When Do We Want to Work and Play?

The Influence of Hedonic and Utilitarian Capabilities

on the Evaluation of Convergent Goods and Services

by

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ABSTRACT

Convergent products are products that offer multiple capabilities from different product categories. For example, a smartphone acts as an internet browser, personal assistant, and telephone. Marketers are constantly considering the value of adding new functionalities to these convergent products. This work examines convergent products in terms of the hedonic and utilitarian value they provide along with whether the addition is related to the base product, revealing complex and nuanced interactions. This work contributes to marketing theory by advancing knowledge in the convergent products and product design literatures, specifically by showing how hedonic and utilitarian value and addition relatedness interact to impact the evaluation of convergent goods and services. Looking at a greater complexity of convergent product types also helps to resolve prior conflicting findings in the convergent products and hedonic and utilitarian value literatures.

Additionally, this work examines the role of justification in convergent products, showing how different additions can help consumers to justify the evaluation of a convergent product. A three-item measure for justification was developed for this research, and can be used by future researchers to better understand the effects of justification in consumption.

This work is also the first to explicitly compare effects between convergent goods and convergent services. Across two experiments, it is found that these two products types (convergent goods versus convergent services) are evaluated differently. For convergent goods, consumers evaluate additions based

on anticipated practicality/productivity and on how easily they are justified. For convergent services, consumers evaluate additions based on perceptions of performance risk associated with the convergent service, which stems from the intangibility of these services. The insights gleaned from the research allow specific recommendations to be made to managers regarding convergent offerings.

This research also examines the applicability of hedonic and utilitarian value to a special type of advertising appeal: reward appeals. Reward appeals are appeals that focus on peripheral benefits from purchasing or using a product, such as time or money savings, and make suggestions on how to use these savings. This work examines potential interactions between reward appeals and other common advertising elements: social norms information and role clarity messaging.

DEDICATION

This work is dedicated to my family, for without them I would never have made it down this path.

To my parents, I thank you for your constant support and encouragement throughout my life. You taught me that there is nothing in this world that is beyond my reach.

To my brothers, I thank you for keeping me humble, and reminding me that great achievements occur only through hard work and dedication.

To my husband, I thank you for your steady love and support, and for all the sacrifices you have made in order to help me to realize this dream. Without your confidence and encouragement, I would not be where I am today.

To my children, I hope that I inspire you to strive toward your own dreams. The world is waiting for you to make your mark, and anything is possible.

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CHAPTER 1

INTRODUCTION

Adding extra features from a different product category to existing goods and services can be a way for marketers to differentiate, reposition, or attract new customers to their products. However, these additions may or may not be well-received by customers, and trying to comprehend the role of supplemental features adds to the complexity of understanding why a product succeeds or fails. For example, the Sony PlayStation 2 was a resounding success because of its technological dominance and the addition of a built-in DVD player, yet the PlayStation 3, which was also technologically superior and offered a supplemental built-in Blu-Ray player, was met with only lackluster demand. At the same time, the Nintendo Wii, a dumbed-down video game console with low-levels of technological capability and no unnecessary product additions, was lauded for keeping it simple, drawing old and new video game players alike. It is not clear why some products succeed for their complexity while others flourish for their simplicity.

As another example, PC World lists Apple iTunes as one of the most successful tech products of all time (Null 2007). iTunes allows the user to download and listen to music on their home computer, combining the sense of hearing with the experience of using a computer. On the other hand, iSmell is listed as one of the worst tech products of all time; iSmell was a device that plugged into the computer and could be programmed to emit certain smells when

a user visited various websites (Tynan 2006), combining the sense of smell with the experience of using a computer. On the surface, these two offerings do not differ greatly from one another, so why would one of these products succeed and the other fail?

CONVERGENT PRODUCTS

Recent research in marketing has begun to address this issue, that is, when products offer more than one capability, what are the factors that determine success? These goods and services that combine capabilities are referred to as convergent products, and they differ from products with traditional add-on features in that the additional functionalities come from a different product category. In this work, the term "convergent products" refers to both convergent goods and convergent services. An example of a convergent good is a smart phone; the device acts as a telephone, calendar, internet browser, game engine, and computer all in one. As a result, consumers need only carry one device, as opposed to owning a separate piece of technology for each function. An example of a convergent service is a typical large bank that offers savings account, investment, and credit services all under one roof. In this case, the customer need only establish a relationship with a single provider, rather than accessing these services from multiple entities.

Because the functionalities come from different product categories, managers need to be careful in designing these products in order to remain

appealing to consumers. For example, differing functions within a convergent product have the potential to interfere with each other if they are not complementary, such as if an e-book reader were to come equipped with a satellite radio, which users may find to be distracting. Additionally, the mere presence of a particular function might change perceptions of the product overall, shifting it from one that consumers might approach for fun to one that consumers would use for work, such as if financial planning advice were to be added to a humor and entertainment website. For this reason, a good way to conceptualize potential functions of a convergent product is by examining their hedonic or utilitarian value.

Hedonic/Utilitarian Product Additions

Hedonic value refers to the value that is derived from the pleasure or enjoyment to be gleaned from the product, whereas utilitarian value is the value derived from the usefulness or practical reasons to use a product (Batra & Ahtola 1990; Voss, Spangenberg & Grohmann 2003). It is useful to examine convergent product functionalities in terms of the hedonic and utilitarian value they offer, because prior research in convergent goods has found that these two types of value can conflict with each other in some cases, but complement each other in others (cf. Gill 2008).

Conceptualizing convergent products in this way also allows for the application of other research on hedonic and utilitarian goods and choice. Of

particular interest is research that involves hedonic and utilitarian products and justification. Okada (2005) finds that when given a choice between a hedonic and utilitarian good, people tend to choose the utilitarian option because it is easier to justify. It is possible, therefore, that utilitarian additions to convergent products might help the consumer to justify the purchase or use of the product.

Relatedness of the Addition

Another facet of product additions that should be taken into consideration is their relatedness to the base; that is, the extent to which the additional functionality is associated with the base functionality in the consumer's mind. Certain combinations of functionalities are likely to make more sense to consumers than others. For example, adding educational audiobooks to an MP3 player would be more easily understood by consumers than adding a scientific calculator. Though both additions are utilitarian, one is more related than the other to the base. This relatedness may have an impact on how the convergent products are received. Adding functions that are conceptually related to a base product might help the overall product to be easier for customers to understand and imagine using in their day-to-day lives.

It is possible that the relatedness of the addition will interact with the type of value (hedonic or utilitarian) that is derived from the convergent product. For example, when Nokia first added the game Snake (a hedonic functionality) to their mobile phone (a utilitarian base good) in 1997, it was a resounding success,

even though gaming is not necessarily related to cellular phones. On the other hand, it is difficult to imagine that the addition of tax software (a utilitarian functionality) to a video game console (a base good) would be met with same success. This brings up the key question of when relatedness of additions is or is not important to the success of a convergent product, and why. This research addresses this question, though the answer is not straightforward, as there are likely differences between convergent goods and services.

Potential Differences between Convergent Goods and Services

Though the definition of convergent products can apply to both convergent goods and services, differences between these two contexts might warrant looking at convergent goods and services separately. Convergent goods refer to tangible, physical goods that offer multiple functionalities in a single device, and convergent services refer to offerings that provide multiple services from different categories during a single service encounter, such as a visit to a website or a trip to a banking retail location. Convergent services are becoming as pervasive as convergent goods, and their convergent nature requires extra consideration. Since there are specific facets of services, such as their intangibility, that can change the way that they are evaluated by customers, it is likely that the effects of convergence will differ between goods and services. For example, the intangibility of services may lead to an increased perception of performance risk compared to goods, since they are more difficult to evaluate a

priori. This sense of risk might be exacerbated by the fact that a given service is convergent, because the convergent service may be perceived as being a "jack of all trades, master of none."

The heightened sense of risk might be perceived by customers as an additional psychological cost to the service, which could ultimately drive down the overall perceived value of the offering. Given that additions to base services have the potential to either heighten the sense of risk associated with an offering, it is essential for managers to know the impact of different types of additions in order to mitigate this sense of risk and provide the most competitive offerings possible. This research begins to explore these important differences between convergent goods and services, using hedonic and utilitarian value as a framework to understand these offerings.

HEDONIC/UTILITARIAN REWARD APPEALS

Although some managers have the choice of what types of functions they might add to their offerings, other firms are more restricted in their options. For example, a public utility provides a commodity with little variation in the service provided. However, the concepts explored in this paper might still be relevant to these types of businesses in terms of how the good or service is presented in marketing communications.

Typically in marketing communications, firms have used hedonic and utilitarian value appeals when they referred directly to attributes of the product

they were trying to sell. For example, a utilitarian appeal would note the suction power of a vacuum or the low price of groceries. On the other hand, a hedonic appeal would focus on how fun a car is to drive or the emotional satisfaction one might derive from taking the family to Disneyland. The appeals focused on direct benefits of the product at hand. Generally, with appeals of this type, marketing research has found that the type of appeal used should be congruent with the product being sold (cf. Shavitt 1990, 1992, Sewall & Sarel 1986, Aaker, Batra & Myers 1992).

However, if managers do not wish to add hedonic or utilitarian functions to their product, they might present their product alongside other hedonic or utilitarian products to compare or contrast, which could yield differing results. Returning to the public utility example, if an energy provider offers customers a discount off of their bill in exchange for participating in an energy savings program, the firm might present the discount in either hedonic or utilitarian light by suggesting the customers spend their savings on a trip to the movies or on some extra groceries or gas. In this case, one might conceptualize the core service (energy) as the base product and the discount off of the utility bill, or reward, as an added functionality.

In this work, such an appeal is referred to as a reward appeal; that is, it is an appeal that emphasizes the potential value of savings or rewards associated with using a product that are separate from the inherent product benefits. For example, imagine an advertisement for a product that will save the user time out of their day. The ad then goes on to suggest ways that the consumer could use

their time, such as by going shopping with a friend or by getting some extra errands done. The reward appeal shifts the focus from the time savings itself to ways that the time could actually be used, making this abstract benefit of time more tangible in the mind of the customer.

Were managers to use a reward appeal in their marketing communications, it would be helpful to understand how this approach would interact with other common advertising elements. In particular, this work will examine social norms and role clarity information, as both of these types of advertising elements have the potential to interact with hedonic and utilitarian reward appeals.

Social Norms

Social norms are guides for behavior that are generally agreed upon by society (Sherif 1936). Past research has shown that people are greatly influenced by what they think is common for other people to do (Cialdini, Reno & Kallgren 1990). In the age of social media, social norms information is becoming more and more pervasive as firms encourage customers to share their purchases on Facebook and Twitter and to "like" their company page.

If customers are exposed to a hedonic or utilitarian reward appeal in conjunction with social norms information, it is possible that they will compare the reward benefits with others. This is important, because these comparisons have the potential to carry more or less weight, depending on whether a hedonic or utilitarian reward appeal is used. Generally, hedonic products tend to be more

emotionally involving than utilitarian ones (Hirschman & Holbrook 1982), which could in turn cause consumer envy (Parrot & Smith 1993). This envy has the potential to impact a consumer's ultimate choice (Belk 2008). Thus, it would be beneficial to examine social norms in conjunction with hedonic and utilitarian reward appeals.

Role Clarity

Role clarity refers to whether a person knows and understands what to do in a certain situation, and it is positively correlated with customer adoption (Meuter, Bitner, Ostrom & Brown 2005). It is likely that reward appeals will be used with products that are relatively new to customers as the offering firms offer discounts and rewards for adoption. However, when a product is new to a customer, they are less likely to know or understand how to proceed. As a result, advertisements might benefit by including explicit role clarity information on how to participate or purchase a product.

Like social norms, role clarity information has the potential to interact with hedonic and utilitarian reward appeals. As noted above, hedonic products are more emotionally involving than utilitarian ones (Hirschman & Holbrook 1982). As a result, the use of a hedonic reward appeal, for example, might cause a customer to be willing to make extra effort to purchase a product, even if there are not overt instructions on how to do so.

As firms attempt to streamline their marketing communications they strive to make each communication as effective as possible, often by using more than one type of appeal in each ad. It is key, therefore, to understand how these different elements interact with each other in order to craft the best possible message to consumers. As such, this research addresses a new type of ad appeal, the reward appeal, and examines how it interacts with both social norms and role clarity information.

RESEARCH QUESTIONS

The purpose of this research is to gain a better understanding of convergent products by conceptualizing them in terms of the type of value they offer, hedonic or utilitarian. Additionally, this work seeks to achieve a greater understanding of the difference between convergent goods and convergent services by examining the mechanisms through which the observed effects occur for each context. Finally, the research tests the robustness of the observed effects by extending the work into the realm of hedonic and utilitarian reward appeals.

The overall research questions for this work are:

1. How does adding either hedonic or utilitarian functionalities to either a hedonic or utilitarian base affect the likelihood of purchase or adoption and the incremental value of the addition to the convergent product?

2. How does the relatedness of the added functionality affect these relationships?
3. Can justification help to explain these relationships?
4. What are the differences in these relationships between convergent goods and services, and why do they exist?
5. Can these findings be extended to the use of hedonic or utilitarian reward appeals in a marketing communication?
6. How will reward appeals interact with other message characteristics, such as social norms and role clarity information?

RESEARCH APPROACH

The above research questions are addressed through a series of three studies across a variety of contexts. The first study is an experiment using student subjects at a major southwestern university, where they are asked to evaluate one of eight potential convergent technological goods. These convergent goods are varied on whether the base is hedonic or utilitarian, whether the addition is hedonic or utilitarian, and whether the addition is related or unrelated. Additionally, the participants complete a measure that assesses whether they might use the addition to help justify the purchase and evaluation of the convergent technological good.

The second study mirrors the first study in terms of subjects and design; however, the context is free online services. This experiment serves two key

purposes: first, it serves as a replication of the first study to test the robustness of the observed effects, and second, it allows for the assessment of differences between convergent goods and services. In addition to measuring justification, the survey measures perceived risk in order to determine whether risk drives some of the differences that are observed.

The third study in this dissertation is a departure from the first two studies in that it examines a substantially different concept: reward appeals. In this study, hedonic and utilitarian reward appeals are tested along with social norms appeals and role clarity appeals (using a full factorial model). The participants in this study are members of a customer panel from a major southwestern energy provider. They view one of eight advertisements imploring them to participate in an energy savings program, and then they complete a questionnaire that measures their likelihood of participation.

CONTRIBUTIONS

This research builds on marketing theory in several ways and provides valuable insight on convergent goods and services design to practitioners. First of all, this research advances knowledge in the area of product design and convergent products, replicating and building on prior research in these areas. This work will show for the first time how hedonic and utilitarian value and relatedness interact to impact likelihood of purchase of convergent products. This is also the first research to explicitly measure justification and test for its

mediational effects. By examining these additional variables and looking at a greater complexity of product additions, this work is able to resolve some prior conflicting findings in the hedonic and utilitarian products and convergent products literature.

Additionally, this work is the first to examine convergent services and to compare them explicitly with convergent goods, showing important differences between convergent goods and services that can be attributed to the heightened sense of risk that is associated with services. This research highlights the importance of refraining from applying goods-based knowledge to services, because the same marketing actions can yield very different results between the two contexts. As managers move their businesses into services, it is imperative to take these differences into account to present their offerings in the best possible way to consumers. Furthermore, this work provides specific advice to managers regarding which additions to add to existing base goods and services in order to maximize the overall incremental value of additions to the convergent product.

Finally, this is the first study to explore the idea of hedonic and utilitarian reward appeals in advertising where the hedonic or utilitarian value is not derived from the product itself, but rather something auxiliary to the product, such as time savings or discounts. Additionally, this study is the first to examine possible interactions between hedonic and utilitarian reward appeals and social norms and role clarity information. As these types of appeals are common in marketing communications, it is of great use to managers to understand how they work together, or conflict, to achieve marketing goals.

The contributions of each individual study will be discussed in greater detail in the forthcoming chapters, but taken together, this work offers a comprehensive look at the effects of hedonic and utilitarian value and product convergence across both goods and services contexts, proving the robustness of the findings and providing a roadmap for managers as they design their goods and services. The research also provides marketing researchers with a framework to understand the reasons of convergent product success or failure, offering a strong base for future inquiry.

ORGANIZATION

The rest of this dissertation continues as follows. In the second chapter, hedonic and utilitarian base goods and additions are examined using the experiment in a technological goods context that was described above. The third chapter includes a discussion of the potential differences between goods and services and the rationale behind them, and then replicates the experiment from the technological goods study in a free online services context. The results of these two experiments will are discussed and compared. Following this, in the fourth chapter there is a preliminary examination of hedonic and utilitarian reward appeals in an advertisement using the context of a major energy provider. Finally, there is a conclusion chapter to discuss the findings, theoretical and managerial implications, and possible avenues for future research.

CHAPTER 2

STUDY 1: HEDONIC AND UTILITARIAN FUNCTIONALITIES IN TECHNOLOGICAL GOODS

A large portion of technologies introduced into the market today are products that offer multiple functionalities; for example, one can carry a cell phone that also serves as a PDA and music player. These offerings are referred to as convergent products, which are "products that are formed by adding a new functionality (from another category) to an existing base product" (Gill 2008, p. 46). However, some researchers note that the addition of too many capabilities can diminish a product's usability; that is, the product can become overly complex and difficult to use (Thompson, Hamilton & Rust 2005). The authors term this effect "feature fatigue." Though having many functions in a single product increases the likelihood of a first purchase, this feature fatigue has negative effects on future purchase intentions.

Repeat purchase intentions can have a significant impact on a firm's future revenue stream. However, if consumers are not enticed by specific features to use the product in the first place, they will not learn enough about the product to form positive future purchase intentions for additional generations of the product. Therefore, managers must design products to simultaneously attract an initial purchase but then maintain a high value-in-use to prompt a repeat purchase. To do this, managers need to be very selective in the functionalities that they add to

their convergent products, and they need to understand the effects of each addition very well.

This research takes Gill's (2008) definition of convergent products an extra step, and distinguishes between convergent goods and convergent services for the purposes of comparison. It is likely, as will be explored more thoroughly in Chapter 3, that there will be differences in effects between convergent goods and services. Therefore, in this chapter, the focus of the research will be on convergent goods. Specifically, the following research questions will be addressed:

1. How does the addition of a single functionality to a base good affect likelihood of purchase and incremental value? Specifically, what are the effects of adding a goal-congruent or -incongruent functionality to a primarily hedonic or utilitarian base?
2. How does the relatedness of the additional functionality affect the relationships that are found?
3. Does justification explain the findings; that is, do consumers use the added functionality to justify the purchase and evaluation of the convergent good?

This research contributes to the growing body of research on convergent products and the hedonic and utilitarian products literature in several ways. This study is different from prior research on convergent goods in that likelihood of purchase, in addition to incremental value, is examined, whereas Gill looked solely at incremental value, without bringing purchase intentions into the picture

(2008). This research shows how different behavior can be seen when looking at a purchase decision compared to what Gill's study indicates; when users are considering purchase, they must justify and rationalize their choice, which leads to different findings. On the other hand, Okada looks at likelihood of purchase between hedonic and utilitarian goods and justification, but she does not look at convergent products, which can also have different implications when one can conceivably have a product that is simultaneously hedonic and utilitarian. Furthermore, this is the first study, to the author's knowledge, to actually measure the effects of justification in consumer behavior; Okada suggests that justification might be the reason for consumers' preference for utilitarian goods, but she did not explicitly test for justification effects (2005).

Of note, the area of convergent products is still largely unexplored; the majority of prior research on adding functionalities to existing products has examined additions that were congruent with the primary goals for the product (e.g. Meyers-Levy & Tybout 1989; Nowlis & Simonson 1996; Thompson, Hamilton & Rust 2005), whereas this research looks at products with additional functionalities that are not necessarily related to the base good or service. When a good or service has an unrelated additional functionality, it will be harder to categorize, which will in turn cause it to require more cognitive resources to evaluate (Cohen & Basu 1987), and the additional cognitive resources required can affect consumer choice in systematic ways (Garbarino & Edell 1997). Understanding these effects can help managers to make the best decisions possible when choosing functional additions for products.

The rest of this chapter is organized as follows: first, there is a discussion of the effects of adding extra functionalities to the existing base good on likelihood of purchase and incremental value, specifically looking at the addition's goal-congruence and relatedness to the base product. The effects of justification on likelihood of purchase and incremental value are also addressed. Second, the results of two pretests that are used to design an experiment to test the hypotheses herein are reported. Third, the experiment is described and its results reported. Finally, the theoretical and managerial implications of this research are discussed.

CONCEPTUAL DEVELOPMENT

Likelihood of Purchase and Incremental Value

The two key outcome variables examined in this research are incremental value and likelihood of purchase. In this work, the term incremental value is specific to the convergent products context. Adding a second functionality to an existing base product can impact the consumer's perceived value of the product either positively or negatively. Incremental value refers specifically to this change in perceived value as a result of the additional functionality. However, though assessing incremental value a priori likely impacts whether a consumer would ultimately decide to purchase a convergent product, there are other factors that could also affect the purchase decision. For example, adding another

functionality from a different product category could change the buyer's frame of reference, impacting how they might anticipate using the base functionality. To illustrate, when envisioning using an e-book reader, a buyer might initially picture using it for primarily utilitarian reasons, such as for reading a newspaper. However, if marketers were to add a hedonic functionality, such as word and logic puzzles, that might cause the buyer to rethink how they might use the base. Given the hedonic addition, this could prime customers to also envision using the device to read novels or comic books, which could shift their value perceptions of the base product alone, even if they might not use the word and logic puzzle functionality. Therefore, the buyer's likelihood of purchase (the probability that they would buy the product in question) could change for the better, even if they don't intend to use the addition. For this reason, it is important to also measure likelihood of purchase in order to capture these possibilities.

Base products and additional features can be conceptualized in terms of the user's goals associated with the product; hedonic goals include those of experiencing pleasure and excitement (e.g. the joy of playing video games), whereas utilitarian goals include more functional or practical concerns (e.g. the convenience of being able to read and highlight textbooks digitally) (Batra & Ahtola 1990; Voss, Spangenberg & Grohmann 2003). In terms of product choice, these two dimensions can be likened to consumer wants (hedonic goals) and shoulds (utilitarian goals) (Dhar & Wertenbroch 2000), where the wants are affective preferences and the shoulds are cognitive preferences (Shiv & Fedorikhin 1999).

There is a large body of existing research that examines the factors that affect consumers' choice between hedonic and utilitarian goods, such as whether it is an acquisition or forfeiture decision (Dhar & Wertenbroch 2000), emotions that affect the perceived importance of hedonic or utilitarian benefits (Chitturi, Raghunathan & Mahajan 2007), or the interplay of affect and cognition on the choice (Shiv & Fedorikhin 1999). However, the effects of specifically hedonic or utilitarian add-ons on a consumer's likelihood of purchase are less clear.

Bertini, Ofek, and Ariely suggest that we can classify additional product features as either alignable or nonalignable, where alignable features are those that enhance an existing feature of the product and nonalignable features are those that offer a new capability (2008). Convergent products, because they offer a new capability, are products that would be considered nonalignable under this framework. A priori, when consumers are uncertain about the product's performance, they judge nonalignable features to be more appealing than alignable ones (Bertini, Ofek & Ariely 2008). However, as will be discussed shortly, the present work suggests that it is important for these nonalignable features to make sense to the consumer.

The idea of alignable and nonalignable features can also be linked to the psychological concept of assimilation and contrast (Herr, Sherman & Fazio 1983), which suggests that new stimuli (i.e. the additional features) can either be assimilated into the context of the existing stimuli (i.e. the base product) or contrasted against it. Consumers tend to favor features that are contrasted over features that are assimilated (Ziamou & Ratneshwar 2003). It stands to reason

that similar features will be assimilated, whereas dissimilar features will be contrasted. However, the extent to which additional features are contrasted depends on the type of addition.

Indeed, Gill suggests that adding hedonic or utilitarian features to either a hedonic or utilitarian base good results in these assimilation and contrast effects, resulting in different convergent good valuations (2008). Specifically, Gill finds that participants valued the addition of a hedonic functionality to a utilitarian base good more than the addition of a utilitarian functionality to a utilitarian base good. However, he finds the opposite to be true regarding hedonic base goods; that is, consumers value the addition of a utilitarian functionality far less than the addition of a hedonic functionality. Gill suggests that goal-congruence and positive and negative contrast can explain his findings.

Goal-Congruence

Gill defines goal-congruence as the "extent to which the added functionality and the base product are associated with similar/different goals in terms of their utilitarian versus hedonic value" (Gill 2008 p.48). Consumers approach base products that fulfill either their hedonic or utilitarian goals, and additional hedonic or utilitarian functionalities can be congruent or incongruent with those goals.

Gill finds that for hedonic base goods, consumers prefer goal-congruent additions, but for utilitarian base goods, consumers prefer goal-incongruent

additions. To explain his findings, Gill draws on assimilation and contrast theory as well as his goal-congruity theory. According to Gill, goal-congruent additions will be assimilated to the base good in the mind of the consumer, and thus have a diminishing marginal utility to customers. However, Gill posits that we will see differences when an addition is goal-incongruent, because of contrast effects. When an incongruent (hedonic) functionality is added to a utilitarian base, the addition will be positively contrasted because hedonic goods are associated with pleasure, making a utilitarian base with a hedonic addition more desirable than a utilitarian base with a utilitarian addition. Conversely, when an incongruent (utilitarian) functionality is added to a hedonic base, the addition will be negatively contrasted because utilitarian capabilities are associated with practical goals and its addition would be seen as a loss of hedonic value.

There are a few reasons why there might be differences from Gill's findings in the present work. First, in his study, Gill used a PDA and an MP3 player as the utilitarian and hedonic base goods, and electronic yellow pages and satellite radio as the utilitarian and hedonic additions (2008). Therefore, a goal-incongruent CP was an MP3 player with electronic yellow pages or a PDA with satellite radio, and a goal-congruent CP was an MP3 player with satellite radio or a PDA with electronic yellow pages. However, in today's marketplace, it is common for a PDA to offer utilitarian and hedonic functionalities, and many PDAs come loaded with e-mail and calendar applications as well as games and other entertainment options. Conversely, MP3 players do not commonly offer utilitarian functionalities along the lines of electronic yellow pages. For example,

a more related utilitarian functionality to add to an MP3 player could be a digital voice recorder. Therefore, consumers might perceive the addition of satellite radio to a PDA to be more related than the addition of electronic yellow pages to an MP3 player. It is possible that Gill's findings can be better understood by first controlling for, and then examining, this idea of relatedness, which might be causing some of the effects that he observed.

Second, Gill's arguments focus on the anticipated incremental pleasure that consumers will get from a product and the value associated with it. Anticipated incremental pleasure refers to the additional enjoyment that consumers get from the product addition over and above the enjoyment to be gleaned from the base. However, consumers also purchase products with aims to enhance their productivity or usefulness, and these considerations should also be included when assessing product value.

Accounting for these things, and based on the literature reviewed above, one can make several predictions regarding how the type of convergent good base and the goal-congruence of the addition might impact perceived incremental value and likelihood of purchase. These predictions include main effects for convergent good base type (that is, hedonic or utilitarian) and goal-congruence, which are explained by an underlying two-way interaction between the two variables. Gill's (2008) arguments regarding goal-congruence and positive and negative contrast effects are useful to apply to the present research; however, the present predictions differ slightly from Gill's because, though he accounted for enhanced anticipated incremental pleasure derived from an addition, it does not appear that

he accounted for enhanced anticipated incremental practicality or productivity that a consumer might get from an addition.

Anticipated incremental practicality/productivity refers to the added purposeful or useful reasons to purchase a convergent product that can be obtained from the addition above and beyond the base product. For example, adding a utilitarian functionality to a hedonic base might make the user expect to be more productive when using the product because the utilitarian function will give them the ability to accomplish useful tasks. On the other hand, adding a hedonic functionality to a hedonic product might also make users expect the purchase to be more practical, because instead of having to buy two products for the hedonic functionalities, now they only have to purchase one. Therefore, consumers might perceive the purchase of the convergent product to be saving them money, time, or effort (compared to the base product by itself), which would make them perceive the convergent product to be more practical, even if its functions are all hedonic. This enhanced anticipated practicality/productivity is important when the purchase question is raised, because it is a key reason for why a consumer might justify a product.

As Gill noted, adding any functionality to a base product from a different product category will result in assimilation and contrast effects. When the addition is goal-incongruent to the base, the contrast effects might be positive or negative. Looking at a convergent good with a utilitarian base, a goal-congruent (utilitarian) addition will likely be assimilated to some degree. However, because consumers approach utilitarian goods with a desire to be productive, adding a

goal-congruent functionality will likely increase the anticipated incremental productivity from the convergent good. This will result in a positive incremental value. Adding a goal-incongruent hedonic addition, however, will result in contrast effects. As Gill (2008) suggests, there should be a positive contrast, as the buyer will anticipate enhanced incremental pleasure from the good, also resulting in positive incremental value.

Looking at a convergent good with a hedonic base, on the other hand, one would expect different results. Adding a goal-congruent hedonic functionality to a convergent good with a hedonic base will likely result in enhanced anticipated pleasure on the part of the buyer. This will result in a higher perceived incremental value. Adding a goal-incongruent utilitarian functionality, however, is not likely to result in enhanced anticipated productivity. This is because consumers approach hedonic goods with the desire to have fun, not to work. Therefore, the goal-incongruent utilitarian addition would only be seen as diluting the hedonic value from the base.

Therefore, both goal-congruent and goal-incongruent additions would add value for a utilitarian base, whereas only goal-congruent additions would add value for a hedonic base. For this reason, we can expect that overall, convergent goods with a utilitarian base will have a higher perceived incremental value and likelihood of purchase than convergent goods with a hedonic base. Additionally, we can expect an overall positive effect for goal-congruence, such that convergent goods with goal-congruent additions will be more favorable than convergent goods with goal-incongruent additions.

H_1: Consumers will perceive a more positive incremental value for and be more likely to purchase a convergent good with a utilitarian base with any type of addition than a convergent good with a hedonic base with any type of addition.

H_2: Consumers will perceive a more positive incremental value for and be more likely to purchase any convergent good with congruent additions than for any convergent good with incongruent additions.

These main effects are explained by the two-way interaction described above.

H_3: Type of convergent good base will moderate the relationship between goal-congruence and incremental value and likelihood of purchase, such that the negative contrast effect of goal incongruence will be present for convergent goods with a hedonic base but not convergent goods with a utilitarian base.

Another variable that might affect the relationship between added functionality and consumer perceptions is relatedness; that is, the extent to which consumers believe the addition is related to the base good might affect their likelihood of purchase and how they value the addition.

Relatedness

Relatedness is defined as the extent to which the added functionality is associated with the base product in the consumer's mind, either conceptually or through experience with the product category. For a summary of definitions and measures, please see Table 2-1. Relatedness is distinct from goal-congruence, as goal-congruence refers to whether an addition adds the same type of value (that is, hedonic or utilitarian) as the base, whereas relatedness refers to how the addition fits into the consumer's existing mental schemas. A convergent product could have an addition that is related, but not goal-congruent, and vice versa. For example, a goal-incongruent but related addition to a video game console (a hedonic base) could be educational video games (a utilitarian related addition). Conversely, a goal-congruent but unrelated addition to an e-book reader (a utilitarian base) could be hand-held tax software (a utilitarian unrelated addition). Because of these possibilities, it is important to consider both goal-congruence and relatedness when evaluating possible additions to convergent products.

There is a wide body of research that addresses the idea of relatedness, though there are several different terms for this same general idea. Research in information systems and communication has looked at content relevance (Robertson 1977; Voorhees 2000; Frymier & Shulman 1995), and in marketing this idea of relatedness has been studied in terms of congruency (Heckler & Childers 1992), categorization (Sujan 1985; Sujan & Dekleva 1987; Cohen &

Basu 1987), fit (Tauber 1988; Nkwocha, Bao, Johnson & Brotspies 2005), and schema congruity (Fiske 1982; Meyers-Levy & Tybout 1989), to name a few. The term relatedness is used in this research to specifically address issues in convergent products and is intended to synthesize ideas from these different streams of research.

Based on prior research, there are several reasons to believe that the relatedness of the added functionality is going to affect likelihood of purchase in a positive way. Heckler and Childers (1992) describe congruency (which is different from goal-congruence) as having two distinct facets: relevancy and expectancy, which both affect information processing. In the convergent products context, relevancy refers to how the addition "contributes to or detracts from the clear identification of the theme" of the base product (Heckler & Childers 1992, p. 477). Expectancy, on the other hand, refers to how well the addition fits into a "predetermined pattern or structure evoked by the theme" (Heckler & Childers 1992, p. 477). The authors find that relevance has a significant positive effect on memory when the addition is expected, but not when the addition is unexpected. Unexpected additions result in greater recall, because more elaborative processing is required to reconcile the addition with their existing mental schemas, or categories. However, in this case the enhanced recall from unexpected additions might in fact have a negative impact on likelihood of purchase and perceived incremental value, because of categorization.

Categorization is a cognitive process that facilitates information processing by grouping related items together in the mind (Cohen & Basu 1987).

When we have a product that is difficult to categorize, such as a base product with an unrelated additional functionality, it will require more cognitive resources to evaluate. Garbarino and Edell find that evaluations that require more cognitive effort result in negative affect, which leads to consumers choosing the difficult-to-evaluate alternative less frequently (1997). Additionally, when products are difficult to categorize, consumers tend to focus only on product attributes from the dominant category, and disregard product attributes from the secondary category (Rajagopal 2004). Therefore, unrelated additions will be disregarded, and might not add as much value to the base.

Furthermore, in the brand extension literature, researchers refer to perceived fit as the "similarity between the original and extension product categories" (Nkwocha, Bao, Johnson & Brotspies 2005, p. 51). Consistent with other literature, perceived fit has a positive effect on consumer attitudes toward brand extensions (Tauber 1988).

Additionally, Meyers-Levy and Tybout find that consumers prefer products that are moderately incongruent from a product category over those that are completely congruent or extremely incongruent (1989). With convergent products, because the additions are coming from different product categories, it is likely that the additions start out at a low level of congruence. Maximizing their relatedness should bring them up to a moderate level of congruence, positively impacting the likelihood of purchase and perceived incremental value.

In light of the literature reviewed above, one would expect to replicate prior findings, showing a positive main effect for relatedness.

H_4: Consumers will perceive a more positive incremental value for and be more likely to purchase convergent goods with related additions than for convergent goods with unrelated additions.

Furthermore, relatedness is expected to interact with the convergent good base type and goal-congruence. For convergent goods with a hedonic base, there should be positive effects for both goal-congruence and relatedness, without any interaction between the two. As discussed earlier, Gill (2008) noted that consumers approach hedonic products with a goal of using the product for pleasure. Utilitarian additions will result in a loss of value because of diminished anticipated pleasure associated with the convergent product overall. Therefore, as hypothesized earlier in this work (**H_3**), for hedonic base goods, there should be a negative impact on likelihood of purchase and incremental value for convergent goods with a hedonic base that have goal-incongruent additions.

However, high relatedness should have a somewhat forgiving effect on goal-incongruent additions for convergent goods with a hedonic base. By making the goal-incongruent addition related, the consumer can better understand why it is being included in the product, making the product easier to understand and categorize. When we are able to categorize products that we are unfamiliar with, we can draw on existing experience with other products in the same category to form expectations about the new product (Cohen & Basu 1987). When products are evaluated based on actual experience, it is easier for the buyer to imagine using the product (Hamilton & Thompson 2007). The ease of categorization coupled with being able to imagine using the convergent good will likely mitigate

the negative impact that the goal-incongruence has on the product, as the utilitarian addition will make sense to the buyer, rather than coming across as an unpleasant surprise. This related utilitarian addition will also allow the consumer to use it to justify the purchase of the good, which should also increase likelihood of purchase and perceived incremental value. These justification effects will be discussed in further detail later in this document.

Additionally, relatedness should have an amplifying effect on the positive effects of goal-congruence, because consumers will have an even higher anticipated pleasure and anticipated practicality from the convergent good. Because the consumer is already expecting a level of additional pleasure from the goal-congruent addition, a high relatedness of that addition will likely make it easier for the buyer to conceptualize and imagine using the product (Hamilton & Thompson 2007). Therefore, the anticipated pleasure will also become more mentally accessible, raising the user's likelihood of purchase and perceived incremental value in turn.

Furthermore, it can be suggested that customers will find the addition of a related goal-congruent functionality to enhance the good's practical benefits. This is a counterintuitive prediction, because we would not normally expect practical benefits from adding a hedonic functionality. However, when a consumer is expecting to have to spend money on a hedonic product, getting the maximum amount of pleasure and use out of the product might make financial sense. As noted earlier, it is likely to be cheaper to purchase one convergent good for two functionalities than to have to purchase two separate, dedicated goods.

However, this would only make sense to do when the functionalities are congruent and related, so that the addition enhances the base capability rather than interfering with it. Therefore, this increased practicality should also yield a higher likelihood of purchase and incremental value.

These two effects (the mitigating effect of relatedness on goal-incongruent additions and the amplifying effect of relatedness on goal-congruent additions) will yield an overall positive effect of relatedness on perceived incremental value and likelihood of purchase for convergent goods with a hedonic base.

H_5: For convergent goods with a hedonic base, perceived incremental value and likelihood of purchase will be higher for related additions than for unrelated additions, with no interaction effects.

For convergent goods with a utilitarian base, an interaction between goal-congruence and relatedness might be expected. As noted in the two-way interaction between convergent good base type and goal-congruence, for convergent goods with a utilitarian base, a negative impact of goal-incongruence will most likely be absent. Both goal-congruent and goal-incongruent additions will be viewed positively.

However, there will probably not be a positive impact from relatedness for goal-incongruent additions, as we might for goal-congruent additions. The reason for this is that it will likely not be as important for hedonic additions to be related, because of the anticipated pleasure associated with them. Conversely, there should be a benefit to relatedness for goal-congruent additions. When the

Table 2-1
Key Terms, Definitions, and Measures

Term	Definition	Measures
Convergent Products	"products that are formed by adding a new functionality (from another category) to an existing base product"	N/A
Hedonic Goals	goals of experiencing pleasure and excitement with regard to products	HED/UT scale (Voss, Spangengerg, & Grohmann 2003)
Utilitarian Goals	goals which include more functional or practical concerns with regard to products	HED/UT scale (Voss, Spangengerg, & Grohmann 2003)
Goal-Congruence	the "extent to which the added functionality and the base product are associated with similar/different goals in terms of their utilitarian versus hedonic value" (Gill 2008, p. 48)	Operationalized by whether the addition was hedonic or utilitarian compared to whether the base was also hedonic or utilitarian (Gill 2008)
Relatedness	the extent to which the added functionality is associated with the base product in the consumer's mind, either conceptually or through experience with the product category	"Does it make sense that this feature would be added?" (seven-point scale ranging from 1 [makes no sense at all] to 7 [makes perfect sense]) "How related do you think this feature is to the base product?" (seven-point scale ranging from 1 [not at all related] to 7 [completely related])
Likelihood of Purchase	the probability that the consumer would buy the product	"Please indicate the probability that you would buy the base product with the added functionality." (eleven-point scale ranging from 0 [no chance] to 1.0 [certain chance]) (Dholakia et. al 2006)
Incremental Value	the change in perceived value due to adding a second functionality to a convergent product	"Overall, how much more (less) valuable is the new convergent product with the added functionality compared to the base product without this ability?" (seven-point scale ranging from 1 [much less valuable] to 7 [much more valuable]) (Gill 2008)

Table 2-1, continued
Key Terms, Definitions, and Measures

Term	Definition	Measures
Incremental Pleasure	the additional enjoyment that consumers get from the product addition over and above the enjoyment to be gleaned from the base	"How much more pleasure would you feel using the convergent product with the added functionality compared to the base product without this ability?" (seven-point scale ranging from 1 [much less pleasure] to 7 [much more pleasure]) (Gill 2008)
Incremental Practicality/ Productivity	the added purposeful or useful reasons to purchase a convergent product that can be obtained from the addition above and beyond the base product	"How much more practical/productive would you feel using the convergent product with the added functionality compared to the base product without this ability?" (seven-point scale ranging from 1 [much less practical/productive] to 7 [much more practical/productive]) (Gill 2008)
Justification	the extent to which the added functionality allows the consumer to rationalize the purchase of the overall convergent product	"The added functionality would provide me with a satisfactory reason to purchase the convergent product." (seven-point scale ranging from 1 [strongly disagree] to 7 [strongly agree]) "The added functionality would give me an excuse to buy the convergent product." (seven-point scale ranging from 1 [strongly disagree] to 7 [strongly agree]) "The added functionality would help me to justify the purchase of the convergent product." (seven-point scale ranging from 1 [strongly disagree] to 7 [strongly agree])

addition is unrelated (but still utilitarian) the buyer will anticipate a moderate level of productivity for each of two different themes or cognitive schemas. When the addition is related, however, the buyer will anticipate a high level of

productivity for a single theme, as the addition will assimilate to the base functionality, therefore making the expected productivity additive.

H_6: For convergent goods with a utilitarian base, perceived incremental value and likelihood of purchase will be higher only for additions that are related and goal-congruent.

In addition to the reasoning above, the greatest likelihood of purchase for convergent goods with a utilitarian base should be for those goods with related, goal-congruent additions, because they will be the easiest for consumers to justify in their minds.

Justification

The present study examines likelihood of purchase in addition to incremental value. When participants are first asked whether they would purchase a product, as opposed to only being asked to assess a product's value, their line of thinking is influenced. When consumers want to buy a new product, they try to construct reasons to justify the purchase (Shafir, Simonson & Tversky 1993). This is especially true when consumers purchase luxury goods, because these goods are not essential (Kivetz 1999). Technological goods, in many cases, constitute nonessential purchases that will require justification. For example, entering the term "justify an iPad" into Google and returns over 4.5 million results.

Dhar and Wertenbroch studied hedonic and utilitarian goods and found that when participants had to give reasons for their choice, they were more likely to choose the utilitarian option over the hedonic option (2000). Kivetz (1999) suggests that often, consumers actually choose between reasons rather than purchase options. Okada examines this idea of justifying a purchase more closely, and finds that when products are presented alone (that is, the choice is between the hedonic or utilitarian product and nothing), consumers prefer the hedonic product (2005). However, when presented together (that is, the choice is among the hedonic product, the utilitarian product, and nothing), consumers are more likely to choose the utilitarian product. Okada suggests that the reason for this is justification; when the hedonic product is explicitly compared to the utilitarian option, it becomes more difficult for consumers to rationalize the choice of the hedonic option.

A sense of guilt often accompanies hedonic consumption, as consumers often perceive hedonic consumption to be wasteful (Lascu 1991). Researchers have found that if the sense of guilt can be alleviated, however, hedonic consumption increases. For example, if the purchase of a hedonic good includes a donation to charity, consumers' preference for the hedonic good increases (Strahilevitz & Myers 1998), or if people have to work for the hedonic product, they "earn the right to indulge" (Kivetz & Simonson 2002a, b).

Indeed, Okada finds that people are willing to pay more in terms of money for utilitarian goods, but more in terms of time for hedonic goods (2005). For example, a consumer's spending habits are likely to vary depending on whether

he is shopping for a textbook compared to a video game; the consumer is more likely to go to a convenient bookstore and pay retail for the textbook, but spend time searching for a bargain for the video game. The reason for this is that it is harder to justify spending money on hedonic goods than on utilitarian goods.

These justification effects might also appear with convergent goods, though the justification literature does not appear to align with previous findings in convergent products research. Recall that Gill (2008) finds that when utilitarian functionalities are added to hedonic products, consumers value the convergent product less, because the utilitarian addition is seen to detract from the pleasure derived from the product. Conversely, he finds that when hedonic functionalities are added to utilitarian products, consumers value the convergent product more, because the hedonic addition increases the expected pleasure. However, when one considers the value of a convergent product, it could be argued that there is an implicit comparison of the type of value (that is, hedonic or utilitarian) that is to be derived from the base and its additions. Therefore, if the preference for utilitarian products that is suggested by the justification literature were to hold, it would seem that Gill (2008) might have found utilitarian additions to hedonic base products to have a positive, rather than negative, effect.

For convergent goods, the additional functionality might be able to give users reason to purchase the product by either adding a more easily justified utilitarian functionality or by giving a user more "bang for the buck" if it is a hedonic functionality. Furthermore, as the varying additions shift a customer's expected value (such as from enhanced anticipated pleasure or

practicality/productivity), the additions will then help to justify the purchase of the overall product. In this research, justification refers to the extent to which the added functionality allows the consumer to rationalize the purchase of the overall convergent good.

The extent to which an addition allows a consumer to justify the purchase of a convergent good will impact its incremental value and likelihood of purchase.

> **H_7:** The more consumers can use the additional functionality to justify the purchase or adoption of the convergent good, the more positive the perceived incremental value and higher the likelihood of purchase. These justification effects will mediate the three-way interaction between the convergent good type and perceived incremental value and likelihood of purchase.

To test the predictions made above, an experiment was conducted that manipulated the convergent good base type, the goal-congruence of the addition, as well as the addition's relatedness.

PRETESTS

Two pretests were conducted; the purpose of the first pretest was to choose two base goods that were sufficiently different in terms of their hedonic and utilitarian value, and the purpose of the second pretest was to choose four

different functionality additions for each base good that varied on how hedonic and utilitarian they were, as well as on how related they were to the base good.

Pretest 1

Method. To choose two base goods that differed in terms of their hedonic and utilitarian value, a list of various technological goods was compiled that was generated by looking at prior work in the area of convergent technologies and selecting both goods and services that had similar attributes. The goods chosen were those that had the potential to integrate multiple functions into the same basic good. For example, a digital e-book reader could also serve as a platform for digital word and logic puzzles. The final list included a digital music player, a printer, a video game console, a dance studio membership, a self-defense studio membership, a digital e-book reader, an online banking service, an online humor and entertainment website, and a social networking website. After compiling this list, 29 university student subjects were asked to rate each good on their hedonic and utilitarian dimensions using the HED/UT scale developed by Voss, Spangenberg, and Grohmann (2003).

Results. Using each good's HED/UT score, an analysis of variance was conducted, and two base goods that differed sufficiently on their hedonic and utilitarian values were selected. Specifically, the hedonic base good was a video game console and the utilitarian base good was a digital e-book reader. Participants rated the video game console to be significantly more hedonic than

the e-book reader (M_{game} = 6.03 vs. M_{reader} = 3.95; $p < .01$. In addition, participants rated the e-book reader to be significantly more utilitarian than the video game console (M_{reader} = 4.77 vs. M_{game} = 4.22; $p < .01$).

Pretest 2

Method. Based on the results from the first pretest, the two base goods chosen for study were a digital e-book reader for the utilitarian good and a video game console for the hedonic good. To generate potential additions for each good, common add-on features from leading brands of both e-book readers and video game consoles were examined. From this information, lists of potential additional features were generated that were expected to differ sufficiently on their hedonic and utilitarian aspects as well as on how related the addition is to the base good. For the e-book reader, the additional features that were tested were a collection of ten free digital novels, a satellite radio, the ability to read and highlight digital textbooks, an electronic yellow pages phone book, digital word/logic puzzles, digital pinball and other arcade games, a digital daily news and weather digest, handheld tax software, and a full color screen on the e-book reader. For the video game console, the additional features that were tested were the ability to download/store games and movies, a satellite radio, an MP3 player docking station, a video game for fitness, a scientific calculator, a BluRay/DVD player, an online humor and entertainment website, a digital video recorder to record live TV, an education and learning video game, and a digital cookbook.

Researchers asked 118 different student subjects to rate either each of the additions for the e-book reader or each of the additions for the video game console on their hedonic and utilitarian aspects using the HED/UT scale (Voss, Spangenberg & Grohmann 2003) as well on their relatedness to the base good. To measure relatedness, participants were asked to answer the following questions: "Does it make sense that this feature would be added?" (seven-point scale ranging from 1 [makes no sense at all] to 7 [makes perfect sense]), and "How related do you think this feature is to the base product?" (seven-point scale ranging from 1 [not at all related] to 7 [completely related]) (Crohnbach's alpha = .93).

Results. Based on the results of the second pretest, eight additional features were selected that differed sufficiently on their hedonic and utilitarian perceptions, in addition to their relatedness to the base good. For the video game console, the four possible additions were a BluRay/DVD player (goal-congruent, high relatedness), an online humor and entertainment website (goal-congruent, low relatedness), education and learning video games (goal-incongruent, high relatedness), and a scientific calculator (goal-incongruent, low relatedness). For the digital e-book reader, the four additions were the ability to read and highlight textbooks digitally (goal-congruent, high relatedness), handheld tax software (goal-congruent, low relatedness), digital word and logic puzzles (goal-incongruent, high relatedness), and satellite radio (goal-incongruent, low

Table 2-2

Technological Goods Study, Pretest 2 Means

Base: Video Game Console					
Addition	Condition	Hed/Util*	Hedonic**	Utilitarian**	Relatedness**
BluRay/DVD player	(goal-congruent, high relatedness)	4.11	5.49	5.27	5.68
Online humor and entertainment website	(goal-congruent, low relatedness)	4.91	5.53	3.72	2.80
Education and learning video games	(goal-incongruent, high relatedness)	3.30	3.82	5.22	4.96
Scientific calculator	(goal-incongruent, low relatedness)	2.21	2.85	6.42	1.49
Base: E-book Reader					
Addition	Condition	Hed/Util	Hedonic	Utilitarian	Relatedness
Read and highlight digital textbooks	(goal-congruent, high relatedness)	3.13	3.57	5.32	6.39
Handheld tax software	(goal-congruent, low relatedness)	3.87	4.77	5.02	5.93
Digital word and logic puzzles	(goal-incongruent, high relatedness)	4.12	4.72	4.47	5.23
Satellite radio	(goal-incongruent, low relatedness)	4.41	5.38	4.57	3.20
Relevant Comparison *p* -values					
Contrast		Hed/Util	Hedonic	Utilitarian	Relatedness
BluRay/DVD player vs. Education and learning video games (Hed, GC vs. GI, HR)		*0.00*	*0.00*	*0.00*	*0.04*
BluRay/DVD player vs. Online humor and entertainment website (Hed, GC, HR vs. LR)		*0.00*	*0.89*	*0.00*	*0.00*
Online humor and entertainment website vs. Scientific calculator (Hed, GC vs. GI, LR)		*0.00*	*0.00*	*0.00*	*0.00*
Education and learning video games vs. Scientific caluclator (Hed, GI, HR vs. LR)		*0.00*	*0.00*	*0.00*	*0.00*
Read and highlight digital textbooks vs. Digital word and logic puzzles (Util, GC vs. GI, HR)		*0.00*	*0.00*	*0.01*	*0.00*
Read and highlight digital textbooks vs. Handheld tax software (Util, GC, HR vs. LR)		*0.00*	*0.00*	*0.33*	*0.22*
Handheld tax software vs. Satellite radio (Util, GC vs. GI, LR)		*0.00*	*0.06*	*0.14*	*0.00*
Digital word and logic puzzles vs. Satellite radio (Util, GI, HR vs. LR)		*0.08*	*0.05*	*0.75*	*0.00*

*Scales rated from 1 (utilitarian) to 7 (hedonic)

**Scales rated from 1 (low) to 7 (high)

relatedness). For means and differences on the selected stimuli, please refer to Table 2-2.

MAIN STUDY

Method

Study design and sample. This study was a 2 (convergent good base: hedonic or utilitarian) by 2 (addition: hedonic or utilitarian) by 2 (addition: related or unrelated) between-subjects design, and these factors were manipulated by presenting subjects with advertisements for eight different convergent goods based on the results from the pretests.

Participants were 778 college students (62.2% male) from a major southwestern university, ranging from 18 to 75 years old. The students participated in the survey in exchange for extra course credit. Based on the goods that were being evaluated, students are an acceptable population sample as most college students have had experience purchasing and using both video game consoles and e-book readers.

Procedure. Participants were randomly assigned to one of the eight conditions, and first asked to look at an advertisement for the focal good, with the instructions to read the entire ad carefully. The advertisement included a picture of the base good (either a video game console or an e-book reader) that had the

fictional brand name “e-Tech”, along with a brief description of the base good as well as a few points that specifically addressed the added functionality. Please see Appendix A for pictures of the eight different conditions. The brand name “e-Tech” was chosen in order to control for any previously held beliefs that participants might have about brands currently on the market.

Following the advertisement, the participants then responded to several questions about the convergent good, including how likely participants would be to buy the convergent good, how they believed the addition affected the incremental value of the good, incremental productivity, incremental pleasure, and justification. To conclude, participants gave some demographic information.

Dependent measures. The main dependent variable for this study was likelihood of purchase, which was measured with the item, “Please indicate the probability that you would buy the base product with the added functionality” (eleven-point scale ranging from 0 [no chance] to 1.0 [certain chance]) (Dholakia, Gopinath, Bagozzi & Nataraajan 2006).

Overall incremental value (Gill 2008) was measured with the question, “Overall, how much more (less) valuable is the new convergent product with the added functionality compared to the base product without this ability?” (seven-point scale ranging from 1 [much less valuable] to 7 [much more valuable]).

Other measures. Incremental pleasure was measured with the question, “How much more pleasure would you feel using the convergent product with the

added functionality compared to the base product without this ability?" (seven-point scale ranging from 1 [much less pleasure] to 7 [much more pleasure]), and incremental practicality/productivity with the question, "How much more practical/productive would you feel using the new convergent product with the added functionality compared to the base product without this ability?" (seven-point scale ranging from 1 [much less practical/productive] to 7 [much more practical/productive]).

Additionally, justification was measured with three seven-point Likert-type items (Crohnbach's alpha = .90); specifically, "The added functionality would provide me with a satisfactory reason to purchase the convergent product.", "The added functionality would give me an excuse to buy the convergent product.", and "The added functionality would help me to justify the purchase of the convergent product." (all scales ranged from 1 [strongly disagree] to 7 [strongly agree]).

Please see Appendix B for a reproduction of the entire survey used in this study.

Results

An ANOVA was conducted to assess the effect of convergent good base type, addition type, and addition relatedness on likelihood of purchase and incremental value for the convergent good. The results of this ANOVA can be found in Tables 2-3, 2-4, and 2-5.

Table 2-3

Technological Goods Study, Results of ANOVA

Hypothesis	Support	Means							
Main Effects		**Likelihood of Purchase**				**Incremental Value**			
		Hedonic Base		Utilitarian Base		Hedonic Base		Utilitarian Base	
H1: Consumers will perceive a more positive incremental value for and be more likely to purchase a convergent product with a utilitarian base with any type of addition than a convergent product with a hedonic base with any type of addition.	Yes	0.23		0.28*		4.45		4.78**	
		Goal-Congruent		Goal-Incongruent		Goal-Congruent		Goal-Incongruent	
H2: Consumers will perceive a more positive incremental value for and be more likely to purchase any convergent product with congruent additions than for a convergent product with incongruent additions.	Yes	0.31		0.20***		4.86		4.37***	
		Related		Unrelated		Related		Unrelated	
H4: Consumers will perceive a more positive incremental value for and be more likely to purchase convergent products with related additions than for convergent products with unrelated additions.	Yes	0.36		.15***		4.89		4.34***	
Two-Way Interaction		**Likelihood of Purchase**				**Incremental Value***			
		Hedonic Base		Utilitarian Base		Hedonic Base		Utilitarian Base	
		Congruent	Incongruent	Congruent	Incongruent	Congruent	Incongruent	Congruent	Incongruent
H3: Type of convergent product base will moderate the relationship between goal-congruence and incremental value and likelihood of purchase, such that the negative contrast effect of goal incongruence will present for convergent products with a hedonic base but not convergent products with a utilitarian base.	Partial	0.29	0.17***	0.33	0.23**	4.82	4.07***	4.66	4.90***
Three-Way Interaction		**Likelihood of Purchase****				**Incremental Value****			
		Hedonic Base		Utilitarian Base***		Hedonic Base		Utilitarian Base***	
		Related	Unrelated	Congruent	Incongruent	Related	Unrelated	Congruent	Incongruent
H5: For convergent products with a hedonic base, perceived incremental value and likelihood of purchase will be higher for related additions than for unrelated additions, with no interaction effects.	Yes	0.35	.10***			4.87	4.02***		
H6: For convergent products with a utilitarian base, perceived incremental value and likelihood of purchase will be higher only for additions that are related and goal-congruent.	Yes			Related	Unrelatec	Related	Unrelatec	Related	Unrelated	Related	Unrelated
				0.50	0.17***	0.25***	0.21	5.35	4.45**	4.45**	4.87

*$p < .10$

**$p < .05$

***$p < .01$

Table 2-4

Technological Goods Study, Results of Analysis of Variance for Likelihood of Purchase

Source	Type III Sum of Squares	df	Mean Square	F	*p*
Corrected Model	14.426	7	2.061	11.785	.000
Intercept	50.564	1	50.564	289.163	.000
Base	0.586	1	0.586	3.353	.067
Congruent	2.478	1	2.478	14.171	.000
Related	8.922	1	8.922	51.024	.000
Base * Congruent	0.018	1	0.018	0.102	.750
Base * Related	0.198	1	0.198	1.133	.287
Congruent * Related	1.428	1	1.428	8.164	.004
Base * Congruent * Related	0.784	1	0.784	4.481	.035
Error	134.645	770	0.175		
Total	201	778			
Corrected Total	149.071	777			

Table 2-5

Technological Goods Study, Results of Analysis of Variance for Incremental Value

Source	Type III Sum of Squares	df	Mean Square	F	*p*
Corrected Model	197.349	7	28.193	7.135	.000
Intercept	16516.091	1	16516.091	4180.100	.000
Base	21.715	1	21.715	5.496	.019
Congruent	46.924	1	46.924	11.876	.001
Related	58.051	1	58.051	14.692	.000
Base * Congruent	12.366	1	12.366	3.130	.077
Base * Related	18.25	1	18.250	4.619	.032
Congruent * Related	21.452	1	21.452	5.429	.020
Base * Congruent * Related	20.061	1	20.061	5.077	.025
Error	3038.414	769	3.951		
Total	19869	777			
Corrected Total	3235.763	776			

Main effects. H_1 predicted a main effect of convergent good base type on likelihood of purchase and perceived incremental value, positing that these two variables would be higher for convergent goods with a utilitarian base than for convergent goods with a hedonic base. Overall, results support H_1 for both

likelihood of purchase and perceived incremental value; likelihood of purchase is higher for convergent goods with a utilitarian base than for convergent goods with a hedonic base ($M_{hedonic}$ = .23 vs. $M_{utilitarian}$ = .28; F (1, 770) = 3.35, p = .07), and incremental value is also higher for convergent goods with a utilitarian base than for convergent goods with a hedonic base ($M_{hedonic}$ = 4.45 vs. $M_{utilitarian}$ = 4.78; F (1, 769) = 5.50, p = .02).

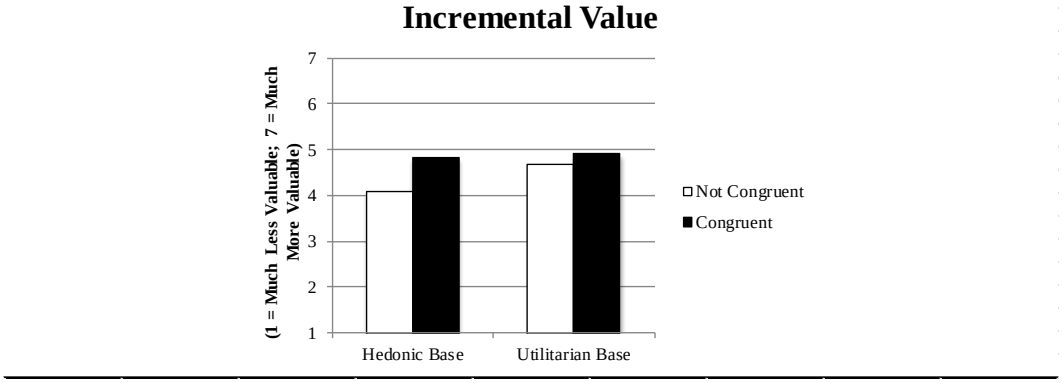
H_2 predicted a positive effect for goal-congruence; suggesting that goods with high goal-congruence will have a higher likelihood of purchase and incremental value than goods with low goal-congruence. Results support H_2 for both likelihood of purchase ($M_{congruent}$ = .31 vs. $M_{incongruent}$ = .20;F (1, 770) = 14.17, p = .00) and incremental value ($M_{congruent}$ = 4.86 vs. $M_{incongruent}$ = 4.37; F (1, 769) = 11.88, p = .00).

H_4 posited a positive effect of relatedness, which is also supported by the results. Both likelihood of purchase ($M_{related}$ = .36 vs. $M_{unrelated}$ = .15; F (1, 770) = 51.02, p = .00) and perceived incremental value ($M_{related}$ = 4.89 vs. $M_{unrelated}$ = 4.34; F (1, 769) = 14.69, p = .00) are higher for related additions than for unrelated additions.

Convergent good base type by goal-congruence interaction. H_3 predicted a two-way interaction between convergent good base type and goal-congruence, such that there will be a stronger negative effect of goal-incongruence for convergent goods with a hedonic base, than for convergent goods with a utilitarian base. The two way interaction between convergent good base type and

goal-congruence is marginally significant for incremental value ($F(1, 769) = 3.13$, $p = .08$) but not for likelihood of purchase ($F(1, 770) = .10$, $p = .75$). Looking at the individual contrasts, for a convergent good with a hedonic base, goal-incongruent additions have a lower perceived incremental value than goal-congruent additions ($M_{hedonic\text{-}congruent} = 4.82$ vs. $M_{hedonic\text{-}incongruent} = 4.07$; $F(1, 769) = 13.61$, $p = .00$). For a convergent good with a utilitarian base, goal-incongruent additions also have a lower perceived incremental value than goal-congruent additions ($M_{utilitarian\text{-}congruent} = 4.66$ vs. $M_{utilitarian\text{-}incongruent} = 4.90$; $F(1, 769) = 8.37$, $p = .00$), though the effect is not as strong as with convergent goods with a hedonic base. Therefore, H_3 is partially supported by the data. The results of this two-way interaction are presented in Figure 2-1.

Figure 2-1
Technological Gods Study, Convergent Good Base Type by Goal-Congruence Interaction on Incremental Value



Convergent good base type by goal-congruence by relatedness interaction. H_5 and H_6 predict a three-way interaction between convergent good

base type, goal-congruence, and relatedness. The three-way interaction is significant for both likelihood of purchase ($F(1, 770) = 4.48$, $p = .04$) and incremental value ($F(1, 769) = 5.08$, $p = .03$). The results of this three-way interaction can be found in Figure 2-2.

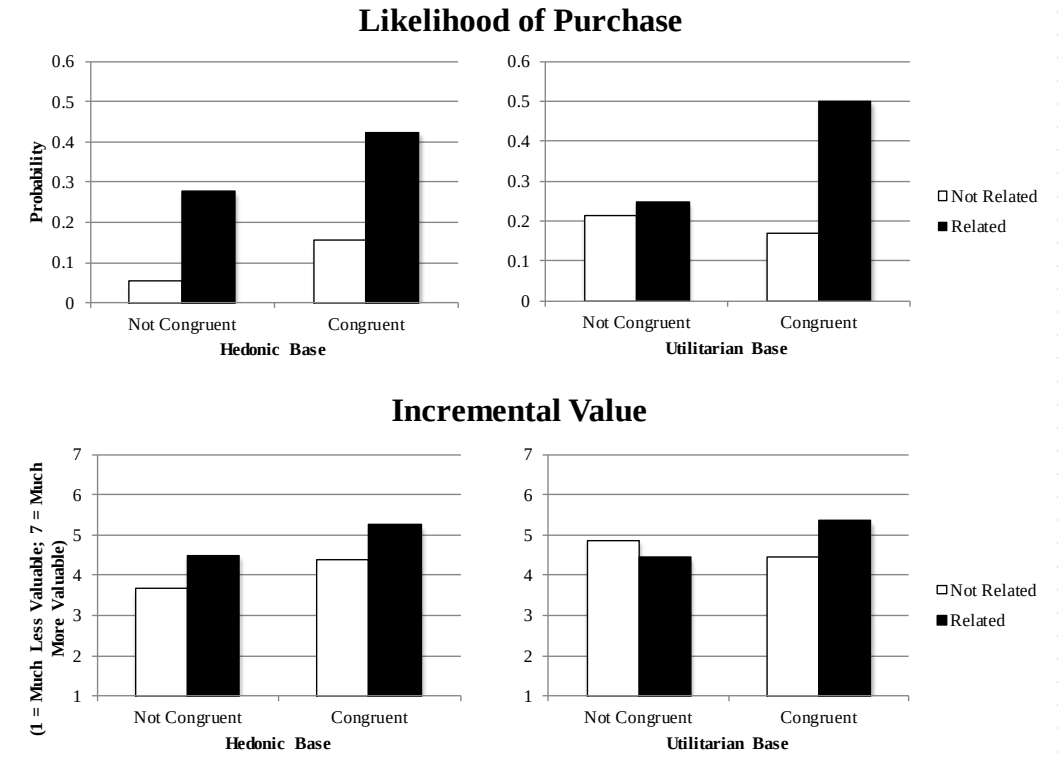
H_5 suggested that relatedness and goal-congruence would have a positive impact on likelihood of purchase and incremental value for convergent goods with a hedonic base with no interaction present. For convergent goods with a hedonic base, the two-way interaction is not significant ($F(1, 386) = .30$, $p = .59$), but the main effects of goal-congruence and relatedness are. Additions that are related have a higher likelihood of purchase ($M_{hed\text{-}related} = .351$ vs. $M_{hed\text{-}unrelated} = .104$; $F(1,386) = 36.57$, $p = .00$) and a higher perceived incremental value ($M_{hed\text{-}related} = 4.87$ vs. $M_{hed\text{-}unrelated} = 4.02$; $F(1,385) = 37.44$, $p = .00$) than additions that are unrelated for convergent goods with a hedonic base. These findings support H_5.

H_6 posits a two-way interaction between goal-congruence and relatedness for convergent goods with a utilitarian base. It was suggested that convergent goods with a utilitarian base that have additions that are goal-congruent and related would have a higher likelihood of purchase and incremental value than all other conditions. The interaction is significant and has the predicted shape for likelihood of purchase ($F(1, 384) = 11.46$, $p = .00$) and incremental value ($F(1, 384) = 6.89$, $p = .01$), supporting H_6. Likelihood of purchase and incremental value are higher for convergent goods with a utilitarian base with additions that are both goal-congruent and related compared to additions that are goal-congruent

but unrelated (Likelihood of purchase: $M_{util\text{-}congruent\text{-}related}$ = .50 vs. $M_{util\text{-}congruent\text{-}unrelated}$ = .17; F (2, 384) = 28.14; *p* = .00. Incremental Value: $M_{util\text{-}congruent\text{-}related}$ = 5.35 vs. $M_{util\text{-}congruent\text{-}unrelated}$ = 4.45; F (2, 384) = 6.41; *p* = .01) or additions that are related but goal-incongruent (Likelihood of purchase: $M_{util\text{-}related\text{-}congruent}$ = .50 vs. $M_{util\text{-}related\text{-}incongruent}$ = .25; F (2, 384) = 16.50; *p* .00. Incremental Value: $M_{util\text{-}related\text{-}congruent}$ = 5.35 vs. $M_{util\text{-}related\text{-}incongruent}$ = 4.45; F (2, 384) = 6.46; *p* .01). None of the other conditions is significantly different for likelihood of purchase or perceived incremental value.

Figure 2-2

Technological Goods Study, Convergent Good Base Type by Goal-Congruence by Relatedness Interaction on Likelihood of Purchase and Incremental Value



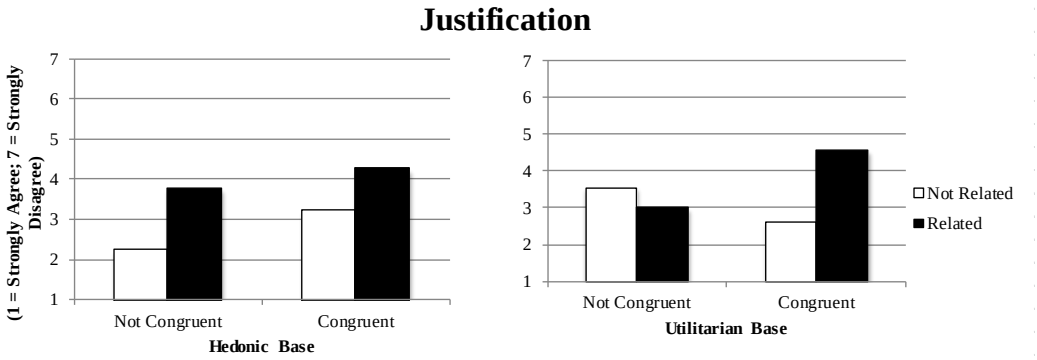
Mediation: Justification. There was a significant three-way interaction for convergent good base type, goal-congruence, and relatedness on justification ($F(1, 769) = 40.29$, $p = .00$), which is depicted in Figure 2-3 below. For convergent goods with a hedonic base, there is no interaction ($p = .14$) between goal-congruence and relatedness; rather, they each exert a main positive impact on justification. Goal-congruent additions were rated more highly on justification than goal-incongruent additions ($M_{hed\text{-}congruent} = 3.75$ vs. $M_{hed\text{-}incongruent} = 3.01$; $F(1, 385) = 19.46$, $p = .00$), and related additions were also higher on justification than unrelated additions ($M_{hed\text{-}related} = 4.024$ vs. $M_{hed\text{-}unrelated} = 2.73$; $F(1, 385) = 60.38$, $p = .00$).

For convergent goods with a utilitarian base, there is a significant interaction between goal-congruence and relatedness ($F(1, 384) = 55.66$, $p = .00$). Goal-congruent and related additions will allow the addition to justify the convergent good more than incongruent ($M_{util\text{-}congruent\text{-}related} = 4.59$ vs. $M_{util\text{-}incongruent\text{-}related} = 3.02$; $F(1, 384) = 44.29$, $p = .00$) or unrelated ($M_{util\text{-}congruent\text{-}related} = 4.59$ vs. $M_{util\text{-}congruent\text{-}unrelated} = 2.63$; $F(1, 384) = 67.98$, $p = .00$) additions.

H_7 predicted that justification mediates the three-way interaction between convergent good base type, goal-congruence, and relatedness and likelihood of purchase and incremental value. This interaction was non-significant after controlling for justification for likelihood of purchase ($p = .65$) and perceived incremental value ($p = .34$) using the Sobel test (Preacher & Hayes 2004). The Sobel test for mediation is significant for both likelihood of purchase ($p = .00$)

and incremental value (p = .00), which indicates that justification does in fact mediate the relationship. Thus, H_7 is supported.

Figure 2-3
Technological Goods Study, Convergent Good Base Type by Goal-Congruence by Relatedness Interaction on Justification

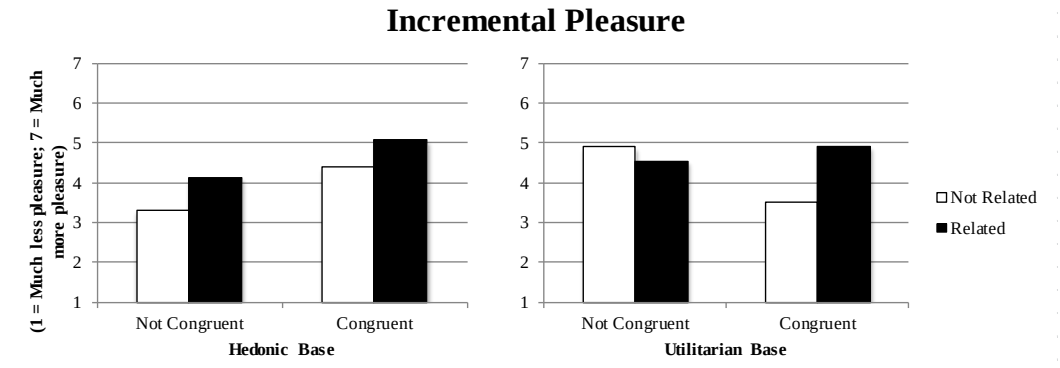


Mediation: Pleasure. Though not formally hypothesized, it was suggested that anticipated incremental pleasure might explain some of the results that were found. There was indeed a significant three-way convergent good base type by goal-congruence by relatedness interaction for anticipated incremental pleasure, the shape of which is consistent with Gill's (2008) findings ($F(1, 769) = 22.52$, p = .00). This interaction is displayed in Figure 2-4. For convergent goods with a hedonic base, both goal-congruence ($M_{hed\text{-}congruent} = 4.72$ vs. $M_{hed\text{-}incongruent} = 3.71$; $F(1, 385) = 51.96$, p = .00) and relatedness ($M_{related} = 4.59$ vs. $M_{unrelated} = 3.84$; $F(1, 385) = 28.58$, p = .00) exert a positive main effect on anticipated pleasure, with no interaction (p = .57).

For convergent goods with a utilitarian base, there is an interaction for goal-congruence and relatedness ($F(1, 384) = 36.89$; $p = .00$), such that all conditions have a high-anticipated pleasure except for the goal-congruent, unrelated condition. This condition is significantly lower than all others ($M_{util\text{-}congruent\text{-}related} = 4.92$ vs. $M_{util\text{-}congruent\text{-}unrelated} = 3.51$; $F(1, 384) = 47.61$, $p = .00$. $M_{util\text{-}incongruent\text{-}unrelated} = 4.89$ vs. $M_{util\text{-}congruent\text{-}unrelated} = 3.51$; $F(1, 384) = 45.57$, $p = .00$).

The three-way interaction for anticipated incremental pleasure does not mediate the relationship between convergent good base type, goal-congruence, and relatedness and likelihood of purchase and perceived incremental value. The Sobel test (Preacher & Hayes 2004) for mediation is non-significant for both of these dependent variables (likelihood of purchase: $p = .42$; perceived incremental value: $p = .41$).

Figure 2-4
Technological Goods Study, Convergent Good Base Type by Goal-Congruence by Relatedness Interaction on Anticipated Incremental Pleasure



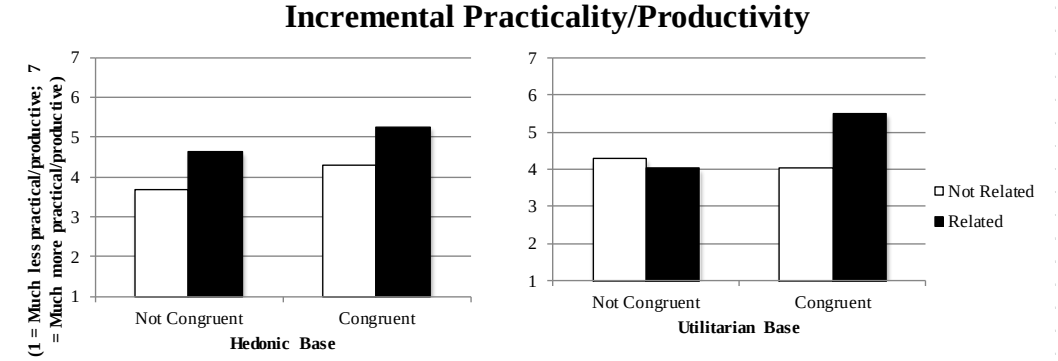
Mediation: Practicality/Productivity. It was also suggested that anticipated incremental practicality or productivity might be the cause of the findings. There was a significant three-way interaction between convergent good base type by goal-congruence by relatedness interaction and anticipated incremental practicality/productivity ($F(1, 769) = 16.56$; $p = .00$), which can be seen in Figure 2-5. For convergent goods with a hedonic base, much like with anticipated incremental pleasure, there are positive main effects for goal-congruence ($M_{hed\text{-}congruent} = 4.78$ vs. $M_{hed\text{-}incongruent} = 4.16$; $F(1, 385) = 18.29$; $p = .00$) and relatedness ($M_{hed\text{-}related} = 4.94$ vs. $M_{hed\text{-}unrelated} = 3.99$; $F(1, 385) = 43.66$; $p = .00$) on anticipated incremental practicality/productivity, with no interaction ($p = .93$).

For convergent goods with a utilitarian base, there is a significant two-way interaction for goal-congruence and relatedness ($F (1, 384) = 32.75$; $p = .00$). The goal-congruent, related condition is significantly higher than all other conditions ($M_{util\text{-}congruent\text{-}related} = 5.50$ vs. $M_{util\text{-}congruent\text{-}unrelated} = 4.03$; $F (1, 384) = 47.31$, $p = .00$. $M_{util\text{-}congruent\text{-}related} = 5.50$ vs. $M_{util\text{-}incongruent\text{-}related} = 4.03$; $F (1, 384) = 47.85$, $p = .00$). The shape of this interaction is very similar to the interactions for likelihood of purchase and incremental value.

In fact, when anticipated incremental practicality/productivity was controlled for, the effect of convergent good base type, goal-congruence, and relatedness on likelihood of purchase ($p = .32$) and perceived incremental value ($p = .091$) became non-significant. The Sobel test for mediation is significant for both likelihood of purchase ($p = .00$) and incremental value ($p = .00$), which

suggests that incremental practicality/productivity mediates the relationship. The finding that incremental practicality/productivity, but not incremental pleasure, mediates the relationship reinforces the notion that consumers need to justify their purchases, being influenced by practical concerns more so than a desire for pleasure.

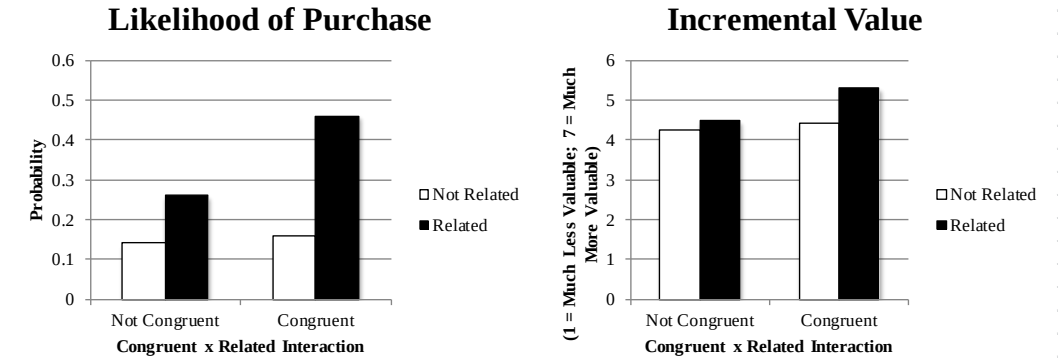
Figure 2-5
Technological Goods Study, Convergent Good Base Type by Goal-Congruence by Relatedness Interaction on Anticipated Incremental Practicality/Productivity



Other findings. Though they were not formally hypothesized, there were significant two-way interactions for goal-congruence and relatedness as well as for convergent good base type and relatedness. Goal-congruence and relatedness interact in such a way that goal-congruent and related additions have a higher likelihood of purchase ($M_{congruent\text{-}related}$ = .46 vs. $M_{congruent\text{-}unrelated}$ = .16; F(1, 770) = 50.64, p = .00. $M_{congruent\text{-}related}$ = .46 vs. $M_{incongruent\text{-}related}$ = .26; F(1, 770) = 22.32, p = .00) and incremental value ($M_{congruent\text{-}related}$ = 5.30 vs. $M_{congruent\text{-}unrelated}$ = 4.42; F(1, 769) = 19.21, p = .00. $M_{congruent\text{-}related}$ = 5.30 vs $M_{incongruent\text{-}related}$ = 4.47; F(1,

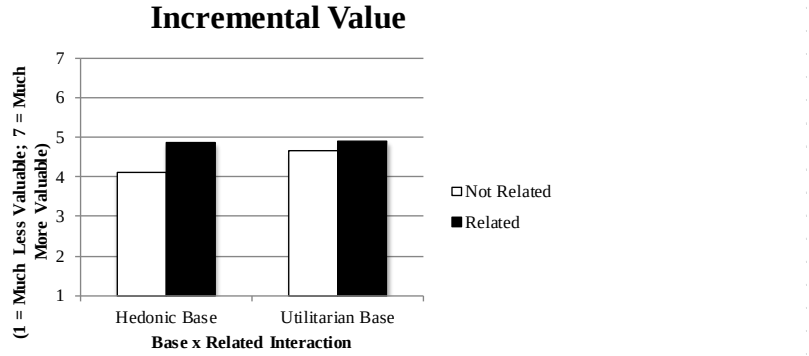
769) = 17.01, p = .00) than additions that are goal-incongruent or unrelated (see Figure 2-6). These findings suggest that overall, buyers find goal-congruent, related additions to be the most favorable.

Figure 2-6
Technological Goods Study, Goal-Congruence by Relatedness Interaction on Likelihood of Purchase and Incremental Value



The two-way interaction between convergent good base type and relatedness is very similar in shape to the interaction between convergent good base type and goal-congruence (see Figure 2-7). The interaction is significant for incremental value (F(1, 769) = 4.62, p = .03), but not for likelihood of purchase (p = .29). Unrelated additions to a convergent good with a hedonic base are rated as having a lower incremental value than all other conditions ($M_{hed\text{-}unrelated}$ = 4.02 vs. $M_{hed\text{-}related}$ = 4.87; F(1, 769) = 17.90, p = .00. $M_{hed\text{-}unrelated}$ = 4.02 vs. $M_{util\text{-}unrelated}$ = 4.66; F(1, 769) = 9.91, p = .00). This interaction suggests that overall, relatedness is more important for convergent goods with a hedonic base and not as important for convergent goods with a utilitarian base.

Figure 2-7
Technological Goods Study, Convergent Good Base Type by Relatedness Interaction on Incremental Value



DISCUSSION

Theoretical Contributions

This study has contributed to marketing theory in several ways. First, it extends the literature on convergent products, showing the effects of specific types of additions on likelihood of purchase and incremental value for convergent goods. In general, the likelihood of purchase and incremental value are higher for convergent goods with a utilitarian base. Also, additions that are both goal-congruent and related are viewed most favorably for convergent goods with either a hedonic or utilitarian base.

Goal-congruence is especially important for convergent goods with a hedonic base, as utilitarian additions are seen to dilute the pleasure to be gleaned from the good, rather than enhancing productivity. This is likely the case because

consumers approach hedonic technological goods with the explicit purpose of fun and enjoyment; utilitarian additions detract from that. However, relatedness can have a mitigating effect on the negative impact of goal-incongruence for convergent goods with a hedonic base. When the addition is related and makes sense to users, it is seen with a friendlier eye. In fact, goal-incongruent additions that are related can actually be used to justify the purchase of the convergent good.

Goal-congruence is less important for convergent goods with a utilitarian base in terms of incremental value; generally additions are all seen to be favorable to some extent. However, in terms of likelihood of purchase, additions that are both goal-congruent and related are clearly the most preferred.

The concept of addition relatedness specifically extends prior research in the convergent products field, representing an important boundary condition to Gill's (2008) findings. Additionally, the idea that product additions can help consumers to justify the purchase of convergent products (even those that are primarily hedonic) is new. Previous research has looked at justification effects between hedonic and utilitarian products (Okada 2005), but not at hedonic and utilitarian features within the same product. Finally, the idea that a hedonic addition can actually yield utilitarian value because of economy or convenience has not, to the author's knowledge, been explicitly tested in prior research. Coupled with the justification effects that were found, this is a key reason why consumers might purchase and use bundled hedonic products.

Managerial Insights

Managers that are seeking to add capabilities to primarily hedonic goods would do best to stick with additions that are both goal-congruent and related. These types of additions do not negatively impact the anticipated pleasure from the good, but still allow consumers to justify the purchase by giving them "more bang for the buck". Because utilitarian value is easier to justify, managers should focus on not only the additional functionality, but also on the convenience and practicality of having the two capabilities bundled into one convergent good when presenting them to customers.

Managers that are seeking to add capabilities to primarily utilitarian goods should note that when solely looking at likelihood of purchase, additions that are both goal-congruent and relatedness are the best. However, in today's market, often makers of technology will continue to release updates to that technology to its current user base. These updates can be used to add new capabilities and functionalities to goods that customers already own. In that respect, the positive incremental value from goal-incongruent additions is not to be ignored. It is simply important to note that although customers like goal-incongruent additions and believe that they add value, they are not willing to pay for them up-front. Therefore, the post-purchase addition of goal-incongruent product additions can be a way to surprise and delight customers that might positively impact brand loyalty and repurchase intentions (Chitturi, Raghunathan &Mahajan 2008).

Conclusion

The majority of research in the convergent products and hedonic versus utilitarian products realms has focused on tangible goods, and this study has extended these streams of research in several ways; however, we might see some differences for less tangible services. Particularly, services are more difficult to evaluate a priori, and service additions might not only be seen for the benefits they explicitly provide to the service, but also as indicators of overall quality. Therefore, an important next step is to test these relationships in a services setting.

In Chapter 3 of this dissertation, these same relationships are tested in the online services context.

CHAPTER 3

STUDY 2: HEDONIC AND UTILITARIAN FUNCTIONALITIES IN FREE ONLINE SERVICES

The first study in this research focused on technological goods, whereas this study will focus on free online services. The first study in this work examined adding capabilities to convergent goods, specifically a video game console and an e-book reader. The findings were that overall, additions were more positively received for convergent goods with a utilitarian base than for convergent goods with a hedonic base, and generally, consumers preferred additions that were both goal-congruent and related. However, goal-congruence was more important for convergent goods with a hedonic base than for convergent goods with a utilitarian base. Additionally, adding functionalities to convergent goods could help consumers to justify the purchase of the good, yielding higher incremental value from the addition.

The finding that an added functionality can help to justify a purchase is interesting, but there might be different expectations when the product in question is a free online service. When there is not a large monetary price to consider, the justification effects that were found in the first study might go away. On the other hand, there may be a nonmonetary cost associated with the service that could keep the justification effects in place, such as the time spent using the service.

Furthermore, though the service is free, consumers will perceive a higher level of uncertainty associated with the use of the service. This is true because of

the intangibility of the service and the absence of a price to use as a proxy to judge quality. As such, the additions themselves might be used as information about the quality of the online service, which could impact incremental value perceptions.

This study looks at online convergent services, which are a combination of services that offer benefits from more than one service category that can be accessed through a single point of contact online. Many existing websites offer multiple services; for example, a website for a computer manufacturer might offer customer service, repair service, and valuable information, such as content and news about the computer industry. In fact, many firms are attempting to engage more with their customers by offering value online, either through their own websites or through Facebook and Twitter. Therefore, understanding how consumers react to these offerings is of particular interest to researchers and practitioners alike.

The primary research questions for this study are:

1. How do online convergent services with a hedonic versus utilitarian base differ in their value?
2. How does the addition of certain types of functionalities (i.e. goal-congruent versus incongruent, related versus unrelated) affect their value?
3. Why do different types of additions have dissimilar incremental values to the convergent services; is it because of perceived risk?

4. Do the justification effects found in the technological goods study still hold?

This research contributes to existing product development literature in several ways. First, it extends the first study in this research by showing some important differences in the effects of product additions on incremental value between goods and services, specifically due to the intangibility of the services and its effect on perceived risk. Second, this study adds to the convergent products literature and the hedonic and utilitarian products literature by defining some boundary conditions for the findings of previous researchers in this area, specifically showing how perceived risk can supersede other considerations, namely goal-congruence (Gill 2008) and assimilation and contrast effects (Ziamou & Ratneshwar 2003), when consumers are evaluating a service. Furthermore, to the author's knowledge, this is the first study to examine convergent products in a services context, showing how fundamental differences between goods and services can bring about very different results from previous findings.

It is especially important to understand convergent services in an online context, where consumers have a variety of websites available to them at their fingertips. The benefits of convenience from convergent products become less important, and the actual value of the addition and the synergy with the base product become more important. Having a clear understanding of how online convergent service additions are interpreted and valued is of extreme importance

to managers as we becoming an increasingly connected and internet-dependent society.

The rest of this chapter is laid out as follows: first, there is a discussion on the effects of intangibility and price on service quality and perceived risk. This discussion also includes the impact of perceived risk on behavioral intentions. The discussion then explores how consumers might view hedonic and utilitarian services differently in terms of their riskiness, and discusses how adding either goal-congruent or -incongruent, and related or unrelated, functionalities might impact this level of riskiness as well as consumers' evaluation of the service. Following this, there is a description of the experiment conducted to test the predictions made herein. The results of the experiment are reported, and the differences found between this study and the previous technological goods study are discussed. The chapter concludes by discussing the implications of this research for academic theory as well as for managers.

CONCEPTUAL DEVELOPMENT

Intangibility

There are four basic characteristics that set services apart from goods in the literature; they are intangibility, inseparability of production and consumption, heterogeneity, and perishability (Zeithaml, Parasuraman & Berry 1985). Of most interest in the present research is the intangibility aspect of services, as

researchers have long recognized that the degree of intangibility is an important distinguishing factor between goods and services (Zeithaml & Bitner 1996). For example, a taxi ride is a service that takes you from one place to another. Once the ride is over, there is no tangible evidence of the purchase, only the knowledge that the taxi ride has taken place.

However, tangibility falls along a continuum, with few goods or services being totally tangible or intangible (Shostack 1977; Wolak, Kalafatis & Harris 1998). For example, a restaurant meal comprises both tangible (food) and intangible (cooking and serving) elements. In general, however, goods tend to be more tangible and services more intangible. Bebko suggests that it is this intangibility that is the driver of service inseparability, heterogeneity, and perishability (2000).

Another study suggests that intangibility is a three-dimensional construct consisting of mental intangibility, physical intangibility, and generality (Laroche, Bergeron & Goutaland 2001). Mental intangibility refers to the mental representation of a product in a consumer's mind, physical intangibility refers to services that cannot be experienced through any of the five senses, and generality refers to how specifically a consumer perceives a product.

Because of the intangibility aspect of services, customers find them more difficult to evaluate than goods, particularly prior to purchase or adoption (Hartman & Lindgren 1993); therefore, customers look for physical evidence, or the environment in which and tools by which the service is performed, to give them an idea of the level of quality to expect in a service (Parasuraman, Zeithaml

& Berry 1985; Zeithaml & Bitner 1996). In fact, the more tangible elements there are, the more important these elements become in the customer's evaluation of service quality (Santos 2002). In the case of a free online service, the website will be the "environment" that consumers use to evaluate the service. Adding features and capabilities to the website not only impacts its functionality, but also the perceived environment. A large amount of functions could make the website look cluttered or messy, which could bring the service quality into question.

Several researchers have noted that intangibility is positively related to risk (Murray & Schlacter 1990; Mitchell & Greatorex 1993); it is the lack of information available to consumers that increases this risk (Bebko 2000). Laroche, McDougal, Bergeron, and Yang further refined this finding by showing that it is mental intangibility and generality (apart from physical intangibility) that contribute to this heightened sense of risk (2004).

Price

Because of the intangibility of services, customers often use price, in addition to the physical evidence, as an indicator for quality (Wolinsky 1983; Rushton & Carson 1989). In fact, in a study that looked at price, brand name, physical appearance, and retailer reputation as signals of product quality across thirty-eight different cultures, price ranked second most important under brand name (Dawar & Parker 1994). Price is a factor that the firm controls that can

serve as a source of information to consumers, on which they base their expectations of quality (Zeithaml, Berry & Parasuraman 1993).

Customer value is a function of price perceptions as well as quality perceptions (Zeithaml 1988), and customer assessments of value ultimately inform their behavior (Bolton & Drew 1991). In services, price usually has a stronger effect on perceived value than perceived quality does, because price is easy to observe and compare, whereas quality is much more difficult for customers to assess (Varki & Colgate 2001). However, when an online service is free (that is, there is no price to use as a reference point), customers must look for indicators to give them an idea of the quality of the service in order to assess the value.

Performance Risk

Researchers have identified several constructs that affect an individual's perceived risk associated with consumption, such as uncertainty (Mitchell & Greatorex 1993), trust (Pavlou 2003), and source credibility (Grewal, Gotlieb & Marmorstein 1994). This is of particular concern in services; as products become more and more intangible, consumers' perceived risk and expected variability in the product increases (Murray & Schlacter 1990). This heightened sense of risk is due to the uncertainty that the customer feels when attempting to evaluate the service a priori (Mitchell & Greatorex 1993).

Risk refers to a person's uncertainty about the outcome or consequences of a decision (Bauer 1960; Taylor 1974), and consumers experience it repeatedly when making purchases. Risk involves uncertainty about what the consumer actually acquires, but it also includes how or where the product is acquired (Hisrich, Dornoff & Kernan 1972). The amount of risk that a consumer perceives is a function of the amount at stake in the decision and the subjective certainty that the consumer "will win or lose all or some of the amount at stake" (Cox & Rich 1964, p. 33). Perceived risk is a major determinant of consumer behavior; that is, as consumers' perceived risk increases, their likelihood of making a purchase decreases. Furthermore, the more decisions a consumer has to make in a purchase, the greater the uncertainty and the greater the perceived risk (Cox & Rich 1964).

One of the most common ways that consumers use to reduce risk is to seek out additional information (Cox & Rich 1964). They also spend more time deliberating before the purchase to reduce risk (Sheth & Venkatesan 1968). Over time, however, consumers show increased loyalty to a particular brand, and decrease their information seeking and deliberation. Past research has addressed the role of risk in Internet marketing, but it focuses mostly on consumers who go to the Internet to shop for products (Tan 1999; Forsythe & Shi 2003; Pavlou 2003), as opposed to this research, which looks at online services themselves as a product.

Types of risk. Researchers have identified six specific types of risk that can influence consumer behavior; these are financial, product performance, social, psychological, physical, and time/convenience risk (e.g. Jacoby & Kaplan 1972; Peter & Tarpey 1975; Garner 1986; Mitchell 1992; Schiffman & Kanuk 1994). Price has a marked effect on customers' perceived financial risk and performance risk (Shimp & Bearden 1982), where financial risk refers to monetary loss and product performance risk refers to whether the product satisfies the customer's needs. In general, as price increases, financial risk also increases, but performance risk decreases; when the price for a product is higher, the customer is risking a higher amount of money if the product does not work as expected. But, generally consumers perceive higher priced products to have higher quality, thus reducing the performance risk in the mind of the customer. However, the credibility of the source moderates the relationship between price and performance risk (Grewal, Gotlieb & Marmorstein 1994); when the source is more credible, the effect of price on performance risk diminishes. Typically, performance risk cannot be reduced through product warranties or other guarantees; it can only be reduced through experience with the product or through positive word-of-mouth about the product (Shimp & Bearden 1982).

Risk across different types of services. When consumers are choosing whether to use a free online service, such as a social networking website, the financial risk associated with the price of the service is eliminated, but financial risk may still be present. For example, if the customer is using a banking site,

there is the risk of identity theft that can have serious financial consequences. Additionally, using a financial advice website, even when the user provides no personal information, can be financially risky if the advice is unsound.

In the literature there exists a classification scheme for products that divides them into search, experience (Nelson 1970), and credence products (Darby & Karni 1973), and this classification has since been applied to services (Zeithaml 1981; Ostrom & Iacobucci 1995). Search services are those that the customer can evaluate beforehand, such as a checking account where information is readily available, such as fees, interest rates, and bank policies. Experience services are those that can only be evaluated after they have been experienced, such as a haircut. Finally, credence services are those that, even afterward, they cannot be easily evaluated, such as a car repair. To the consumer, perceived risk increases on a continuum as services move from search to experience to credence products (Mitra, Reiss & Capella 1999). As we move across the spectrum from search services to credence services, performance risk, specifically, becomes greater as the services become more and more difficult for consumers to evaluate (Ostrom & Iacobucci 1995). Consumers are not confident in their own ability to judge how "good" the service is (Murray & Schlacter 1990).

Hedonic and Utilitarian Online Convergent Services and Risk

In addition to the additional perceived risk due to the intangibility of the online service, it is likely that the fact that it is a convergent service will also

make the perceived risk more salient because of quality concerns. Historically, customers have shied away from using all-in-one, or converged, products, because they tended to have low levels of quality (Crawford 2004). For example, over the years, affordable versions of AT&T's videophones (the convergence of telephone and picture technologies) had extremely poor quality, whereas high quality versions were way out of consumers' price range (Schnaars & Wymbs 2004). Therefore, most consumers continued to use ordinary telephones, preferring low cost, high quality dedicated products.

Indeed, at low levels of technological performance (low quality), consumers prefer converged products, but at high levels of performance (high quality), they prefer dedicated products (Han, Chung & Sohn 2009). The authors suggest that the reason for this is because consumers tend to discount perceived performance when they have multiple goals associated with a single piece of technology. When assessing a service's quality a priori, we might expect that in the absence of other information, customers might use the fact that a service converged as information about the quality of the service. In that case, consumers might perceive converged services to have lower quality, which would make the performance risk associated with those services to be more salient. Because this risk is more salient, additional product features, such as whether the convergent service base is hedonic or utilitarian, might have an impact on the amount of overall risk that the buyer perceives.

As noted in Chapter 2, hedonic products are those that are experiential and affective, whereas utilitarian products are functional and practical. Several

different research studies suggest that consumers might be more tolerant of risk when purchasing hedonic products, but less tolerant of risk when purchasing utilitarian products, and that utilitarian products are perceived as being riskier than hedonic products. For example, Okada and Hoch found that people are risk-averse when paying with money, but risk-seeking when paying with time (2004). Furthermore, Okada (2005) also found that people are willing to pay more in terms of time for hedonic products, but will pay more money for utilitarian products. Van der Heijden, Ogertschnig & van der Gaast found that perceived risk has a significant negative effect on utilitarian value, but not on hedonic value (2005). Additionally, Rottenstreich and Hsee found that people prefer low-affect (i.e. utilitarian) prizes over high-affect (i.e. hedonic) prizes in low risk gambles, but that high-affect prizes are preferred over low-affect prizes in high risk gambles (2001). Taken together, these studies imply that consumers are more averse to risk with utilitarian goods and services than with hedonic goods and services.

Recall that there are two components of risk: the amount of "chance" involved and the importance of what is at stake (Cox & Rich 1964). Where utilitarian goals are of a must-meet nature, hedonic goals are of an aspire-to-meet nature (Higgins 1997; Chernev 2004; Kivetz & Simonson 2002). For example, getting your car repaired (a utilitarian service) is necessary, because you need your car to go to work and make a living. On the other hand, getting your car detailed and waxed (a hedonic service) is a luxury; it is nice to have a clean, shiny car, but it is not necessary for day-to-day life. Because of this, utilitarian services

are more important to a consumer's well-being than hedonic services. As such, even if the chance of loss is the same across the two service types, consumers will still see the utilitarian services to be more risky because of their greater importance.

H_1: Consumers will perceive online convergent services with a utilitarian base as having higher performance risk than online convergent services with a hedonic base.

Websites can receive many one-time visitors, but only retain regular traffic if they provide real value to their visitors. Because of this, the key outcome that is focused on is the consumer's perceived incremental value from these online convergent services, as opposed to likelihood of use or likelihood of adoption. Specifically, how do the differences in perceived risk discussed above influence consumers' perceived value of the offering? Recall that as consumers' perceptions of risk increase, the likelihood of purchase decreases (Cox & Rich 1964). There should also be a similar effect with perceived value.

Value is a function of quality and price, and the amount of perceived risk for a service might be considered part of the price. Price is comprised of two main components, the objective price and the consumer's perceived nonmonetary price; price is basically whatever the consumer gives up in return for a product (Zeithaml 1988). The nonmonetary price can include anything from search costs, learning costs, or even psychic costs, such as those associated with risk. As the riskiness of a service increases, then its nonmonetary cost also increases, thus

making the service more "expensive" for the buyer, which will decrease its overall value.

H_2: Consumers will perceive a more positive incremental value for online convergent services with a hedonic base with any type of addition than online convergent services with a utilitarian base with any type of addition.

In summary, it is expected that consumers will perceive online convergent services with a utilitarian base to be riskier than online convergent services with a hedonic base, and this increase in perceived risk for utilitarian services will impact perceived incremental value of any type of addition in a negative way. This prediction is the opposite from what was found for technological goods in Chapter 2, and it will be because of the greater uncertainty associated with online convergent services.

Goal-Congruent and -Incongruent Additions and Incremental Value

Like the study on technological goods, a positive main effect for goal-congruence is expected. Therefore, in that respect, this second study on free online services should replicate previous results. Like in the first study, these main effects must be understood in the context of an underlying two-way interaction between online convergent service base type and goal-congruence; however, there is reason to believe that this interaction will look different in the second study. It is likely that the effect of goal-congruence on incremental value

will be different because of the enhanced risk perceptions that are associated with free online convergent services and because of the nature of online services.

Recall that in the first study, the results showed a negative impact for goal-incongruence for convergent goods with a hedonic base but not for convergent goods with a utilitarian base. The reasoning for this was that goal-incongruent (utilitarian) additions to convergent goods with a hedonic base represented an overall loss of anticipated incremental pleasure, which replicated Gill's (2008) findings. However, for free online convergent services, it is likely that there will be different effects. There will likely be a negative effect for goal-incongruence for convergent services with a utilitarian base but not for convergent services with a hedonic base, which is the opposite of the first study's findings.

As discussed in Chapter 2, adding specific functionalities to services can result in either assimilation or contrast effects (Herr, Sherman & Fazio 1983), and, as noted above, consumers are likely to consider online convergent services with a utilitarian base to be important and uncertain. Because of this, customers will be particularly concerned with performance risk. When the performance dimension of a technology is salient, consumers prefer dedicated products (Han, Chung & Sohn 2009). For online convergent services with a utilitarian base, this suggests that a goal-incongruent (hedonic) addition would be contrasted to the base, and consumers would likely no longer see the site as a dedicated service, which would lead to higher risk perceptions and consequently a lower incremental value. Conversely, a goal-congruent functionality (utilitarian) would assimilate with the base service, and consumers would continue to view the site as a

dedicated service, which would not increase the amount of perceived risk. Therefore, the increased risk perceptions associated with online convergent services, and the subsequent salience of the performance dimension, will lead customers to prefer online convergent services with a utilitarian base with goal-congruent additions over those with goal-incongruent additions. Notably, this prediction differs from the study on technological goods. In that study, the anticipated incremental pleasure from goal-incongruent additions yielded as positive an incremental value as goal-congruent additions. However, in this case, consumers will not find the incremental pleasure to be worth the incremental risk.

For online convergent services with a hedonic base, there should be a smaller effect for goal-congruence than for online convergent services with a utilitarian base. First, goal-congruent additions are expected to be acceptable to users because they will enhance the anticipated incremental pleasure that the consumer might expect from using the online convergent service, as was found in the study on technological goods. However, unlike that study, goal-incongruent additions are expected to also be acceptable to users, because of justification. In the first study, adding goal-incongruent functionalities to a convergent good with a hedonic base yielded lower incremental value because these additions encroached on the pleasure to be gleaned from the hedonic base. In this case, buyers approached the good specifically with a mind to have fun. However, consumers access the Internet from their computers, where many of them are working. Often, a visit to a hedonic website is a dalliance from what they "should" be doing instead of surfing the web, as people often see hedonic

consumption as wasteful (Lascu 1991). Thus, in the case of free online services, the thing to be justified is time, rather than money. Now, instead of being seen as something that diminishes pleasure, the goal-incongruent addition becomes an excuse for the consumer to visit the site and allows them to rationalize their decision (Kivetz 1999, Dhar & Wertenbroch 2000). As a result, the negative effect of goal-incongruence found in the first study on technological goods will go away for online convergent services. Therefore, there should be an overall main effect for goal-congruence that is a result of an underlying two-way interaction between convergent service base type and goal-congruence.

H_3: Consumers will perceive a more positive incremental value for online convergent services with goal-congruent additions than for online convergent services with goal-incongruent additions.

H_4: Type of online convergent service base moderates the relationship between goal-congruence and incremental value, such that the negative effect of goal incongruence will be stronger for online convergent services with a utilitarian base than for online convergent services with a hedonic base.

Relatedness

Like in the study on technological goods, relatedness is expected to have an overall positive impact on the perceived incremental value from additions to

online convergent services. Recall that relatedness refers to the extent to which the added functionality is associated with the base product in the consumer's mind, either conceptually or through experience with the product category.

There is a large body of research reviewed in Chapter 2 that supports this assertion (Heckler & Childers 1992; Sujan 1985; Sujan & Dekleva 1987; Cohen & Basu 1987; Tauber 1988; Nkwocha, Bao, Johnson & Brotspies 2005; Fiske 1982; Meyers-Levy & Tybout 1989). Consequently, this hypothesis represents a replication of the study on technological goods as well as prior research.

H_5: Consumers will perceive a more positive incremental value for any type of online convergent service with related additions than for any type of online convergent service with unrelated additions.

As in the study on technological goods, it is anticipated that a three-way interaction will be present for relatedness, online convergent service type (that is, hedonic or utilitarian), and goal-congruence. However, this interaction should look slightly different from the one observed in Chapter 2.

For online convergent services with a hedonic base, there should be a positive main effect for relatedness, but not for goal-congruence. As discussed earlier, there should not be an effect for goal-congruence, because goal-congruent additions will enhance anticipated pleasure, and goal-incongruent additions will give users an excuse to use the online convergent service. However, related additions should still be preferred to unrelated ones because the convergent services will make more sense to users.

H_6: For online convergent services with a hedonic base, perceived incremental value will be higher for related additions than for unrelated additions, with no interaction effects.

For online convergent services with a utilitarian base, there will likely be an interaction between goal-congruence and relatedness. In the discussion on the interaction between the online convergent service type and goal-congruence, it was noted that consumers will perceive online convergent services with a utilitarian base to be higher risk than online convergent services with a hedonic base. As such, when adding functionalities to this type of site, it will be important for them to be both related and goal congruent, so the addition can be assimilated to the base as much as possible. Any addition that might be contrasted to the base (by being either unrelated or goal-incongruent) will have a negative impact on perceived incremental value because of the increased perception of risk associated with these types of additions. Therefore,

H_7: For online convergent services with a utilitarian base, incremental value will be significantly lower for additions that are either unrelated or goal-incongruent.

Formal Mediation Hypotheses

While discussing the predictions for the effects of convergent service base type, goal-congruence, and relatedness on incremental value, it was suggested that these effects are being driven in part by perceived risk and justification.

Specifically, performance risk should have a negative impact on perceived incremental value, and the varying combinations of online convergent service type and addition type will impact the overall amount of performance risk. Therefore,

H_8: The higher the level of performance risk associated with the online convergent service, the more negative the perceived incremental value for the online convergent service. The effect of performance risk will mediate the three-way interaction between the online convergent service type and perceived incremental value.

Additionally, because online services are free, one might initially assume that the need to justify their use would go away. However, there are two key nonmonetary prices associated with the use on online services. Recall that Zeithaml (1988) suggests that price is anything that the consumer gives up in exchange for the product. In this case, the costs are the time associated with using the online convergent service (i.e. the time spent on the website rather than doing other things), and the psychological cost of the risk associated with the use of the online convergent service. Because of this, it is reasonable to expect that consumers will continue to use the additions to the online convergent services to justify their use. Therefore, the present study should replicate the earlier study on technological goods with the mediation effects associated with justification.

H_9: The more consumers can use the additional functionality to justify the use of the online convergent service, the more

positive the perceived incremental value. These justification effects will mediate the three-way interaction between the online convergent service type and perceived incremental value.

In order to test the above predictions, an experiment was conducted that focused on online convergent services and manipulated the base type, the addition's goal-congruence, and the addition's relatedness. Overall, this experiment was very similar to the one conducted in Chapter 2, but the context was changed from technological goods to free online services.

PRETESTS

Two pretests were performed in order to prepare for the main experiment. The first pretest allowed for the selection of two online convergent service base types that differed on their hedonic and utilitarian properties. The second pretest was conducted in order to choose additions that varied on the hedonic and utilitarian properties as well as their relatedness to the base service.

Pretest 1

Method. In order to select stimuli as the online convergent service bases, a list was compiled of various online services that currently exist and that participants would be relatively familiar with. Additionally, services were

selected that would be comparable in terms of the amount of effort and information that would be required from the student. For example, if we were to compare a video website that does not require a login to a banking website that requires financial information from the student, there would be several confounding factors. Therefore, the selected services primarily provided content and information to the users, with no personal information or investment required. The services chosen were an online health information website, an online celebrity gossip website, an online financial advice website, an online humor website, an online news website, an online website about a specific hobby, an online weather service, an online movie and television website, an online traffic information website, and an online video game website.

After the list was compiled, 49 university students were asked to rate each service on their hedonic and utilitarian dimensions using the HED/UT scale (Voss, Spangenberg & Grohmann 2003). Students also rated the service on the level of performance risk using the three-item scale developed by Grewal, Gotlieb, and Marmorstein (1994). The items included: "How confident are you that the online service will perform as prescribed?" (seven-point scale ranging from 1 [not confident at all] to 7 [extremely confident]), "How certain are you that the online service will work satisfactorily?" (seven-point scale ranging from 1 [not certain at all] to 7 [extremely certain]), and "Do you feel that the online service will perform the functions that were described in the advertisement?" (seven-point scale ranging from 1 [do not feel sure at all] to 7 [feel completely sure]).

Results. Using the HED/UT scores for each service, an ANOVA was conducted to select two base services that were sufficiently different on their hedonic and utilitarian properties. The two base services chosen were an online humor website (hedonic) and a financial advice website (utilitarian). The participants rated the humor website to be more hedonic than the financial advice website (M_{humor} = 5.55 vs. $M_{finance}$ = 3.92; $p < .01$). Additionally, participants rated the financial advice website to be more utilitarian than the humor website ($M_{finance}$ = 5.60 vs. M_{humor} = 3.62; $p < .01$).

Additionally, an initial test of $\mathbf{H_1}$ was conducted, which suggested that participants will view utilitarian websites to be more risky than hedonic ones. Including all ten services in the analysis, a linear regression model was estimated to evaluate whether the service's utilitarian score can predict perceived risk. It was found that the utilitarian score is positively correlated with perceived performance risk (β = -.44; $F(1, 485) = 185.58$, $p = .00$). This lends initial support to $\mathbf{H_1}$.

Pretest 2

Method. After selecting the two base services, a list was generated of potential additions for each base service that were expected to vary on two dimensions: their goal-congruence and relatedness to the base service. For the online humor website, the additions tested were a written guide on how to be

funny, a weather information widget, funny videos, video games, humorous articles on current news, a health information widget, a comedy radio show, and a top-40 radio station. For the online financial advice website, the potential additions were a budget calculator, a weather information widget, an investment game, celebrity gossip articles, tax assistance software, a health information widget, a finance related comic strip, and a top-40 radio station.

Unlike in the first study, it was likely that there could be many differing perceptions on what the base services and potential additions might actually be, since there is so much variability in online offerings that exist today. Therefore, participants were first provided descriptions of the base service they were going to evaluate additions for. Half of the subjects evaluated additions for the hedonic base service, the other half the utilitarian base service. The description that was provided for the hedonic base service (a humor website) was, "Imagine this is a website where you can read articles and blogs with humorous perspectives on a variety of topics, such as popular celebrities, well-known ghost legends, or cultural trends, to name a few." The description of the utilitarian base service (a financial advice website) was, "Imagine this is a site where you could learn about creating a household budget, getting out of debt, buying a house, finding investment options, choosing a financial institution, etc." Additionally, each potential addition had a small description in order to help the participant understand the offering.

Researchers asked 114 student participants to rate the potential additions on their hedonic and utilitarian characteristics using the HED/UT scale (Voss,

Spangenberg & Grohmann 2003) as well as on their relatedness to the base service. Relatedness was measured using the same two-item scale that was utilized in the first study on technological goods (Crohnbach's alpha = .97).

Results. Based on the HED/UT and relatedness means from the second pretest, eight features were chosen to serve as potential convergent service additions. For the humor website, the additions were funny videos (goal-congruent, high relatedness), video games (goal-congruent, low relatedness), humorous news articles (goal-incongruent, high-relatedness), and a weather information widget (goal-incongruent, low relatedness). For the financial advice website, the additions were tax assistance software (goal-congruent, high relatedness), a health information widget (goal-congruent, low relatedness), a finance related comic strip (goal-incongruent, high relatedness), and a top-40 radio station (goal-incongruent, low relatedness). For means and differences on the selected stimuli, please see Table 3-1.

Table 3-1

Free Online Convergent Services Study, Pretest 2 Means

Base: Online Humor Website						
Addition	Condition	Description	Hed/Util*	Hedonic**	Utilitarian**	Relatedness**
Funny videos	(goal-congruent, high relatedness)	Imagine these are videos that would be available to watch on the humor website that are intended to be entertaining and funny, such as clips from stand-up comedians, movie gag reels, and amusing sports bloopers.	4.39	5.70	4.87	6.71
Video games	(goal-congruent, low relatedness)	Imagine these are single player games that would be offered on the humor website, featuring gritty first person shooters, intense racing games, and epic fantasy role-playing games.	5.12	5.15	2.90	2.71
Humorous news articles	(goal-incongruent, high relatedness)	Imagine these are written news stories that offer accurate reporting on current events, allowing you to stay up-to-date, but in a humorous way.	4.15	5.75	5.44	6.14
Weather information widget	(goal-incongruent, low relatedness)	Imagine this is an on-screen tool that tells you current weather information for your area as well as a three-day forecast. You can also click on the widget to be taken to a more comprehensive weather site.	3.21	3.81	4.86	2.38

Base: Online Financial Advice Website						
Addition	Condition		Hed/Util	Hedonic	Utilitarian	Relatedness
Tax assistance software	(goal-congruent, high relatedness)	Imagine this is a tool on the website that helps you to organize your tax documents, choose the correct forms, and file your taxes electronically.	2.72	3.70	6.27	6.36
Health information widget	(goal-congruent, low relatedness)	Imagine this is an on-screen tool that would allow you to enter health-related symptoms or key terms in order to diagnose or further understand potential health issues.	3.69	4.03	4.64	2.38
Finance related comic strip	(goal-incongruent, high relatedness)	Imagine this is a comic strip that offers humorous commentary on recent financial events or common personal finance-related issues.	4.76	5.32	3.84	5.31
Top-40 radio station	(goal-incongruent, low relatedness)	Imagine this is a radio station featured on the site that could be streamed live over the web. The radio station would focus on playing current chart topping music from popular artists.	4.93	5.32	3.47	2.24

Relevant Comparison *p* -values				
Contrast	Hed/Util	Hedonic	Utilitarian	Relatedness
Funny videos vs. Humorous news articles (Hed, GC vs. GI, HR)	*0.21*	*0.86*	*0.08*	*0.07*
Funny videos vs. Video games (Hed, GC, HR vs. LR)	*0.15*	*0.59*	*0.00*	*0.00*
Video games vs. Weather information widget (Hed, GC vs. GI, LR)	*0.00*	*0.00*	*0.00*	*0.12*
Humorous news articles vs. Weather information widget (Hed, GI, HR vs. LR)	*0.00*	*0.00*	*0.86*	*0.00*
Tax assistance software vs. Finance related comic strip (Util, GC vs. GI, HR)	*0.00*	*0.00*	*0.00*	*0.00*
Tax assistance software vs. Health information widget (Util, GC, HR vs. LR)	*0.00*	*0.31*	*0.00*	*0.00*
Health information widget vs. Top-40 radio station (Util, GC vs. GI, LR)	*0.00*	*0.00*	*0.00*	*0.68*
Finance related comic strip vs. Top-40 radio station (Util, GI, HR vs. LR)	*0.49*	*0.89*	*0.26*	*0.00*

*Scales rated from 1 (utilitarian) to 7 (hedonic)

**Scales rated from 1 (low) to 7 (high)

MAIN STUDY

Method

Study design and sample. This study was a 2 (online convergent service base: hedonic or utilitarian) by 2 (addition: hedonic or utilitarian) by 2 (addition: related or unrelated) between-subjects design. Subjects were presented with one of eight advertisements for possible convergent services based on the results from the two pretests. Copies of each of the eight advertisements can be found in Appendix C.

567 university students (56.3% male), ages 18-60, were asked to participate in a survey for course credit. Student subjects are an acceptable population for this particular study because they have ample experience with online services, including humor websites and financial advice websites. Additionally, choosing whether or not to use an online service is a decision that students make on a daily basis.

Procedure. Participants were randomly assigned to one of the eight conditions and instructed to look at an advertisement for the focal service. They were instructed to read the entire ad carefully. The advertisement included a detailed description of the base online service that carried the brand name "WebBrand", along with a picture of a man and woman looking at a computer screen. Following the advertisement, the participants completed a questionnaire

about the convergent service, including their perceived incremental value, anticipated incremental pleasure, anticipated practicality/productivity, perceived risk, and justification. Lastly, participants provided demographic information.

Dependent measures. Overall incremental value (Gill 2008) was measured with the question, "Overall, how much more (less) valuable is the new convergent service with the added functionality compared to the base service without this ability?" (seven-point scale ranging from 1 [much less valuable] to 7 [much more valuable]). Performance risk was assessed using the same three-item scale that was employed in the pretest (Grewal, Gotlieb & Marmorstein 1994).

Other measures. Incremental pleasure was measured with the question, "How much more pleasure would you feel using the convergent product with the added functionality compared to the base product without this ability?" (seven-point scale ranging from 1 [much less pleasure] to 7 [much more pleasure]), and incremental practicality/productivity with the question, "How much more practical/productive would you feel using the new convergent product with the added functionality compared to the base product without this ability?" (seven-point scale ranging from 1 [much less practical/productive] to 7 [much more practical/productive]).

Justification was assessed with three seven-point Likert-type items (Crohnbach's alpha = .86): "The added functionality would provide me with a satisfactory reason to purchase the convergent product.", "The added functionality

would give me an excuse to buy the convergent product.", and "The added functionality would help me to justify the purchase of the convergent product." (all scales ranged from 1 [strongly disagree] to 7 [strongly agree]).

The survey instrument in its entirety is reproduced in Appendix D.

Results

An ANOVA was conducted to determine the effects of online convergent service base type, addition type, and addition relatedness on incremental value and perceived risk for the online convergent service. The results of this ANOVA are presented in Tables 3-2 and 3-3.

Table 3-2

Free Online Convergent Services Study, Results of ANOVA

Hypothesis	Support	Means			
Main Effects					
		Performance Risk			
H1: Consumers will perceive online convergent services with a utilitarian base as having higher performance risk than online convergent services with a hedonic base.	Yes	Hedonic Base		Utilitarian Base	
		4.10		4.68***	
		Incremental Value			
H2: Consumers will perceive a more positive incremental value for online convergent services with a hedonic base with any type of addition than online convergent services with a utilitarian base with any type of addition.	Yes	Hedonic Base		Utilitarian Base	
		4.35		3.82***	
H3: Consumers will perceive a more positive incremental value for online convergent services with goal-congruent additions than for online convergent services with goal-incongruent additions.	Yes	Goal-Congruent		Goal-Incongruent	
		4.39		3.78***	
H5: Consumers will perceive a more positive incremental value for any type of online convergent service with related additions than for any type of online convergent service with unrelated additions.	Yes	Related		Unrelated	
		4.40		3.77***	
Two-Way Interaction		**Incremental Value****			
		Hedonic Base		Utilitarian Base	
H4: Type of online convergent service base will moderate the relationship between goal congruence and incremental value, such that the negative effect of goal incongruence will be stronger for online convergent services with a utilitarian base than for online convergent services with a hedonic base.	Yes	Congruent	Incongruent	Congruent	Incongruent
		4.51	4.20*	4.27	3.36***
Three-Way Interaction		**Incremental Value****			
		Hedonic Base		Utilitarian Base***	
H6: For online convergent services with a hedonic base, perceived incremental value will be higher for related additions than for unrelated additions, with no interaction effects.	Yes	Related	Unrelated	Congruent	Incongruent
		4.75	3.96***		
H7: For online convergent services with a utilitarian base, incremental value will be significantly lower for additions that are either unrelated or goal-incongruent.	Yes			Related / Unrelated	Related / Unrelated
				4.83 / 3.71***	3.26*** / 3.08

*$p < .10$

**$p < .05$

***$p < .01$

Table 3-3

Free Online Convergent Services Study, Results of Analysis of Variance for Incremental Value

Source	Type III Sum of Squares	df	Mean Square	F	*p*
Corrected Model	201.957	7	28.851	11.901	.000
Intercept	9525.709	1	9525.709	3929.384	.000
Base	41.292	1	41.292	17.033	.000
Congruent	52.883	1	52.883	21.814	.000
Related	56.529	1	56.529	23.318	.000
Base * Congruent	12.930	1	12.930	5.334	.021
Base * Related	3.842	1	3.842	1.585	.209
Congruent * Related	22.608	1	22.608	9.326	.002
Base * Congruent * Related	9.775	1	9.775	4.032	.045
Error	1364.838	563	2.424		
Total	11099.000	571			
Corrected Total	1566.795	570			

Main effects. H_1 predicted that online convergent services with a utilitarian base would be perceived as having higher performance risk than online convergent services with a hedonic base. For ease of understanding, the scale for performance risk was reverse-coded so that high scores would reflect more risk and low scores would reflect less risk. H_1 is supported by the data ($M_{utilitarian}$ = 4.68 vs. $M_{hedonic}$ = 4.10; $F(1, 563) = 25.81$, $p = .00$).

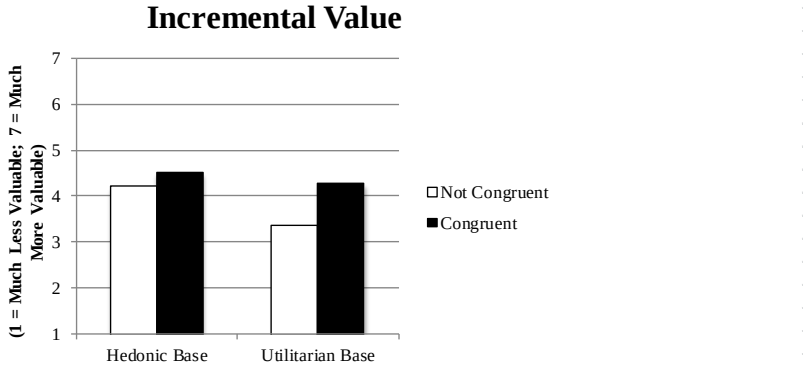
H_2 predicted that online convergent services with a hedonic base with any type of addition will have a higher incremental value than those with a utilitarian base with any type of addition. Results support this assertion. Incremental value is significantly higher for convergent services with a hedonic base than for convergent services with a utilitarian base ($M_{hedonic}$ = 4.35 vs. $M_{utilitarian}$ = 3.82; $F(1, 563) = 17.03$, $p = .00$), thus supporting H_2.

H_3 asserted that there would be a positive main effect for goal-congruence on incremental value, which is supported by the data. Goal-congruent additions yielded a higher incremental value than goal-incongruent additions ($M_{congruent}$ = 4.39 vs. $M_{incongruent}$ = 3.78; F(1, 563) = 21.81, p = .00).

H_5 posited that relatedness would have a positive impact on incremental value. It was found that online convergent services with related additions had a higher incremental value than online convergent services with unrelated additions ($M_{related}$ = 4.40 vs. $M_{unrelated}$ = 3.77; F(1, 563) = 23.32, p = .00), supporting H_5.

Convergent service base type by goal-congruence interaction. H_4 predicted a two-way interaction between online convergent service base type and goal-congruence, such that there will be a stronger negative effect for goal-incongruence for online convergent services with a utilitarian base than for online convergent services with a hedonic base. This interaction is significant (F(1, 563) = 5.33, p = .02), and can be seen in Figure 3-1. Examining the individual contrasts, for online convergent services with a utilitarian base, goal-incongruent additions have a lower perceived incremental value than goal-congruent additions ($M_{util\text{-}incongruent}$ = 3.36 vs. $M_{util\text{-}congruent}$ = 4.27; F(1, 563) = 24.58, p = .00). For online convergent services with a hedonic base, there is a marginally significant difference in incremental value between goal-incongruent and goal-congruent additions ($M_{hed\text{-}incongruent}$ = 4.20 vs. $M_{hed\text{-}congruent}$ = 4.51; F(1, 563) = 2.76, p = .10). Overall, these results support H_4.

Figure 3-1
Free Online Convergent Services Study, Convergent Service Base Type by Goal-Congruence Interaction on Incremental Value

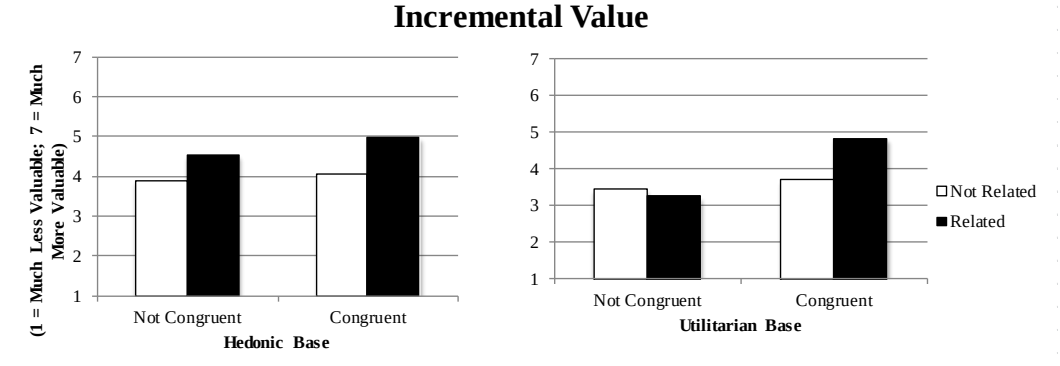


Convergent service base type by goal-congruence by relatedness interaction. H_6 and H_7 suggested a three-way interaction between online convergent service base type, goal-congruence, and relatedness on incremental value. This three-way interaction is present in the data ($F(1, 563) = 4.03$; $p = .05$), and can be viewed in Figure 3-2.

H_6 predicted a positive main effect for relatedness on perceived incremental value for online convergent services with a hedonic base. There is a significant positive impact from relatedness on incremental value ($M_{hed\text{-}related} = 4.75$ vs. $M_{hed\text{-}unrelated} = 3.96$; $F(1, 279) = 19.91$, $p = .00$), as predicted, and it does not interact with goal-congruence ($F(1, 279) = .59$, $p = .44$). Thus, H_6 is supported. Recall that an effect for goal-congruence was not expected. For convergent services with a hedonic base, the effect of goal-congruence is marginally significant, with goal-congruent additions having a slightly higher incremental value than goal-incongruent additions, as discussed above.

H_7 asserted that for online convergent services with a utilitarian base, there would be a two-way interaction between goal-congruence and relatedness, suggesting that incremental value will be lower for additions that are either goal-incongruent or unrelated. For this to be supported, the addition that is both goal-congruent and related will have a higher incremental value than the other three conditions. The predicted pattern of results was observed in the data, supporting H_7. There is a significant two-way interaction between goal-congruence and relatedness on incremental value ($F(1, 284) = 12.02$, $p = .00$). Compared to additions that are both related and goal-congruent, incremental value is significantly lower for convergent services with a utilitarian base that have either a goal-congruent but unrelated addition ($M_{util\text{-}congruent\text{-}unrelated} = 3.71$ vs. $M_{util\text{-}congruent\text{-}related} = 4.83$, $F(1, 284) = 17.47$, $p = .00$), or a related but goal-incongruent addition ($M_{util\text{-}incongruent\text{-}related} = 3.26$ vs. $M_{util\text{-}congruent\text{-}related} = 4.83$; $F(1, 284) = 33.10$, $p = .00$). No other contrast is significant.

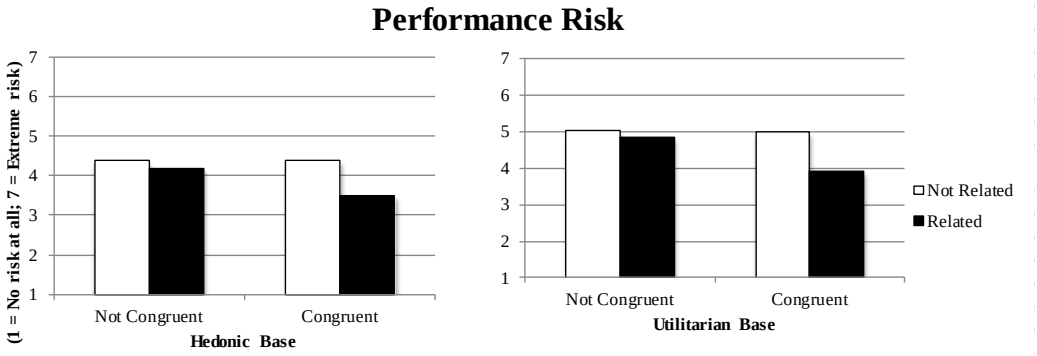
Figure 3-2
Free Online Convergent Services Study, Convergent Service Base Type by Goal-Congruence by Relatedness Interaction on Incremental Value



Mediation: Risk. The data showed a significant two-way interaction for goal-congruence and relatedness on performance risk ($F(1, 563) = 11.60$, $p = .00$), in addition to the overall effect that was found in H_1. Looking at the interaction more closely, it was found that additions that are both goal-congruent and related have significantly lower performance risk than those that are either goal-incongruent ($M_{congruent\text{-}related} = 3.70$ vs. $M_{incongruent\text{-}related} = 4.51$; $F(1, 563) = 24.72$, $p = .00$) or unrelated ($M_{congruent\text{-}related} = 3.70$ vs. $M_{congruent\text{-}unrelated} = 4.67$; $F(1, 563) = 35.93$, $p = .00$). A picture of the combination of these two effects (the goal-congruence by relatedness interaction and the main effect for online convergent service base type) can be seen in Figure 3-3.

H_8 posited that the effects of performance risk mediate the three-way interaction between online convergent service base type, goal-congruence, and relatedness on incremental value. The Sobel test for mediation (Preacher & Hayes 2004) was significant ($p = .00$); additionally, a bootstrapping procedure was applied, with 1000 replications, and the 95% confidence intervals did not contain zero, suggesting there is indeed a meditational relationship present. Therefore, the results support H_8.

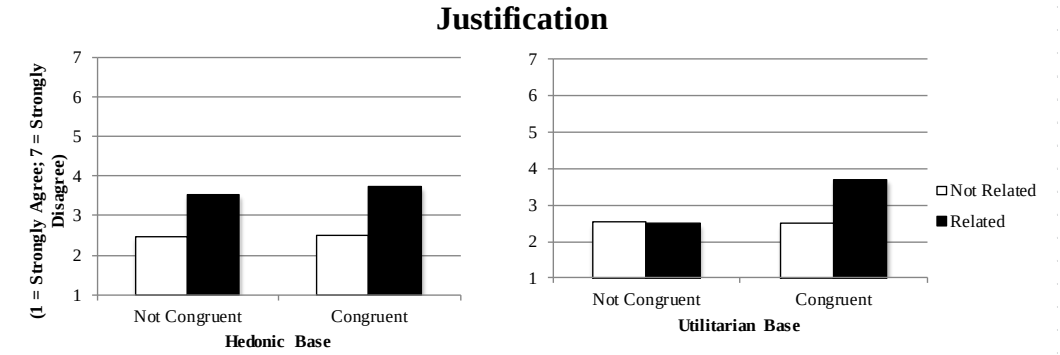
Figure 3-3
Free Online Convergent Services Study, Convergent Service Base Type Main Effect and Goal-Congruence by Relatedness Interaction on Performance Risk



Mediation: Justification. The data revealed a significant three-way interaction between online convergent service base type, goal-congruence, and relatedness on justification ($F(1, 563) = 4.74$, $p = .03$), which is shown in Figure 3-4. For online convergent services with a hedonic base, there is a significant positive effect for relatedness ($M_{hed\text{-}related} = 3.62$ vs. $M_{hed\text{-}unrelated} = 2.37$; $F(1, 279) = 62.04$, $p = .00$), but not goal-congruence ($F(1, 279) = 1.10$, $p = .30$), on justification. For online convergent services with a utilitarian base, there is a significant two-way interaction between goal-congruence and relatedness ($F(1, 284) = 12.22$, $p = .00$), such that additions that are both goal-congruent and related are much easier to justify than additions that are either goal-incongruent ($M_{util\text{-}congruent\text{-}related} = 3.65$ vs. $M_{util\text{-}incongruent\text{-}related} = 2.58$; $F(1, 284) = 21.53$, $p = .00$) or unrelated ($M_{util\text{-}congruent\text{-}related} = 3.65$ vs. $M_{util\text{-}congruent\text{-}unrelated} = 2.44$; $F(1, 284) = 27.52$, $p = .00$).

H_9 predicted that these justification effects mediate the three-way interaction between online convergent service base type, goal, congruence, and relatedness on incremental value. The Sobel test for mediation (Preacher & Hayes 2004) was significant (p = .00), and a bootstrapping procedure was also applied, which yielded 95% confidence intervals that did not contain zero, overall supporting H_9.

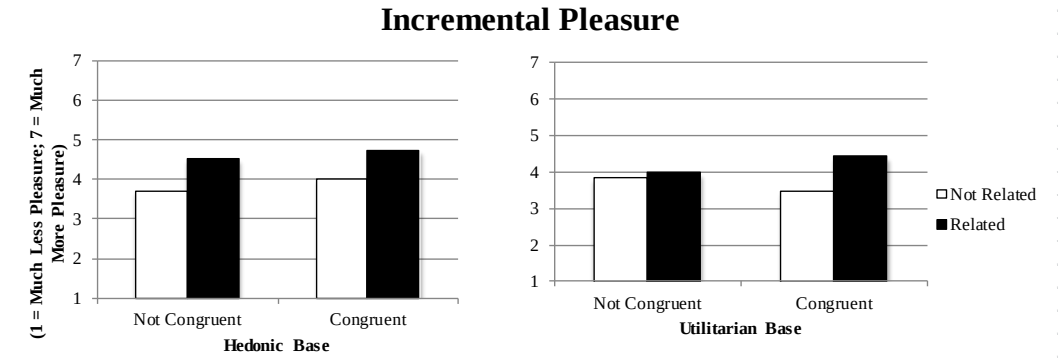
Figure 3-4
Free Online Convergent Services Study, Convergent Service Base Type by Goal-Congruence by Relatedness Interaction on Justification



Mediation: Pleasure. Though not formally hypothesized, it was suggested that anticipated incremental pleasure might help explain some of the results that were observed. There is a marginally significant three-way interaction between online convergent service base type, goal-congruence, and relatedness on anticipated incremental pleasure ($F(1, 563) = 3.15$, p = .08). Please refer to Figure 3-5. For online convergent services with a hedonic base, there is a significant effect for relatedness ($M_{hed\text{-}related} = 4.61$ vs. $M_{hed\text{-}unrelated} = 3.84$; F(1,

279) = 18.86, p = .00), but not goal-congruence (F(1, 279) = 2.24, p = .14), on anticipated pleasure. For online convergent services with a utilitarian base, there is a significant two-way interaction between goal-congruence and relatedness (F(1, 284) = 4.82, p = .03). Incremental pleasure was higher for additions that were goal-congruent and related than for those that were goal-incongruent ($M_{util\text{-}congruent\text{-}related}$ = 4.40 vs. $M_{util\text{-}incongruent\text{-}related}$ = 3.96; F(1, 284) = 3.31, p = .08) or unrelated ($M_{util\text{-}congruent\text{-}related}$ = 4.40 vs. $M_{util\text{-}congruent\text{-}unrelated}$ = 3.46; F(1, 284) = 13.71, p = .00). Anticipated incremental pleasure was a significant mediator for the three-way interaction. The Sobel test was significant (p = .00), and the bootstrapping 95% confidence interval did not contain zero.

Figure 3-5
Free Online Convergent Services Study, Convergent Service Base Type by Goal-Congruence by Relatedness Interaction on Incremental Pleasure



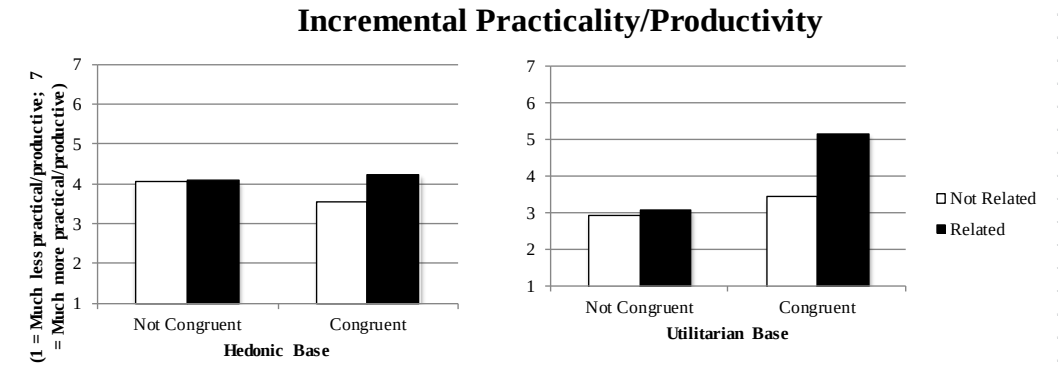
Mediation: Practicality/Productivity. Additionally, it was suggested that incremental practicality/productivity might help explain the relationship between online convergent service base type, goal-congruence, and relatedness on

incremental value. There is a marginally significant three-way interaction for incremental practicality/productivity ($F(1, 563) = 2.77$, $p = .10$), which is depicted in Figure 3-6. For online convergent services with a hedonic base, there was a marginally significant two-way interaction between goal-congruence and relatedness ($F(1, 279) = 3.352$, $p = .07$). It was found that the impact on incremental practicality/productivity was the most negative for additions that were goal-congruent and unrelated compared to the other conditions ($M_{hed\text{-}congruent\text{-}unrelated} = 3.53$ vs. $M_{hed\text{-}congruent\text{-}related} = 4.23$; $F(1, 279) = 7.36$, $p = .01$. $M_{hed\text{-}congruent\text{-}unrelated} = 3.53$ vs. $M_{hed\text{-}incongruent\text{-}unrelated} = .05$; $F(1, 279) = 3.84$, $p = .05$); no other contrast was significant. Notably, the remaining three conditions were relatively neutral on incremental practicality/productivity, their means hovering at or near the midpoint.

For online convergent services with a utilitarian base, there was a significant two-way interaction between goal-congruence and relatedness. The effect of these variables on incremental practicality/productivity was most positive for additions that were both goal-congruent and related compared to those that were goal-incongruent ($M_{util\text{-}congruent\text{-}related} = 5.17$ vs. $M_{util\text{-}incongruent\text{-}related} = 3.11$; $F(1, 284) = 62.72$, $p = .00$) or unrelated ($M_{util\text{-}congruent\text{-}related} = 5.17$ vs. $M_{util\text{-}congruent\text{-}unrelated} = 3.46$; $F(1, 284) = 43.32$, $p = .00$). Of merit, the other three conditions all show a negative impact on incremental practicality/productivity (anything below the midpoint of 4.0 represents less practicality/productivity). This is an interesting contrast to the online convergent services with a hedonic base, which were around the neutral point for most conditions. It was found that

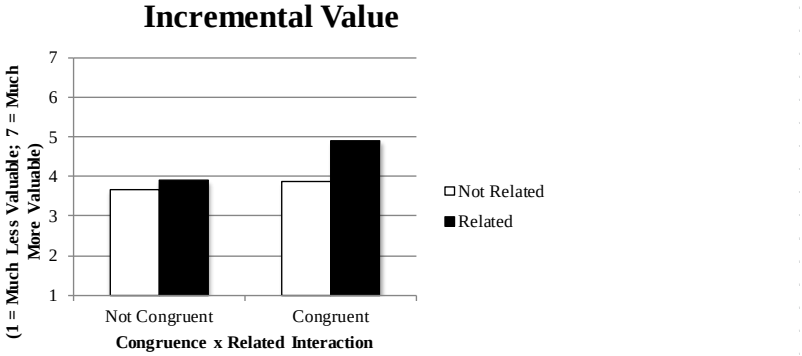
incremental practicality/productivity was also a significant mediator for incremental value according to the Sobel test (p = .00) and bootstrapping 95% confidence intervals, which did not contain zero.

Figure 3-6
Free Online Convergent Services Study, Convergent Service Base Type by Goal-Congruence by Relatedness Interaction on Incremental Practicality/Productivity



Other findings. There was a significant two-way interaction between goal-congruence and relatedness that replicates the findings in the technological goods study ($F(1, 563) = 9.33$, p = .00). This interaction can be found in Figure 3-7. The data revealed that additions that are both goal-congruent and related have a significantly higher perceived incremental value compared to those that are either incongruent ($M_{congruent\text{-}related} = 4.90$ vs. $M_{incongruent\text{-}related} = 3.90$; $F(1, 563) = 29.99$, p = .00) or unrelated ($M_{congruent\text{-}related} = 4.90$ vs. $M_{congruent\text{-}unrelated} = 3.88$; $F(1, 563) = 31.23$, p = .00). This interaction is displayed in Figure 3-7.

Figure 3-7
Free Online Convergent Services Study, Goal-Congruence by Relatedness Interaction on Incremental Value



COMPARISON TO TECHNOLOGICAL GOODS STUDY

There were several notable differences between the present study with online convergent services and the previous study with technological goods. Overall, it was found that incremental values from any type of product addition were lower for the online convergent services study than for the technological goods study; in general, product convergence seemed to add value more for technological goods than for free online services. This is consistent with the increased risk perceptions that are associated with online convergent services. Additionally, in the study with technological goods, it was found that convergent goods with a utilitarian base had higher incremental values from any type of addition than convergent goods with a hedonic base. In the study with online convergent services, the opposite was true; online convergent services with a

utilitarian base had lower incremental values from any type of product addition than online convergent services with a hedonic base. Finally, there were two different interactions for base type and goal-congruence across the two studies. In the technological goods study, it was found that goal-incongruence only had a negative impact for convergent goods with a hedonic base. Conversely, in the free online services study, goal-incongruence was only negative for online convergent services with a utilitarian base.

Because the two studies were very similar in terms of stimuli, presentation, and subject population, the data for the two studies was combined to test whether the differences observed were significant. The results are presented below, with the caveat that these two studies were collected during different time periods, and therefore the subjects might have differences that were not observed. The overall results of the ANOVA can be seen in Table 3-4.

Effects of Study on Incremental Value

There was a main effect for study (technological goods versus free online services), showing that incremental values from any type of product additions were higher for technological goods than for online convergent services (M_{goods} = 4.61 vs. $M_{services}$ = 4.09; $F(1, 1333) = 27.75$, $p = .00$). See Figure 3-8. This difference may be a result of the idiosyncratic selections of stimuli; however, it makes sense in light of the literature reviewed and in light of the nature of online services. First, with technological goods, there is a monetary cost associated with

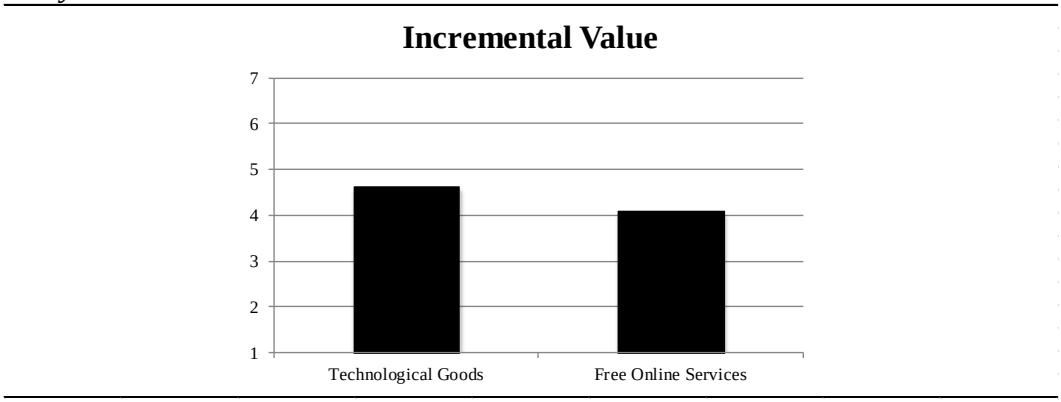
Table 3-4
Results of Analysis of Variance Comparing Technological Goods Study and Free Online Services Study for Incremental Value

Source	Type III Sum of Squares	df	Mean Square	F	*p*
Corrected Model	495.325	14	35.380	10.710	.000
Intercept	24885.680	1	24885.680	7533.157	.000
Study	91.665	1	91.665	27.748	.000
Base	3.400	1	3.400	1.029	.311
Congruent	99.560	1	99.560	30.138	.000
Related	113.745	1	113.745	34.432	.000
Base * Congruent	0.196	1	0.196	0.059	.807
Base * Related	18.216	1	18.216	5.514	.019
Study * Base	62.647	1	62.647	18.964	.000
Congruent * Related	43.846	1	43.846	13.273	.000
Study * Congruent	1.136	1	1.136	0.344	.558
Study * Related	0.567	1	0.567	0.172	.679
Base * Congruent * Related	29.542	1	29.542	8.943	.003
Study * Base * Congruent	25.131	1	25.131	7.607	.006
Study * Base * Related	1.661	1	1.661	0.503	.478
Study * Congruent * Related	0.350	1	0.350	0.106	.745
Error	4403.547	1333	3.303		
Total	30968	1348			
Corrected Total	4898.872	1347			

their acquisition and use. As such, additional functionalities might be seen as "more bang for the buck", and is in line with existing literature on product features. A priori, customers usually believe they want more features, rather than less (Brown & Carpenter 2000). These additional features each become another reason to make the purchase. However, with free online services, performance risk becomes much more salient as users attempt to judge the quality of the service. Adding features from another product category can call the quality into question, resulting in lower perceived incremental value. Additionally, service additions in the online context might not be considered as beneficial, because consumers can seek out the additional features they desire by simply visiting

another website. The services offered online can be treated as a la carte without losing much in terms of time or convenience. Therefore, an addition has to be particularly beneficial or synergistic to be considered an enhancement to the existing service.

Figure 3-8
Comparison of Technological Goods Study vs. Free Online Convergent Services Study on Incremental Value

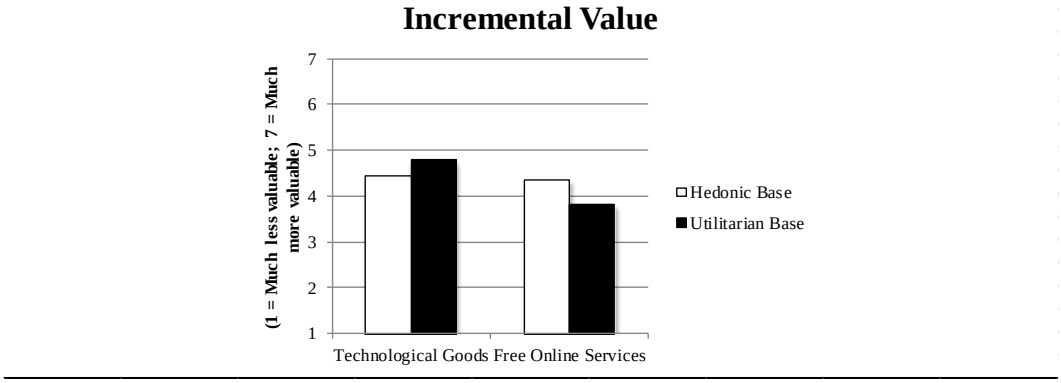


Study by Convergent Good/Service Base Type Interaction

A significant two-way interaction between study and convergent good/service base type on incremental value for any type of product addition was found ($F(1, 1333) = 18.96$, $p = .00$), which is shown in Figure 3-9. In the technological goods study, it was found that incremental value was higher for convergent goods with a utilitarian base than for convergent goods with a hedonic base ($M_{goods\text{-}util} = 4.78$ vs. $M_{goods\text{-}hed} = 4.45$; $F(1, 1333) = 6.58$, $p = .01$). In the online convergent services study, the opposite was true; incremental value for any

type of product addition was higher for online convergent services with a hedonic base than for online convergent services with a utilitarian base ($M_{services\text{-}hed}$ = 4.35 vs. $M_{services\text{-}util}$ = 3.82; F(1, 1333) = 12.51, p = .00). The effects in this interaction can be attributed to perceptions of incremental practicality/productivity, risk, and justification; however, they are best explained by examining the three-way interaction between the context (technological goods or free online services), the convergent product base type, and goal-congruence on incremental value.

Figure 3-9
Comparison of Technological Goods Study vs. Free Online Convergent Services Study, Study by Convergent Good/Service Base Type on Incremental Value



Study by Convergent Good/Service Base Type by Goal-Congruence Interaction

Lastly, there was a three-way interaction between study, convergent good/service base type, and goal-congruence (F(1, 1333) = 7.61, p = .01). This interaction is shown in Figure 3-10. For the technological goods study, there is a significant two-way interaction between convergent good base type and goal-

congruence ($F(1, 769) = 3.13$, $p = .08$); the negative impact of goal-incongruence is greater for convergent goods with a hedonic base ($M_{goods\text{-}hed\text{-}congruent} = 4.82$ vs. $M_{goods\text{-}hed\text{-}incongruent} = 4.07$; $F(1, 769) = 13.61$, $p = .00$) than for a utilitarian base ($F(1, 769) = 1.41$, $p = .24$). For the online convergent services, the opposite is true. There is also a significant two-way interaction ($F(1, 563) = 5.33$, $p = .02$), but the negative impact of goal-incongruence is larger for online convergent services with a utilitarian base ($M_{services\text{-}util\text{-}congruent} = 4.27$ vs. $M_{services\text{-}util\text{-}incongruent} = 3.36$; $F(1, 563) = 24.58$, $p = .00$) than for a hedonic base ($M_{services\text{-}hed\text{-}congruent} = 4.51$ vs. $M_{services\text{-}hed\text{-}incongruent} = 4.20$; $F(1, 563) = 2.76$, $p = .10$). This interaction shows the importance of understanding the nature of the convergent offering, in whether it is a good or service, because the differences between the two can have a large impact on how additions are received and interpreted by consumers.

In the technological goods study, hedonic goods are approached with the express purpose of having fun, making utilitarian additions superfluous to the purpose of the product. Utilitarian additions to a hedonic base good are not seen as beneficial, because users do not anticipate being more productive as a result of the addition. On the contrary, hedonic additions to a hedonic base good will be looked on favorably, because they will help the user to justify the purchase of the product. Specifically, instead of having to buy two products to get the same level of enjoyment, now consumers only have to buy one, making the combination seem practical, allowing the purchase to be justified. For utilitarian base goods, a utilitarian addition will be looked on favorably because it will add to the productivity to be had from the device. Additionally, a hedonic addition will also

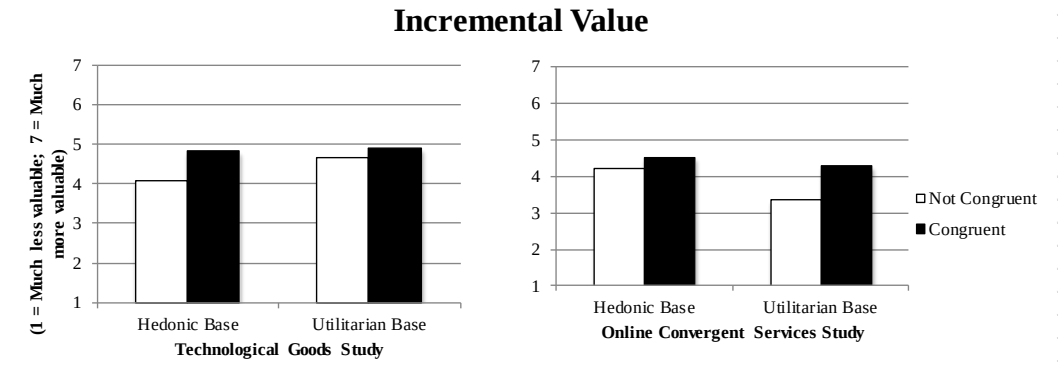
be looked on favorably, because it is an added "bonus" of pleasure that does not have to be justified per se, just enjoyed.

The results paint a different picture for free online services. For online convergent services with a hedonic base, both hedonic and utilitarian additions are received relatively neutrally. As noted above, the nature of the internet is such that additional capabilities are only a click away, so additions need to be particularly beneficial or synergistic to the base service if they are to be seen as an added value. In the case of hedonic base services, utilitarian additions are not interpreted as negatively as with hedonic base goods, as these utilitarian additions can help the user justify the visit to the site. In the case of free online services, it is suggested that the thing that users justify is time, rather than monetary expenditure. Conversely, for online convergent services with a utilitarian base, there is a greater level of risk involved with using the service. As such, consumers use as much information as they have about the product in order to judge quality.

Utilitarian additions to a convergent service with a utilitarian base are regarded neutrally, as the addition does not seem to be too great of a stretch for the service provider; the new functionality can assimilate to the base service. However, hedonic additions to a convergent service with a utilitarian base are seen to negatively impact the value of the convergent service. This is because these types of additions are contrasted to the base service, making the service provider appear to be offering a wider variety of services at an expense to quality, as opposed to offering a single, high quality service.

As the above discussion suggests, consumers would appear to use very different thought processes when evaluating convergent goods compared to convergent services. As a result, there are very different effects of adding various product additions across the two contexts; these nuances are important to managers to understand their own offerings and make the best possible choice for their own potential good or service additions.

Figure 3-10
Comparison of Technological Goods Study vs. Free Online Convergent Services Study, Study by Convergent Good/Service Base Type by Goal-Congruence Interaction on Incremental Value



DISCUSSION

Theoretical Contributions

This study adds to existing literature on convergent products, new product design, and services. This work introduces a new term that encompasses the nature of many offerings on the market today: convergent services, which are

services from different categories that can be accessed through a single point of contact, such as a website. The research shows that in general, service additions are looked on more favorably for online convergent services with a hedonic base than online convergent services with a utilitarian base, and this is due to the increased performance risk associated with utilitarian services. This finding differs from the technological goods study, and represents the impact of the intangibility of services on user evaluations.

Overall, however, like with the technological goods study, it was found that goal-congruence and relatedness of additions had a positive effect on incremental value, and would represent a relatively safe service addition regardless of the base type. However, goal-congruence is much more important for online convergent services with a utilitarian base than for those with a hedonic base, due to the performance risk perceptions associated with the utilitarian services. This is a second finding that differs from what was found in the technological goods study. In that study, any type of addition to the base good had a positive incremental value; in the online convergent services study, any type of service addition had a negative incremental value unless it was both goal-congruent and related (which still only brought its incremental value up to neutral).

Conversely, it was found that additions to online convergent services with a hedonic base added value as long as they were related; goal-congruence was not a factor. Unlike with technological goods, where the hedonic goods are approached specifically with goals of pleasure and enjoyment, online convergent

services with a hedonic base are often approached while users should be doing something else, such as working or studying. As a result, a utilitarian functionality adds practical value and allows the consumer to justify the use of the service. However, the addition still had to be related and make sense to the user.

This study replicates and extends the findings from the technological goods study, and is the first to show key differences between convergent goods and online convergent services. This contributes not only to the convergent product literature, but also the body of work that details fundamental distinctions between goods and services that impact the way that managers should design and present offerings to consumers. Finally, it contributes to the literature on product and service design, giving specific recommendations for the best types of additions to include in different types of products.

Managerial Insights

Managers that are seeking to add value to online convergent services with a utilitarian base would do well to focus their efforts on improving the core service and communicating a message of high quality and dedicated service. If possible, it would be wise to offer the second service on a separate website, which would not represent a great loss in convenience to the customer. This would allow the firm to offer both functionalities without losing perceptions of quality. If it is necessary to add a second functionality to the online convergent service, then it will be important to make sure it is very related and goal-congruent to the

base service. Additionally, managers should focus on communicating the message of continued quality and exceptional service. To fail to do so could increase the amount of perceived risk associated with the service, which could undermine other marketing efforts.

Managers that are adding capabilities to online convergent services with a hedonic base should make sure that the users can understand how the new service fits in with the existing one and that it makes sense in terms of their existing mental schemas. Both goal-congruent and -incongruent added services will enhance value, but only if they are related in the mind of the consumer. Otherwise, the addition will only be seen as clutter that needs to be disregarded when accessing the core service.

Conclusion

As many companies today are moving towards convergent services (e.g. Facebook serves as a messaging service, an online calendar, and a game engine, to name a few), understanding how services fundamentally differ from goods in terms of perceived risk, and how this difference affects value perceptions, is critical for managers to succeed in an increasingly digital world. This study is a key step in gaining that understanding; it shows managers when to use what types of product additions to maximize customer value when considering online convergent services.

It would be interesting to see how these findings extend into the realm of advertising appeals. If a marketer uses a hedonic appeal for a utilitarian service offering, for example, how will that impact the consumer's response to the ad? Chapter 4 addresses the use of appeals in advertising for a power-use reduction program with a major energy provider.

CHAPTER 4

STUDY 3: HEDONIC AND UTILITARIAN REWARD APPEALS IN MARKETING COMMUNICATIONS

The purpose of the third study in this research is to examine how far the findings on hedonic and utilitarian additions might extend, and to explore additional variables that might impact key outcome variables. To this end, a field study was conducted with a major southwestern energy provider that looked at hedonic and utilitarian appeals in advertising. The overarching goal of the research was to maximize customer participation in an energy-use reduction program that allowed participants to save money on their power bill by reducing their power usage on specific days of the year.

Now, more than ever, firms, organizations, and government entities are asking consumers to make sacrifices for the greater good. For example, in many restaurants one can find a sign on the table noting that the restaurant is trying to reduce water waste, and will therefore refrain from bringing everyone at the table a glass of water unless specifically asked to do so. For another example, many hotels are now asking patrons to reuse their towels and sheets from day to day in order to cut back on excess laundering waste.

Asking customers to inconvenience themselves in order to be more green or sustainable is becoming commonplace; however, some firms will even do it in order to cut costs and keep prices low. For example, grocery store cart returns

often bear a sign encouraging patrons to return their cart in order to keep prices low for everyone.

To incentivize customers to inconvenience themselves, some firms will offer a small reward for consumers' making these sacrifices toward the greater good of sustainability or low prices. However, it may be that offering a small monetary reward may not be enough to incentivize some customers, unless the reward can be framed in a way to make it more meaningful or tangible to the consumer. One way of doing this might be to shift the focus from the amount of the reward to how the reward might be used, such as suggesting the consumer use the reward to buy movie tickets or a tank of gas.

Aside from asking customers to make a sacrifice, firms also ask customers for their business, and offer rewards for making the switch. For example, major credit cards offer customers cash back rewards or frequent flier miles. Again, framing these rewards in how they might be used, rather than focusing on their absolute value, might make the program more attractive to potential customers.

In this work, this type of appeal is termed a reward appeal, which is defined as an appeal that shows customers how they might use peripheral product benefits (such as time or money savings provided by the product) in a tangible way. In this work, two specific types of reward appeals will be examined; namely, hedonic reward appeals, which focus on pleasurable ways to use rewards, and utilitarian, which focus on practical ways to use rewards.

It is rare, however, for marketers to use different types of appeals alone; any given advertisement might include several different types of advertising

appeals. For this reason, it is beneficial to examine how reward appeals might interact with other commonly used types of communications, such as social norms information and role clarity messaging.

Social norms information can be an effective appeal, as people are greatly influenced by what they believe other people generally do (Cialdini, Reno & Kallgren 1990), especially if the individual is encountering a product or appeal that they are unfamiliar with (Cialdini & Trost 1998), which might be the case with reward appeals.

Role clarity refers to how well a customer knows how to act in a certain situation, and it is positively correlated with customer adoption (Meuter, Bitner, Ostrom & Brown 2005). It is possible that role clarity could interact with different types of reward appeals (that is, hedonic or utilitarian) because they might have varying levels of emotional involvement (Hirschman & Holbrook 1982), which, in turn, might affect how much ambiguity may be tolerated by customers.

Thus, these three types of communication elements (reward appeals, social norms, and role clarity) will be examined together in this study in order to understand the individual and interaction effects on participation in a power savings campaign. In this chapter, the following research questions will be addressed:

1. Which type of communication strategy will maximally impact participation in power savings days? Specifically, what is the effectiveness of: (a) hedonic vs. utilitarian reward appeals, (b)

social norms, and (c) role clarity messaging on intended participation?

2. How will the messaging impact customer engagement actions (e.g. visiting the energy provider's website)?
3. What is the optimal combination of communication elements to maximize program participation and further engagement?

This research contributes to marketing theory by examining the concept of reward appeals, which is a unique form of advertising appeal that suggests ways for customers to use rewards gleaned from their participation in incentive programs. This is also the first study to examine social norms in conjunction with type of reward appeal. This study incorporates the idea of envy to explain an interaction between social norms and reward appeal type. Additionally, this is the first study to look at the interaction between role clarity and reward appeals, suggesting that role clarity will be more important when a utilitarian reward appeal is used than when a hedonic reward appeal is used. This research can help managers to use reward appeals to their fullest extent by understanding these interaction effects and choosing the optimum combination of reward appeal type, social norms information, and role clarity information.

The rest of this chapter is laid out as follows: first, several hypotheses regarding reward appeals, social norms, and role clarity are developed based on the existing research. Second, a pretest and study used to test these hypotheses are described. Finally, the results of these tests are presented and discussed.

CONCEPTUAL DEVELOPMENT

Reward Appeals

In the past, when discussing advertising appeals, researchers have most commonly looked at value-expressive, or image, and utilitarian, or functional, appeals (Park, Jaworski & MacInnis 1986, Snyder & DeBono 1985, Johar & Sirgy 1991). This delineation has been discussed thoroughly in the marketing literature, being referred to as emotional versus rational, thinking versus feeling, or transformational versus informational appeals, to name a few. Essentially, value-expressive appeals are those that focus on the lifestyle or image that a product can help a person achieve, whereas utilitarian appeals are those that focus on specific attributes or benefits of a product (Johar & Sirgy 1991).

Marketing researchers have looked at hedonic and utilitarian values in terms of product attributes, but these concepts have not been as thoroughly explored within the context of advertising appeals. However, it can be argued that hedonic products are most closely associated with affect or emotion, whereas utilitarian products are associated with rationality. Therefore, much of the research on emotional and rational appeals might be applied to the concepts of hedonic versus utilitarian appeals.

Research on the impact of emotional versus rational appeals has yielded inconsistent results. Some studies find that rational appeals are more effective (Golden & Johnson 1983, Zielske 1982), whereas others find that emotional

appeals work best (Choi & Thorson 1983). Liu and Stout (1987) find a strong relationship between the emotional and cognitive responses to ads, and suggest that these two types of responses should be viewed as interdependent. Johar and Sirgy (1991), on the other hand, argue that value-expressive appeals work best for value-expressive products, and rational appeals work best for rational products. They suggest that the reason for this is that these are the types of appeals that customers would expect for these products based on their own perceptions of the products. Therefore the congruence results in persuasion. In fact, this need for appeal-product congruence is well supported and documented in the advertising literature (cf. Shavitt 1990, 1992, Sewall & Sarel 1986, Aaker, Batra & Myers 1992). Additionally, Stáfford and Day (1995) find that across two different service categories (one experiential and one utilitarian), a rational appeal, as opposed to an affective appeal, yielded more positive attitudes toward the ad. The authors posit that the concrete information provided by the rational ads helps to mitigate the perceived risk associated with services. Because of this, the authors even go so far as to suggest that rational appeals be used for all services.

Though informative, these studies focus on instances where the emotional or rational attributes of the product itself are stressed. In the present study, customers are asked to participate in a program that will save them money. They are encouraged to focus on the hedonic or utilitarian products that they might purchase with the money that they saved by participating in the program. By helping customers to imagine what they might use their savings for, it will help to

engage them further and increase their desire to participate in the energy reduction program.

In this work, a hedonic reward appeal is defined an appeal that shows hedonic products that customers can purchase with the savings from the energy reduction program. A utilitarian reward appeal, conversely, is defined as an appeal that shows utilitarian products that customers can purchase with the savings. These types of appeals might be used in campaigns that ask customers to make some sort of sacrifice for a small reward, such as donating blood for a small amount of money or participating in a customer satisfaction survey. Additionally, these types of appeals might be used when marketing time-saving products, where the time saved becomes the reward for purchasing the product.

Based on past research, it is unclear whether a hedonic or utilitarian appeal will be more effective. On one hand, Okada and Hoch (2004) showed that people are more willing to pay with time for hedonic items, but money for utilitarian items. In this case, participating in the energy reduction program represents a sacrifice of convenience, which might make a hedonic appeal more effective. Furthermore, customers are likely to see the savings from the program as a windfall, because they did not originally anticipate being able to earn savings on their power bills. O'Curry and Strahilevitz (2001) find that consumers prefer hedonic goods over utilitarian goods when they are acquired via windfall rather than purchase.

On the other hand, the appeal literature shows that congruence between the type of appeal and the type of product is the most effective. Since energy is a

utilitarian product, a utilitarian value appeal might be more effective in maximizing program participation. Because this is a service context, and Stáfford and Day (1995) find that utilitarian appeals appear to be more effective across multiple service types, it is expected that the utilitarian reward appeal to be more effective in maximizing program participation.

H_1: Customers who view a utilitarian reward appeal will anticipate participating in more power savings days than customers who view a hedonic reward appeal.

Social Norms

Social norms can be described as rules for social behavior that have been jointly agreed upon as a group (Sherif 1936) that guide or constrain behavior without the need for laws (Cialdini & Trost 1998). Social norms have been delineated into two types: injunctive norms (or things that we should do) and descriptive norms (things that most people do) (Deutsch & Gerard 1955). Descriptive norms appear to be very powerful in determining human behavior; for example, participants who believe that most people litter are more likely to litter themselves (Cialdini, Reno & Kallgren 1990). It is important to note, however, that social norms only affect behavior when the particular norm is salient (Kallgren, Reno & Cialdini 2000).

Descriptive norms can be particularly influential in novel situations where the expected or correct course of behavior is unclear (Cialdini & Trost 1998; c.f.

Gilbert 1995, Stiff 1994, Festinger 1954); in the case of a new energy savings program, it is likely that social norms information should have an influence on the customer's decision to participate. Therefore, when the social norm to take part in an energy savings program is salient, then it is expected that customers will be more likely to participate.

H_2: Customers who view a communication that includes social norm information will anticipate participating in more power savings days than customers who view a communication that does not include this information.

There is also reason to believe that social norms information will interact with the type of reward appeal that is presented in the communication. After being given social norms information, the customer might compare their own future actions to those of others, as described by the communication, in order to know how to react (Festinger 1954). When the communication is framed in a way that suggests that participants use their savings for either hedonic or utilitarian rewards, customers might then compare their rewards to the comparison group.

Hedonic consumption is more emotionally involving than utilitarian consumption, as hedonic products are primarily purchased to satisfy emotional desires, whereas utilitarian products are usually selected for their functional properties (Hirschman & Holbrook 1982). Motivation researchers point out that in some cases, these emotional desires can actually supersede utilitarian or economic motives (Maslow 1968, Dichter 1960).

When social norms information is salient, this effect may be even stronger, because of consumer envy. Envy "occurs when a person lacks another's superior quality, achievement, or possession and either desires it or wishes that the other lacked it" (Parrott & Smith 1993, p. 906). Consumer envy can be a positive thing, as it motivates people to work harder and strive to achieve those things that they envy in others (Belk 2008). Furthermore, consumers are willing to pay a premium for products if they envy another for possessing them (Van de Ven Zeelenberg & Pieters 2011).

It might be that hedonic reward appeals are more likely to elicit consumer envy than utilitarian reward appeals, because hedonic products are inherently more emotional. Once emotion is activated by the hedonic appeal, envy will be much more accessible to customers as they consider the actions, and subsequent rewards, of others. However, it is likely that envy will only be activated when there is a specific social norms appeal in the communication. Therefore, the effect of reward appeal may be reversed when the ad includes a social norms appeal compared to when it does not, such that when the ad contains a social norms component, the hedonic reward appeal will be more effective, but when it does not, the utilitarian reward appeal will be more effective.

H_3: The social norms appeal will moderate the effect of the type of reward appeal, such that when a social norms appeal is present, customers will anticipate participating in more power savings days after viewing a hedonic reward appeal rather than a utilitarian reward appeal, but when the social norms

appeal is not present, customers will anticipate participating in more power savings days after viewing a utilitarian reward appeal rather than a hedonic reward appeal.

Role Clarity

Role clarity reflects how well a customer knows and understands what to do in a given situation, and is a strong predictor of customer adoption (Meuter, Bitner, Ostrom & Brown 2005). When customers know what they are supposed to do to take part in a program, they are more likely to participate. Low role clarity has been shown to increase psychological strain (Bliese & Castro 2000), leading to negative affect, which in turn will reduce participation (Garbarino & Edell 1997). Therefore, it is likely that role clarity will have a positive, main effect on program participation.

H_4: Customers who view a high role clarity communication will anticipate participating in more power savings days than customers who view a low role clarity communication.

A two-way interaction between reward appeal type and role clarity might also be expected given prior research. Specifically, the absence of role clarity could reverse the effects of reward appeal type. When role clarity is low, customers may be more willing to try to participate with a hedonic reward appeal than with a utilitarian reward appeal. First, hedonic products are more emotionally involving than utilitarian ones (Hirschman & Holbrook 1982), which

might cause hedonic appeals to seem to be more worth the extra effort than utilitarian appeals. Second, as noted before, people are more willing to pay with time for hedonic goods and with money for utilitarian goods (Okada & Hoch 2004). In this case, with low role clarity, it could take extra time or effort for customers to understand what to do in order to participate in the program, which would make them more likely to do so for hedonic reward appeals than utilitarian reward appeals. Conversely, failing to participate in the program could be perceived by participants as costing money in the form of unearned bill credits, which is something they would be more willing to do for utilitarian products than for hedonic products. However, when role clarity is high, there will not be extra time or effort associated with participating in the program. In that case, utilitarian reward appeals should be more effective than hedonic reward appeals.

H_5: Type of appeal moderates the relationship between role clarity and anticipated participation, such that the negative effect of having low role clarity will be stronger for utilitarian reward appeals than for hedonic reward appeals.

These predictions were tested with a field study that was conducted with a major southwestern energy provider. The energy provider was introducing a power savings program to their customers, and wanted to craft communications regarding the program that would maximize participation. The power savings program was such that if customers reduced their power consumption on certain "power savings days", they could earn bill credits that would reduce the amount of their next energy bill. Essentially, customers were asked to inconvenience

themselves in exchange for a small reward. Type of reward appeal was manipulated by suggesting that participants use their savings off of their power bill to purchase either hedonic or utilitarian products or services. Additionally, social norms and role clarity were also manipulated.

PRETEST

Method. The goal of the pretest was to select six images (three hedonic and three utilitarian) that would be shown in groupings in the final communication for the energy savings program. In order to do this, several pictures that were presupposed to differ on their hedonic and utilitarian properties were presented to participants. Participants then rated each picture using the HED/UT scale (Voss, Spangenberg & Grohmann 2003). Additionally, participants were asked to estimate the cost of each product or service with the item, "How much would you typically spend on the good/service represented above on a single occasion?" Because the communication would suggest that participants use their program rewards to purchase the products and services in the pictures, it was important to make sure the cost of the products were comparable so that customers would not have differing expectations as to the efficacy of participating in the energy savings program. Finally, participants were asked to rate their overall feelings for the product with the item, "My feelings toward the good/service are: completely negative / completely positive," which they rated on a scale from one to seven.

Results. Using each good or service's HED/UT score, an ANOVA was conducted in order to select images of products that differed sufficiently on their hedonic and utilitarian dimensions. Specifically, for hedonic images, the selected pictures were of a man listening to music in a record store, two women shopping, and a couple at the movies. For utilitarian images, the pictures selected were a hand filling up a gas tank, a plumber, and a couple visiting the pharmacist. For the hedonic and utilitarian means for these images, please refer to Table 4-1. Additionally, copies of the final images can be found in Appendix E.

Table 4-1
Reward Appeals Study, Means for Selected Hedonic and Utilitarian Images on the HED/UT Scale

	Hedonic*	Utilitarian*	Hed/Ut*	Pos/Neg
Hedonic				
Man listening to music	5.312	4.807	4.253	5.544
Women shopping	5.288	4.87	4.209	5.351
Couple at the movies	5.677	4.649	4.514	5.807
Utilitarian				
Hand pumping gas	3.032	5.86	2.586	4.561
Plumber	2.853	6.165	2.344	4.972
Couple at the pharmacy	3.052	5.872	2.819	4.828

*All hedonic products vs. utilitarian products means' are significantly different at the .01 level.

MAIN STUDY

Method

Study design and sample. This study was a 2 (reward appeal type: hedonic or utilitarian) by 2 (social norms: high or low) by 2 (role clarity: high or low) between subjects design. The variables were manipulated by altering the pictures and messaging in eight different versions of a sample communication promoting the savings program.

Participants were 538 members of a customer panel from the energy provider who have agreed to participate in various pilot programs and surveys for the company. The sample had a mean age of 49.5 years and was 51% male.

Procedure. Participants were randomly assigned to one of the eight conditions. They were first asked to view a website that explained how the power savings program worked. Following this, they were asked to view one of the eight possible email communications promoting the program. In these communications, hedonic or utilitarian reward appeal was manipulated by presenting one of the two sets of images that were selected in the pretest. Additionally, under the pictures was one of two messages: "Treat yourself with the savings! Reduce electricity use at home tomorrow between 2:00 pm and 6:00 pm and put your savings towards something fun" (hedonic) or "Put your savings

to use! Reduce electricity use at home tomorrow between 2:00 pm and 6:00 pm and put your savings toward something useful" (utilitarian).

Additional messaging manipulated social norms: the high social norms treatment read, "Your neighbors are already saving; join people in your community who have already earned bill credits with the savings program," and the low social norms treatment read, "You're ready to save; earn bill credits with the savings program."

Finally, role clarity was manipulated by giving participants specific suggestions for how they might participate. The high role clarity message read, "Small gestures add up; lower your energy use tomorrow. Raise your thermostat setting 4 to 6 degrees, don't run your clothes dryer, turn off the TV, unplug appliances and electronics, and close windows and doors while running the A/C." The low role clarity message read, "Small gestures add up; lower your energy use tomorrow." Copies of all eight communications can be found in Appendix F.

After viewing the website and power savings day communication, participants then completed a questionnaire about their likelihood of participating in the program and several other key measures.

Dependent measures. The primary dependent variable for this study was expected participation, which was measured with the item, "If there are 12 power savings days announced between June 1 and October 1, 2012, how many of them would you participate in?" Participants responded by filling in the blank for the following phrase, "I would participate in approximately ____ of the 12 days," or

they could select, "I'm not sure." Additionally, participants evaluated the extent to which the program affected perceived value with the items, "To what extent does the addition of the savings program affect the value of the energy provider's offerings to you?" and "To what extent does notification of the power savings program the day before a save power event affect the value of the energy provider's service to you?" (seven-point scales ranging from 1 [much less valuable] to 7 [much more valuable]).

In addition to participation and value, a measure was included to address the idea of increased engagement with the firm: "How likely are you to visit the energy provider's website to check your energy use and earned bill credits after a power savings event?" (seven-point scale ranging from 1 [not at all likely] to 7 [extremely likely]).

Other measures. The survey instrument included several measures that served as manipulation checks. Role clarity was measured using items adapted from the role clarity scale developed by Rizzo House, and Lirtzman (1970). The items included were, "I know what to do to earn bill credits with the savings program," "I have the information I need to earn bill credits with the savings program," and "I know what is expected of me to earn bill credits with the savings program" (seven-point scales ranging from 1 [strongly disagree] to 7 [strongly agree]; Crohnbach's alpha = .97).

Labovitz and Hagedorn suggest that a valid method of measuring social norms is to simply ask the participants about them (1973). Therefore, descriptive

norms were measured with the items, "Most people will reduce electricity use on a power savings day to earn bill credits," and "It is normal for people to reduce electricity use on a power savings day to earn bill credits" (seven-point scales ranging from 1 [strongly disagree] to 7 [strongly agree]; Crohnbach's alpha = .80).

The complete survey that was administered to participants can be found in Appendix G.

Results

There were no supported hypotheses as a result of this study. Additionally, there were no significant effects for the two perceived value items. The results of the ANOVA can be found in Table 4-2.

Table 4-2
Results of Analysis of Variance for Anticipated Participation

Source	Type III Sum of Squares	df	Mean Square	F	*p*
Corrected Model	30.757	7	4.394	0.399	.903
Intercept	56186.677	1	56186.677	5102.697	.000
ValueAppeal	10.819	1	10.819	0.983	.322
SocInfo	8.151	1	8.151	0.740	.390
RoleClarity	8.124	1	8.124	0.738	.391
ValueAppeal * SocInfo	0.094	1	0.094	0.009	.926
ValueAppeal * RoleClarity	2.975	1	2.975	0.270	.603
SocInfo * RoleClarity	0.523	1	0.523	0.047	.828
ValueAppeal * SocInfo * Rol	0.162	1	0.162	0.015	.904
Error	5835.921	530	11.011		
Total	62073.000	538			
Corrected Total	5866.678	537			

Main effects. **H_1** predicted that customers would anticipate participating in more power savings days after having seen a utilitarian reward appeal rather than a hedonic reward appeal. This hypothesis was not supported by the data (p = .32). **H_2** posited that a social norms appeal would have a positive main effect on anticipated participation in power savings days, which was not supported (p = .39). Finally, **H_4** predicted a positive main effect for role clarity on anticipated participation, but this was not supported (p = .39).

Reward appeal type by social norms interaction. **H_3** suggested a two-way interaction between reward appeal type and social norms, such that when a social norms appeal was used, the hedonic reward appeal would be more effective, but when the social norms appeal was not used, a utilitarian reward appeal would be more effective. This hypothesis was not supported by the data (p = .93).

Reward appeal type by role clarity interaction. **H_5** predicted a two-way interaction between reward appeal type and role clarity, such that the negative impact of low role clarity on anticipated participation would be more pronounced for those who viewed a utilitarian reward appeal than for those who viewed a hedonic reward appeal. This predication failed to be supported by the data (p = .60).

Manipulation checks. The manipulation check for role clarity did not appear to be effective (p = .28), meaning there was no difference between the high

role clarity and low role clarity groups using the role clarity measures. Additionally, the manipulation for social norms did not appear to have an effect (p = .65), as there were no differences between groups on the descriptive norms measures.

DISCUSSION

There are several reasons why the field study may have yielded insignificant results. First of all, there appeared to be a ceiling effect with the power savings days, because it seemed to be a very popular program. Most participants anticipated participating in at least ten out of twelve days, if not more. As such, less movement was seen between conditions because the program was very well received overall.

Secondly, the participants in the survey were all customers that had agreed to participate in a panel that evaluates offerings from the energy provider. As a result, it is likely that these respondents were already relatively invested in the company's offerings and were more likely to take part in them, regardless of the type of appeal used. In hindsight, a more representative sample of the entire customer base, and not just panel volunteers, might have allowed a better test of the differing types of communications.

Finally, when the survey was administered, participants first viewed a website that explained the program. On that website, there is a picture of a couple sitting on the couch drinking coffee, along with the copy, "Unplug for the

afternoon." This imagery is relatively hedonic, and might have diluted the manipulations that participants saw on the subsequent communications regarding the program. Additionally, the explanatory website is likely the cause of the lack of effectiveness for the role clarity information, as all participants had the program explained to them before viewing the email. Finally, the picture of people relaxing and participating in the program could also have affected the social norms manipulation, as they were a very normal looking and happy couple. This might have given participants the idea that participation in the program is regular behavior, thus nullifying the manipulation seen in the subsequent email. It would have been a cleaner test of the types of reward appeals, role clarity messaging, and social norms information if the explanatory website had not been viewed by participants prior to being exposed to the email that contained the manipulations.

Theoretical Contributions and Managerial Insights

This study is the first to introduce the term "reward appeals", which refers to appeals that ask participants or customers to focus on how they would use a reward from a program, rather than the reward itself. Reward appeals can be used in a variety of contexts. For example, reward appeals can be used when asking consumers to inconvenience themselves or make sacrifices for the greater good, or they might be used when describing participation rewards, such as credit card points or cash back. Additionally, when selling goods or services that save people

time or money, reward appeals can be applied to shift focus to the value of the money or time saved.

Because reward appeals are a new concept, this is the first study to examine them in conjunction with social norms and role clarity. In this study it is suggested that consumer envy can cause an interaction between reward appeal type and social norms, such that social norms information will result in higher participation if a hedonic reward appeal is used rather than a utilitarian reward appeal. Though support for this assertion was not found in the field study, if this prediction is supported in future research, this finding could prove very useful to managers who are trying to use marketing communications to maximize program participation.

Earlier in this work it was posited that having high role clarity was more important to program participation when a utilitarian reward appeal is used rather than a hedonic reward appeal. The reasoning behind this was simple: people are more willing to expend extra time for hedonic rewards than for utilitarian rewards. Having low role clarity might make the participation process more time consuming as consumers need to learn how to participate. Once again, this assertion was not supported by the field study; however, if it were supported in future research, this could help managers to make marketing communications decisions. For example, in some cases, space is limited for marketing communications, and managers must decide what to make room for and what to cut. If they are using a hedonic reward appeal, they might find that they are able

to remove role clarity information because participants would be more willing to find out how to participate for themselves.

Conclusion

Many of the shortcomings of this research should be addressed in further study. A similar design might be used; however, it should be tested on participants from the entire customer population rather than panel volunteers. Additionally, any supplemental or explanatory materials about the program should be neutral in terms of hedonic or utilitarian value. Finally, the study program should be one where participation is more varied, in order to be able to see differences in the treatment effects. If a very popular program is chosen, the type of appeal is going to have less of an impact.

Overall, reward appeals represent a thought-provoking avenue of research that could be of great use to marketing practitioners. Future research could look at additional variables, such as any interaction between the program type (that is, hedonic or utilitarian) and the type of value appeal. Additionally, reward appeals could be examined in conjunction with social networking, competition, or pride appeals.

Regardless of the outcome, this has been a beneficial extension to the first two chapters in this work, which examined hedonic and utilitarian value in goods and services.

CHAPTER 5

CONCLUSION

This work examines convergent good and service design in terms of the hedonic and/or utilitarian value that they provide. The research presented in the preceding chapters not only resolves prior findings in the area, but also advances knowledge in this timely and important area of research. Additionally, the two studies on technological goods and free online services allow for a greater depth of understanding of the differences between goods and services in the area of convergent goods and services. Finally, this work extends the research into a new and typically unrelated context, ad appeals, to gain better understanding of the robustness of the concepts and relationships that were investigated.

The rest of this chapter will proceed as follows: first, the results of each of the three studies will be summarized, with an explicit comparison between the technological goods study and the free online services study. Second, the overall theoretical and managerial contributions of the research will be presented. Finally, limitations of the research and directions for future research will be explored.

SUMMARY OF STUDY RESULTS

Technological Goods Study

The first study used an experiment with student subjects to examine product convergence in a technological goods context. This study used a 2 (convergent good base: hedonic or utilitarian) by 2 (convergent good addition: hedonic or utilitarian) by 2 (convergent good addition: related or unrelated) between-subjects design. Participants viewed an ad for the potential convergent product and then completed a survey measuring likelihood of purchase for the product, the perceived incremental value of the product addition, incremental pleasure from the addition, incremental practicality/productivity from the addition, and justification.

Main effects. The results of this experiment showed that in general, likelihood of purchase and perceived incremental value were higher for convergent goods with a utilitarian base with any type of addition than for convergent goods with a hedonic base with any type of addition. Furthermore, likelihood of purchase and incremental value were greater for convergent goods with goal-congruent additions than for goal-incongruent additions. Finally, likelihood of purchase and incremental value were also higher for convergent goods with related additions compared to convergent goods with unrelated additions.

Convergent good base type by goal-congruence interaction. A marginally significant two-way interaction was found between the convergent good base type and the goal-congruence of the interaction for incremental value; it was found that the negative effect for goal-incongruence was stronger for convergent goods with a hedonic base than for convergent goods with a utilitarian base. This finding was in line with expectations, as goal-incongruent additions to hedonic base goods were seen to detract from the pleasure to be gleaned from the convergent good.

Convergent good base type by goal-congruence by relatedness interaction. The data showed a significant three-way interaction between convergent good base type, goal-congruence, and relatedness on likelihood of purchase and incremental value. For convergent goods with a hedonic base, goal-congruence and relatedness exerted positive effects on likelihood of purchase and incremental value, with no interaction between the two. For convergent goods with a utilitarian base, there was an interaction between goal-congruence and relatedness; likelihood of purchase and incremental value were most positive for additions that were both goal-congruent and related.

Mediation. The above effects were mediated by justification and incremental practicality/productivity, but not incremental pleasure. The lack of mediation for incremental pleasure differs from what Gill (2008) found; however, as noted in Chapter 2, when participants are asked about likelihood of purchase in

addition to incremental value, it changes their line of thinking toward constructing reasons to justify the expenditure. As such, it makes sense that the findings showed mediation for incremental practicality/productivity and not incremental pleasure, as incremental practicality/productivity is easier to justify.

Free Online Services Study

The second study used an experiment with student subjects to examine service convergence in a free online services context. Like the first study, this experiment used a 2 (convergent service base: hedonic or utilitarian) by 2 (convergent service addition: hedonic or utilitarian) by 2 (convergent service addition: related or unrelated) between-subjects design. Participants were shown an advertisement for one of eight potential convergent services and then were asked to complete a survey that measured perceived incremental value, perceived incremental pleasure, perceived incremental practicality/productivity, justification, and performance risk.

Main effects. The results of the experiment showed that performance risk was higher for online convergent services with a utilitarian base with any type of addition than for online convergent services with a hedonic base with any type of addition, as expected. In addition, perceived incremental value was higher for online convergent services with a hedonic base than for online convergent services with a utilitarian base. Perceived incremental value was also higher for

convergent services with goal-congruent (versus goal-incongruent) additions as well as related (versus unrelated) additions.

Convergent service base type by goal-congruence interaction. The data revealed a two-way interaction between convergent service base type and goal-congruence on incremental value; there was a greater negative impact for goal-incongruence for convergent services with a utilitarian base than for convergent services with a hedonic base. This interaction is in the expected shape, as goal-incongruent additions to convergent services with a utilitarian base were expected to increase the perceived performance risk of the convergent service, which in turn would decrease the perceived incremental value.

Convergent service base type by goal-congruence by relatedness interaction. A three-way interaction between convergent service base type, goal-congruence, and relatedness was found for incremental value. Convergent services with a hedonic base showed a positive main effect for relatedness on incremental value, and a marginally significant main effect for goal-congruence on incremental value, with no interaction. Convergent services with a utilitarian base showed an interaction between goal-congruence and relatedness; all additions had a negative incremental value except for those that were both goal-congruent and related.

Mediation. As per expectations, both performance risk and justification mediated the effects between convergent service base type, goal-congruence, and relatedness and the perceived incremental value of the addition. As performance risk increased, incremental value decreased. Additionally, the more participants were able to use the addition to justify the use of the convergent service, the higher the incremental value was observed. Furthermore, both incremental pleasure and incremental practicality/productivity were found to be significant mediators for the observed effects. As participants anticipated more pleasure or practicality/productivity from the potential additions, the more they perceived the incremental value to increase.

Comparison of Technological Goods Study and Free Online Services Study

The second study on free online services partially replicates and extends the findings from the first study on technological goods. First, consistent between the technological goods study and the free online services study was the finding that convergent products were viewed most favorably when their additions were both goal-congruent and related. Second, when customers could use the addition to justify the purchase or use of the convergent good or service, the perceived incremental value benefitted. It is suggested that in the first study, the thing to be justified was the cost of the good, but in the second study, the thing to be justified was time spent and the risk associated with using the website.

However, there were also some differences in the findings between the goods and services contexts. In general, incremental values for product additions were higher for all types of base and addition combinations for convergent goods than for convergent services. A few reasons for this difference were suggested: first, when consumers have to pay for a product, as with technological goods, additional product capabilities can be seen as giving the purchaser better value because they only have to purchase one product instead of two; second, with free online services, customers are looking for cues to assess quality, and service convergence may lead them to believe that the service provider is extending too far, resulting in lower quality, and therefore value; third, because of the nature of online services, convergence may not be as valued, as customers can easily visit another website to access additional capabilities without losing much in terms of time or convenience. As such, online service additions would have a lower incremental value compared to additions to technological goods.

Additionally, unlike the technological goods study, the free online services study found that incremental values were higher for convergent services with a hedonic base than for convergent services with a utilitarian base. This was true because of the increased perceptions of risk associated with the utilitarian online convergent services. Because of the intangibility of services, it is more difficult for consumers to evaluate them a priori – they start to look for other information to determine quality, such as service additions. Convergent services have a higher sense of risk associated with them, as consumers tend to see multiple-function products as having lower quality than dedicated products (Han, Chung & Sohn

2009). Furthermore, utilitarian services are inherently more important than hedonic ones are to consumers, which will result in higher risk perceptions. This risk diminishes the incremental value that is yielded from additional service functionalities.

There was also a difference between the two studies in the shape of the interaction between convergent product base type and goal-congruence on incremental value. In the technological goods study, the negative impact of goal-incongruence was greater for convergent goods with a hedonic base than for convergent goods with a utilitarian base. However, for the free online services study, the opposite was found: the negative impact of goal-incongruence was greater for convergent services with a utilitarian base than for convergent services with a hedonic base.

In the technological goods study, there was a negative impact of goal-incongruence for convergent goods with a hedonic base on incremental value, because the utilitarian addition was seen to detract from the pleasure to be gleaned from the product. Conversely, goal-congruence was not as important for convergent goods with a utilitarian base, because a hedonic addition was viewed with anticipated pleasure, without its encroaching on the functional purposes of the base.

In the free online services study, there was a negative impact of goal-congruence for convergent services with a utilitarian base, because these services were associated with greater levels of perceived risk. Here the saying, "jack of all trades, master of none," rings true with consumers. If the online convergent

service offered capabilities that were too far removed from the core service, performance risk increased. This risk, in turn, negatively impacted the perceived incremental value of the addition. For convergent services with a hedonic base, goal-congruence was less important; a utilitarian addition could help participants to justify the use of the site, or at the very least, be ignored.

The differences between convergent goods and services were largely driven by the enhanced sense of performance risk that was associated with free online services, which greatly impacted the way that product additions were interpreted and valued by consumers.

Reward Appeals Study

The third study is a departure from the first two studies, in that it tests the robustness of the application of hedonic and utilitarian value by extending the concepts into the realm of advertising appeals. The third study used an experiment with a customer panel from a major southwestern energy provider to examine hedonic and utilitarian reward appeals, social norms, and role clarity. Participants viewed one of eight possible email communications encouraging them to participate in an energy savings day, and then they rated their anticipated participation. Unfortunately, this study did not yield any significant results. However, it introduced the concept of reward appeals for the first time, and made several suggestions for how the type of reward appeal might interact with social norms and role clarity information in an advertising message. The design and

execution of this study had several issues that were discussed earlier that need to be resolved in a follow-up study using a different sample population. Regardless of the outcome, this study represents an exciting new direction for future inquiry.

CONTRIBUTIONS OF THE RESEARCH

Theoretical Contributions

This research makes several contributions to the product design, services, and advertising literatures. First, this research adds to the growing body of work in the area of convergent products, which to date is still largely unexplored. As more and more products start to offer multiple functions and capabilities, understanding the effects of these combinations is important to managers and researchers alike. This research has examined a greater complexity of product combinations than ever before, looking at whether the base was hedonic or utilitarian, whether the addition was hedonic or utilitarian, and whether the addition was related or unrelated. In particular, the concept of relatedness had not been explored in convergent products before, though similar concepts have been studied in marketing, such as congruency (Heckler & Childers 1992), categorization (Sujan 1985; Sujan & Dekleva 1987; Cohen & Basu 1987), and fit (Tauber 1988; Nkwocha, Bao, Johnson & Brotspies 2005), to name a few. The examination of relatedness in the area of convergent products allowed for a more detailed and comprehensive understanding of the observed effects. In addition to

this, a reliable measure for relatedness was established and tested in the course of the research. This is a measure that other researchers will be able to use in their own examinations of convergent products.

Second, by accounting for relatedness, this research helps to resolve some conflicting findings in the literature between hedonic and utilitarian value and choice. Prior research in convergent products and justification showed effects that were incongruent with each other. Specifically, Gill (2008) found that utilitarian additions to hedonic products detracted from their value because of diminished anticipated pleasure. However, research in justification suggests that utilitarian products are more easily justified than hedonic ones (cf. Lascu 1991; Kivetz 1999; Dhar & Wertenbroch 2000), especially if there is an explicit comparison between hedonic and utilitarian goods (Okada 2005). When a utilitarian functionality is added to a hedonic base, there is likely an implicit comparison between the two types of value to be gleaned from the product. As such, per the justification literature, we would expect consumers to value the utilitarian addition to a hedonic base, because it would allow them to justify the purchase of the product, which is the opposite of what Gill (2008) found. Recall that Gill added electronic yellow pages (utilitarian functionality) to an MP3 player (hedonic base). It could be argued that electronic yellow pages are relatively unrelated to an MP3 player. Once we account for relatedness, we can see that as long as the utilitarian functionality is related to the base, and makes sense to customers, they can use it to justify the purchase of the product, and therefore, do indeed, value it.

Third, this is the first study to explicitly examine and measure the concept of justification in the context of good and service convergence and choice. Prior research comparing justification effects between hedonic and utilitarian products looks at separate products (Okada 2005), as opposed to this research, which looks at these effects within a single product. The concept of justification has been examined before in marketing, as noted above, but its measurement has been mixed. Okada (2005) suggests that justification can explain her findings, though she does not measure it, whereas other researchers look at reasons as a proxy for justification (Shafir, Simonson & Tversly 1993; Kivetz 1999; Dhar & Wertenbroch 2000). The three-item measure for justification developed in this research has a high reliability and usability, and will be a useful tool for other researchers that are interested in exploring the concept of justification in a more concrete and quantifiable way. This measure may allow marketers to observe justification effects in ways that were not previously considered, such as those found in Chapter 2, showing that a hedonic addition can actually help a consumer to justify the purchase of a hedonic base good.

Fourth, this work introduces the concept of convergent services, specifically differentiating it from convergent goods, showing important differences between convergent goods and services regarding the effect of hedonic and utilitarian additions on either hedonic or utilitarian base goods or services. This research shows how the intangibility of services (cf. Zeithaml, Parasuraman & Berry 1985; Zeithaml & Bitner 1996) can lead to increased perceptions of risk (Murray & Schlacter 1990; Mitchell & Greatorex 1993), which

in turn impacts the way convergent services are interpreted and valued by customers. The findings are important in particular for services literature, as researchers in the field strive to understand the unique challenges of the services context. By highlighting the role of risk in product evaluation, this research draws clear links between the intangibility of services and value. In fact, though risk has been linked in the past to lower likelihood of purchase (Cox & Rich 1964), this study is the first to show the link between risk and incremental value.

Fifth, this research tests the applicability of hedonic and utilitarian value by extending it into the realm of advertising appeals in a new way. Specifically, the work introduces the idea of reward appeals, which highlights the types of value a customer can get from product savings (be it time or money), as opposed to focusing on hedonic or utilitarian aspects of the product itself. This concept is largely unexplored in the marketing literature, and represents a promising avenue for future research. The introduction and definition of reward appeals represents a distinct contribution of this research, as it describes a very distinct but increasingly prolific type of advertising appeal. The definition and description of this phenomenon will help future researchers to use a common language and understanding to further explore this idea.

Finally, as this is the first research to explicitly examine the idea of reward appeals, it is also the first to propose potential relationships between reward appeals, social norms, and role clarity. Though there were not significant findings in this work, for reasons discussed earlier, the delineation of these relationships

serves as a useful foundation for future research and understanding of these concepts.

Managerial Insights

This research has yielded insights into different types of convergent goods and services that allow for specific recommendations to managers about their potential offerings. First, managers adding capabilities to convergent goods with a hedonic base would be most successful by addition functions that are both goal-congruent and related to the base. These additions do not detract from the anticipated pleasure that is associated with the product, but still permit the customer to justify the purchase of the product by giving them more "bang for the buck". Furthermore, managers should stress the practicality of having two-in-one products in order to enhance the justification effects.

Second, managers adding capabilities to convergent goods with a utilitarian base should include goal-congruent, related additions when they are focusing on likelihood of purchase; however, as they release updates to the technology to existing users, managers should consider goal-incongruent additions that can yield additional incremental value to customers.

Third, managers that are adding capabilities to convergent services with a hedonic base should focus on the relatedness of the addition; that is, users need to feel that the combination makes sense in order for them to add value; otherwise, the addition will only be seen as clutter.

Fourth, for managers adding capabilities to convergent services with a utilitarian base, it is essential that the additions are both goal-congruent and related in order to minimize the perceptions of risk that will be associated with any service addition. Furthermore, managers should focus their marketing messaging on quality and exceptional service to help alleviate performance concerns.

Finally, the exploratory research into reward appeals represents an avenue of research that will be extremely beneficial to managers. As space, time, and consumer attention are at a premium, managers seek to craft the most effective messages possible in the most efficient way. As such, they will often combine several different types of appeals into a single message. Because of this, it is important to understand how various types of appeals interact with each other so managers can select the most successful combination of appeals to achieve their goals.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Limitations

There are a few limitations to this research that should be noted. First, the sample populations used in the experiments, namely student subjects (for the technological goods study and free online services study) and a voluntary customer panel (for the hedonic and utilitarian reward appeals study) could limit

the findings in terms of their generalizability. Student subjects might have more disposable income than the general population, as they often do not have mortgages and children, but do often have part-time jobs. This higher disposable income might make the students less discriminating in terms of product requirements when deciding whether to make a purchase. Furthermore, college students might be more driven by hedonism than the general population, making them more likely to prefer hedonic product additions and to reject utilitarian ones.

The use of the voluntary customer panel in the hedonic and utilitarian reward appeals study was problematic because the customers were already highly engaged with the company, making them an inaccurate reflection of the customer body as a whole. This likely reduced the variance that might have been observed between conditions for this experiment.

The second limitation of this work that should be noted is that only a few products were examined as part of the research. For technological goods, the goods were e-book readers and video game consoles; it is possible that these particular goods might not be exemplars for the technological goods product category as a whole. The same argument can also be made for the humor website and financial advice website for free online services. As such, these findings should be used judiciously in other settings.

Third, all three experiments were scenario based, with self-reported estimates of likelihood of purchase, overall incremental value, and likelihood of participation. This research would be greatly enhanced by the measurement of actual behavior, rather than relying primarily on these self-report measures.

Directions for Future Research

There are several potential avenues for future research that are worthy of study. First, a study with brick-and-mortar services should be added to the body of work. Brick-and-mortar services are still intangible, but deal with different trust and risk issues than those that are found online. As such, examining the effects of service convergence in this arena would add an even greater depth of understanding to this concept and provide valuable insights to service researchers.

Second, there are other potentially impactful variables to good and service convergence that merit examination. For example, the amount of information required by the customer to access online services could influence the amount of perceived risk, as people are becoming more and more aware of privacy and identity theft issues. Similar to the amount of information is the amount of effort required by the consumer to access content. If it is necessary to create an account or to go through a lengthy product setup, even if additional information is not required, that would represent an extra cost to using the good or service that could affect perceptions of value. Finally, the importance of the good or service to the customer might make them more or less tolerant of these additional costs or risks.

There are also some possible boundary conditions to the effects observed in this study that are worthy of further research. For example, the brand equity of the offering firm or experience with the good or service category might mitigate or exacerbate perceptions of risk. Additionally, there might be individual differences in the amount of justification consumers need to do; some customers

may not feel the same level of guilt associated with hedonic consumption as others. Lastly, the history of good or service convergence in the category might have an influence on the perceptions of risk associated with the good or service. If a category has a long history of convergence, the perceptions of performance risk might be lower, as consumers will assume that the firm offering the convergent good or service has had plenty of time to experience to "work out the kinks".

This research represents an exciting first step in a stream of research that will help marketers understand how customers view value and risk in good and service convergence.

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APPENDIX A

PICTURES OF THE EIGHT CONDITIONS FROM TECHNOLOGICAL GOODS STUDY

Convergent Product with a Hedonic Base and a Goal-Congruent, Related Addition

NOW…

Watch Blu-Rays and DVDs Right from Your Video Game Console
by
eTech

- Unlike typical video game consoles, **this new video game console comes with everything you need to enjoy your favorite Blu-Rays and DVDs**, right out of the box.
- In the past, consumers have been forced to buy everything separately for their gaming and movie watching needs: a console for high quality video games and a separate Blu-Ray/DVD player. Now you can **combine these two functionalities in this one purchase**.

- The video game console comes with two wireless controllers, with the ability for four people to play simultaneously.
- With a wide variety of games to play, the console also has 256 MB of storage to save your progress.
- With its sleek design and small form factor, the eTech video game console will be a stylish addition to any home décor.

Convergent Product with a Hedonic Base and a Goal-Congruent, Unrelated Addition

NOW…

Online Humor and Entertainment Right from Your Video Game Console
by
eTech

- Unlike typical video game consoles, **this new video game console has the ability to access your favorite online humor and entertainment website right from your video game console**. Search the site for amusing videos, jokes, and articles, right from the comfort of your couch.
- In the past, consumers have been forced to use two separate mediums for their entertainment needs: a console for high quality video games and a computer for entertaining online content. Now you can **combine these two functionalities in this one device**.

- The video game console comes with two wireless controllers, with the ability for four people to play simultaneously.
- With a wide variety of games to play, the console also has 256 MB of storage to save your progress.
- With its sleek design and small form factor, the eTech video game console will be a stylish addition to any home décor.

Convergent Product with a Hedonic Base and a Goal-Incongruent, Related Addition

NOW…

Education and Learning Right from Your Video Game Console
by
eTech

- Unlike typical video game consoles, **this new video game console also comes with a vast library of education and learning video games that you can order.** In addition to the popular new video game releases, there are several educational games to choose from, ranging from kindergarten- through college-level content.
- In the past, consumers have been forced to use separate mediums for their entertainment and educational needs: a console for high quality video games, and textbooks and tutors for extra help outside of class. Now you can **combine these two functionalities in this one device**.

- The video game console comes with two wireless controllers, with the ability for four people to play simultaneously.
- With a wide variety of games to play, the console also has 256 MB of storage to save your progress.
- With its sleek design and small form factor, the eTech video game console will be a stylish addition to any home décor.

Convergent Product with a Hedonic Base and a Goal-Incongruent, Unrelated Addition

NOW…

A Scientific Calculator Right from Your Video Game Console
by
eTech

- Unlike typical video game consoles, **this new video game console also comes with a built-in scientific calculator.** Use the calculator for graphing, logarithms, and other advanced functions, right from the comfort of your couch.
- In the past, consumers have been forced to use separate mediums for their entertainment and scientific calculator needs: a console for high quality video games, and a handheld scientific calculator. Now you can **combine these two functionalities in this one device**.

- The video game console comes with two wireless controllers, with the ability for four people to play simultaneously.
- With a wide variety of games to play, the console also has 256 MB of storage to save your progress.
- With its sleek design and small form factor, the eTech video game console will be a stylish addition to any home décor.

Convergent Product with a Utilitarian Base and a Goal-Congruent, Related Addition

NOW…

Read and Highlight Textbooks from Your Digital e-Book Reader
by
eTech

- Unlike typical digital e-book readers, **this new digital e-book reader also comes with a vast library of textbooks that you can order.** You can read, highlight the text, and take notes, just like you would with a normal textbook—except now all your textbooks can fit in the palm of your hand.
- In the past, consumers have been forced to use separate mediums for their digital reading and studying needs: a digital e-book reader for digital books, and loads of heavy textbooks for studying. Now you can **combine these two functionalities in this one device**.

- The digital e-book reader comes with a built-in reading lamp, and the reader has the ability to read multiple e-book formats, including PDF, RTF, and ePub.
- With a wide variety of books to read, this digital e-book reader can store up to 300 books at a time to take with you wherever you go.
- With its sleek design and small form factor, the eTech digital e-book reader is a stylish accessory that you will be proud to use.

Convergent Product with a Utilitarian Base and a Goal-Congruent, Unrelated Addition

NOW…

Handheld Tax Software from Your Digital e-Book Reader
by
eTech

- Unlike typical digital e-book readers, **this new digital e-book reader also comes with handheld tax software.** Use the e-reader to help you with your annual tax return wherever you are.
- In the past, consumers have been forced to use separate mediums for their digital reading and tax software needs: a digital e-book reader for digital books, and a computer for tax return assistance. Now you can **combine these two functionalities in this one device**.

- The digital e-book reader comes with a built-in reading lamp, and the reader has the ability to read multiple e-book formats, including PDF, RTF, and ePub.
- With a wide variety of books to read, this digital e-book reader can store up to 300 books at a time to take with you wherever you go.
- With its sleek design and small form factor, the eTech digital e-book reader is a stylish accessory that you will be proud to use.

Convergent Product with a Utilitarian Base and a Goal-Incongruent, Related Addition

NOW…

Word and Logic Puzzles from Your Digital e-Book Reader
by
eTech

- Unlike typical digital e-book readers, **this new digital e-book reader also comes with pre-programmed digital word and logic puzzles.** Use the e-reader to keep yourself entertained with word and logic puzzles anywhere you go.
- In the past, consumers have been forced to use separate mediums for their digital reading and word and logic puzzle needs: a digital e-book reader for digital books, and a PDA, puzzle book, or newspaper for entertaining word and logic puzzles. Now you can **combine these two functionalities in this one device**.

- The digital e-book reader comes with a built-in reading lamp, and the reader has the ability to read multiple e-book formats, including PDF, RTF, and ePub.
- With a wide variety of books to read, this digital e-book reader can store up to 300 books at a time to take with you wherever you go.
- With its sleek design and small form factor, the eTech digital e-book reader is a stylish accessory that you will be proud to use.

Convergent Product with a Utilitarian Base and a Goal-Incongruent, Unrelated Addition

NOW…

Satellite Radio Right from Your Digital e-Book Reader
by
eTech

- Unlike typical digital e-book readers, **this new digital e-book reader also comes with a built-in satellite radio.** Use the satellite radio to listen to your favorite music as you read your digital e-books.
- In the past, consumers have been forced to use separate mediums for their digital reading and satellite radio needs: a digital e-book reader for digital books, and a handheld music player to listen to satellite radio. Now you can **combine these two functionalities in this one device**.

- The digital e-book reader comes with a built-in reading lamp, and the reader has the ability to read multiple e-book formats, including PDF, RTF, and ePub.
- With a wide variety of books to read, this digital e-book reader can store up to 300 books at a time to take with you wherever you go.
- With its sleek design and small form factor, the eTech digital e-book reader is a stylish accessory that you will be proud to use.

APPENDIX B

SURVEY INSTRUMENT FROM

TECHNOLOGICAL GOODS STUDY

Please circle your answer to the following questions regarding this [base product]:

Please indicate the probability that you would buy the [base product] with the *[addition]*.

0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
Zero Chance					Fifty-Fifty Chance					Certain Chance

How frequently do you think you would use *the product overall*?

1. More than once a day
2. Once a day
3. A few times per week
4. Once a week
5. A few times per month
6. Once a month
7. Less than once a month

Overall, how much *more (less) valuable* is [the base product] with [the addition] compared to a [base product] without this addition?

Much less Valuable	1	2	3	4	5	6	7	Much more Valuable

How much more pleasure would you feel using [the base product] with [the addition] compared to a [base product] without this addition?

Much less Pleasure	1	2	3	4	5	6	7	Much more Pleasure

How much more practical/productive would you feel using [the base product] with [the addition] compared to a [base product] without this addition?

Much less Practical/ Productive	1	2	3	4	5	6	7	Much more Practical/ Productive

The [addition] would provide me with a *satisfactory reason* to purchase [the base product].

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

The [addition] would give me an *excuse* to buy [the base product].

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

The [addition] would help me to *justify* the purchase of [the base product].

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

Please rate the extent to which you think *[the base product] with [the addition]* is:

Effective	1	2	3	4	5	6	7	Ineffective
Helpful	1	2	3	4	5	6	7	Unhelpful
Functional	1	2	3	4	5	6	7	Not functional
Necessary	1	2	3	4	5	6	7	Unnecessary
Practical	1	2	3	4	5	6	7	Impractical
Not fun	1	2	3	4	5	6	7	Fun
Dull	1	2	3	4	5	6	7	Exciting
Not delightful	1	2	3	4	5	6	7	Delightful
Not thrilling	1	2	3	4	5	6	7	Thrilling
Unenjoyable	1	2	3	4	5	6	7	Enjoyable

Does it *make sense* that [the addition] would be added to [the base product]?

Makes no sense at all	1	2	3	4	5	6	7	Makes perfect sense

How *related* do you think [the addition] is to [the base product]?

Not at all related	1	2	3	4	5	6	7	Extremely related

Please tell us your age in years.

_____

What is your sex? (circle one)

Male Female

What is your yearly income?

1. Less than $10,000
2. $10,000 - $25,000
3. $25,000 - $40,000
4. $40,000 - $55,000
5. $55,000 - $70,000
6. $70,000 - $90,000
7. Greater than $90,000

How often do you currently use a [base product]?

1. More than once a day
2. Once a day
3. A few times per week
4. Once a week
5. A few times per month
6. Once a month
7. Less than once a month

How often do you currently [use addition]?

1. More than once a day
2. Once a day
3. A few times per week
4. Once a week
5. A few times per month
6. Once a month
7. Less than once a month

APPENDIX C

PICTURES OF THE EIGHT CONDITIONS FROM FREE ONLINE SERVICES STUDY

Convergent Service with a Hedonic Base and a Goal-Congruent, Related Addition

NOW…

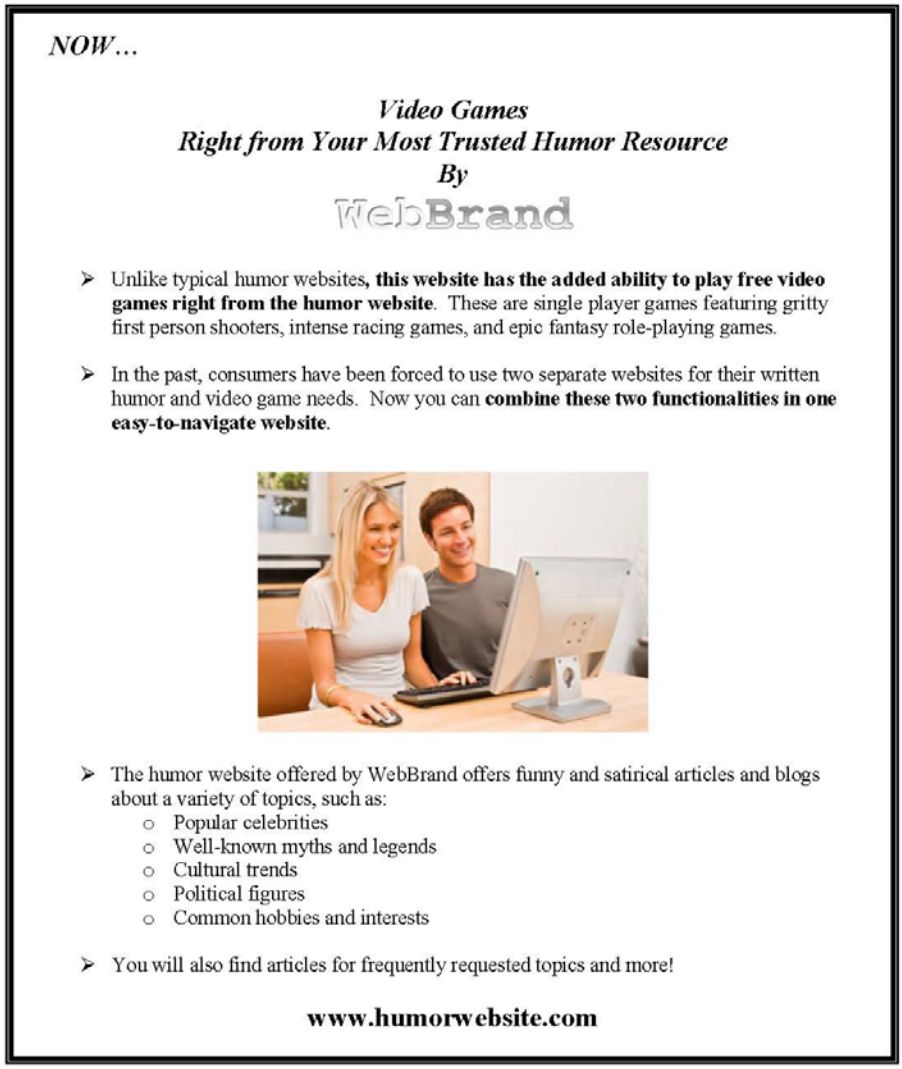
Funny Videos
Right from Your Most Trusted Humor Resource
By
WebBrand

- Unlike typical humor websites**, this website has the added ability to watch funny videos right from the humor website**. These videos are entertaining and funny, including clips from stand up comedians, movie gag reels, and amusing sports bloopers.
- In the past, consumers have been forced to use two separate websites for their written humor and funny video needs. Now you can **combine these two functionalities in one easy-to-navigate website**.

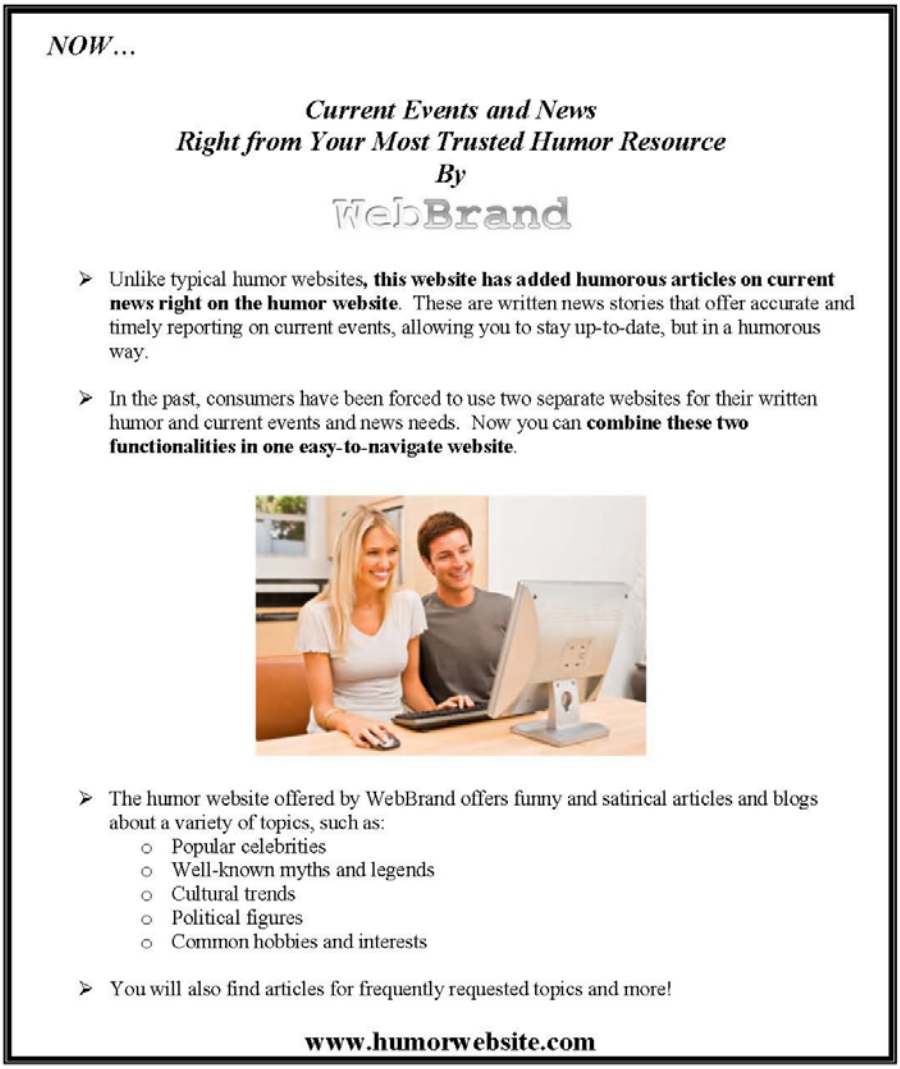
- The humor website offered by WebBrand offers funny and satirical articles and blogs about a variety of topics, such as:
  - Popular celebrities
  - Well-known myths and legends
  - Cultural trends
  - Political figures
  - Common hobbies and interests
- You will also find articles for frequently requested topics and more!

www.humorwebsite.com

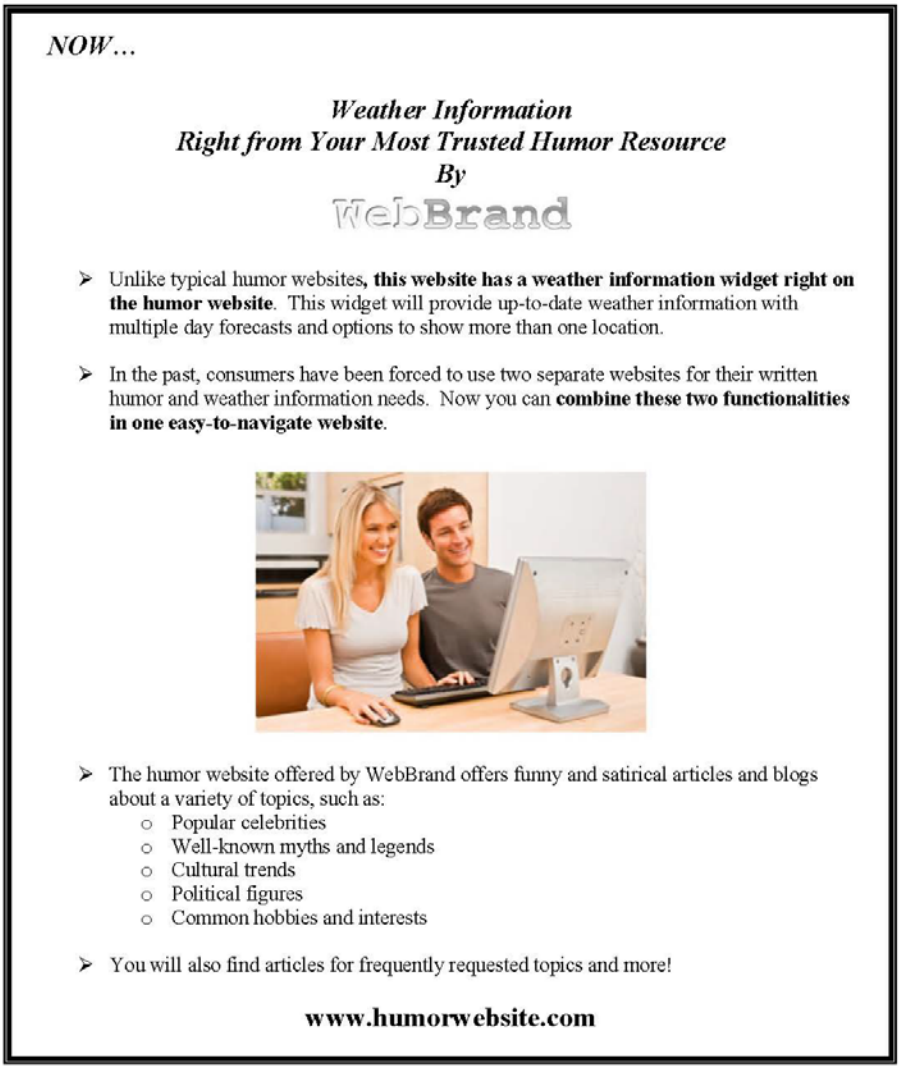
Convergent Service with a Hedonic Base and a Goal-Congruent, Unrelated Addition



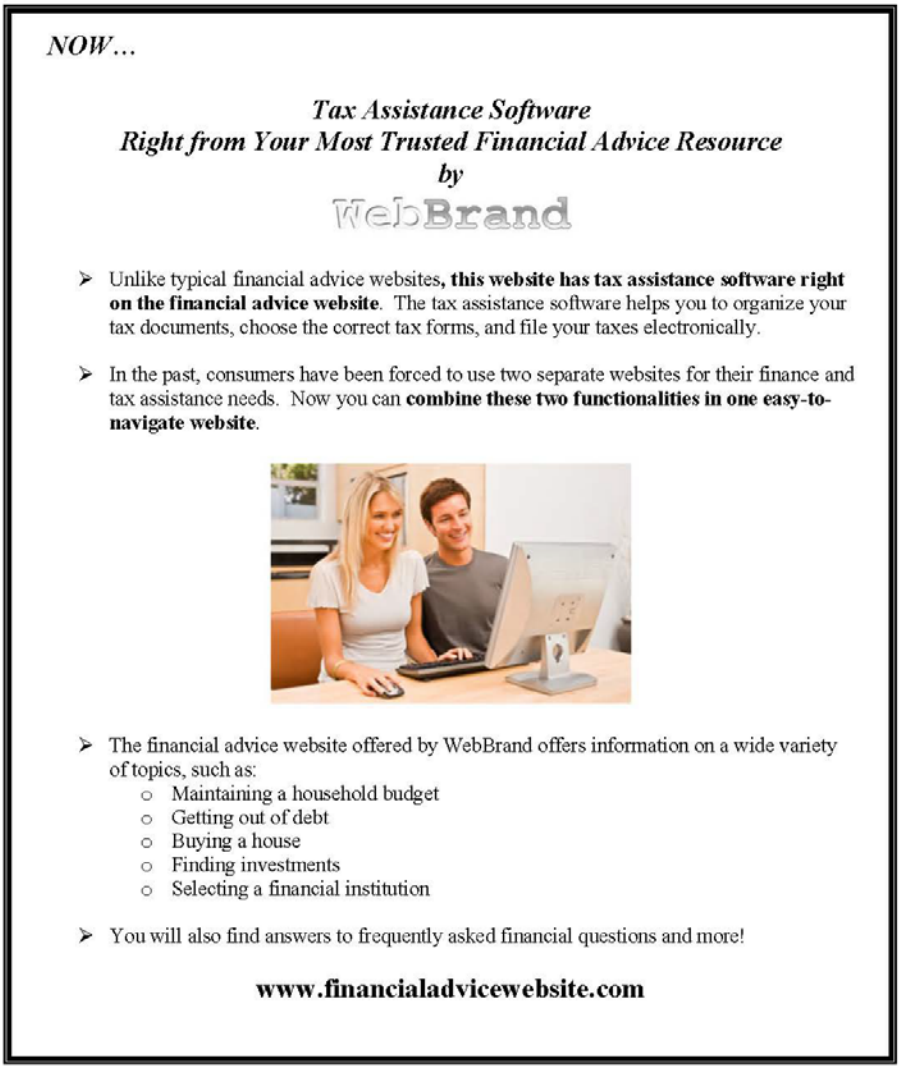
Convergent Service with a Hedonic Base and a Goal-Incongruent, Related Addition



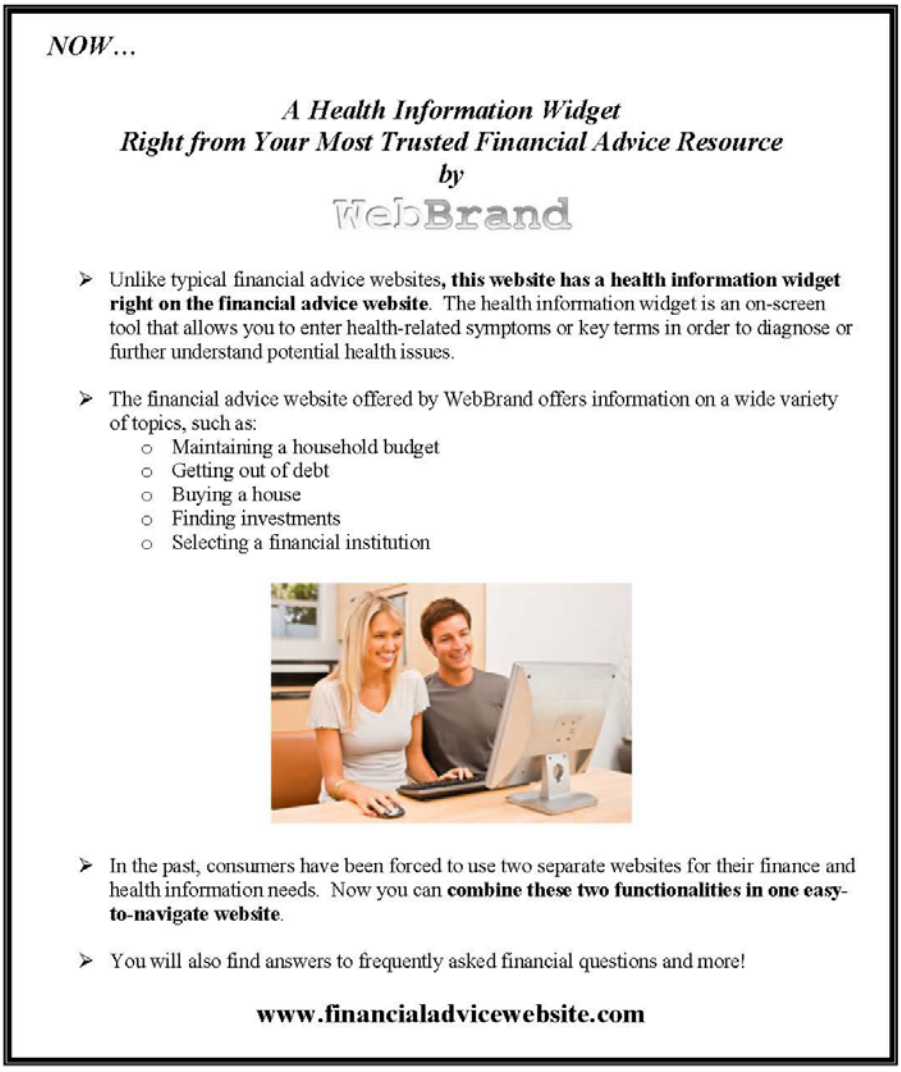
Convergent Service with a Hedonic Base and a Goal-Incongruent, Unrelated Addition



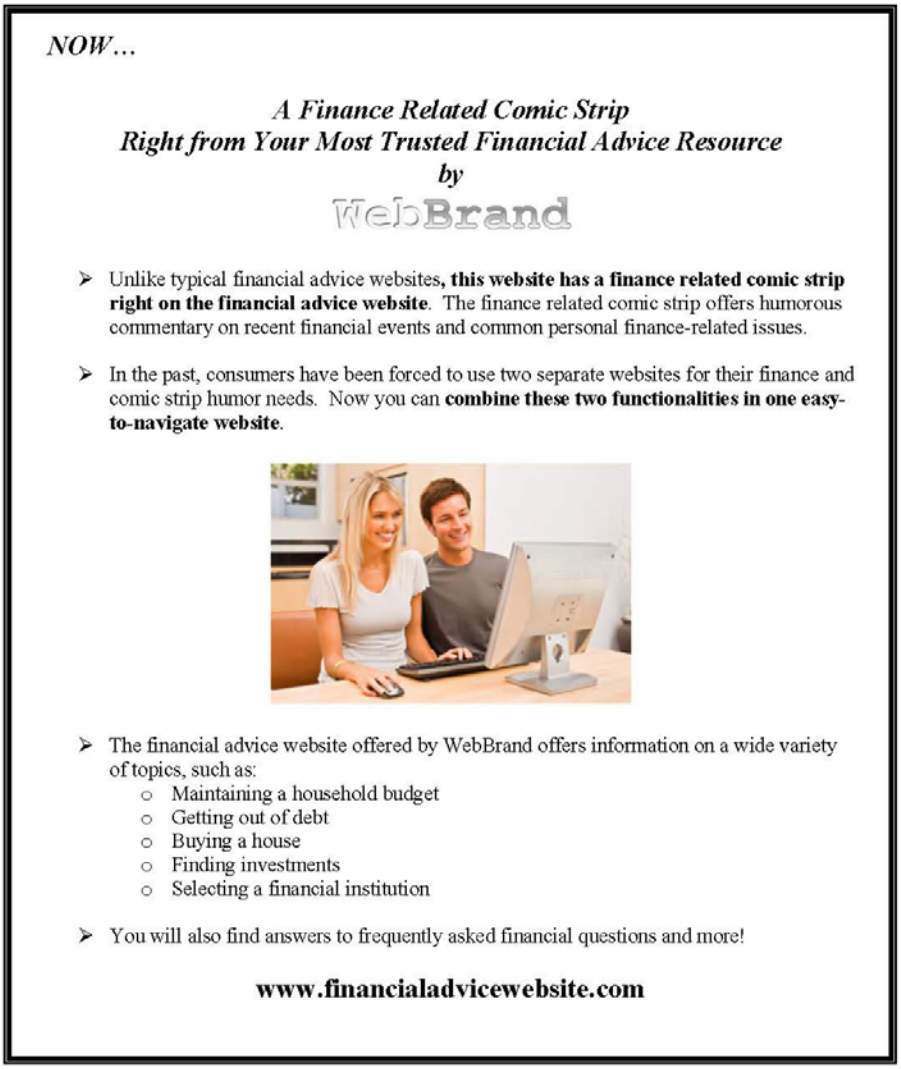
Convergent Service with a Utilitarian Base and a Goal-Congruent, Related Addition



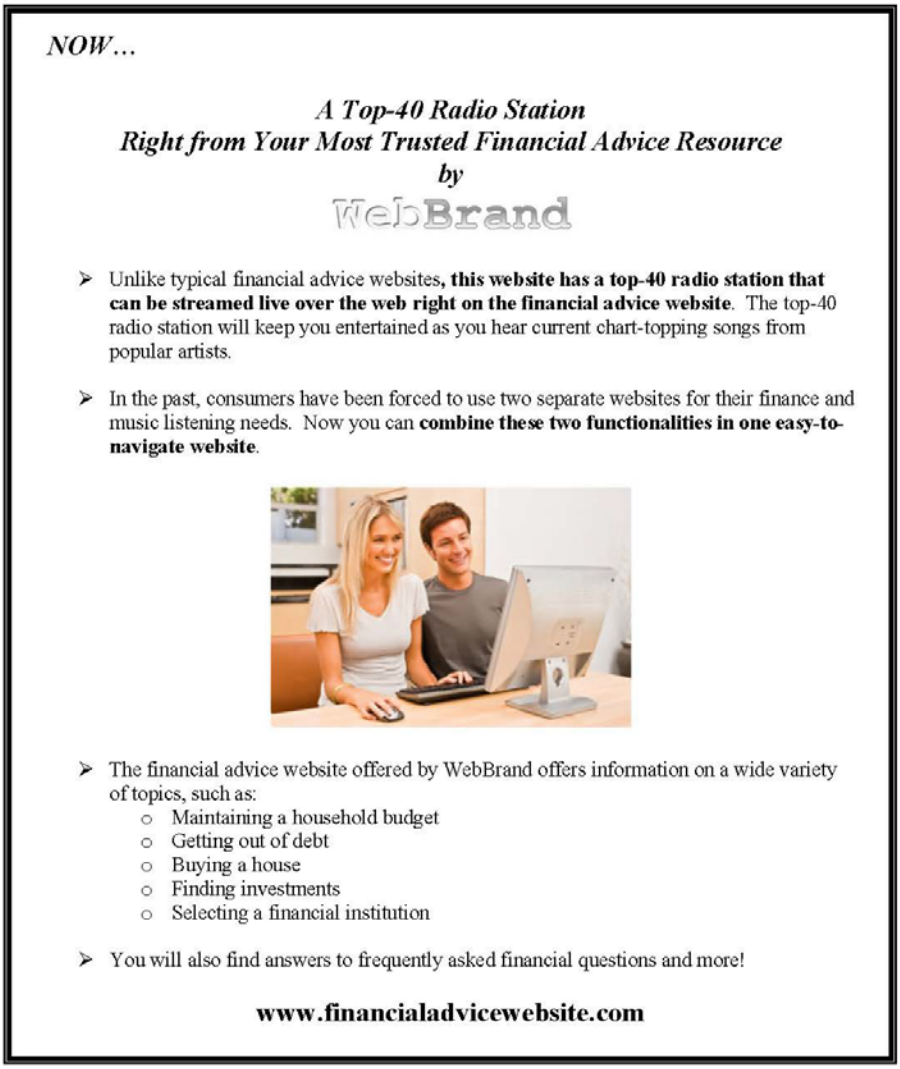
Convergent Service with a Utilitarian Base and a Goal-Congruent, Unrelated Addition



Convergent Service with a Utilitarian Base and a Goal-Incongruent, Related Addition



Convergent Service with a Utilitarian Base and a Goal-Incongruent, Unrelated Addition



APPENDIX D

SURVEY INSTRUMENT FROM

FREE ONLINE SERVICES STUDY

Please circle your answer to the following questions regarding this [base service] with the [service addition]:

Please indicate the probability that you would use the humor website with the *[service addition]*.

0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
Zero Chance					Fifty-Fifty Chance					Certain Chance

How frequently do you think you would use *the website overall*?

1. More than once a day
2. Once a day
3. A few times per week
4. Once a week
5. A few times per month
6. Once a month
7. Less than once a month

Overall, how much *more (less) valuable* is the new [base service] with the [service addition] compared to a [base service] without this feature?

Much less Valuable	1	2	3	4	5	6	7	Much more Valuable

How much more pleasure would you feel using the new [base service] with the [service addition] compared to a [base service] without this feature?

Much less Pleasure	1	2	3	4	5	6	7	Much more Pleasure

How much more practical/productive would you feel using the [base service] with the [service addition] compared to a [base service] without this feature?

Much less Practical/ Productive	1	2	3	4	5	6	7	Much more Practical/ Productive

How <u>confident</u> would you be that a [base service] with the added [service addition] would perform as prescribed?

Not at all Confident	1	2	3	4	5	6	7	Extremely Confident

How <u>certain</u> would you be that a [base service] with the added [service addition] would work satisfactorily?

Not at all Certain	1	2	3	4	5	6	7	Extremely Certain

Do you <u>feel sure</u> that a [base service] with the added [service addition] would perform the functions described above?

Not at all Sure	1	2	3	4	5	6	7	Extremely Sure

How <u>important</u> would a [base service] with the added [service addition] be to you?

Not at all Important	1	2	3	4	5	6	7	Extremely Important

The added [service addition] would provide me with a <u>*satisfactory reason*</u> to use the [base service].

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

The added [service addition] would give me an *excuse* to use the [base service].

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

The added [service addition] would help me to *justify* the use of the [base service].

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

Please rate the extent to which you think a *[base service] with the added [service addition]* is:

Effective	1	2	3	4	5	6	7	Ineffective
Helpful	1	2	3	4	5	6	7	Unhelpful
Functional	1	2	3	4	5	6	7	Functional
Necessary	1	2	3	4	5	6	7	Unnecessary
Practical	1	2	3	4	5	6	7	Impractical
Not fun	1	2	3	4	5	6	7	Fun
Dull	1	2	3	4	5	6	7	Exciting
Not delightful	1	2	3	4	5	6	7	Delightful
Not thrilling	1	2	3	4	5	6	7	Thrilling
Unenjoyable	1	2	3	4	5	6	7	Enjoyable

Does it *make sense* that [service addition] would be added to a [base service]?

Makes no sense at all	1	2	3	4	5	6	7	Makes perfect sense

How *related* do you think [service addition] are to a [base service]?

Not at all related	1	2	3	4	5	6	7	Extremely related

Please tell us your age in years.

_____

What is your sex? (circle one)

Male Female

What is your yearly income?

1. Less than $10,000
2. $10,000 - $25,000
3. $25,000 - $40,000
4. $40,000 - $55,000
5. $55,000 - $70,000
6. $70,000 - $90,000
7. Greater than $90,000

How often do you currently use a [base service]?

1. More than once a day
2. Once a day
3. A few times per week
4. Once a week
5. A few times per month
6. Once a month
7. Less than once a month

How often do you currently use a [service addition]?

1. More than once a day
2. Once a day
3. A few times per week
4. Once a week
5. A few times per month
6. Once a month
7. Less than once a month

APPENDIX E

HEDONIC AND UTILITARIAN IMAGES FROM REWARD APPEALS STUDY

Hedonic

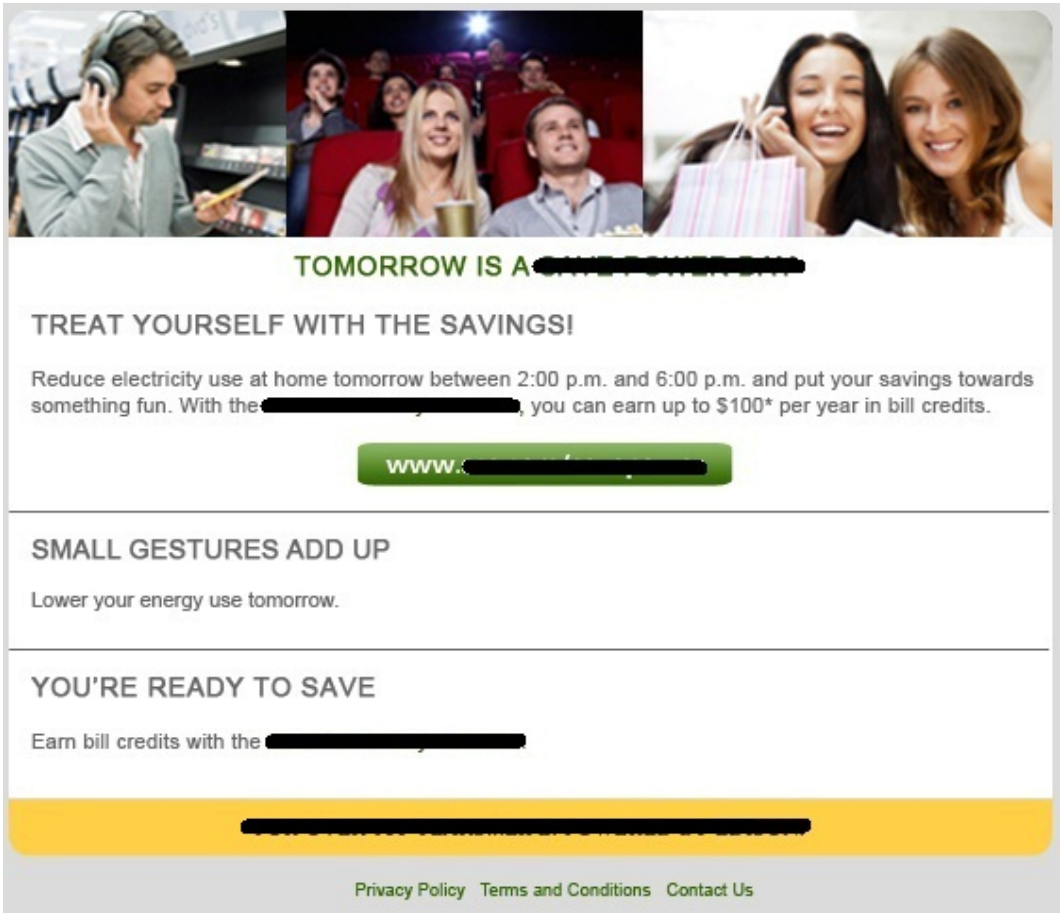
Utilitarian

APPENDIX F

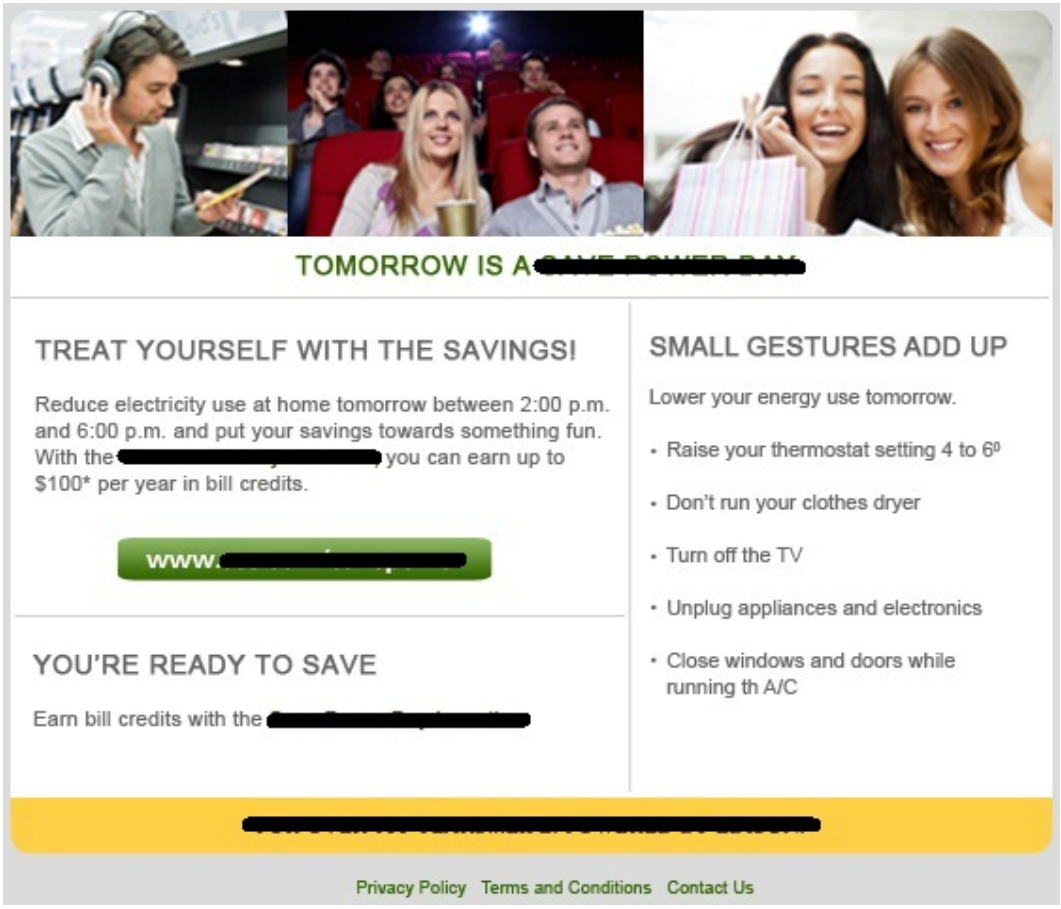
PICTURES OF THE EIGHT COMMUNCATIONS

FROM REWARD APPEALS STUDY

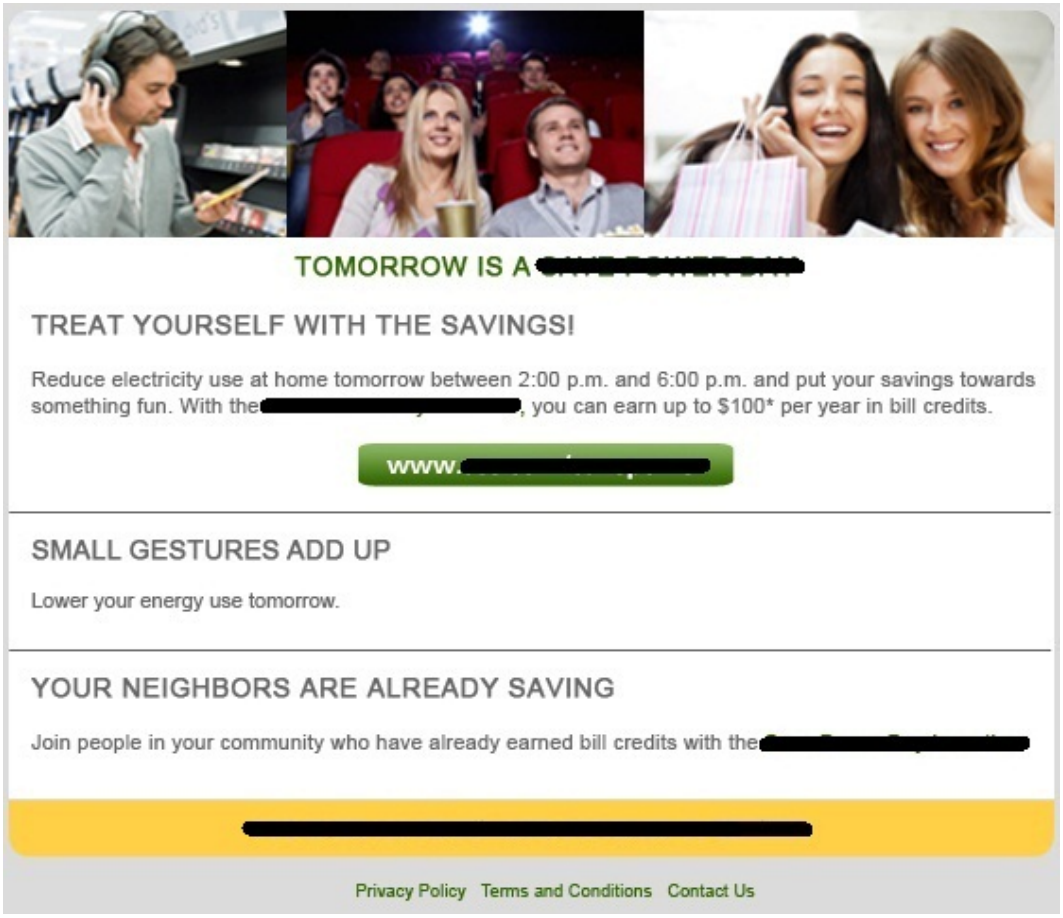
Hedonic Value Appeal – Low Social Norms – Low Role Clarity



Hedonic Value Appeal – Low Social Norms – High Role Clarity

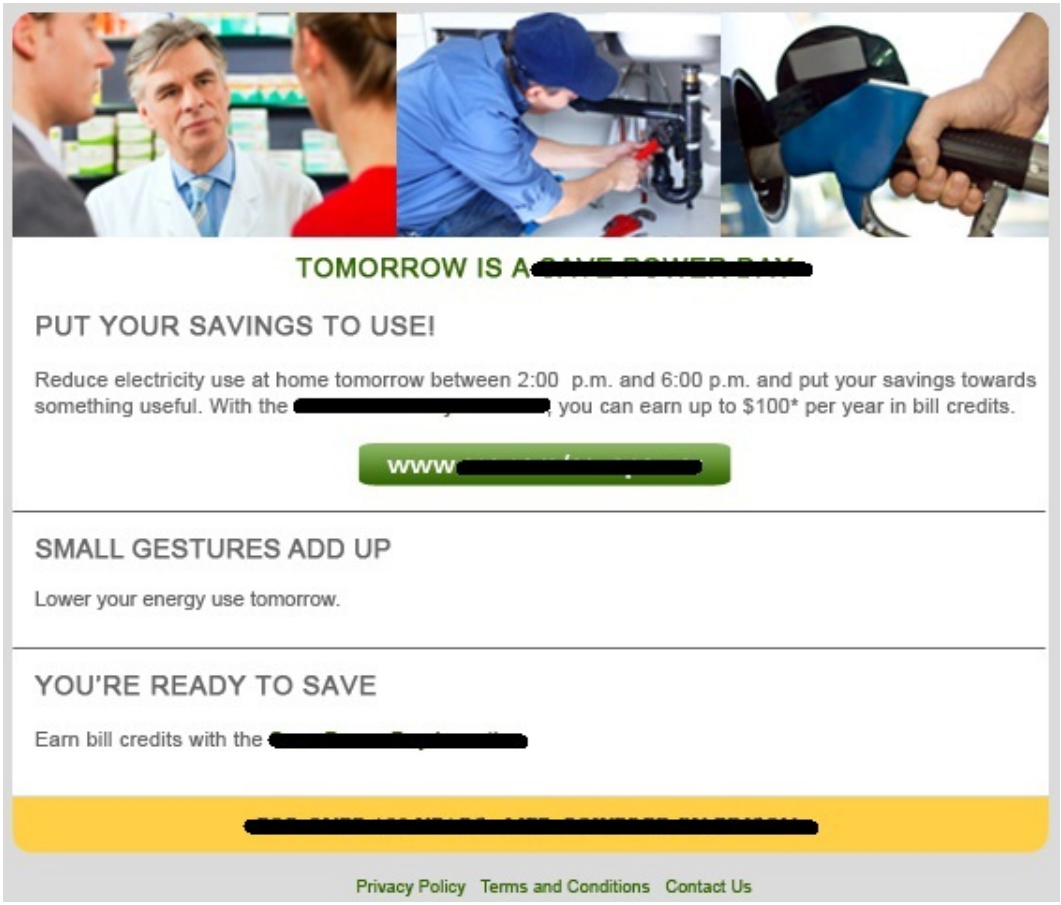


Hedonic Value Appeal – High Social Norms – Low Role Clarity

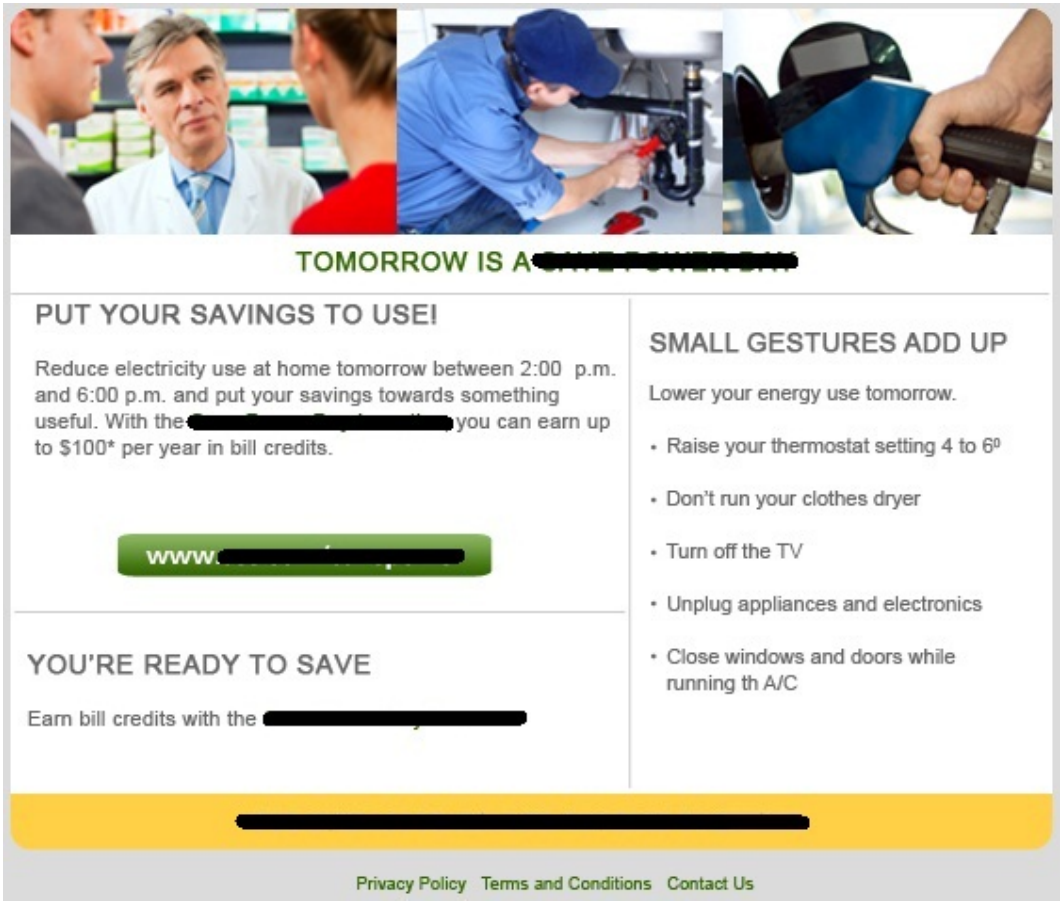


Hedonic Value Appeal – High Social Norms – High Role Clarity

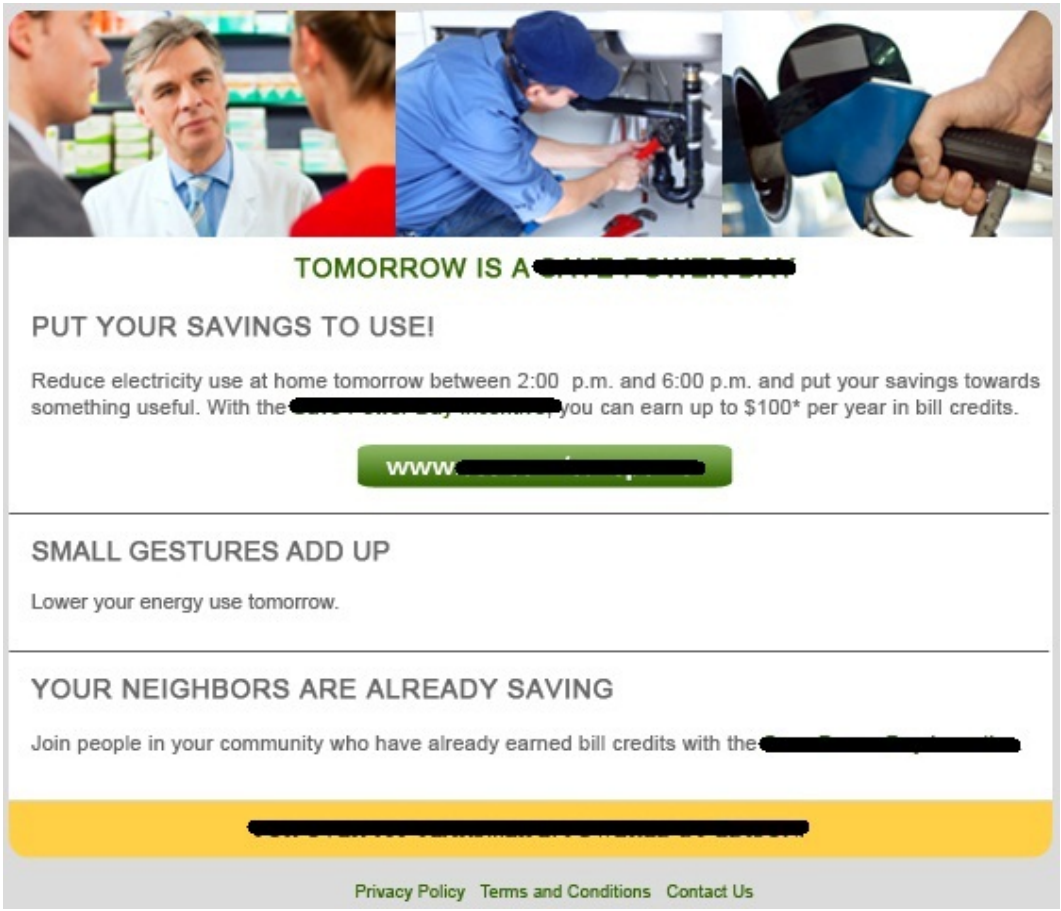
Utilitarian Value Appeal – Low Social Norms – Low Role Clarity



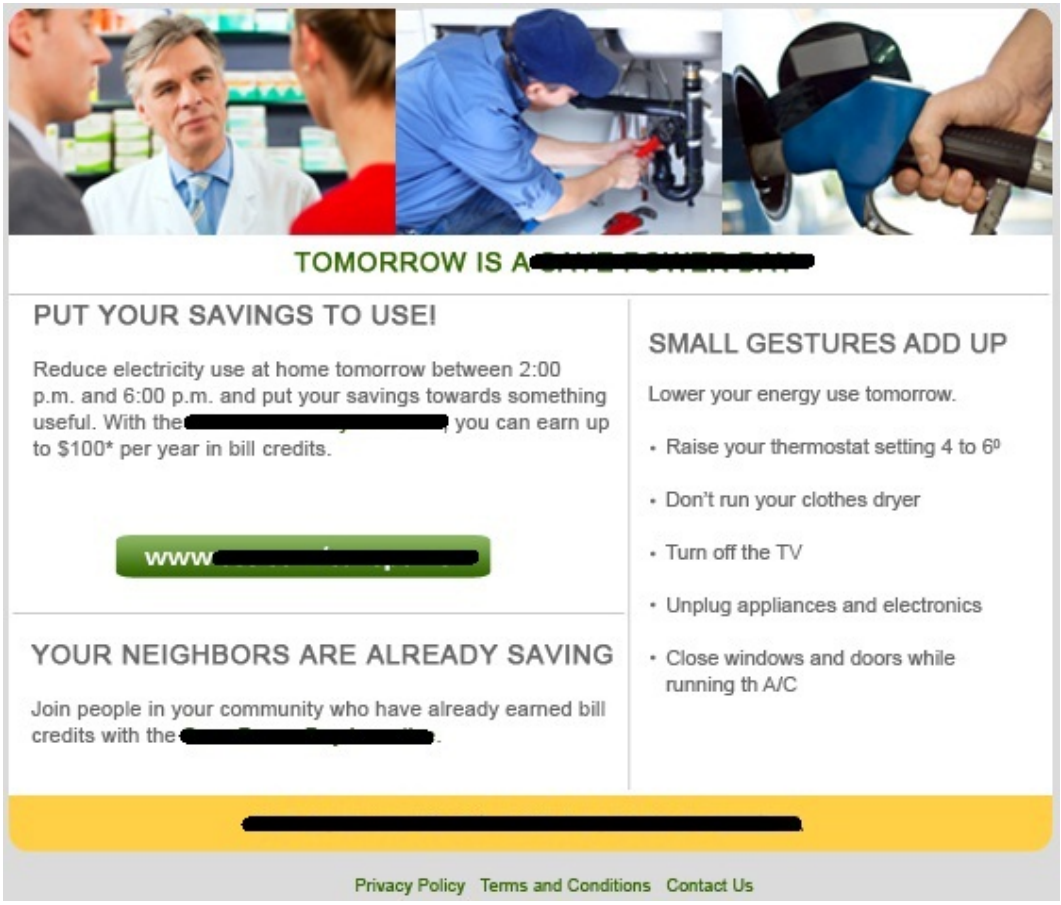
Utilitarian Value Appeal – Low Social Norms – High Role Clarity



Utilitarian Value Appeal – High Social Norms – Low Role Clarity



Utilitarian Value Appeal – High Social Norms – High Role Clarity



APPENDIX G

SURVEY INSTRUMENT FROM HEDONIC AND UTILITARIAN REWARD APPEALS STUDY

Section A: Participation Intentions

The email alert and web page description you just saw referred to the power savings day program. Based on the information provided, please answer the following questions.

How important would earning bill credits by participating in power savings days be to you?

Not at all Important	1	2	3	4	5	6	7	Extremely Important

If there are 12 power savings days announced between June 1 and October 1, 2012, how many of them would you participate in?

I would participate in approximately _____ of the 12 days.
☐ I'm not sure

To what extent does the addition of the power savings day program affect the value of [the utility company]'s programs to you?

Much less Valuable	1	2	3	4	5	6	7	Much more Valuable

To what extent does notification to the day before a power savings day affect the value of [the utility company]'s service to you?

Much less Valuable	1	2	3	4	5	6	7	Much more Valuable

How likely are you to sign on to Facebook or Twitter to spread the word about a power savings day?

Not at all Likely	1	2	3	4	5	6	7	Extremely Likely

If you were to see a friend's status update about a power savings day, how would that impact your own participation?

Much less Likely to Participate	1	2	3	4	5	6	7	Much more Likely to Participate

How likely are you to sign on to [the utility company]'s Facebook or Twitter page to participate in a community discussion regarding power savings days?

Not at all Likely	1	2	3	4	5	6	7	Extremely Likely

How likely are you to visit [the utility company]'s website to check your energy use and earned bill credits after a power savings day?

Not at all Likely	1	2	3	4	5	6	7	Extremely Likely

Section B: Understanding of Power Savings Day Program

Some of the next items might seem very similar and a little repetitive, but please do your best to provide a response to each one.

Based on the information you saw about power savings days:

I know what to do to earn bill credits with the power savings day program.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I have the information I need to earn bill credits with the power savings day Incentive.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I know what is expected of me to earn bill credits with the power savings day Incentive.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

What actions would you take on a power savings day to earn bill credits? (select all that apply)

- Avoid using major appliances and electronics
- Adjust the thermostat
- Unplug appliances and electronics that are not in use
- Turn off lights that are not in use
- Close windows and doors
- Seek additional information and ideas from [the utility company]
- Other: _____
- None
- I'm not sure/I don't know

Section C: Perceived Value and Risk of power savings days

Do you have any concerns about participating in the power savings day Incentive?

- Open-ended

When participating on a power savings day, how concerned would you be that reducing electricity use would <u>be inconvenient</u>?

Not at all Concerned	1	2	3	4	5	6	7	Extremely Concerned

How <u>confident</u> would you be that reducing electricity use on a power savings day would <u>produce expected bill credits?</u>

Not at all Confident	1	2	3	4	5	6	7	Extremely Confident

When you reduce electricity use on a power savings day, you have the ability to earn bill credits. How much money would you expect to earn on one of these days?

I would expect to earn $_____ in bill credits on one power savings day.
☐ I'm not sure

Section D: Thoughts About Other People's Participation in the Power Savings Day Program

Some of the next items might seem very similar and a little repetitive, but please do your best to provide a response to each one.

Most people will reduce electricity use on a power savings day to earn bill credits.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

It is normal for people to reduce electricity use on a power savings day to earn bill credits..

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

People should participate on a power savings day.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

Participating on a power savings day is the right thing for people to do.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

Section E: Reasons to Participate

Some of the next items might seem very similar and a little repetitive, but please do your best to provide a response to each one.

The [hedonic/utilitarian incentive] provides me with a satisfactory reason to reduce electricity use on power savings days.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

The [hedonic/utilitarian incentive] would give me an excuse to reduce electricity use on power savings days.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

The [hedonic/utilitarian incentive] would help me to justify reducing electricity use on power savings days.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

Section F: Motivation to Participate in the Power Savings Days

Some of the next items might seem very similar and a little repetitive, but please do your best to provide a response to each one.

The following items are possible motivators for participating. Please rate the extent to which each item is a motivator for you.

I would like the feeling of participating in power savings days.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I would experience enjoyment and satisfaction if I participated in power savings days.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I think participating in power savings days would be interesting/fun.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I like to take actions to show <u>others</u> the type of person I am.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

Participating in power savings days would allow me to save money.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

Saving money is important to me.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

Participating in power savings days allows me to purchase other things with the savings.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

Purchasing other things with savings is important to me.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I am not sure if participating in power savings days would be worth the effort.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

I feel that I would be wasting my time if I participated in power savings days.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

Section G: Overall Evaluation of Power Savings Day Program Based on Email and Website Shown

Based on the information on the webpage that you saw, to what extent do you believe that it suggests the following about the power savings day program and [the utility company]?

Does it <u>make sense</u> that the [the utility company] is offering the power savings day program?

Makes no sense at all	1	2	3	4	5	6	7	Makes perfect sense

Is the power savings day program <u>related to</u> what you would expect to see from the [the utility company]?

Not at all related	1	2	3	4	5	6	7	Extremely related

Please rate the extent to which you think the power savings day program is:

Effective	1	2	3	4	5	6	7	Ineffective
Helpful	1	2	3	4	5	6	7	Unhelpful
Functional	1	2	3	4	5	6	7	Functional
Necessary	1	2	3	4	5	6	7	Unnecessary
Practical	1	2	3	4	5	6	7	Impractical
Not fun	1	2	3	4	5	6	7	Fun
Dull	1	2	3	4	5	6	7	Exciting
Not delightful	1	2	3	4	5	6	7	Delightful
Not thrilling	1	2	3	4	5	6	7	Thrilling
Not enjoyable	1	2	3	4	5	6	7	Enjoyable

Please rate the extent to which you think [the utility company] is:

Effective	1	2	3	4	5	6	7	Ineffective
Helpful	1	2	3	4	5	6	7	Unhelpful
Functional	1	2	3	4	5	6	7	Functional
Necessary	1	2	3	4	5	6	7	Unnecessary
Practical	1	2	3	4	5	6	7	Impractical
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Not delightful	1	2	3	4	5	6	7	Delightful
Not thrilling	1	2	3	4	5	6	7	Thrilling
Not enjoyable	1	2	3	4	5	6	7	Enjoyable

Section H: Other

Have you participated in any other discount, incentive or rebate programs with [the utility company]?

- ☐ Never
- ☐ One or two
- ☐ Three or four
- ☐ Five or more

Skip pattern: if they have not participated (i.e., Never), go to question 3.

How was your experience with those other programs?

Extremely Negative	1	2	3	4	5	6	7	Extremely Positive

What, if any, social networking sites do you participate in? (Select all that apply.)

- ☐ Facebook
- ☐ Google+
- ☐ Twitter
- ☐ LinkedIn
- ☐ YouTube
- ☐ Other: _____

- ☐ I don't participate in any social networking sites.

(If yes above) How often do you check Facebook?

_____ times per week

(If yes above) How often do you check Twitter?

_____ times per week

When you sign up for power savings day program alerts, you can choose the way you want to receive alerts. Which of the following methods would you consider? (Select all that apply.)

- ☐ Email
- ☐ Facebook/Twitter
- ☐ Text message
- ☐ Voicemail
- ☐ I would not sign up for alerts

Power savings days only occur between June 1 and October 1, 2012. Would a reminder at the beginning of the summer help you to be more ready to participate in power savings days?

Definitely No	1	2	3	4	5	6	7	Definitely Yes

If you received a notification (like an email or text message) after a power savings day letting you know how much you earned in bill credits, how would that impact your future participation if:

You earned less than expected:

Much less Likely to Participate	1	2	3	4	5	6	7	Much more Likely to Participate

You earned about as much as expected:

Much less Likely to Participate	1	2	3	4	5	6	7	Much more Likely to Participate

You earned more than expected:

Much less Likely to Participate	1	2	3	4	5	6	7	Much more Likely to Participate

APPENDIX H

COPIES OF IRB APPROVALS

ASU Knowledge Enterprise Development

Office of Research Integrity and Assurance

To:	M Bitner BAC
From:	Mark Roosa, Chair Soc Beh IRB
Date:	08/16/2010
Committee Action:	**Exemption Granted**
IRB Action Date:	08/16/2010
IRB Protocol #:	1008005387
Study Title:	The Influence of Added Functionalities: How Hedonic vs. Utilitarian Additions Affect Likelihood of Purchase

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

ASU Knowledge Enterprise Development

Office of Research Integrity and Assurance

To:	M Bitner BAC
From:	Mark Roosa, Chair Soc Beh IRB
Date:	11/15/2011
Committee Action:	**Exemption Granted**
IRB Action Date:	11/15/2011
IRB Protocol #:	1111007091
Study Title:	The Influence of Added Functionalities: How Hedonic vs. Utilitarian Additions Affect Likelihood of Purchase

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

ASU Arizona State University
Knowledge Enterprise Development

Office of Research Integrity and Assurance

To: Grant Olsen

From: Mark Roosa, Chair Soc Beh IRB

Date: 12/07/2011

Committee Action: Exemption Granted

IRB Action Date: 12/07/2011

IRB Protocol #: 1111007053

Study Title: The Impact of Hedonic vs. Utilitarian Message Appeals on a Utilitarian Commodity Offering

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2) .

You should retain a copy of this letter for your records.

PO Box 876111 Tempe, AZ 85287-6111 ♠ 660 S. Mill Avenue, Suite 315 ♠ P 480 965 6788 ♠ F 480 965 7772
http://researchintegrity.asu.edu