

THE SELLING POWER OF CONSUMER-GENERATED PRODUCT REVIEWS: THE MATCHING EFFECT BETWEEN CONSUMERS' COGNITIVE NEEDS AND PERSUASIVE MESSAGE TYPES

Lili Gai

Department of Marketing, College of Business and Engineer
University of Texas of the Permian Basin
4901 E. University Drive, Odessa, TX, 79762
Lili.Gai@Gmail.com

ABSTRACT

This research investigated the potential matching effects between consumers' personality traits (Need for Cognition) and type of characteristics of consumer-generated product reviews (Transformational or Informational). In particular, the study inquired whether such a matching effect would produce the following proposed effects: a) induce positive evaluations of consumer-generated reviews, b) generate positive attitude toward the reviewed products, and c) produce positive purchase intention of the reviewed product. The results of this present research showed that individuals with complex cognitive needs (high level of need for cognition) demonstrated a more positive attitude toward the reviewed product as well as a greater purchase intention when they read informational consumer generated product reviews than when they read transformational consumer-generated product reviews. On the contrary, individuals with lower cognitive needs (low level of need for cognition) showed more favorite attitudes towards transformational reviews. In addition, the hedonic/utilitarian nature of a product (product category), brand-familiarity, and gender moderated the relationship. Implications and directions for further investigation are also provided.

Keywords: Consumer-generated product review (CGPR); Matching effects; Need for cognition; Message types

1. Introduction

Consumer generated product reviews (CGPRs) have been proved a crucial source of information for consumers, especially in the context of electronic commerce [Berger 2012]. One stream of previous studies has shown that CGPRs significantly affect consumers' purchase behaviors [Chintagunta et al. 2010; Duan et al. 2008]. Another stream of literature examines the components of online review system. For example, researchers [Park 2006] find a positive effect between the quality of CGPRs and product sales and increasing purchase intentions with the number of CGPRs. Zhang and Tran [2010] investigate the relationship between level of "Helpful" ranking of CGPRs and consumers' purchase intention. Goes, Lin, and Au Yeung [2014] find that there exists a trade-off between the quality and quantity of review writers in online review recommendation system.

Being one popular E-commerce web site, Amazon.com asks consumers to write reviews and rate products and offers an interactive communication platform for buyers and sellers as well as other interested parties, such as product reviewers. And the rating is a combination of the contribution from both sellers (product description) and buyers (consumer generated product reviews, CGPRs). Therefore, while conducting extensive or intensive search on the Amazon.com, consumers would evaluate the options based on both the product description provided by the sellers that appeal to their needs, and product reviews generated by previous consumers of the products. And thus, CGPRs start to function as advertising messages that sell products. However, little research bothers to examine the nature of CGPRs and proves it.

In addition, it is widely acknowledged that CGPRs represent reviewers' feelings, experiences, and opinions on any specific product [Zhang and Tran 2010] and therefore are attitudes of previous consumers and e-Word of Mouth. Persuasive research has investigated matching effects among three factors, dimensions of attitude [Fazio et al 1989], types of persuasive messages [Puto and Wells 1984], and product types [Rossiter 1987], that occur while potential consumers read CGPRs before making purchase decision. Therefore, another gap in CGPRs literature is that studies are needed in understanding whether there also exist matching effects when CGPRs affect consumers' purchase intention and how consumers' perception system interacts with CGPRs

The purpose of this research, therefore, is to investigate the persuasiveness of CGPRs by 1) testifying the nature of CGPRs from the perspective of focal message strategies, informational/transformational [Puto and Wells 1984];

and 2) examining the potential matching effects between the types of the persuasive messages (transformational or informational) and individuals' information processing styles, cognition/affection [Petty et al. 1984]. The findings advance the understanding of the selling power of CGPRs and extend the scope of persuasive research by recognizing the persuasive function of CGPRs on E-commerce websites. Most importantly, the results from this study provide directions for E-commerce marketers to increase consumers' purchase intention with online review recommendation systems.

2. Literature Review

The worldwide Internet has provided an interactive arena for word-of-mouth communication [Granitz and Ward 1996; Berthon et al. 2008]. Using the Internet, consumers can easily publish their own opinions, thoughts, feelings, and viewpoints on products and services. These consumer-generated contents are available to any customer around the world connected through the Internet and are demonstrating a vital role in the field of marketing. Online retailers, such as Amazon and Ebay encourage their consumers to share their testimonials (personal experiences of products) on their websites. Thus, such consumer-generated product reviews (CGPRs) are gaining more and more attention among business practitioners, information system managers, and researchers. Researchers have examined the influences of CGPRs in the purchase decision-making process from various perspectives in recent years. Mudambi and Schuff [2010] investigate the helpfulness of consumer generated product reviews in the purchase decision-making process. They further suggest that future research should also consider the role of product type in the persuasion process. Archak, Ghose, and Ipeirotis [2011] reveals the consumers' preferences in textual (message) frames would also affect sales. In other words, textual messages such as consumer-generated reviews have the selling power. However, most of previous studies focus on the descriptions of technical (informational) features but not emotional (transformational) features of the message [Archak et al. 2011]. For example, Zhang and Tran [2010] investigate the relationship between level of "Helpful" ranking of CGPRs and consumers' purchase intention. Goes, Lin, and Au Yeung [2014] find that there exists a trade-off between the quality and quantity of review writers in online review recommendation systems.

2.1 Attitude and Persuasion Process

Attitudes have been the major issue in persuasion research because of the explanation and predicting power [Haddock and Zanna 1993]. The focus of most research has been on affect and cognition [Drolet and Aaker 2002]. At the same time, affect and cognition are also the most popular standards to classifying persuasive message types [Hirschman 1986; Puto and Well 1984; Roselli et al. 1995] and individual characteristics and product types [Loef et al. 2001]. Affect and cognition are the two key factors that affect the relationship between persuasive messages and the change of attitudes. According to Haddock and Zanna [1993], individuals are different in using affective or cognitive information affecting their attitudes. Past experiences, socio-cultural background, and even physical condition could affect the evaluation of the same piece of message differently. Some individuals might respond more intensely in emotion to the message than others. And some may demonstrate more interests in messages that require more thinking (Aaker et al. 1996). This speculation has led many researchers to investigate function of different persuasive messages in attitude changing process [Roselli et al. 1995]. Fabrigar and Petty [1999] and more other researchers have recognized a matching effect between attitude change tendency and the nature of persuasive messages. Further, Sojka and Giese [1997] suggested that some individuals tended to use both affective and cognitive components while others respond to one type only.

2.2 Product Types and Persuasive Messages

Even though previous studies have shown relationship between message type and effects of persuasiveness, the results on message types were controversial. Puto and Wells [1984] classified advertising messages into informational and transformational categories, in accordance with cognitive and affective dimensions. However, there is no clear cut between the two, and the scales developed by Puto and Wells [1984] are not exclusive but mutually inclusive and a two dimensioned scale. Researchers [Claeys et al., 1995] concluded that when "think" dominated in the purchase decision, the product would fall into the left side of FCB grid [Vaughn 1980]; conversely, when "feel" dominated, the product would belong to the right side. However, when both think and feel functions equally, the product would be a combination product. As suggested by Petty and Wegener [1998], "messages that match the underlying basis of the attitude are more effective than messages that mismatch." And consequently, individual with matched needs tends to evaluate the messages more persuasive than others. However, little research has found direct relationship between message types and individual traits but focus more the influences when changes occur [Farbrigar and Petty 1999].

In addition to the influence from types of persuasive messages, types of products also affect consumers' attitude formation in the decision making process [Taghian and D'Souza 2007]. Rossiter and Percy [1987] suggested a dimensioned grid where products were categorized based on transformational/informational or think/feel

dimensions, which indicated an interactive relation between product types and persuasive message types. Another group of researchers investigate the issue from a more functional perspective, utilitarian need and hedonic need [Hirschman and Holbrook 1982]. Further, a later study [Lepkowska-Whiet et al. 2003] recognized a different way of categorization: informative and affective products. In other words, informative products satisfy consumers' utilitarian needs and these satisfied individuals may demonstrate more positive attitudes towards these products. In contrast, individuals who obtain hedonic satisfaction from affective goods should generate more positive attitudes toward these affective products. In this sense, greater positive attitudes should be induced when the persuasive messages could convey a matching appeal. Therefore, the matching effect between product types and individual's needs also affects consumers' decision making.

2.3 Matching Effects

Consumer behavior research finds that consumers with high need-for cognition (NFC) traits [Cacioppo and Petty 1982] have a tendency to engage in and to enjoy effortful thinking, whereas individuals of low-need-for-cognition tend to avoid cognitive tasks in their consumption decision-making process. Even though, a lot of consumer behavior studies have examined the interaction between NFC and various factors such as aging effect [Drolet et al. 2007] and attitude formation [Zhang et al. 2009], little research has tested the relationship between consumers' need-for-cognition trait and persuasive message types of consumer-generated product reviews. Therefore, this research seeks to find evidence for the interaction between individuals' need-for-cognition level and types of persuasive messages.

2.5 Customer-Generated Product Reviews and Advertising Message

Researchers [Mudambi and Schuff 2010; Zhang and Tran 2010] examined the helpfulness of consumer generated product reviews, which justify the important influence in the purchase decision making. In addition, the two studies also found out that factors like review extremity, review depth, and product type also play roles in the persuasion process by comparing reviews of six search or experience good. A recent study [Archak et al. 2011] argued about the multifaceted nature of product reviews using digital cameras and camcorders and revealed the consumers' preferences in textual frame which would affect sales. In other words, textual messages like reviews do sell. But due to the limitation of the product type, the study [Archak et al. 2011] only examined the descriptions of technical features not emotional features of the messages. An earlier study [Drolet et al. 2007] investigated the moderating role of functional categorization of product, hedonic and utilitarian by reviewing consumers' responses to affective and rational adverting among the aging society. However, this study [Drolet et al. 2007] didn't discuss the changing of personal needs because of aging. Pan and Zhang [2011] noticed the moderating effects of product type in consumers' perception of online reviews and provided evidence for future research that the product type should be an important factor to be considered when studying how consumer-generated product reviews affect potential consumers' attitudes. Polyorat and Alden [2005] identified that both product types and need for cognition moderated consumers' attitude formation process that moderating effects of NFC were primarily observed in utilitarian products than hedonic goods. Thus individuals high enjoy thinking while NFC low try to avoid cognitive tasks.

This research tends to fill in the gaps in the literature by: 1) identifying the types of consumer-generated product reviews of a combination product, i.e. a product consists both hedonic and utilitarian features; (2) examining the matching effects between individuals' need for cognition and types of consumer-generated product reviews; and (3) studying the influences of the matching effects on consumers' purchase decision making. The study depicts the expected relationship between consumers' need for cognition and the types of reviews they read in the study that individuals of high level of NFC demonstrate more purchase intension when reading informational reviews (IC) over transformational reviews (TC). In contrast, individuals of low level of NFC indicate high purchase intention when reading transformational reviews (TC) over informational reviews (IC). The solid arrow indicates a positive relationship, while the dotted arrow reflects a negative influence. Therefore, the study will test the following hypotheses:

H1a: "High-Cognition" individuals prefer transformational reviews over informational reviews.

H1b: "Low-Cognition" individuals prefer informational reviews over transformational reviews.

H2a: "High-Cognition" individuals generate more positive attitude toward a product from transformational reviews than from informational reviews.

H2b: "Low-Cognition" individuals generate more positive attitude toward a product from informational reviews than from transformational reviews.

3. Methodology

3.1 Product

First, a product of fitness program was selected as a combination product carrying both Think (Informational) and Feel (Transformational) features according to Berger's [1986] FCB grid [Vaughn 1980]. The product under study was the Zumba Fitness Program, designed for Wii, a play station. Although no previous literature has recognized which category this product belongs to, the researcher chose this product because it shares similar features as the MP3 player, which has been recognized as a combination product [Park, 2006]. Park [2006] employed Berger's [1986] scales to classify products on the FCB grid. A total of 18 products were measured by Think/Feel and involvement scales and found that laser printer a think product; mp3 player a combination product; and swimsuit a feel product [Park 2006]. Wii, a play station, is similar to a laser printer, requiring consumers to follow specific instructions to operate it. Zumba Fitness, however, carries emotion and feel feature.

3.2 Customer-generated product reviews.

Several pieces of reviews of Zumba Fitness for Wii published on Amazon.com were selected and two pieces of consumer-generated reviews of this product were finalized as persuasive messages for this particular study by eight native English informants based on the sentence structure, punctuation usages, number of emotional words used in the messages, number of first-person pronouns. Informational review was written in third-person singular containing objective evaluations with factual information. Transformational review, however, employed first-person singular (the subjects of sentences are "I") and used words with emotional connotations such as "anxiously, immediately, etc." [Appendix A].

3.3 Participants

Participants were current undergraduate students enrolled in lower-level information science, finance, and marketing courses (Business Statistics; Marketing and Money; Foundations of Marketing Practice; Buyer Behavior; Strategic Brand Management; Marketing Research; and Marketing Channels) at a Southwestern University. Regarding using student samples, there has been an on-going debate about the advantages and disadvantages. Some researchers [Sears 1986; Wells 1993] emphasized differences between college students (convenient group) and "real" population, while some scholars discuss the acceptance of using students as reasonable research subjects, especially in studies that examine attitudinal responses [Burnett and Dunne 1986]. In this study, because student samples are active Internet users and are opinionated, student sample meets the purpose of this study, which is to investigate individual's attitudinal responses. In addition, the product examined in this study targets at the age group from eighteen to mid-thirties, similar to the average ages of undergraduate students. A total of 252 students took the online survey. However, data from 9 participants were excluded due to incomplete and/or repetitive participation. Therefore, results were based on the remaining 243 participants. Both male and female subjects were included in this study. Even though ethnic background information was collected in the demographic part of the survey, it was not considered as a factor in either selection or analysis process. Therefore, various ethnic groups were recruited in the study to better represent the general population of the United States. Most of the participants received extra credits towards a course requirement in exchange for their participation. All participants got chances to win one of the twenty five-dollar value Starbucks Gift Cards.

3.4 Measurement

3.4.1 Need for Cognition

The Need for Cognition measure is used to assess individuals' tendency of engaging in thinking [Cacioppo and Petty 1982] and understand how some characteristics of advertising messages may affect consumer attitudes. Cacioppo and Petty [1982] defined need for cognition as the tendency to engage in and enjoy effortful thinking. Originally, there are 34 items in the Need for Cognition measure. However, in this study, a shorter-version of 17-items developed by Petty, Cacioppo, and Kao [1984] was employed [Appendix B]. The scale items were measured in a 7-point Likert scales. Eight of the 17 items were reverse-scored due to their variation to inhibit response bias. Scores of the items were averaged for an overall index. The lowest reported Cronbach's alpha of this scale was .80 [Manning, Sprott, and Miyazaki 1998] and the highest reported Cronbach's alpha was .90 by Roehm and Sternthal [2001].

3.4.2 Transformation/Informational Characteristics of Reviews

A 7-point semantic bipolar scale of ten items was used to measure the transformational/informational characteristics of reviews. Nine out of ten items came from Hirschman [1986] and one global item to measure both informational and transformational feature was also used. Although, Puto and Well [1984] present the formal definitions of informational and transformational advertising messages and develop and validate measurement scale, Hirschman's semantic scale is more appropriate than Puto and Well's scale for the following two reasons. Firstly, Hirschman's fits the message type, written words instead of commercials [Puto and Well 1984]. Secondly, Hirschman's scale has demonstrated stronger cronbach α than Puto and Well's: .73 vs. .82 for informational items

and .88 vs. .96 for transformational items. Therefore, this study follows Park [2006] and uses Hirschman’s scale [1986].

Transformational Characteristic (TC) of the review was assessed with four items: attractive/not attractive; desirable/not desirable; arousing/not arousing; and beautiful/not beautiful. Then the items were averaged to form a TC-index. Measure for Informational Characteristic (IC) of the review includes five items: logical/not logical; educational/not educational; informative/not informative; factual/not factual; and useful/not useful. These five items were also averaged to produce an index for IC. The scales result in an alpha of .82. Following Park [2006], a Global Evaluation of Review (GER) was also employed in the analysis by averaging all IC items and TC items. Thus, a lower GER score indicated a more informational characteristic, while higher GER score indicated a more transformational characteristic in the review [Appendix B].

3.4.3 Purchase Intention

Bower and Turner [2001] used a three-item Likert-type statement scale to measure a person’s stated interest in buying a product. The statements were adapted to the purpose of this study: “I am eager to check out the product because of this review”; “I intend to buy this product”, and “I plan on buying this product”. The Cronbach’s Alphas were reported to be .80 in Bower and Turner [2001] [Appendix B].

3.5 Procedures

After obtaining the approval from Institutional Review Board (IRB), the survey was activated via Qualtrics, an online survey tool. The researcher approached several instructors of Business courses and got permission to enter the classroom announcing the surveys. A typical procedure was carried in the following steps: first, the researcher did a brief introduction and then read the IRB approved recruiting script to the class, giving the students a rough introduction of the study purpose. After the briefing session, the researcher would accept questions from the students. Questions raised by the students mainly concerned the deadline, the time required, and the compensation for their participation. All the questions were properly answered. Finally, the researcher distributed a hard copy of the recruiting script with links to the online survey. In addition, the researcher also provided links to the survey in an email so that the instructor could put the links on course website. Once an interested student clicked the link, he or she would first read an IRB approved Informed Consent Notice and make a decision of whether to participate in the survey. After clicking a *Yes* button, the survey starts. The entire questionnaire consists of questions of four parts: demographic background information questions; Need for Cognition scales of 17 questions; some filler questions; Transformational or Informational review as well as TC/IC of Review Scales; manipulation check questions, and a three-item Purchase Intention scales. If the student completes the entire survey, the student will be redirected to a mini survey, which will collect their names so that the researcher could report their names to course instructors who have allowed extra credit for taking the survey. The Qualtrics online survey tool has a function of “Force Answer” to avoid any unanswered questions and is also an advantage over paper-based surveys.

4. Results and Discussion

4.1 Demographic Analysis

A total of 243 usable survey respondents were obtained for further statistical analysis following the data screening process by deleting invalid responses. Among the participants, 121 read the transformational review and the 122 read the informational review. All participants answered questions of demographic information (gender, age, etc.) [Table 1].

Table 1 – Demographic Information

Gender	Male: 43%	Female: 57%
Age	20-24: 76%	Other: 24%
Major	Business: 76%	Other: 24%
School Year	Senior: 58%	Other: 42%

4.2 Manipulation Check of Review Stimuli Types

The review stimuli manipulations were checked by conducting a one-way ANOVA with type of reviews (Transformational or Informational) as the dependent variable. Average scores of transformational and informational items were calculated and are used as the independent variables. Results of the ANOVA showed a significant main effect of message type difference. Table 2 summarizes cell means and standard deviations of the two measures. Therefore, the manipulations were effective.

Table 2: Cell Means of Manipulation Check

Measures	Transformational Review	Informational Review	F score	Significant level
Transformational Items	3.5 (.57)	3.09 (.67)	26.990	.000
Informational Items	4.60 (1.18)	5.28 (1.13)	21.319	.000

4.3 Measurement Assessment

The shorter-version of 17-items developed by Petty, Caccioppo, and Kao [1984] was used and reported an overall alpha of .866. Scores of the items were averaged for an overall index. Thus, a higher index indicates a greater tendency to enjoy thinking. Purchase intentions were measured with Bower’s [2001] and reported an alpha of .917 in this study. There was also one item that measured brand familiarity because of using a real brand – Zumba. EFA analysis reveals three factors in the scales: Need for Cognition (NFC), Types of Reviews, and Purchase intentions as shown in Table 3.

Table 3 Construct Validity and CFA

	Need for Cognition	Message Type	Purchase Intention
I would prefer complex to simple problems.	.654		
I would prefer complex to simple problems	.766		
Thinking is not my idea of fun. (r)	.581		
I would rather do something that requires little thought than something that is sure to challenge my thinking abilities (r)	.602		
I find satisfaction in deliberating hard and for long hours	.619		
The idea of relying on thought to make my way to the top appeals to me.	.662		
I really enjoy a task that involves coming up with new solutions to problems.	.720		
Learning new ways to think doesn’t excite me very much. (r)	.658		
The notion of thinking abstractly is appealing to me.	.644		
Not logical/ Logical		.746	
Not educational/ Educational		.834	
Not informative/ Informative		.812	
Not factual/ Factual		.724	
Not useful/ Useful		.818	
Not attractive/ Attractive		.614	
Mostly informational/ Mostly emotional		.604	
I am eager to check out the product because of this advertisement.			.857
I intend to try this product.			.902
I plan to buy this product.			.871

4.4 Regression Analysis

A regression analysis, conducted in SPSS 19, reveals that Purchase Intention, could be affected by factors of Review type (TC/IC, p=. 005), Level of Need for Cognition (NFC, p<.001), and the interaction between review type and the need for cognition (TC/IC*NFC, p=.005) [Table 4].

Table 4: Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	7.057	.909		7.761	.000
Review Type	-1.350	.474	-.462	-2.849	.005
Need for Cognition (NFC)	-.756	.172	-.440	-4.401	.000
Review Type*NFC	.252	.089	.505	2.830	.005

a. Dependent Variable: Purchase Intention

Due to the usage of real brands, Zumba, whose majority consumers are females, the researcher also included the gender and brand familiarity in the testing. The results show that gender has a negative effect on the purchase intention ($\beta = -.523, p = .005$), while brand familiarity has a positive effect on the purchase intention ($\beta = .200, p < .001$) [Table 5]. At the same time, the inclusion of Gender and Brand Familiarity Factors also modifies the strength of the other factors, types of the reviews, level of need for cognition and the interaction between them.

Table 5: Regression Analysis -- Moderating effect of Brand Familiarity and Gender

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6.202	.879		7.055	.000
Gender	-.523	.183	-.174	-2.865	.005
TC/IC	-1.342	.448	-.459	-2.996	.003
NFC	-.703	.164	-.410	-4.284	.000
Brand Familiarity	.200	.049	.247	4.098	.000
TC/IC*NFC	.231	.084	.463	2.743	.007

a. Dependent Variable: Purchase Intention

In order to test the robustness of the proposition ANOVA was also conducted to test hypotheses of proposed matching effects between levels of need for cognition and types of reviews. The results show that even though the Need for Cognition itself is not a significant predictor with purchase intention ($p = .332$), the interaction between types of review (TC/IC) ($p = .044$) and the Need for Cognition Level affects the purchase intention ($p = .040$). In addition, Brand familiarity and Gender were found to moderate the relationship between the interaction and purchase intention. A further ANOVA tests also found that female participations tend to prefer transformational reviews to informational reviews.

4.5 Hypotheses Testing

Firstly, the statistical results show that purchase intention could be predicted by Global Evaluation of Reviews (GER) index, Brand Familiarity, Need for Cognition, and Gender and all hypotheses were supported. Brand familiarity and Gender were found to be two significant modifiers in the proposition. T-tests were conducted to test the hypothesis 1 and found that “*NFC-high*” individuals prefer *informational* reviews to *transformational* reviews and “*NFC-low*” individuals prefer *transformational* reviews to informational reviews. In other words, consumers who enjoy cognitive challenge prefers informational message ($M_{-H-T} > M_{-H-I}$), while consumers who tend to think less enjoy reading emotional/transformational type of messages ($M_{-L-T} > M_{-L-I}$). Thus the results suggest respective matching effects between NFC-High consumers and Informational reviews while NFC-low consumers match Transformational reviews.

Then, one-way ANOVA was used to test the Hypothesis 2 that “*NFC-high*” individuals prefer informational reviews in making purchase decision, while “*NFC-low*” individuals prefer transformation reviews in making purchase decision. The results show that when reading transformational message, “*NFC-high*” consumers show significantly lower preference ($M = 2.76$) than “*NFC-low*” consumers ($M = 3.47$). Therefore, Hypothesis 2 is supported.

This study supports Pan and Zhang’s [2011] assertion that the matching effect is much more complex than researchers sought with the evidence that both Gender and Brand familiarity were found as moderators in the matching effects. However, it should be noted that using a real-world brand might cause bias when evaluating the attitudes toward the reviews. If there could be a follow-up study, a fictitious brand must be created to avoid such effects.

Table 5: Hypotheses Summary

Hypotheses	Results
H1: “ <i>NFC-high</i> ” individuals prefer <i>informational</i> reviews to transformational reviews and “ <i>NFC-low</i> ” individuals prefer <i>transformational</i> reviews to informational reviews.	Supported
H2: “ <i>NFC-high</i> ” individuals prefer informational reviews in making purchase decision, while “ <i>NFC-low</i> ” individuals prefer transformation reviews in making purchase decision.	Supported

4.6 Summary

This revised proposition summarizes the results from this study that online shoppers’ purchase intention could be influenced by factors of gender, brand familiarity, as well as the matching interaction between consumers’ level

of need for cognition and the transformational/informational characteristics of consumer-generated product reviews (TC/IC CGPR). In other words, the degree of brand familiarity is one of the factors that could affect the matching effect investigated in this research. Consumers who like to think tends to make purchase decision based on Informational CGPRs; while consumers who don't like to think tends to make purchase decision based on Transformational CGPRs.

The study not only testify the proposed hypotheses, but also provides evidence for the proposition that high-cognitive "Think" individual tends to induce positive attitudes and higher purchase intention toward mixed type product – Zumba Fitness program for Wii. In addition, the results also indicate the existence of a Third product type, a mixture of Think and Feel or Hedonic and Utilitarian, which is a strong evidence for a better understanding of the moderating effect of product type in persuasive message processing [Rossiter and Petty 1984; Vaughn 1980; Hirschman and Holbrook 1982].

Current research classifies reviews for a combination product (a product that combines both Think and Feel features) the distinction of transformational and informational persuasive messages to categorize consumer-generated product reviews of a combination product (Think and Feel), indicating that consumer-generated product reviews share features with other persuasive messages, print ads, commercials, and flyers. Furthermore, the research employed survey methods to examine the matching effects between individuals' need for cognition and types of consumer-generated product reviews, a gap in the literature. And lastly, the paper also managed to link the matching effects to consumers' purchase decision making process.

5. Implications and Limitations

The results of this study have several contributions to the theoretical framework and managerial implications. Theoretically speaking, the research took efforts testing the matching effect between Need for Cognition and customer-generated product reviews and their interaction with purchase decision (the Purchase Intention), which is the first to examine the selling power of the product reviews. Thus the results add new elements to consumer decision-making process by introducing interaction between personality traits (Need for Cognition) and consumer-generated product reviews.

At the same time, the results also provide valuable marketing strategies for marketing planners, brand managers, and online retailers. For example, when promoting an informational (Think) product, product description should include both manufacturer's product features and consumers' reviews with informational focus; whereas when promoting a transformational product, product description should emphasize more of its transformational features than its informational features and refers to consumers' review that testify transformational (Feel) features. In addition, for a product that possesses both Think and Feel features, like Zumba Fitness in this study, an equal emphasis on both features might best promote the product. BestBuy started publishing consumers' reviews in their Weekly Ads since 2008 because they, at that time, had realized the importance of the consumers, not only employing their feedback in service recovery, but also utilizing valuable customer reviews to add to the product's selling power. The e-retailer manager and planner could also develop software that could automatically generate reviews that match the potential customers' cognitive and functional needs. Finally, the study also points out directions for future research: updating the product categorization; involving more factors in the persuasive message processing; and future research should cover different socio-cultural background populations.

Therefore, managerially, the study provides practical implications for E-Commerce retailers. Through better categorizing available CGPRs in the online review recommendation systems in addition to rankings and product types, the e-retailers could present either transformational- or informational- focus CGPRs based on potential consumers' previous online review preferences (transformational or informational) to achieve more positive purchase intentions and maximize the selling power of the online reviews. Moreover, this study also offers insights for designers of online review recommendation system that they should also consider the content of the online reviews in order to serve the needs and wants of e-retailers.

No research is perfect. So is this one. Three major limitations are identified. Firstly, given the use of convenient sample in behavioral research [Burnett and Dunne, 1986] and Generation Y (age 19-25) are notorious of hiding the "true self" and show others what they want. Secondly, even though persuasive messages were identified using a small group of business PhD students, the researcher picked the product type. A second limitation of this study is that the study only tested two types of review messages not the full four types of messages: (1) High Transformation/Low Information, (2) Low Transformation/High Information, (3) High Transformation/High Information, and (4) Low Transformation/Low Information [Puto and Well 1984]. Future studies could test the interaction relationship among the four types of messages. In addition, future research on the persuasive power of consumer-generated product reviews should be extended to other perception factors, other personal traits, such as

self-construal, the relational self, and should compare the differences between different subgroups or cultures [Cui et al. 2013].

REFERENCES

- Aaker, D.A., D.M. Stayman, and M.R. Hagerty, "Warmth in advertising: measurement, impact and sequence effects", *Journal of Consumer Research*, Vol. 12:365–381, 1986.
- Archak, N., A. Ghose, and P. G. Ipeirotis, "Deriving the Pricing Power of Product Features by Mining Consumer Reviews", *Management Science*, Vol. 57, No. 8:1485-1509, 2011.
- Berger, D., "Theory into practice: The FCB grid", *European Research*, Vol. 14, No.1:35-46 1986.
- Berger, J. and Milkman, K.L. What makes online content viral?? *J. Marketing Res.* 49(2) 192-205, 2012.
- Berthon, Pierre, L. Pitt, and C. Campbell, "When Customers Create the Ad," *California Management Review*, Vol.50, No.4:3-6 2008.
- Bower, J. A., and L. Turner, "Effect of liking, brand name and price on purchase intention for branded, own label and economy line crisp snack foods," *Journal of Sensory Studies*, Vol. 16, No.1:95–115, 2001.
- Burnett, J. J. and P. M. Dunne, "An Appraisal of the Use of Student Subjects in Marketing Research", *Journal of Business Research*, Vol. 14, No. 4:329-343, 1986.
- Cacioppo, J.T. and R. E. Petty, "The need for cognition", *Journal of Personality and Social Psychology*, Vol. 42, No. 1:116–131, 1982.
- Claeys, C., A. Swinnen, and P.V. Abeele, "Consumers' Means-Ends and Chains for Think and Feel Products", *International Journal of Research in Marketing*, Vol. 12, No. 3:193-208, 1995.
- Cohen, J. B. Attitude, Affect and Consumer Behavior, in Alice M. Isen and Bert S. Moore (Eds.) *Affect and Social Behavior*, Cambridge: Cambridge University Press, 1987.
- Cui, G., Liu, H., Yang, X., and Wang, H. Culture, cognitive style and consumer response to informational vs. transformational advertising among East Asians: Evidence from the PRC. *Asia Pacific Business Review*, V. 19, No. 1, 2013.
- Drolet, A., and J. Aaker, "Off-Target? Changing Cognitive-based attitudes", *Journal of Consumer Psychology*, Vol.12, No. 1:59-68, 2002.
- Drolet, A., P. Williams, and L. Lau-Gesk, "Age-related Differences in Response to Affective vs. Rational Ads for Hedonic vs. Utilitarian Products", *Marketing Letter*, Vol. 18, 211-221, 2007.
- Granitz, N.A., and J.C. Ward, "Virtual Community: a Sociocognitive Analysis", in NA - Advances in Consumer Research Volume 23, eds. Kim P. Corfman and John G. Lynch Jr., Provo, UT: *Association for Consumer Research*, Pages: 161-166, 1996.
- Fabrigar, L.R., and R.E. Petty, "The Role of the Affective and Cognitive Bases of Attitudes in Susceptibility to Affectively and Cognitively Based Persuasion", *Personality and Social Psychology Bulletin* Vol. 25, No.3: 363-81, 1999.
- Florack, A., S. Ineichen, and R. Bieri, "The Impact of Regulatory Focus on the Effects of Two-Sided Advertising." *Social Cognition* 27.1: 37-56, 2009.
- Forman, C., A. Ghose, and B. Wiesenfeld, "Examining the Relationship between Reviews and Sales: The Role of Reviewer Identity Disclosure in Electronic Markets", *Information Systems Research* Vol. 19, No.3: 291-313, 2008.
- Haddock, G., and M.P. Zanna, "Predicting prejudicial attitudes: the importance of affect, cognition, and the feeling-belief dimension", *Advances in Consumer Research*, Vol.20, 315–318, 1993
- Heijden, H. van der, "User Acceptance of Hedonic Information Systems", *MIS Quarterly*, Vol. 28, No. 4:695-704, 2004.
- Hirschman, E. C., "Humanistic Inquiry in Marketing Research: Philosophy, Method and Criteria", *Journal of Marketing Research*, Vol. 23, No. 3: 237-249, 1986.
- Hirschman, E.C., The Effect of verbal and pictorial advertising stimuli on aesthetic, utilitarian and familiarity perceptions, *Journal of Advertising*, 15 (2), 27-34, 1986.
- Hirschman, E. and M. Holbrook, "Hedonic Consumption: Emerging Concepts, Methods and Propositions", *Journal of Marketing*, Vol. 46, No. 3:91-101, 1982.
- Lepkowska-White, E., T.G. Brashear, and M.G. Weinberger, "A Test of Ad Appeal Effectiveness in Poland and The United States: The Interplay of Appeal, Product, and Culture", *Journal of Advertising*, Vol. 32, No. 3:57-67, 2003.
- Loef, J., G. Antonides, , and van W. F. Raaij, "The Effectiveness of Advertising Matching Purchase Motivation: An Experimental Test. ERIM Report Series Research in Management, November, Erasmus University, Rotterdam, The Netherlands, 2001.

- Manning, K., D.E. Sprott, and A.D. Miyazaki, "Consumer response to quantity surcharges: Implications for retail price setters," *Journal of Retailing*, V. 74, No.s3:373-399 1998.
- Mudambi, S. M. and D. Schuff, "What Makes a Helpful Online Review? A Study of Customer Reviews on Amazon.com", *MIS Quarterly*, Vol. 34, No. 1:185-200, 2010.
- Naylor, G., S.B. Kleiser, J. Baker, and E. Yorkston, "Using Transformational Appeals to Enhance the Retail Experience" *Journal of Retailing* Vol.84, NO.1: 49-57, 2008.
- Pan, Y., and J.Q. Zhang, "Born Unequal: A Study of the Helpfulness of User-Generated Product Reviews", *Journal of Retailing*, Vol. 87, NO.4:598-612, 2011.
- Park, P., "Information Processing Style, Advertising Message Strategy, and Product Type", A dissertation, 2006.
- Petty, R.E., J.T. Cacioppo, and C.F. Kao, "The Efficient Assessment of Need for Cognition", *Journal of Personality Assessment*, Vol. 47, No. 3, 306-307, 1984.
- Petty, R.E., and D.T. Wegener, "Matching versus Mismatching Attitude Functions: Implications for Scrutiny of Persuasive Messages," *Personality and Social Psychology Bulletin*, Vol. 24, No. 3, 227-240, 1998.
- Polyorat, K., and D. L. Alden, "Self-construal and need for cognition effects on brand attitudes and purchase intentions in response to comparative advertising in Thailand and the United States", *Journal of Advertising*, Vol.34, 37-48, 2005
- Puto, C.P. and W.D. Wells, "Informational and Transformational Advertising: The Differential Effects of Time. *Advances in Consumer Research*, Vol. 11, No. 1: 638-43, 1984.
- Roehm, M., and B. Sternthal, "The Moderating Effect of Knowledge and Resources on the Persuasive Impact of Analogies," *Journal of Consumer Research*, Vol. 28 No. 2: 257-72, 2001.
- Roselli, F., J. Skelly, and D.M. Mackie, "Processing rational and emotional messages: the cognitive and affective mediation of persuasion", *Journal of Experimental Social Psychology*, Vol. 31, 168-190, 1995.
- Rossiter, J. R., and L. Percy, "Advertising and Promotion Management", New York: McGraw-Hill, 1987.
- Sears, D. O., "College Sophomores in the Laboratory: Influences of a Narrow Data Base on Social Psychology's View of Human Nature", *Journal of Personality and Social Psychology*, Vol. 51, No. 3:515-530, 1986.
- Sojka, J. Z., and J.L. Giese, "Thinking and/or Feeling: An Examination of Interaction between Processing Styles", *Advances in Consumer Research*, Vol. 24, 438-442, 1997.
- Taghian, M.,and C. D'Souza, "A cross-cultural study of consumer purchase intention and planned behavior", in Thyne, M., K. Deans, and J.Gnoth, (eds), ANZMAC 2007: 3Rs, reputation responsibility relevance, pp. 2009-2015, University of Otago, School of Business, Dept. of Marketing, Dunedin, New Zealand, 2007.
- Tsang, A.S.L. and G. Prendergast, "Is a "Star" Worth a Thousand Words?" *European Journal of Marketing* Vol. 43, No.11/12: 1269-80, 2009.
- Vaughn, R., "How Advertising Works: A Planning Model", *Journal of Advertising Research*, Vol. 20, 27-33, 1980.
- Wu, G-h, "Applying the Rossiter-Percy Grid to Online Advertising Planning: The Role of Product/Brand Type in Previsit Intentions", *Journal of Interactive Advertising* Vol. 8, No.1: 1-27, 2007.
- Yang, Z-l., and R.T. Peterson, "I Read About It Online", *Marketing Research* Vol. 15, NO.4: 26-31, 2003.
- Ye, Q., R. Law, and B. Gu, "The Impact of Online User Reviews on Hotel Room Sales", *International Journal of Hospitality Management*, Vol. 28, No.1: 180-82, 2009.
- Zhang, R, and T. Tran, "An Information Gain-Based approach for Recommending Useful product reviews", *Knowledge Information System*, Vol. 26, 419-434, 2011.
- Zhang, R, and T. Tran, "Helpful or Unhelpful: A linear approach for ranking product reviews", *Journal of Electronic Commerce Research*, Vol. 11, No. 3, 220-230, 2010.
- Zhang, L., B. Pan, W.W. Smith, and X. Li, "An exploratory study of travelers' use of online reviews and recommendations: A qualitative approach," *Journal of Information Technology and Tourism*, Vol. 11, No. 2: 157-167, 2009.

APPENDIX A – REVIEWS

Transformative Product Review

So, *I anxiously anticipated* this game so much so that I brought it *immediately* on the 18th. Just got around to playing it yesterday and while the game is *fun* (I love to dance). I have two major *gripes* with the game. Those being the learn the steps area and the way the game records your movements. As someone who has *never actually* gone to a Zumba class *I* decided to practice before hand so as to be familiar with the moves. However, unlike the Zumba dvds *I* have seen that break the dances down by beat this moves so fast that you can't really pick up what is going on. Now *I* am sure that if you were to go back over it again and again you could get it, however, I would think if it was supposed to be a learning section it would have clicked in someone's head to make it slow enough to follow. I could understand speeding up once the steps are learned so one would know how to truly do the routine but maybe that's just me. Secondly, as another review stated this may be better on the Kinect but the way the movement is recorded on the WII seems as if the game is not really monitoring your movement. There were times when I was not moving at all as I was trying to watch to get back in step with the instructor and the game was steadily progressing (bar filling up) and saying good job. Yep, she also stayed green for a while. So then I intentionally stood still to see if it would progress all the way and sure enough it did. Sure this is not a major major thing as I find the purpose of the game being to simply get you moving in a fun way to exercise. However, if it claims that part of the game involves the ability to compete against someone to see who can follow the instructor better than it should really monitor the movements. I only played an easy one person routine so maybe it is only a problem during single player mode. Perhaps as you move further from beginner to expert the monitoring becomes more stringent. I hope it does. Yet, all and all the music is fun and the dancing definitely gets your pulse racing and you will sweat. So as far as exercise I believe the game will produce favorable results if you keep up with it.

****Update: Crazy Fun ****

I've had more time to play and study the game and despite the things I pointed out earlier I am so in love with this game. It is the most fun workout I have ever had and keeps you going for hours on end. The music gets you into the mood and the time just flies by. As for the things I pointed out before the more I play it seems that the learn the steps still seems fast in some spots but it may be due to how well you keep up with her. Also once you truly get into the dancing the motion sensing doesn't seem to be off so much. I guess if you take the time to really focus on something you can find fault with anything. Yet, if you really get into the spirit of the game you will enjoy it more than you could imagine. If you like to dance and want to work up a serious sweat Zumba Fitness is a definite must have.

Informative Product Review

Zumba is a fitness craze started by dancer Beto (choreographer for Shakira, among others) back in the 1990s. Since then, it's swept the world. Zumba classes are given in more than 90,000 fitness centers worldwide, and over 10 million people have tried it. In fact, one just opened up just around the corner from my apartment!

Zumba is a simple concept. Standard aerobics exercises become repetitive and stale. But with Zumba you can learn latin dance moves, have fun, and get just as solid a workout (or more).

The game comes with a belt in which you place your Wii remote. It's not the most solidly constructed belt in the world, but it gets the job done. You fit it around your waist (it looks like it'll accommodate anyone with as much as a 40-50 inch waist), and secure it with velcro. You put your Wii remote in the front pocket so it's standing vertically and the buttons are facing forward (you need to take the protective plastic cover off before and after putting it in the pocket, which is a bit annoying, but luckily I had a spare Wii remote I wasn't using, so I just used that).

The starting menu is simple--you use the arrow buttons on the Wii remote to choose from the options (I'm guessing they chose not to use cursors knowing that the Wii remote would be in the belt while navigating the menus; it is a bit clunky, but you get used to it after a while).

The options are: Create / Edit Player, Play, Workout Calendar, and Extras. You can start dancing single routines immediately, but in order to access most features, you'll need to create a player.

The player creation is pretty quick. You enter your name, and select your difficulty level (easy, medium, hard). There's a bit of sloppy programming, in that there's never confirmation that you've successfully created a player (you get sent back to the "Create" button). But once you go back to the Main menu after creating a player, you'll see a bunch of new options open to you: Tutorials, Zumba Party, and Zumba Class.

APPENDIX B – MAJOR SCALES

All scales were measured using a 7-point Likert scale unless otherwise indicated.

Need for Cognition – Petty, Caccioppo, and Kao [1984]

1. I would prefer complex to simple problems.
2. I like to have the responsibility of handling a situation that requires a lot of thinking.
3. Thinking is not my idea of fun. (r)
4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities (r)
5. I find satisfaction in deliberating hard and for long hours
6. I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something. (r)
7. I only think as hard as I have to. (r)
8. I like tasks that require little thought once I have learned them (r)
9. The idea of relying on thought to make my way to the top appeals to me.
10. I really enjoy a task that involves coming up with new solutions to problems.
11. Learning new ways to think doesn't excite me very much. (r)
12. I prefer my life to be filled with puzzles that I must solve.
13. The notion of thinking abstractly is appealing to me.
14. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
15. I feel relief rather than satisfaction after completing a task that required a lot of mental efforts. (r)
16. It's enough for me that something gets the job done: I don't care how or why it works. (r)
17. I usually end up deliberating about issues even when they do not affect me personally.

Transformational and Informational Message Types – Hirschman [1986] and Park [2006]

The review, which I just read, is...

- Not logical ----- Logical
- Not educational ----- Educational
- Not informative ----- Informative
- Not factual ----- Factual
- Not useful ----- Useful
- Not attractive ----- Attractive
- Not Desirable ----- Desirable
- Not arousing ----- Arousing
- Not beautiful ----- Beautiful
- Mostly informational ----- Mostly emotional

Intention to Purchase – Bower and Turner [2001]

I am eager to check out the product because of this advertisement.

I intend to try this product.

I plan to buy this product.