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ABSTRACT

When designing content for a market of one, creating an effective message is predicated on a deep and thorough understanding of each customer. Websites today often collect huge amounts of information that can help make this possible. While some of this is utilized in current recommendation system implementations, today's information systems have the potential to go beyond product recommendation, and expand the level of customization to all aspects of site presentation and interface design. This study proposes a theory of online customization that is grounded in recent literature from marketing and psychology in the areas of problem solving and information presentation. Using this literature as a guide, we examine ways to individually customize online content in such a way as to create engagement and increased satisfaction. This personalization is shown to increase feelings of enjoyment and produce a myriad of benefits for electronic retailers.

Keywords

Regulatory orientation, ecommerce, peer endorsement systems, customer reviews

INTRODUCTION

Websites today have the power to present content customized down to a single individual. Amazon.com, for example, displays products and makes recommendations for future purchases based on the past buying behavior of either that customer or others within the same demographic (Wang and Benbasat, 2007). Complex algorithms are used to mine web data for trends and patterns in customer behavior in order to make these recommendations as timely and accurate as possible (Sarwar, Karypis, Konstan, and Riedl, 2000).

As this recommendation technology has matured, personalized marketing has become an important part of the business model for many online organizations. Major online players like Netflix have developed elaborate recommendation systems that market to customers in a proactive way by feeding site visitors a constant stream of product suggestions. The value these organizations place on personalization cannot be overstated, as evidenced by Netflix' recent award of $1 million to a team of computer scientists that developed an algorithm that improves on the companies current recommendation capability (Bennett and Lanning, 2007).

When designing content for a market of one, creating an effective message is predicated on a deep and thorough understanding of each customers. Websites today often collect huge amounts of information about their customers' interests and buying behaviors. While some of this is utilized in current recommendation system implementations, we propose that today's information systems have the potential to go beyond product recommendation, and expand the level of customization to all aspects of site presentation and interface design (Jiang and Benbasat, 2007). One way to do this is through the incorporation of personality and problem solving research from the fields of psychology and marketing. A particularly promising theory from this area that is gaining popularity in consumer behavior research is Regulatory Fit Theory.

Regulatory fit theory is a theory of problem solving strategy first put forth by Higgins (1997). Regulatory fit theory says that a person's regulatory orientation can be used to explain customer responses to different types of advertising (Lee, Keller, and Sternhal, 2010). Under this theory, individuals tend to adopt either eagerness or vigilance strategies when solving problems. When a person faces a problem, for example the decision of which product to purchase from an online website, their experience regulatory fit when they can use problem solving strategies that match their natural orientation (Wirtz and Lwin, 2009). Regulatory fit leads to a more positive general outlook, greater satisfaction with the purchased product, and positive feelings towards the seller (Hong and Lee, 2007; Lee and Higgins, 2009; Higgins 2005). Thus, if we know a person's

regulatory orientation, we can accurately predict how they will respond to different types of advertising messages, and design web content that will ultimately lead to regulatory fit. (Lee et al., 2010), in a recent journal publication, also found regulatory fit to be a strong predictor of engagement with an advertising message (Lee and Higgins, 2009)i.

While this type of research is useful offline, it is especially valuable in an e-commerce setting, where the dynamic nature of information presentation allows for instant updates and alterations, which we propose creates opportunities for retailers to capitalize on individual customer characteristics. It is surprising, therefore, that much of the extant e-commerce literature has failed to examine the ways in which this type of customization could operate within the sales process to influence buying behavior and engagement. Instead, the existing research follows the example of seen on most of today's e-commerce websites. Rather than taking an active role in the marketing and sale of the product under consideration, sites like Amazon.com place emphasis on encouraging a customer to purchase a suggested product in some future transaction. Thus, they play a very limited role in terms of influencing customer's purchasing intentions within a specific transaction.

This research-in-progress study fills this gap in literature by studying the impact of web marketing that is personalized to the individual and subject to dynamic change within a single transaction. This personalized advertising message, which is driven by the customer's natural regulatory orientation is demonstrated to create a real sense of engagement between the user and the e-commerce system. These feelings of engagement are shown to influence an individuals perceptions of products being used, and ultimately their intention to participate in an exchange relationship with a web vendor. To examine this phenomenon, we utilize an experimental methodology that is theoretically grounded in established literature from both marketing (Higgins 2005, 1997, Lee and Aaker, 2004) and psychology (Liberman, Trope, McCrea and Sherman, 2007; Lee and Aaker, 2004).

THE IMPORTANCE OF CUSTOMIZATION

Personalized, customer-centric marketing has a long history in the sales and economics literature. This is appropriate given that any organization with something to sell will benefit from understanding the needs of the customer, and thereby tailoring the organization's products to suit those needs. Early notions of customer-centric marketing date back to Smith (1956), who suggested that markets should be segmented according to the needs of distinct groups of consumers (Sheth Sisodia and Sharma, 2000). Traditionally this type of marketing relies on a two-step process of first identifying the spoken and unspoken needs of the customer or group, and then responding to those needs with the best solutions possible. A distinct change from mass marketed products, this emphasis on customer-specific needs arose from changing market dynamics brought about by advances in both information and manufacturing technologies (Sheth et al., 2000).

While early efforts at customer-centric marketing were forced to target a certain demographic or large group, companies today can market to very small groups. Current advances in manufacturing technology bring the possibility for improved customization, while data provided by information technologies allows for increasingly smaller and more segmented markets (Gilmore and Pine, 1997; Da Silveira, Borenstein and Fogliatto, 2001). Recommender systems seen on e-commerce websites are an example of this, and allow companies like Amazon.com and others to match products from inventory to each individual user (Wang and Benbasat, 2007). When done effectively, customer-centric marketing mimics the offline interaction between a customer and a good salesman. To make the sale, a good salesman would not open a product catalogue and point at random products. Nor would they inundate a customer with an endless variety of poorly matched options. Instead, the salesman asks leading questions designed to engage the customer in a conversation around the product that represents the best fit for him or her (Stevens, 1989; Shergill et al., 2008).

Self-service encounters, like those seen in e-commerce environments, complicate this process by introducing some unique challenges that stem from the absence of any direct dialogue between the customer and the sales employee (Meuter, Ostrum, Roundtree and Bitner, 2000). In addition, e-commerce environments have the potential to completely drown customers in an endless sea of options (Nistor, Oprea, Paprzycki and Parakh, 2002). Automated recommendation agents aim to these problems. The past five years has seen a large amount of research around improving e-commerce systems ability to engage with the customer and make these systems efficient and effective product recommendations (Ishikawa et al., 2009; Wang and Benbasat, 2007, Lin, Hong and Dong, 2010). While not exhaustive, the review of this research conducted for this paper turned up numerous articles across a wide variety of system success criteria that included trust-based studies (Walter, Battison and Schweitzer, 2008), collaborative filtering (Symeonidis et al., 2008), K-means clustering (Kim and Ahn, 2008), and hybrid systems (Yoshii, Goto, Komatani, Ogata and Okuno, 2008).

While recommender systems will likely remain a valuable part of the online sales process, there are still numerous opportunities for further customization within the e-commerce environment (Jiang and Benbasat, 2007). In the next section, we present a theory of the impact of online regulatory fit that draws from the construal hypothesis put forth by Liberman et al., (2007) and most recently adapted for a sales audience by Lee et al., (2010). Construal refers to "the degree of abstraction

at which goal-directed actions are represented in the cognitive hierarchy" (Lee et al., 2010). Lee et al., (2010) first showed that there is a relationship between construal level and regulatory orientation. We expand on this research by examining the way that construal level and regulatory orientation create a "fit" in an online context, and argue that this fit is a powerful predictor of engagement and intentions to conduct business with an online retailer.
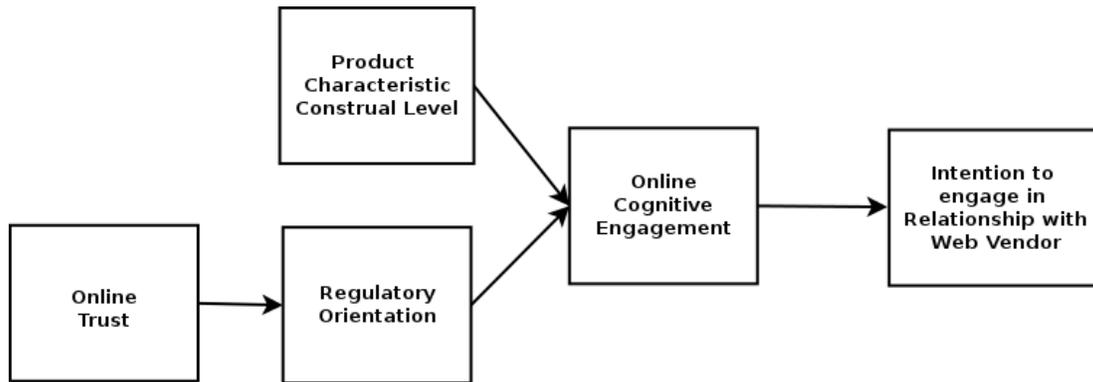
RESEARCH MODEL

Figure 1. Theoretical model of regulatory construal fit in online e-commerce

Regulatory Fit Theory

Under regulatory fit theory, individuals experience regulatory fit when "their strategies for goal pursuit match their regulatory orientation (Lee et al., 2010)." The theory identifies two main types of regulatory orientation. Prevention focused individuals gain regulatory fit from vigilance problem solving strategies. They would rather reduce a loss than maximize a gain (Higgins, 1997). Adhering to established guidelines and instructions when solving problems is an example of this type of strategy.(Higgins, 2005). By comparison, promotion oriented people look to maximize gains, and show less concern for losses. These people adopt eagerness goal-oriented strategies (Lee and Aaker, 2004). Promotion minded individuals are more eager, "working harder" to achieve results (Lee et al., 2010). Rather than emphasizing established rules, these people place more value on applying general effort to a task.

Past research has shown that regulatory fit has several interesting results for e-commerce organizations. For example, Avnet and Higgins (2003) showed that regulatory fit increases the amount a customer is willing to pay for a product, by influencing the perceived attitudes toward both the brand and the product itself. We propose that because current technology has created the potential for a highly customizable online environment, it is now possible for e-commerce organizations to take regulatory orientation into account when designing content presentation formats. If we consider purchasing a product online, then developing presentation formats that allow for eagerness or vigilance strategies will create perceptions of fit in those customers for which the presentation matches their natural inclinations towards problem solving. In this way, e-commerce retailers can realize the benefits that come with regulatory fit, in the form of improved engagement with customers, and positive attitudes toward the organization.

Product Characteristic Construal Level (PCCL)

Liberman et al., (2007) defines construal level as the degree of abstraction in conceptualizing a goal oriented activity. High level construals are generally more abstract, while low level construals focus on concrete utility. Thus, high level construals focus on why things are done, while low level construals focus on how they happen (Lee et al., 2010).

Liberman et al. (2007) identified several types of psychological distance help define the differences between high and low level construals. In this study, we focus on four types, which include temporal distance, spatial distance, probability, and social distance. Temporal distance refers to the degree of abstraction in representing events that will occur in either the near or the distant future. Far off events are associated with high level construals, while events that are set to occur soon are construed at a lower level. Probability refers to the likelihood that a person will ever find themselves in a particular situation.

Unlikely events are associated with high level construals, while more probable situations are construed at a low level (Wakslak, Trope, Liberman and Alony, 2006). Finally, social distance refers to construal differences due to similarity. More similar events are construed at a lower level, while higher level construal is associated with a greater degree of difference (Liviatan, Trope, and Liberman, 2008).

In a recent publication, Lee et al. (2010) showed a relationship between the level of construal of an advertising message, and the regulatory orientation of the person viewing it. When construal level and regulatory orientation align, the customer feels a sense of engagement with the message. This results in a more positive attitude towards the message, and the numerous other commercial benefits of regulatory fit previously discussed Lee et al. (2010).

The premise of this study is that product characteristics also operate at high and low construal levels. We posit that a dynamic changes in product characteristics to adapt to the regulatory orientation of the customer will create a sense of online cognitive engagement. This engagement is hypothesized to lead to the same benefits (i.e. positive attitudes, willingness to buy, etc.) that have been shown to occur (Lin et al., 2008; Koufaris, 2003).

We therefore propose the following hypothesis.

H1: High PCCLs will be positively correlated with online cognitive enjoyment for promotion-oriented individuals.

H2: Low PCCLs will be positively correlated with online cognitive enjoyment for prevention-oriented individuals.

Online Trust

Numerous authors have examined the way in which trust impacts behavior in an online e-commerce setting (McKnight, Choudhury and Kacmar, 2003; Palvia, 2009). Pavlou and Gefen, (2004) calls trust "a crucial enabling factor anywhere uncertainty and opportunism exist". The often uncertain and unknown nature of electronic commerce has made it a ripe area for trust research. Much of this research deals with the theory of reasoned action (TRA) and its relationship to the acceptance of e-commerce technologies (Palvia, 2009). While TRA and the technology acceptance model (TAM) have made important contributions to IS literature (Gefen, Karahana and Straub, 2003), recently authors have begun to examine other antecedents to trust, in an attempt to identify alternate explanations for e-commerce phenomenon.

This study posits that trust in an online marketing setting has a dual nature. First, the customer's familiarity with the system and transaction setting is related to feelings of trust, which have been shown to influence regulatory orientation (van Noort et al., 2007). Van Noort et al. (2007) experimentally showed that an online environment is perceived as inherently more risky than an offline setting. This manifests itself in an individual's inclination towards a preventative regulatory focus. Conversely, when a person has a high level of trust in the e-commerce environment, they are likely to adopt a promotional regulatory focus. This gives us the following hypothesis:

H3:Perceived trust is positively correlated with an individual's inclination towards a promotional regulatory focus

Online Cognitive Enjoyment

Online Cognitive Enjoyment is defined here as a subjective experience of arousal that strengthens reactions towards online stimuli (Higgins, 2005). Past research from marketing literature has shown that a feeling of heightened sensation can lead to more positive opinions of products, a more favorable attitude towards a brand, and an added willingness to pay for a particular product (Lee and Aaker, 2004; Lee and Higgins, 2009). IS literature concerning online flow theory also discusses the relationship between engagement and task efficiency (Koufaris, 2003). When individuals are more engaged, they tend to perform better at the task at hand. When experiencing regulatory fit, this overall sense of engagement increases (Lee et al., 2010). The resulting increase in cognitive resource allocation may have benefits for such e-commerce related tasks as product information search. From this we propose the following hypothesis.

H4:Engagement is positively associated with consumer intention to form an exchange relationship with a web vendor

RESEARCH METHODOLOGY

This study relies on an experimental design to test the validity of the proposed hypotheses. We use a two cell block consisting of two groups and one treatment. The following section discusses the study subjects and procedures used.

Treatments: The treatments for this experiment consisted of four web pages that were designed using the four types of psychological distances discussed by Liberman et al. (2007). Each web page consisted of a typical product message for a

either a microwave oven or a Nintendo Wii video game system. To create the treatments, each basic page was modified to emphasize either high or low level construals, and thus create psychological distance between the two pages. For example, the high level construal page discussed emphasized the microwave's usefulness for preparing a thanksgiving dinner (a temporally distant holiday event), while the low construal page emphasized using the microwave to quickly prepare dinner after a hard day's work (a temporally proximal event).

Subjects: Subjects for this experiment were chosen from a population of undergraduate and graduate students at a major southeastern university. Students were selected because of their availability, and their status as a population indicative of e-commerce users. All told, sixteen people participated in the initial experiment, with eight participants in each of the two treatment groups. Participants were then randomly assigned to one of two treatment groups.

Measures: All survey measures were adapted from existing literature instruments. Regulatory orientation was measured using the Regulatory Focus Questionnaire developed by Higgins et al. (2001). The constructs comprising online cognitive enjoyment were measured using the scale developed by Lin et al. (2008). Measures for trust and intention to engage in an exchange relationship with a web vendor were taken from Palvia (2009). Finally, increased cognitive resource capacity was measured using an anagram task that is commonly used in marketing and psychology studies (Lee et al., 2010). Immediately after viewing the treatment web page, participants were given three minutes to complete as many anagrams (eg. csisrsos, scissors) as possible.

Procedure: After being assigned to a group, participants were asked to answer a number of questions designed to capture their current regulatory orientation (Higgins, 2005). Participants then viewed microwave constructed using either high or low construal concepts. Participants were asked to view the site for five minutes, and absorb as much information as possible during that time. After browsing the sites, participants were then asked to take another study designed to measure their level of enjoyment as it relates to the website, and their attitudes towards the products that they viewed.

INITIAL ANALYSIS

Pilot

The experimental treatments and survey instruments were pilot tested using a sample of 16 undergraduate and graduate students. Initial data analysis was done in SAS. Cronbach's alpha test statistics were calculated for each survey measure. Cronbach's alpha measures the correlation between variables that are intended to measure the same construct. Scores for all measures used to capture online enjoyment are shown in table 3.

Higgins et al., (2001) suggests that regulatory orientation be measured using two factors. We confirmed this with a factor analysis, and ultimately arrived at two variables to measure Regulatory Orientation. Promotional Regulatory Orientation was ultimately measured using six items. Prevention Regulatory Orientation was measured using five items.

Full Study

The full study was completed in December of 2010. Data was collected using 49 undergraduate and graduate students at a major southeastern university. The data was analyzed using both multivariate analysis of variance and multiple regression techniques. Multivariate techniques were used to preserve any covariant behavior present in the data set. The impact of construal level was captured by the interaction effects between the variables of interest in the hypothesis and a boolean value for construal level (either high or low) based on the treatment effect viewed.

Initial results of the analysis were mixed, but overall support was found for most of our hypotheses. Some support was found for hypotheses one and two. Hypothesis three was supported. Hypothesis four was not supported. Hypotheses five and six were supported. Hypothesis seven was supported. Table 2 lists the results of the manova and regression analyses for Hypotheses three through seven.

The relationship between regulatory orientation and trust (H3) was measured using a MANOVA (Multivariate Analysis of variance technique). This was done to allow for the interaction effects between construal level and regulatory orientation and obtain a measure of regulatory "fit" with the experimental web page treatment (Lee et al., 2010, Higgins, 2005). As hypothesized, level of trust was shown to have a significant impact on a person's inclination to forego preventative problem solving strategies and adopt a promotional focus (Wilks' Lambda 3.03; p-value 0.0284).

The relationship between online cognitive enjoyment and trust was measured using multiple regression techniques. The overall model was found to be significant with and F value of 29.46 (p value = .0001). Subsequent univariate tests showed

that engagement was not significant in explaining the variance in intention to engage in an exchange relationship (F-value 1.51; p=0.226). Fulfillment was shown to be significant in the model (F-value 6.19; p=0.0166) as was Positive Effect (F-value 17.49; p=.0001). Finally, a simple regression analysis showed engagement to have a significant and positive effect on the number of anagrams completed. For every unit increase in engagement,

participants completed an average of four additional anagrams (t-value 2.79; p=0.0076)

DISCUSSION

The partial support for the impact of fit for construal level in this study may be due to one of several reasons. First, it is possible that the treatments used failed to adequately create separation in terms of the psychological distances identified by Liberman et al. (2007). As this is the first study to examine construal fit in an online context, some refinement of the treatment web pages will be necessary and expected. Additionally, it is possible that the impact of construal fit is related to a high level interaction between the variables that measured regulatory orientation and online enjoyment. In this case, it is possible that the techniques used in this study lacked the statistical power to uncover the underlying multivariate nature of the data. This is a stated limitation of this study.

Another limitation of the study concerns the use of the regulatory focus questionnaire. While this is an established instrument with numerous successful applications, some items suffered from poor Cronbach alpha scores (alpha < .6) in the final analysis. In a future study, it would be interesting to explore the benefits of using other means of capturing and influencing regulatory orientation. This may also help to explain the lackluster performance of construal fit.

Our finding of a connection between engagement and task efficiency is very interesting. Unlike perceived notions of engagement, actual performance improvements on a subsequent task have real benefits for e-commerce organizations. Future research could examine the way in which cognitive benefits arising from engagement could help with the success of a subsequent product search.

This study also found a powerful relationship between enjoyment and intention to engage in an exchange relationship with a web vendor. If nothing else, the strength of this relationship speaks to the relevance of the study and the importance of understanding the dimensions and antecedents of online cognitive enjoyment, so that its benefits can be capitalized on by e-commerce vendors.

CONCLUSION

This study provides some preliminary evidence for the role of construal fit in online electronic commerce. The study is interesting in that it expands on literature in the area of flow and cognitive enjoyment to include new theories from psychology and marketing. Through the use of this theory, we have presented a parsimonious model of cognitive enjoyment that examines nascent personality traits with implications for personalized online customization. The study thus has significant implications for both practitioners and academics. On the practitioner side, we provide actionable evidence of the power of personalized advertising to help engage with a digital customer base. As virtual organizations, e-commerce organizations lack the ability to create interest in products and services through active dialogue. This puts them at a disadvantage when compared to offline organizations that rely on a sales force to identify and fill customer needs. The results of this study help to bridge this cognitive communication gap that currently divides the virtual and offline sales environments.

We also contribute to existing academic literature in the area of online presentation and customization. Numerous authors have examined the nature of online presentation formats and interface design (Jiang and Benbasat, 2007). In this research, cognitive learning and the ability to solve problems often takes a central role. This has led to a call for research that examines ways to incorporate some of these cognitive factors into online product presentation and marketing (Jiang and Benbasat 2007, Kobsa, Koenemann and Pohl, 2001). The conclusions drawn from this study will provide researchers with an explanation of the way in which regulatory orientation and problem solving interact to improve cognitive learning online. Additionally, issues of flow and the enjoyment that comes from it continue to provide challenges for e-commerce researchers (Koufaris, 2003). We contribute to this literature by presenting a one of the most parsimonious explanations of online cognitive enjoyment, incorporating some of the latest literature in this area (Lin et al., 2008).

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