be the most intense (maximum value) for each emotion type is shaded in each row.
[b] Less than the mean that is hypothesized (shaded) to be the maximum in the same row in a t-test with a significance level less than or equal to 0.08.

As presented in Table 6, the means that are hypothesized to be the most intense (shaded cells in Table 6) are either the highest or the second highest when they are compared to the remaining three cell means presented in the same row in the product involvement and goal level interaction. For example, the mean for excitement (M=5.333) for "high involvement x low goal" is the maximum compared to other means in the product involvement and goal condition interaction presented in the same row (4.500, 2.200, and 2.767) and the difference between the hypothesized maximum and the other three means is statistically significant in a t-test involving the pairs at a significance level of 0.04 or less. In general, a low level of means can be observed for low involvement compared to high involvement means, and the mean values of the emotions that were hypothesized to be the maximum are generally high compared to the remaining means. A possible reason that the hypotheses were not confirmed but only partially

supported for some of the cells related to the interaction is that the experimental manipulation

of the goal level was not as strong as it was intended. Follow up studies should perform a

pretest of the manipulation of goal levels and then check the manipulation when related

experiments are conducted.

HOLISTIC AND AFFECTIVE EVALUATION OF THE HEDONIC AND UTILITARIAN PRODUCTS

(H7-H8)

 Hypotheses H7 and H8 proposed that the eight emotions mentioned in Table 1 influenced

overall evaluation of the hedonic and utilitarian products. Testing each hypothesis involves a

multiple regression analysis with the affective evaluation of either the more hedonic or more

utilitarian product as the dependent variable and the related emotion types as the independent

variables. Since both regression analyses involve emotion types that may be highly correlated, a

preliminary regression analysis was executed with all four emotions in each regression equation

corresponding to one of the two products to check for multicollineary. For this purpose, the

suggestions by Belsley, Kuh, and Welsch (1980) were followed.

Belsley, Kuh, and Welsch (1980) suggest that the condition index and variance inflation factor

(VIF) can be used to detect multicollinearity, that is, whether a regressor is a nearly linear

combination of other regressors in the same equation. Condition index is based on the

eigenvalues of the cross product of the so called design matrix (the matrix representing the

independent variables of the regression equation), and VIF measures the inflation in the

variances of the regression coefficient estimates due to collinearity that may exist among the

independent variables. Belsley, Kuh, and Welsch (1980) suggest that values around 10 may

suggest weak linear dependencies among regressors and this may start to affect regression

estimates and values of 100 or more suggest serious inflation in the estimates of regression

coefficients. Only one of the condition indices in the two estimated regression equations was

greater than 10 with a value of 12. Kutner, Nachtsheim, and Neter (2004) recommend that VIF

values should be less than 10 because above 10 multicollinearity affects parameter estimates

seriously. All VIF values for the two regression equations were less than 5. In addition, an

examination of the Pearson correlation estimates for pairs of emotion types showed that the

correlation of cheerfulness and excitement was 0.817 with two of the remaining correlations

around 0.60 and the remaining ones below 0.28. Hence, it was decided to take an average of the

cheerfulness and excitement ratings and use it as an indicator of a positive and joy related

emotion in the remaining part of the reported analyses. The remaining regressors did not seem

to cause any serious multicollinearity.

Hypothesis H7 was tested using multiple linear regressions with overall affective evaluation of

the hedonic product as the dependent variable and the three regressors, namely, the average of

cheerfulness and excitement, anxiety, and guilt as the independent variables. Hypothesis H8

was tested similarly with overall evaluation of the utilitarian product as the dependent variable

and the four emotions of security, confidence, sadness and disappointment as the independent

variables.

The regression results associated with hypotheses H7 and H8 are presented in Table 7. As

hypothesized in H7, the emotions of (excitement + cheerfulness)/2, anxiety and guilt were

significantly related to the overall affective evaluation (degree of liking) of the hedonic product

when the subject considers giving up the more utilitarian product for the more hedonic product.

(Excitement + cheerfulness)/2 was positively related to the dependent variable whereas anxiety

and guilt were negatively related.

Hypothesis 8 proposed that the overall affective evaluation of the utilitarian product is affected

by anticipatory emotions of security, confidence, sadness, and disappointment. Only the

emotions of confidence and disappointment were found to be significantly related to the overall

evaluation of the utilitarian product. Confidence was positively related to the dependent

variable whereas disappointment was negatively related. Security and sadness were not related

to the dependent variable.

TABLE 7: Relationship of Anticipatory Emotions with the Overall Evaluation of the Hedonic Product and Overall Evaluation of the Utilitarian Product (H7-H8)

Nature of Trade-Off	Dependent Variable [a]	R^2	Predictor	β_i	Standard Error of β_1	t	p-value
Trading off functionality for hedonics (leaning towards hedonic product)	Overall Evaluation of Hedonic Product	0.327	Intercept	3.8109	0.364	10.46	<.0001
			(Cheerfulness + Excitement)/2	0.417	0.064	6.57	<.0001
			Anxiety	-0.157	0.066	-2.38	0.019
			Guilt	-0.105	0.064	-1.64	0.103
Trading off hedonics for functionality (leaning towards utilitarian product)	Overall Evaluation of Utilitarian Product	0.306	Intercept	3.688	0.487	7.58	<.0001
			Security	-0.014	0.083	-0.17	0.8660
			Confidence	0.276	0.094	2.94	0.004
			Sadness	-0.048	0.071	-0.69	0.495
			Disappointment	-0.245	0.072	-3.36	0.001

[a] Overall Evaluation of the Hedonic Product = $\beta_0 + \beta_1 (Cheerfulness + Excitement)/2 + \beta_2 \, Anxiety + \beta_3 \, Guilt$
Overall Utilitarian of the Hedonic Product = $\beta_0 + \beta_1 \, Security + \beta_2 \, Confidence + \beta_3 \, Sadness + \beta_4 \, Disappointment$

PREFERENCE FOR THE HEDONIC OR UTILITARIAN PRODUCT

Hypothesis 9

Hypothesis 9 states that preference for the more hedonic or more utilitarian product depends

on the holistic affective evaluation of the hedonic product and the affective evaluation of the

utilitarian product. Since preference data were collected as a nominal variable, it was coded as a

binary variable, with "event or success=1" was defined as preference for the more hedonic product, and "non-event or failure=0" was defined as preference for the more utilitarian product. Logistic regression was performed with product preference as the dependent variable and the affective evaluation of the hedonic product and affective evaluation of the utilitarian product as the two independent variables. No multicollinearity was detected when the affective evaluation of the hedonic and the utilitarian product were treated as independent variables. As discussed above for hypotheses H7 and H8, the VIF and condition number indices were used as indicators for multicollinearity. Results revealed that the highest VIF and condition number for evaluation of the hedonic and utilitarian product were 1.39 and 10.2 respectively, suggesting multicollinearity is not likely to be a major problem. The logistic regression results to test H9 are presented as Model B on the right hand side of Table 8.

**TABLE 8**: Logistic Regression Results for Model A and Model B

Independent Variables	Model A: Anticipatory Emotions as the Independent Variables					Model B: Affective Evaluations of Two Products as the Independent Variables				
	B Estimate	Standard Error	χ^2	$p > \chi^2$	$e^{estimate}$	B Estimate	Standard Error	χ^2	$p > \chi^2$	$e^{estimate}$
Intercept	2.340	0.858	7.428	0.006	10.377					
(Cheerfulness + Excitement)/2	0.518	0.147	12.458	0.000	1.678					
Anxiety	0.518	0.147	12.458	0.000	1.678					
Guilt	-0.259	0.137	3.589	0.058	0.772					
Confidence	-0.258	0.133	3.772	0.052	0.772					
Intercept						0.9688	1.2441	0.6064	0.4362	2.6
Affective Evaluation of Hedonic Product						1.1430	0.2638	18.7685	<.0001	3.136
Affective Evaluation of Utilitarian product						-1.4386	0.2988	23.1831	<.0001	0.237
H_0: All $\beta = 0$	$\chi^2 = 44.101, d.f.= 4, (p > \chi^2) < 0.0001$					$\chi^2 = 84.428, d.f.= 2, p > \chi^2 = 0.0001$				
AIC	126.576					82.252				
SC	140.513					90.615				
-2 Log Likelihood	116.576					76.252				

The χ^2 test of an empty model that all regression parameters are zero is rejected with

χ^2=84.428, df=2, p-value < 0.001. Both coefficients are statistically significant at χ^2 values

18.768 and 23.183, respectively, with both p-values less than 0.001. The regression coefficients

for the affective evaluation of the hedonic and the utilitarian products are 1.143 and -1.144,

respectively. The signs of the coefficients suggest that, as expected, as the affective evaluation

of more hedonic product increases, log odds of preferring the hedonic product also increases.

Conversely, as the affective evaluation of the utilitarian product increases, log odds of preferring

the hedonic product decreases. Exponentiating the regression coefficients as presented in the

column labeled ($e^{estimate}$) tells us how the odds of preferring the more hedonic product

increases over the more utilitarian product if a variable is increased by one unit and the other

one is kept constant. Hence, increase of a unit in the affective evaluation of the hedonic product

while keeping the affective evaluation of the utilitarian product constant increases the odds of

preferring the hedonic product 3.136 times. However, a unit increases in the affective

evaluation of the utilitarian product while keeping the affective evaluation of the hedonic

product constant increases reduces the odds of preferring the hedonic product by a

multiplicative factor of 0.237.

Figure 3 presents the predicted probability of preferring the more hedonic product over the

more utilitarian product as the affective evaluations of the hedonic and utilitarian product

change between "Dislike Very Much=1" and "Like Very Much=1". Table 9 complements Figure 3

and presents the predicted values at affective evaluation values 1, 2, 3, 4, 5, 6, and 7. Graphical

presentation of predicted values and their tabular counterparts have become popular in

reporting logistic regression results since interpretation of log odds and odds is not intuitive for

many readers.

FIGURE 3: Predicted Probability of Preferring the More Hedonic Product as a Function of the Affective Evaluations of the Hedonic and Utilitarian Products
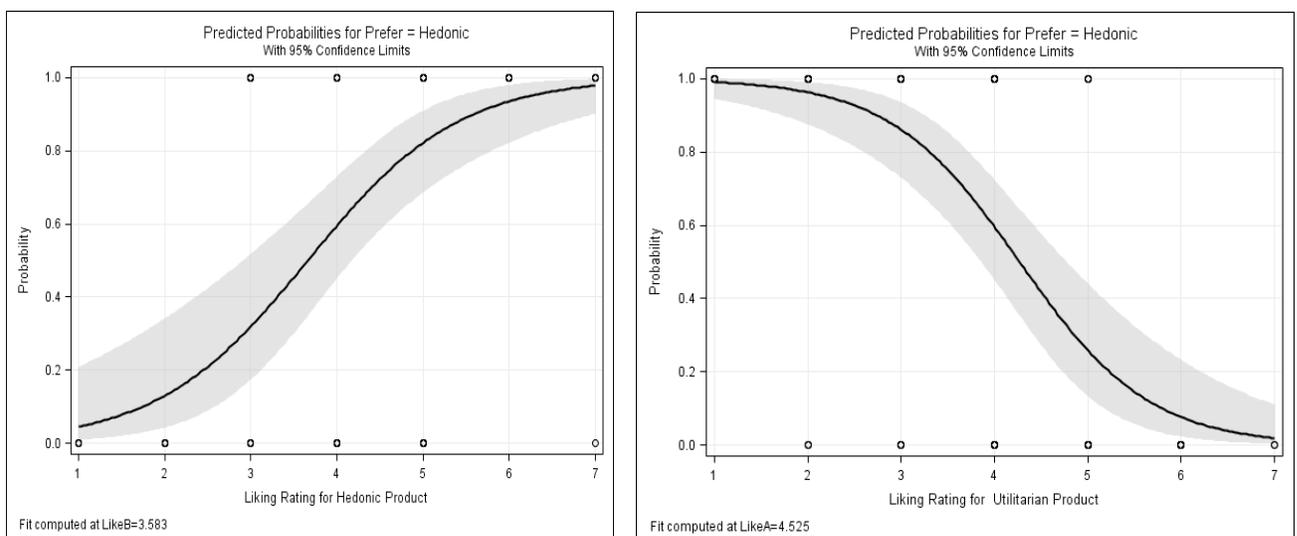
TABLE 9: Predicted Probability of Preferring Hedonically Superior Product at Various Scale Values of Affective Evaluations [a]

				Scale Value			
Affective Evaluation	*1*	*2*	*3*	*4*	*5*	*6*	*7*
More Hedonic Product	0.045	0.130	0.319	0.595	0.822	0.935	0.978
More Utilitarian Product	0.991	0.963	0.861	0.595	0.259	0.077	0.019

[a] As the scale value of an affective evaluation of a product changes, the affective evaluation of the other product is kept constant at its mean.

In summary, the results suggest that the affective evaluations of the more hedonic and more

utilitarian products are related to the preferring either one of the product.

Hypothesis 10

Hypothesis 10 suggests that overall affective evaluations of products predict preference better

than anticipatory emotions associated with the appraisal of the trade-off. Testing this

hypothesis involves comparison of the fit of model B discussed above (see Table 9) with another

logistic regression model with the same dependent variable but the independent variables are

replaced by all eight anticipatory emotions. First, the best fitting model is built by a top-down

model building process as presented in Table 11, and then that model (Model A) is compared to

Model B in Table 6 above in terms of goodness of fit.

TABLE 10: Top-Down Model Building Process for Modeling Preferences for Hedonic Product as a Function of Anticipatory Emotions

	Testing that all $\beta = 0$			Model Fit Statistics [a]			Deleted
Model	χ^2	d.f.	p-value	-2 Log L	AIC	SC	Predictor
M1[B]	45.624	7	<.0.001	115.053	131.053	153.353	Security
M2	45.515	6	<0.001	115.162	129.162	148.674	Disappointment
M3	45.352	5	<0.001	115.325	127.325	144.050	Sadness
M4	44.101	4	<0.001	116.576	126.576	140.513	

[a] Model fit for intercept and covariates in the model.
[B] Model M1: Full Model with all anticipatory emotions as covariates and preference as a binary dependent variable (hedonic=1, utilitarian=0). Independent variables are (cheerfulness + excitement)/2, anxiety, guilt, security, confidence, sadness, disappointment. Intercept is also included in the model.

Top-down model building starts with all independent variables in the model and eliminates the variables by examining certain statistics as long as the model fit increases. In our application, the statistically non-significant regression term with the lowest χ^2 value was eliminated from the regression after examining the AIC and SC values for the model with the regressor and without it. AIC (Akaike Information Criterion) is calculated as

$$AIC = 2k - 2\ln(L)$$

where *k* is the number of regressors and *L* is the maximized likelihood related to the regression equation, and *ln* is natural logarithm. Compared to *-2 ln (L)* that is used in the calculation of the likelihood ratio statistic, AIC involves a penalty term. This penalty, *2k*, discourages what is called overfitting : increasing the number of free parameters in a model improves the goodness of the fit, irrespective of the number of free parameters that were involved in the data generating process. SC (Schwatz Criterion) is also known as BIC (Bayesian Information Criterion) and is computed as

$$SC = 2\ln(L) + k\ln(n)$$

where *k* is the number of regressors and *L* is the maximized likelihood related to the regression equation, and *ln* is natural logarithm as in AIC, and *n* is the number of observations. Like AIC, SC applies a penalty for the number of variables in the model, but this penalty increase with the number of observations as in the term $k \ln(n)$. The values of AIC and SC for a given model are not meaningful in themselves. However, since smaller values of AIC and SC suggest better model fit, they are used especially in model comparisons.

As presented in Table 10, the first anticipatory emotion to be eliminated from logistic regression was security. Its elimination improved model fit as indicate by the decrease in AIC from 131.053 to 129.162. Similarly, SC decreased from 153.353 to 148.674. When a new logistic regression was run with the remaining regressors, disappointment was not statistically significant and it's χ^2 was the lowest. Since removal of disappointment from the regression equation led to smaller AIC and SC values of 127.325 and 144.050 and thus suggesting better fit with it, disappointment was removed from the regression equation. Following the same rules, sadness was removed from the model leaving only statistically significant anticipatory emotions of (cheerfulness + excitement)/2, anxiety, guilt and confidence in model M4. Elimination of any of the remaining variables increased AIC and SC values. So, model M4 achieved the minimum values for AIC and SC suggesting a model with a relative better fit than M1, M2, and M3. Model 4 in Table 11 is Model A in Table 9.

A comparison of models A and B in terms of model fit, that is values of AIC and SC as presented in Table 9 helps us in testing hypothesis 10. AIC and SC values for Model A with the anticipatory emotions of (cheerfulness + excitement)/2, anxiety, guilt as dependent variables are 126.576 and 140.513, respectively. The corresponding values for Model B with holistic affective

evaluations as independent variables are 82.252 and 90.615 which are much lower than the

values for Model A suggesting a strong increase in goodness of fit for predicting preferences

using affective evaluations rather than anticipatory emotions. Hence, hypothesis 10 is

confirmed. Affective evaluations may be providing a "common currency" in subjects'

construction of preferences.

CONCLUSION AND CONTRIBUTIONS

Chitturi, Raghunathan, and Mahajan (2007) demonstrated that hedonic versus utilitarian attribute trade-offs generate eight emotions of cheerfulness, excitement, guilt, anxiety, security, confidence, sadness, and disappointment. The two experiments that they conducted involved relatively high-involvement products (cellular phones and laptops) for their subjects (university students). This study extends and partially replicates their findings. Furthermore, the results suggest that the intensity of emotions that are evoked by the hedonic versus utilitarian attribute trade-offs are moderated by the degree of affective product involvement where higher involvement evokes higher intensities of five of the eight emotions that they studied: cheerfulness, excitement, guilt, sadness and disappointment. This finding regarding the moderating effect of affective product involvement is one of the major contributions of the current study.

Not all types of emotions that were studied are affected by product involvement in the same manner. The reported measures of explained-variance (semipartial ω^2 values) indicate that the effect size for the effect of product involvement on emotional intensity is the highest for cheerfulness and excitement and much less for sadness, disappointment and guilt. So, higher product involvement intensifies positive emotions more than the negative emotions associated with the trade-offs.

The hypothesized interaction of product involvement and goal condition (high versus low attribute values as goals) was not confirmed for any of the eight types of anticipatory emotions that were studied. Only the main effect of goal condition was statistically significant for cheerfulness and sadness. However, the observed pattern of means for the cells of the

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experimental design were generally in the expected direction encouraging further research in this area. It is possible that the experimental manipulation of the goal condition may not have been internalized by the subjects and may have been much less effective than what was intended.

The findings suggest also that the anticipatory emotions that are evoked during the trade-off of the hedonic and utilitarian attributes are significantly related to the overall affective evaluation (degree of liking) of the alternatives that are compared. Cheerfulness, excitement, anxiety, guilt, confidence and disappointment are all involved in the overall affective evaluations of the products that are involved in the pair comparisons. Thus, emotions are linked to affective component of attitudes associated with products that are compared.

Another contribution of the study is that it provides an indirect support for the "affect as common currency hypothesis" within the context of attribute trade-offs. Affective evaluations such as the degree of liking and disliking vary along a single continuum whereas different emotions that may be evoked are complex and potentially conflicting. Affective evaluations provide a "common scale" to compare and summarize the subjective valuations of products. Translation of complex emotions into simpler affective evaluations enables consumers to integrate various emotions (Peters 2006). The findings of this study suggest that goodness-of-model-fit is much higher when preferences are predicted from affective evaluations than various types of emotions suggesting a stronger statistical relationship between preferences and affective evaluations than between preferences and emotion types.

LIMITATIONS

Just like any other empirical study in social sciences, this research is not immune from certain

limitations. In order to be able to generalize the findings of this research, its findings need to be

replicated with larger samples with different demographic backgrounds using products other

than the two products that were used to manipulate product involvement in this study. More

importantly, it is desirable to improve the manipulation of product involvement. Based on a

pilot study, this research identified two products (cellular phone and laundry detergent) for

which consumers indicated high versus low affective involvement. Although the two products

were significantly different from each other as far as involvement was concerned, it is possible

that the manipulation involved some confounding factors. For example, a stylish cellular phone

is a product that is conspicuous whereas laundry detergent is not. Further studies in this area

should ensure thorough pilot tests that the product involvement manipulation involves only

involvement and no other confounding factors. A potential avenue to pursue is to use include

several products as experimental stimuli and attempt to manipulate involvement for each

product through situational factors such as purchase occasion or intended use.

Another experimental manipulation that needs to be scrutinized in further research is the

manipulation of goal levels. It is possible that the hypothesized interaction of product

involvement and goal level was not confirmed in this study because of relatively ineffective

manipulation of the goal levels through instructions to subjects to seek certain attribute values

as goals. Future research should examine if such instructions are followed by conducting a

proper pilot test and subsequently use manipulation checks. Or, the method of specifying goal

attribute levels through instructions should be replaced by another creative experimental

manipulation.

The list of emotions that were studied in this study was limited to the eight emotions that were involved in Chitturi, Raghunathan, and Mahajan (2007) since this research attempted to extend their findings by including product involvement and affective evaluations in the construction of preferences. It should be underlined, however, emotions other than the eight emotions that were studied, such as anger, fear, safety, regret, etc. can also be evoked in attribute trade-offs, and they should also be studied.

As a final note, it should be mentioned that the complete theoretical framework that is displayed in Figure 2 is tested empirically only in pieces rather than considering all of the variables simultaneously in data analysis. It would be ideal to apply a "moderated mediation analysis" to the whole model and trace the effects of the moderators (product involvement and goal condition) and mediators (anticipatory emotions and affective evaluations of the hedonic and utilitarian products) on the stated preferences. Several characteristics of the model, however, does not allow a comprehensive modeling of that nature since the model involves multiple serial and parallel mediators and the dependent variable is a binary variable rather than a continuous variable for which the statistics literature offers attractive data analysis alternatives.

MANAGERIAL IMPLICATIONS

A clear managerial implication of the findings is that competitive or defensive marketing strategies can be built on emotional benefits after the identification of the critical emotions that may be evoked during preference construction for a given product class. This is especially true for products that consumers are highly involved with and purchase infrequently so that they have not already built heuristics for choice. Indeed, the value proposition for a brand may be built around emotions as it is being practiced in marketing for many product categories today: emotions of safety for home security systems, regret for investment instruments, joy and thrill of speed for sports cars, fear for cigarettes, etc. This study suggests that such attempts to formulate value propositions around emotions are likely to be more successful for high rather than low involvement products emphasizing positive emotions associated with the hedonic attributes (such as joy, cheerfulness, excitement, etc.) rather than emphasizing negative emotions. The underlying logic for highlighting certain emotional benefits through communication programs is very similar to the logic of strengthening beliefs in attitudes to improve affective evaluations and purchase intentions. In the current context, certain emotions are highlighted and promised, and possibly the consumers are primed to consider them in trade-offs and preference construction so that overall affective evaluations (degree of liking or disliking) of a brand are improved to tilt preferences in its favour.

Another factor that may increase the probability of success for such a communication strategy is whether the desired attribute values as goals are met more or less by all brands but some are superior in terms of hedonic attributes. When the utilitarian goals are met by all brands, attention is likely to shift to the hedonic ones and any superiority in this regard will be associated with positive emotions that may affect overall liking. This factors that enhance the

probability of success for marketing communication programs may actually be used to guide the

product design process. The development teams may be asked to assign greater priority to the

improvement of the hedonic attributes once the brand in question meets the other brands in

terms of utilitarian attributes. Or, if the level of current technology is such that major utilitarian

improvements are not possible in the short run, improving hedonic attributes may provide

valuable competitive advantage.

The findings of this study may also guide strategy formulation in "occasion marketing" where

consumer involvement with certain products increases due to the perceived importance of

various occasions during a year. For example, Valentine's day, mothers' day, graduation,

weddings, Christmas are all occasions when especially the affective involvement with certain

products are heightened, and therefore, product purchase and brand comparison may evoke

higher intensities of emotions. Focusing on positive emotions related with hedonic attributes

and highlighting in promotions such emotions that may ensue as a result of brand purchase may

be effective.

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APPENDIX A: PRETEST CONSENT FORM AND PRETEST QUESTIONNAIRE

CONSENT TO PARTICIPATE IN CONSUMER STUDY ABOUT PERSONAL INVOLVEMENT IN PRODUCTS

I understand that I have been asked to participate in a program of research being conducted by Cathy Kittson as a part of a M.Sc. (Master's in Science in Administration) in Marketing thesis under the supervision of Dr. B. Kemal Büyükkurt, Department of Marketing at John Molson School of Business, Concordia University. If you have any questions about this research project, please contact Dr. B. Kemal Büyükkurt by phone at (514) 848-2424 ext. 2947 or by e-mail at kemalbk@jmsb.concordia.ca.

A. PURPOSE

The purpose of this study is to measure a person's involvement or interest in several products that consumers regularly purchase or have purchased in the past.

B. PROCEDURES

I understand that the research is being conducted as an online survey where I will be asked to answer a series of questions. The questionnaire will take approximately 15 minutes to complete. I understand that all the data results will be compiled and analyzed as an aggregate; therefore my answers cannot be traced back to me. I also understand that I am free to discontinue at any time by selecting "Discard responses and exit".

C. RISKS AND BENEFITS

I understand that there are no foreseeable risks or potential harms from participating in this study.

D. CONDITIONS OF PARTICIPATION

• I understand that I am free to withdraw my consent and discontinue my participation at anytime without negative consequences.

• I understand that my participation in this study is FULLY ANONYMOUS (i.e., the researcher does not ask you to disclose your identity on the questionnaire that you will fill out)

• I understand that the data from this study may be published.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY.

If at any time you have questions about the proposed research, please contact the study's Principal Investigator Dr B. Kemal Büyükkurt, Department of Marketing, by phone at (514) 848-2424 ext. 2947 or by e-mail at kemalbk@jmsb.concordia.ca.

If at any time you have questions about your rights as a research participant, please contact the Research Ethics and Compliance Advisor, Concordia University, 514.848.2424 ex. 7481 ethics@alcor.concordia.ca

INSTRUCTIONS

The purpose of this study is to measure a person's involvement or interest in several products that consumers regularly purchase or have purchased in the past. To take this measure, we need you to judge six products against a series of descriptive scales according to how YOU perceive each product. Here is how you are to use these scales:

If you feel that the product is **VERY CLOSELY** related to one end of the scale, you should place your check mark as follows:

Important	●	○	○	○	○	○	○	**Unimportant**

OR

Important	○	○	○	○	○	○	●	**Unimportant**

If you feel that the product is **QUITE CLOSELY** related to one or the other end of the scale (but not extremely), you should place your check mark as follows:

Appealing	○	●	○	○	○	○	○	**Unappealing**

OR

Appealing	○	○	○	○	○	●	○	**Unappealing**

If you feel that the product seems only **SLIGHTLY** related (but not really neutral) to one end of the scale, you should place your check mark as follows:

Not needed	○	○	●	○	○	○	○	**Needed**

OR

Not needed	○	○	○	○	●	○	○	**Needed**

Important:

1. Be sure that you check every scale for every product; do not omit any.

2. Never put more than one check mark on a single scale. Make each item a separate and independent judgment. Work at fairly high speed through this questionnaire. Do not worry or puzzle over individual items. It is your first impressions, the immediate feelings about the items that we want. On the other hand, please do not be careless, because we want your true impressions.

1. Imagine that you are purchasing a new smartphone. To you a __smartphone__ is:

Important	○	○	○	●	○	○	○	Unimportant
Boring	○	○	○	●	○	○	○	Interesting
Relevant	○	○	○	●	○	○	○	Irrelevant
Exciting	○	○	○	●	○	○	○	Unexciting
Means nothing to me	○	○	○	●	○	○	○	Means a lot to me
Appealing	○	○	○	●	○	○	○	Unappealing
Fascinating	○	○	○	●	○	○	○	Mundane
Worthless	○	○	○	●	○	○	○	Valuable
Involving	○	○	○	●	○	○	○	Uninvolving
Not needed	○	○	○	●	○	○	○	Needed

2. . Imagine that you are at the grocery store to purchase laundry detergent. .To you __laundry detergent__ is:

Important	○	○	○	○	○	○	○	Unimportant
Boring	○	○	○	○	○	○	○	Interesting
Relevant	○	○	○	○	○	○	○	Irrelevant
Exciting	○	○	○	○	○	○	○	Unexciting
Means nothing to me	○	○	○	○	○	○	○	Means a lot to me
Appealing	○	○	○	○	○	○	○	Unappealing
Fascinating	○	○	○	○	○	○	○	Mundane
Worthless	○	○	○	○	○	○	○	Valuable
Involving	○	○	○	○	○	○	○	Uninvolving
Not needed	○	○	○	○	○	○	○	Needed

3. Imagine that you have an hour break between classes. You are looking for a restaurant within your budget to have a quick lunch with your school friends. To you <u>which restaurant you will have your lunch at</u> is:

Important	○	○	○	○	○	○	○	Unimportant
Boring	○	○	○	○	○	○	○	Interesting
Relevant	○	○	○	○	○	○	○	Irrelevant
Exciting	○	○	○	○	○	○	○	Unexciting
Means nothing to you	○	○	○	○	○	○	○	Means a lot to you
Appealing	○	○	○	○	○	○	○	Unappealing
Fascinating	○	○	○	○	○	○	○	Mundane
Worthless	○	○	○	○	○	○	○	Valuable
Involving	○	○	○	○	○	○	○	Uninvolving
Not needed	○	○	○	○	○	○	○	Needed

4. Imagine that you are at the pharmacy to purchase toothpaste. To you <u>toothpaste</u> is:

Important	○	○	○	○	○	○	○	Unimportant
Boring	○	○	○	○	○	○	○	Interesting
Relevant	○	○	○	○	○	○	○	Irrelevant
Exciting	○	○	○	○	○	○	○	Unexciting
Means nothing to you	○	○	○	○	○	○	○	Means a lot to you
Appealing	○	○	○	○	○	○	○	Unappealing
Fascinating	○	○	○	○	○	○	○	Mundane
Worthless	○	○	○	○	○	○	○	Valuable
Involving	○	○	○	○	○	○	○	Uninvolving
Not needed	○	○	○	○	○	○	○	Needed

5. Imagine that you are working on a group project for school worth 25% of your final grade. To you <u>which students you select to be a part of your group</u> is:

Important	◎	◎	◎	◎	◎	◎	◎	Unimportant
Boring	◎	◎	◎	◎	◎	◎	◎	Interesting
Relevant	◎	◎	◎	◎	◎	◎	◎	Irrelevant
Exciting	◎	◎	◎	◎	◎	◎	◎	Unexciting
Means nothing to you	◎	◎	◎	◎	◎	◎	◎	Means a lot to you
Appealing	◎	◎	◎	◎	◎	◎	◎	Unappealing
Fascinating	◎	◎	◎	◎	◎	◎	◎	Mundane
Worthless	◎	◎	◎	◎	◎	◎	◎	Valuable
Involving	◎	◎	◎	◎	◎	◎	◎	Uninvolving
Not needed	◎	◎	◎	◎	◎	◎	◎	Needed

6. Imagine that you are at the pharmacy to purchase shampoo. To you <u>shampoo</u> is:

Important	◎	◎	◎	◎	◎	◎	◎	Unimportant
Boring	◎	◎	◎	◎	◎	◎	◎	Interesting
Relevant	◎	◎	◎	◎	◎	◎	◎	Irrelevant
Exciting	◎	◎	◎	◎	◎	◎	◎	Unexciting
Means nothing to you	◎	◎	◎	◎	◎	◎	◎	Means a lot to you
Appealing	◎	◎	◎	◎	◎	◎	◎	Unappealing
Fascinating	◎	◎	◎	◎	◎	◎	◎	Mundane
Worthless	◎	◎	◎	◎	◎	◎	◎	Valuable
Involving	◎	◎	◎	◎	◎	◎	◎	Uninvolving
Not needed	◎	◎	◎	◎	◎	◎	◎	Needed

APPENDIX B: LANGUAGE SCREENING QUESTIONS

YOUR BACKGROUND: Your mastery of English should be at a certain level to be able answer some of the following question. For this purpose, we would like to know about your language background.

1) Do you speak English at least about 40 percent of the time with your family?
   a) Yes
   b) No

2) Do you speak English at least about 40 percent of the time with your friends?
   a) Yes
   b) No

3) Was the language of instruction English during your middle school, high school, or CEGEP education?
   a) Yes
   b) No

(Ask subject to sign the timesheet if the answer to the question 3 is "yes" and if the answer to either question 1 or 2 is also "yes". Otherwise, tell the participant that they are not eligible for this study.)

APPENDIX C: QUESTIONNAIRE CONSENT FORM AND QUESTIONNAIRES

CONSENT TO PARTICIPATE IN CONSUMER STUDY ABOUT HOW CONSUMERS COMPARE PRODUCTS

I understand that I have been asked to participate in a program of research being conducted by Cathy Kittson asa part of a M.Sc. (Master's in Science in Administration) in Marketing thesis under the supervision of Dr. Kemal Büyükkurt, Department of Marketing at John Molson School of Business, Concordia University. If you have any questions about this research project, please contact Dr. Kemal Büyükkurt by phone at (514) 848-2424 ext. 2947 or by e-mail at kemalbk@jmsb.concordia.ca.

A. PURPOSE

The purpose of this research is to understand how consumers use various product attributes when they compare pairs of products.

B. PROCEDURES

I understand that the research is being conducted in one of the Research Laboratories at the John Molson School of Business building where I will be asked to answer a series of questions in a study booklet. The questionnaire will take approximately 30-40 minutes to complete. I understand that all the data results will be compiled and analyzed as an aggregate; therefore my answers cannot be traced back to me. I also understand that I am free to discontinue at any time by returning the uncompleted booklet to the instructor.

C. RISKS AND BENEFITS

I understand that I will be compensated $10.00. I also understand that there are no foreseeable risks or potential harms from participating in this study

D. CONDITIONS OF PARTICIPATION

- I understand that I am free to withdraw my consent and discontinue my participation at any time without negative consequences.
- I understand that my participation in this study is FULLY ANONYMOUS (i.e., the researcher does not ask you to disclose your identity on the questionnaire that you will fill out).
- I understand that the data from this study may be published.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY.

NAME (please print) _____

SIGNATURE _____

If at any time you have questions about the proposed research, please contact the study's Principal Investigator Dr B. Kemal Büyükkurt, Department of Marketing, by phone at (514) 848-2424 ext. 2947 or by e-mail at kemalbk@jmsb.concordia.ca. If at any time you have questions about your rights as a research participant,

please contact the Research Ethics and Compliance Advisor, Concordia University, 514.848.2424 ex. 7481 ethics@alcor.concordia.ca

QUESTIONNAIRE 1

Thank you for your participation in this study about how consumers compare different products on various attributes. You will be presented with a pair of products that differ on two attributes and asked to compare them. You will be asked to indicate which one you prefer, and what you think and how you feel about the products.

Please take your time to answer each of the questions. Please do not skip any questions, and complete the questions to the best of your ability. There are no "right" or "wrong" answers to the questions on this survey. We are simply interested in what you think and feel. We all know that consumers' tastes and preferences vary from one individual to another. Please keep in mind that your answers will be completely anonymous and confidential.

Please turn the page over.

CONSUMER PERCEPTIONS, PREFERENCES AND EMOTIONS FOR SMARTPHONES

This section presents a pair of smartphones and the kinds of emotions that you may feel about them.

Imagine that you are purchasing a new smartphone. You consider your phone to be a fashion statement. Therefore, your phone should have an attractive design. You spend a lot of time web browsing and talking on the phone so your phone should have a long battery life. You are deciding between the two smartphones described below. Both phones are similar in all other respects (for example: cost, operating system, etc.).

Smartphone A   **Smartphone B**

You want a smartphone with:

- Thin and sleek design available in three colors

- 3 hours of battery life for web browsing and talking on the phone

- an attractive design

- a long battery life

- Bulky design available in one color

- 12 hours of battery life for web browsing and talking on the phone

1) Which smartphone do you prefer?
- a)   Smartphone A
- b)   Smartphone B

2) Please rate how much you like each smartphone assuming other relevant attributes (for example: cost, operating system, etc.) are similar:

	Dislike very much			**Neither like nor dislike**			**Like very much**
a) Smartphone A	1	2	3	4	5	6	7
b) Smartphone B	1	2	3	4	5	6	7

	Smartphone A	Smartphone B

Smartphone A

Smartphone B

- Thin and sleek design available in three colors

- 3 hours of battery life for web browsing and talking on the phone

- Bulky design available in one color

- 12 hours of battery life for web browsing and talking on the phone

3) Imagine that you are temporarily leaning towards choosing Smartphone A and giving up Smartphone B. Please indicate how much you would feel each of the following emotions in the process of making the choice:

		Not at all						Extremely
a)	Secure	1	2	3	4	5	6	7
b)	Anxious	1	2	3	4	5	6	7
c)	Excited	1	2	3	4	5	6	7
d)	Disappointed	1	2	3	4	5	6	7
e)	Cheerful	1	2	3	4	5	6	7
f)	Confident	1	2	3	4	5	6	7
g)	Guilty	1	2	3	4	5	6	7
h)	Sad	1	2	3	4	5	6	7

4) Imagine that you are temporarily leaning towards choosing Smartphone B and giving up Smartphone A. Please indicate how much you would feel each of the following emotions in the process of making the choice:

		Not at all						Extremely
a)	Disappointed	1	2	3	4	5	6	7
b)	Secure	1	2	3	4	5	6	7
c)	Guilty	1	2	3	4	5	6	7
d)	Excited	1	2	3	4	5	6	7
e)	Anxious	1	2	3	4	5	6	7
f)	Sad	1	2	3	4	5	6	7
g)	Cheerful	1	2	3	4	5	6	7
h)	Confident	1	2	3	4	5	6	7

Thank you for your participation.

QUESTIONNAIRE 2

Thank you for your participation in this study about how consumers compare different products on various attributes. You will be presented with a pair of products that differ on two attributes and asked to compare them. You will be asked to indicate which one you prefer, and what you think and how you feel about the products.

Please take your time to answer each of the questions. Please do not skip any questions, and complete the questions to the best of your ability. There are no "right" or "wrong" answers to the questions on this survey. We are simply interested in what you think and feel. We all know that consumers' tastes and preferences vary from one individual to another. Please keep in mind that your answers will be completely anonymous and confidential.

Please turn the page over.

CONSUMER PERCEPTIONS, PREFERENCES AND EMOTIONS FOR SMARTPHONES

This section presents a pair of smartphones and the kinds of emotions that you may feel about them.

Imagine that you are purchasing a new smartphone. You only use your smartphone for emergencies so the design and battery life of the phone are not important. You are deciding between the two smartphones described below. Both phones are similar in all other respects (for example: cost, operating system, etc.).

Smartphone A		**Smartphone B**
	You want a smartphone with:	
• Thin and sleek design available in three colors	• an attractive design is not important	• Bulky design available in one color
• 3 hours of battery life for web browsing and talking on the phone	• battery life is not important	• 12 hours of battery life for web browsing and talking on the phone

1) Which smartphone do you prefer?
    a)   Smartphone A
    b)   Smartphone B

2) Please rate how much you like each smartphone assuming other relevant attributes (for example: cost, operating system, etc.) are similar:

		Dislike very much			**Neither like nor dislike**			**Like very much**
a)	Smartphone A	1	2	3	4	5	6	7
b)	Smartphone B	1	2	3	4	5	6	7

Smartphone A	Smartphone B

- Thin and sleek design available in three colors

- 3 hours of battery life for web browsing and talking on the phone

- Bulky design available in one color

- 12 hours of battery life for web browsing and talking on the phone

3) Imagine that you are temporarily leaning towards choosing Smartphone A and giving up Smartphone B. Please indicate how much you would feel each of the following emotions in the process of making the choice:

		Not at all						**Extremely**
a)	Secure	1	2	3	4	5	6	7
b)	Anxious	1	2	3	4	5	6	7
c)	Excited	1	2	3	4	5	6	7
d)	Disappointed	1	2	3	4	5	6	7
e)	Cheerful	1	2	3	4	5	6	7
f)	Confident	1	2	3	4	5	6	7
g)	Guilty	1	2	3	4	5	6	7
h)	Sad	1	2	3	4	5	6	7

4) Imagine that you are temporarily leaning towards choosing Smartphone B and giving up Smartphone A. Please indicate how much you would feel each of the following emotions in the process of making the choice:

		Not at all						**Extremely**
a)	Disappointed	1	2	3	4	5	6	7
b)	Secure	1	2	3	4	5	6	7
c)	Guilty	1	2	3	4	5	6	7
d)	Excited	1	2	3	4	5	6	7
e)	Anxious	1	2	3	4	5	6	7
f)	Sad	1	2	3	4	5	6	7
g)	Cheerful	1	2	3	4	5	6	7
h)	Confident	1	2	3	4	5	6	7

Thank you for your participation.

QUESTIONNAIRE 3

Thank you for your participation in this study about how consumers compare different products on various attributes. You will be presented with a pair of products that differ on two attributes and asked to compare them. You will be asked to indicate which one you prefer, and what you think and how you feel about the products.

Please take your time to answer each of the questions. Please do not skip any questions, and complete the questions to the best of your ability. There are no "right" or "wrong" answers to the questions on this survey. We are simply interested in what you think and feel. We all know that consumers' tastes and preferences vary from one individual to another. Please keep in mind that your answers will be completely anonymous and confidential.

Please turn the page over.

CONSUMER PERCEPTIONS, PREFERENCES AND EMOTIONS FOR LAUNDRY DETERGENTS

This section presents a pair of laundry detergents and the kinds of emotions that you may feel about them.

Imagine that you are at the grocery store to purchase laundry detergent. You are a messy eater and frequently spill food on your clothing. For this reason, your laundry detergent should be highly effective at removing a wide range of stains. Also, you would like your clothing to retain its color despite many washes. You are deciding between the two laundry detergents described below. Both laundry detergents are similar in all other respects (ex: cost, size, etc.).

Laundry Detergent A	You want a laundry detergent that:	**Laundry Detergent B**
• Not very effective at removing a wide range of stains such as grass, chocolate, red wine, coffee, etc.	• is highly effective at removing a wide range of stains	• Highly effective at removing a wide range of stains including grass, chocolate, red wine, coffee, etc.
• Colored fabrics begin to fade only after 20 washes or so	• retains the color of the fabric despite many washes	• Colored fabrics begin to fade after 5 washes or so

1) Which laundry detergent do you prefer?
   a) Laundry Detergent A
   b) Laundry Detergent B

2) Please rate how much you like each laundry detergent assuming other relevant attributes (for example: cost, size, etc.) are similar:

	Dislike very much			Neither like nor dislike			Like very much
a) Laundry Detergent A	1	2	3	4	5	6	7
b) Laundry Detergent B	1	2	3	4	5	6	7

		Laundry Detergent A			Laundry Detergent B	

Laundry Detergent A

- Not very effective at removing a wide range of stains such as grass, chocolate, red wine, coffee, etc.

- Colored fabrics begin to fade only after 20 washes or so

Laundry Detergent B

- Highly effective at removing a wide range of stains including grass, chocolate, red wine, coffee, etc.

- Colored fabrics begin to fade after 5 washes or so

3) Imagine that you are temporarily leaning towards choosing Laundry Detergent A and giving up Laundry Detergent B. Please indicate how much you would feel each of the following emotions in the process of making the choice:

		Not at all						**Extremely**
a)	Secure	1	2	3	4	5	6	7
b)	Anxious	1	2	3	4	5	6	7
c)	Excited	1	2	3	4	5	6	7
d)	Disappointed	1	2	3	4	5	6	7
e)	Cheerful	1	2	3	4	5	6	7
f)	Confident	1	2	3	4	5	6	7
g)	Guilty	1	2	3	4	5	6	7
h)	Sad	1	2	3	4	5	6	7

4) Imagine that you are temporarily leaning towards choosing Laundry Detergent B and giving up Laundry Detergent A. Please indicate how much you would feel each of the following emotions in the process of making the choice:

		Not at all						**Extremely**
a)	Disappointed	1	2	3	4	5	6	7
b)	Secure	1	2	3	4	5	6	7
c)	Guilty	1	2	3	4	5	6	7
d)	Excited	1	2	3	4	5	6	7
e)	Anxious	1	2	3	4	5	6	7
f)	Sad	1	2	3	4	5	6	7
g)	Cheerful	1	2	3	4	5	6	7
h)	Confident	1	2	3	4	5	6	7

Thank you for your participation.

QUESTIONNAIRE 4

Thank you for your participation in this study about how consumers compare different products on various attributes. You will be presented with a pair of products that differ on two attributes and asked to compare them. You will be asked to indicate which one you prefer, and what you think and how you feel about the products.

Please take your time to answer each of the questions. Please do not skip any questions, and complete the questions to the best of your ability. There are no "right" or "wrong" answers to the questions on this survey. We are simply interested in what you think and feel. We all know that consumers' tastes and preferences vary from one individual to another. Please keep in mind that your answers will be completely anonymous and confidential.

Please turn the page over.

CONSUMER PERCEPTIONS, PREFERENCES AND EMOTIONS FOR LAUNDRY DETERGENTS

This section presents a pair of laundry detergents and the kinds of emotions that you may feel about them.

Imagine that you are at the grocery store to purchase laundry detergent. You are very careful not to dirty your clothing so a laundry detergent that removes a wide range of stains is not important. Also, you don't own many colored clothes so a laundry detergent that retains the color of the fabric despite many washes is not important. You are deciding between the two laundry detergents described below. Both laundry detergents are similar in all other respects (ex: cost, size, etc.).

Laundry Detergent A	You want a laundry detergent that:	**Laundry Detergent B**
• Not very effective at removing a wide range of stains such as grass, chocolate, red wine, coffee, etc.	• ability to remove stains is not important	• Highly effective at removing a wide range of stains including grass, chocolate, red wine, coffee, etc.
• Colored fabrics begin to fade only after 20 washes or so	• ability to retain the color of the fabric is not important	• Colored fabrics begin to fade after 5 washes or so

1) Which laundry detergent do you prefer?
   a) Laundry Detergent A
   b) Laundry Detergent B

2) Please rate how much you like each laundry detergent assuming other relevant attributes (for example: cost, size, etc.) are similar:

	Dislike very much			Neither like nor dislike			Like very much
a) Laundry Detergent A	1	2	3	4	5	6	7
b) Laundry Detergent B	1	2	3	4	5	6	7

	Laundry Detergent A	Laundry Detergent B
	Laundry Detergent A	**Laundry Detergent B**
	• Not very effective at removing a wide range of stains such as grass, chocolate, red wine, coffee, etc.	• Highly effective at removing a wide range of stains including grass, chocolate, red wine, coffee, etc.
	• Colored fabrics begin to fade only after 20 washes or so	• Colored fabrics begin to fade after 5 washes or so

3) Imagine that you are temporarily leaning towards choosing Laundry Detergent A and giving up Laundry Detergent B. Please indicate how much you would feel each of the following emotions in the process of making the choice:

		Not at all						**Extremely**
a)	Secure	1	2	3	4	5	6	7
b)	Anxious	1	2	3	4	5	6	7
c)	Excited	1	2	3	4	5	6	7
d)	Disappointed	1	2	3	4	5	6	7
e)	Cheerful	1	2	3	4	5	6	7
f)	Confident	1	2	3	4	5	6	7
g)	Guilty	1	2	3	4	5	6	7
h)	Sad	1	2	3	4	5	6	7

4) Imagine that you are temporarily leaning towards choosing Laundry Detergent B and giving up Laundry Detergent A. Please indicate how much you would feel each of the following emotions in the process of making the choice:

		Not at all						**Extremely**
a)	Disappointed	1	2	3	4	5	6	7
b)	Secure	1	2	3	4	5	6	7
c)	Guilty	1	2	3	4	5	6	7
d)	Excited	1	2	3	4	5	6	7
e)	Anxious	1	2	3	4	5	6	7
f)	Sad	1	2	3	4	5	6	7
g)	Cheerful	1	2	3	4	5	6	7
h)	Confident	1	2	3	4	5	6	7

Thank you for your participation.