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Connie Bateman
University of North Dakota

DEVELOPING A MULTI-ITEM MEASUREMENT SCALE FOR DEVELOPING COUNTRY TEENAGERS' CONSUMTION RELATED COGNITION THROUGH INVOLVEMENT IN REALITY TELEVISION

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ABSTRACT

The aim of this paper is to develop and confirm a multi-item measurement scale for consumption related cognition development through teenagers' involvement in Reality Television (RTV). Various researchers have proposed product knowledge, consumer role perception, purchasing intentions as the domain items for teenagers' consumption related cognition. Using a multi-step process, this research refined and adapted a multi-item measurement scale for developing country teenagers' consumption related cognition through RTV involvement. These were then tested and confirmed using exploratory and confirmatory factor analyses techniques. A six-item measurement scale for the developing country teenagers' consumption related cognition by RTV has been confirmed. These items include: understand product usage instruction from RTV, RTV helps to recall about products, RTV make aware about particular brands, RTV provides a lot of product information, RTV is a good way to learn about products/brands and advertisements shown in RTV gives new product ideas. Understanding consumption related cognition through RTV involvement of teenagers in their consumption behavior is critical for further theory building in the consumer behavior field. These measurement items can now form the basis for various further researches, particularly on developing country teenagers' RTV involvement and its effect on their consumption behavior.

INTRODUCTION

Teenagers worldwide are an emerging market segment that is receiving increasing attention from researchers (Bhosale & Gupta 2006; Lueg & Finney 2007). Specifically, as a teenager consumer socialisation agent; electronic media receives maximum attention (Dotson & Hyatt 2005; Vakratsas & Ambler 1999). Consumption related cognition, on the other hand, is often identified as one of the common outcome components of the consumer socialisation process (Chan 2003; Moschis & Moore 1979; Schmoll et al. 2006). Reality Television (RTV) is a contemporary electronic media vehicle. RTV has generated a lot of interest among teenagers because of its interesting content (Lundy & Jacobson 2008). Furthermore, the nature of participants (Jacobs 2008), format (James 2007), and reward system (Driscoll 2007), makes RTV different and exclusive from other TV programs. Understanding the role of RTV in the development of consumption related cognition of teenagers in a developing country is critical for further theory building in the field. It is particularly important due to the huge size of the teenaged market segment and impressive growth of electronic media in developing countries (Bhosale & Gupta 2006; Quraishi, Bhuiya & Mohammad 2004). Further, theory building in this area is also important in developing countries, where the population is relatively young. Accordingly, the key problem this research will address is:

How to measure developing country teenagers' consumption related cognition development by RTV?

CONSUMPTION RELATED COGNITION

As already mentioned, consumption related cognition is considered as one of the common outcome components of the consumer socialisation process (Chan 2003; Moschis & Moore 1979; Schmoll et al. 2006). Cognition is defined as "knowledge that is acquired by a combination of direct experience and information from various sources" (Schiffman et al. 2005 p. 617). Wagner (2008) has defined cognition as the mental processes involved in gaining knowledge and comprehension, including thinking, knowing, remembering, judging, and problem solving. So, consumption related cognition can be conceptualised as the mental processes involved in gaining knowledge and comprehension; including thinking, knowing, remembering, judging, problem solving and skill development regarding products and brands consumption (Bartlett, Griffiths & Badian 2008; Bush, Martin & Bush 2004; Moschis & Moore 1978). The cognitive development of teenaged children is significantly affected by electronic media, particularly Television (TV) (Anderson et al. 2001; Bearison, Bain & Daniele 1982). These days, teenagers are highly involved with the different content of TV and various TV vehicles (Acevedo-Polakovich et al. 2005; Choi & Ferle 2004). Teenagers' cognitive development through TV has been explored from a social perspective as well as from the context of consumer socialisation (Bearison, Bain & Daniele 1982; Dotson & Hyatt 2005). This paper explores the issue from the perspective of consumer socialisation.

Theoretically, cognitive development as an outcome of teenagers' socialisation process by the media is mainly explained from the perspectives of displacement, cultivation and observational learning theories. According to displacement theory, the cognitive development of teenaged children does not depend on the amount of TV viewing but rather on the content of TV (Anderson et al. 2001). On the contrary, cultivation theory suggests that frequent TV viewing increases the likelihood of the development of consumption related cognition that ultimately alters viewers' behaviour (Brown 1993; Brown & Steele 1995). Cultivation theory mainly suggests that teenagers' learning from TV is strongly associated with the volume of their watching and involvement with TV (Gruber & Thau 2003). Furthermore, cognitive development of the consumer through the media also has been discussed by social learning theory, particularly by observational learning theory (Gruber & Thau 2003). Observational learning theory posits that people learn from observing others' behaviour and practice accordingly if rewarded and reinforced (Bandura 1977; Ward & Rivadeneyra 1999). In particular, teenaged children through observation or by imitating their favourite characters from TV develop their consumption related knowledge, ideas and skills that influence their consumption related behaviour (Lueg & Finney 2007; Moschis & Churchill 1978).

The influences of TV on the cognitive development of teenaged children are viewed by researchers as very significant (Bearison, Bain & Daniele 1982; Brand & Greenberg 1994). Abelman (2004) noted that young and talented children watch significantly more TV per week and are engaged in more active and selective tele-viewing. Furthermore, their information processing capacity, creativity, and narrative skills are viewed as a result of involvement with TV (Zimmerman & Christakis 2005). Research findings indicate that not only is the time given to TV, but also the TV content is significant for the cognitive development of teenaged children (Abelman 2004; Zimmerman & Christakis 2005).

TV as a consumer socialisation agent consolidates consumption related knowledge, skills, capacity and consumer role perception in to the consumer socialisation process. In particular, teenagers' information seeking experiences about various products and services are triggered by TV (Eastin 2005). Furthermore, TV provides information about the market condition which creates teenagers' awareness and helps their recalling capacity of various products and brands (Bartlett, Griffiths & Badian 2008; Ward & Wackman 1974). TV not only develops product and brand recalling capacity of teenagers but also develops product and brand recognition ability (Zuckerman, Ziegler & Stevenson 1978). It is also likely that teenagers get product usage instruction from TV (Moschis & Moore 1978). Furthermore, Moschis and Moore (1978) added that TV provides a clue to understand the cost benefit analysis of using any product and brand that sometimes help teenagers' consumption decisions.

As one of the most contemporary forms of TV vehicles, RTV brought a lot of exclusive features with it (e.g., nature of participants, content, format, rewards, program layout) (Bown 2008; Frutkin 2008; Lundy & Jacobson 2008; James 2007; Jacobs 2008). Therefore, the more teenagers' involvement in it, it is expected the more it will lead to their consumption related cognitive development. In particular, from the perspective of cultivation theory, teenagers' involvement (e.g., time spent, attention, likings) with RTV may develop their consumption related cognition, as RTV shows provide product related knowledge and help to recall and understand product usage instructions (Ward & Wackman 1974; Zuckerman, Ziegler & Stevenson 1978). Furthermore, from the perspective of displacement theory, various content of RTV (e.g., informational, entertainment) may also influence teenagers' brand related knowledge, consumption related skills and activities. Cognitive development also occurs as a result of vicarious rather than direct experience, through a process of imitating the behaviour of others called modelling. Therefore, imitating the role models from RTV and observing different contents, as well as getting involved in RTV are assumed to be the solid ground of teenagers' cognitive development that may reflect their consumption related behaviour.

Since the research on consumer socialisation within the context of RTV is rarely examined, the domain of scale items to measure consumption related cognition has been mostly adopted from current research findings on consumer socialisation research by the media. Table 1 show the domain and measurement variables of consumption related cognition.

Table 1: Domain and Measurement Variables of Consumption Related Cognition.		
Constructs	**Domains**	**Scale Items**
Consumption related cognition	a) Product knowledge b) Consumer role perception c) Purchasing intentions d) Information processing e) recalling capacity f) consumption related skills (Bartlett, Griffiths & Badian 2008; Bush, Martin & Bush 2004; Moschis & Moore 1978; Zuckerman, Ziegler & Stevenson 1978; Ward & Wackman 1974)	1) RTV make me aware about particular brands 2) I understand product usage instruction from RTV 3) RTV helps me to recall about certain products 4) RTV helps me to recognise particular products and brands 5) RTV helps me to decide what brands to buy 6) RTV is a good way to learn about what products/bands are available in market 7) The opinion of my favorite RTV celebrities influence me to say positive things about products or brands to other people 8) RTV helps me to do value analysis (compare price and benefit of brands) before buying

METHODOLOGY

While some measurement items of teenagers' consumption related cognition through RTV involvement have been identified from the current literature, the measurement items are not directly applicable to developing country teenagers without some refinement and verification as they were related to various other electronic media vehicles and not directly to RTV and are generally developed country based. To develop measurement scales for developing country teenagers' consumption related cognition development by RTV, the widely used three-stage procedure suggested by Churchill Jr. (1979) was followed and was also supplemented with confirmatory factor analysis (Bristol & Mangleburg 2005; Shrum, Burroughs & Gainesville 2005). Qualitative research was conducted to help refine the teenagers' consumption related cognition through RTV involvement construct and its measurement variables that have been developed based on the current literature, and quantitative methods to test the construct.

Exploratory factor analysis was considered a test of dimensionality, with the aim to produce a set of items that reflect a single underlying factor or construct. To assess the internal consistency reliability, a popular approach, coefficient alpha was used, at the exploratory factor analysis stage. Confirmatory factor analysis using AMOS was carried out to give a truer estimation of reliability and formally test the uni-dimensionality of the scale (Hoyle 1995).

Data for both qualitative and quantitative phases of this research was gathered from Bangladesh, a typical developing country. At the qualitative stage, two separate Focus Group Interview (FGI) sessions involving 10 Bangladeshi teenagers in each were conducted. During these FGI sessions participants were encouraged to describe events, draw linkages, and give explanations about their involvement in RTV. Both the FGI's were audio recorded with prior approval from each participant and following pre-determined ethics protocol. The data was analysed using content analysis method (Weber 1990). This method is often theory driven e.g., theory determines what to look for (Weber 1990). In this research the variables developed through the literature review were the basis for what to look for in the FGI data. Looking at the transcripts the themes and how these themes relate to each other were identified analysing each sentence spoken by the participants.

Data for the quantitative phase of the research was gathered from Bangladeshi teenagers using a Bengali (local language) version of a structured questionnaire initially developed in English. This questionnaire was also pilot tested. A total of 400 respondents were surveyed with equal representation of each gender. Age group wise there were higher representation (75.3%) of late teenagers (16-19 age group) then young teenagers (13-15 age groups) who had 24.7% representation. After screening, 368 questionnaires were considered valid and used for analysis

REFINEMENT OF MEASUREMENT SCALE

Findings of this phase of research show RTV provides a lot of consumption related information to teenagers. Teenagers generally acknowledge that information provided by RTV about products and services keep them updated about the market condition. However, sometimes it does fail to provide sufficient and exact information which is required by the teenagers. Most of the teenagers mentioned that during the time of RTV shows, the name of various products and brands are shown on the TV screen. Furthermore, anchors and participants often provide information about products, as do judges of various RTV shows. One participant (B 9) remarked, 'RTV helps make a brand famous'. He also added that, 'I got to know about 'Airtel' as a mobile phone, when I started watching 'Dus KaDam'', an Indian reality show. Most of the teenagers agreed that RTV creates brand awareness that generates their interest to know more about new products. Some of the participants (B 2, G 4) mentioned, 'We know about new products from RTV'. They also added that 'We got to know about 'Meridian Chips' from a musical reality show like 'Khude Ganraj''. Teenagers pay close attention while watching their RTV favourite shows. These favorite RTV shows often develop teenagers' product usage instruction capacity and creativity about new fashion and styles. Most of the participants agreed that RTV helps them to understand product usage instruction by mentioning features and the nature of products.

Sometimes anchors also describe how to use particular products such as a mobile phone, and MP3 etc. One respondent (B 8) said, 'I have learnt how to use the blue tooth of my mobile phone from RTV shows like 'Nokia next generation''. One girl (G 3) said 'Fashion shows help me to understand how to use make up 'Look @ to me''. Furthermore, FGI findings show, RTV helps teenagers recall product and brand names. One respondent (B 8) said, 'Roddies rings me the bell of Hero Honda'.

RTV is also a good source of information about products and brands that are available in the market. Teenagers can get an idea about the sources (e.g., shopping mall, outlets) of products and brands that are shown on RTV. Moreover, FGI findings show that teenagers keenly observe and follow what brands and products are used by the participants, anchors and judges of RTV. In particular, judges or any special guest of RTV create awareness about new products among the teenagers. Also, teenagers like to share and discuss with others what participants, anchors and judges are wearing, commenting on and promoting in RTV. One of the respondents (G 1) said, 'I watch celebrity talk shows like 'MTV celebrity talk shows', a foreign celebrity talk show to follow their outfits'. Teenagers sometimes say positive things about products and services to others which are recommended by their favourite celebrities. One participant (B 8) said, 'I often suggest my friends about buying new products which are endorsed by RTV celebrities'. He also added that, 'I told my friends that Habib (local popular singer) wear shirt from Cats' eye'. Moreover, some of the participants think RTV celebrities influence their buying decisions as they like certain music and film celebrities.

Most of the multinational and local big companies in Bangladesh sponsor RTV to promote their brands. Teenagers can easily recall the sponsoring brands of RTV that ultimately create brand image. Most of the participants mentioned that, 'We believe in big brands'. Overall, these big brands are more successful in creating awareness about new products and services in the market. Teenagers selectively follow fashion and styles shown on RTV and then they adopt it according to their tastes and personalities. One respondent (G 3) added that, 'RTV celebrities help me to think differently about my fashion'. Another participant (G 1) added that, 'Fashion shows like 'Sunsilk-Hair Expert' helps me to think about new hair styles'.

It appears that RTV also helps teenagers recall different products and brand names. Teenagers think that RTV is a good source of knowledge about new products and services in the market, but they strongly consider their peer group's opinion and knowledge before making buying decisions. One participant (B 10) said 'I know RTV considers the interest of sponsors to sell their brands, not the viewers' interest'. Teenagers generally however, agreed that RTV is a good source of information because it creates awareness about different products. However, quite often RTV fails to provide the desired information to make buying decisions. Teenagers think RTV provides a lot of information, but not always accurate information. One participant (B 6) mentioned, 'RTV only provides commercial information'.

On the basis of the FGI findings, the measurement domains and variables of the construct teenagers' consumption related cognition through RTV involvement were refined, adapted and rejected for further quantitative testing. Table 2 shows the refined domain and measurement variables.

Table 2: Refined Domain and Measurement Variables of Teenagers' Consumption Related Cognition through RTV Involvement		
Constructs	**Domains**	**Scale Items**
Consumption Related Cognition	a) Product Knowledge (Bartlett, Griffiths & Badian 2008; Zuckerman, Ziegler & Stevenson 1978; Ward & Wackman 1971)	1) RTV provides me with a lot of product information. 2) RTV makes me aware about particular brands. 3) RTV helps me to recall certain products. 4) RTV is a good a way to learn about what products/brands are available in the market. 5) Advertisements shown in RTV give me new product ideas (New scale from FGI)
	b) Consumer Role Perception (Moschis & Moore 1978)	6) I understand product usage instruction from RTV. 7) RTV makes me creative to do something new (New scale from FGI).
	c)Purchasing intentions (Bush, Martin & Bush 2004)	8) The opinions of my favourite RTV celebrities influence me to say positive things about products or brands to other people. 9) I prefer the brands that sponsor RTV to increase my brand awareness (New scale from FGI).

ASSESSMENT OF MEASUREMENT SCALE

To assess and refine the measurement scales in terms of reliability, uni-dimensionality and validity, there are two main approaches like; exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) (Hurley et al. 1997). The issue on which type of factor analysis (e.g., EFA or CFA) to use in a particular situation is the subject of a debate among researchers (Hurley et al. 1997). This research employed a combination of both EFA and CFA to form a two-phase approach. The first phase involved employing EFA for scale assessment and refinement and the second phase involves employing CFA for scale validation (Fabrigar et al. 1999)

EFA was applied using principal component analysis extraction method. A total of 9 variables earlier identified through literature review and refined through qualitative research making those adoptable to a developing country (Table 2) were submitted for the exploratory factor analysis (EFA). Table 3 shows the factor extracted with the variables that explain the factor. After this stage, a number of variables that had poor factor loading (less than .50) were dropped from further analysis. This included variables cog 7 (RTV develops teenagers' creativity), cog 8 (opinion of RTV celebrities influences), and cog 9 (prefer RTV sponsored brands). This solution presents satisfactory solution concerning both the explanatory variance percentage and correlation between items. To give a truer estimation of reliability and formally test the uni-dimensionality of the scale a confirmatory factor analysis was performed on the same sample.

Table 3: Retained Factors, Variables and Factor Loadings						
Measurement Items		Factor Loading	% Variance Extracted	Eigenvalue	Co-efficient Alpha	Inter-item Correlation
Cognition	Cog 6	.816	66.18	3. 37	. 81	.719
	Cog 3	.773				.747
	Cog 2	.715				.819
	Cog 1	.658				.787
	Cog 4	.645				.706
	Cog 5	.608				.711

CFA RESULTS

The results of CFA of the measurement items of the ‘consumption related cognition’ are summarised in Table 4.

Table 4: Regression Weights of Consumption Related Cognition through RTV Involvement					
Regression Weights		Estimate	S.E.	C.R.	P value
Product instruction from RTV	<---	1.000			
RTV helps recalling	<---	.993	.066	15.127	0.000
RTV makes aware of brands	<---	.845	.063	13.337	0.000
RTV provides product information	<---	.778	.063	12.442	0.000
RTV helps market learning	<---	.732	.065	11.210	0.000
RTV ads provide product ideas	<---	.761	.067	11.316	0.000

Regression weight in Table 4 refers to the un-standardised parameter estimates for the factor loadings. No critical ratios (t-values) are stated for the factor loadings of cognition and product instruction from RTV were fixed to unity to scale the latent variables. All remaining factor loading were significant.

The coefficient alpha for the consumption related cognition of CFA model was 0.81 indicating that the variables are a reasonable measure of level of consumption related cognition. Standard regression weights of all the variables were more than 0.6. Goodness-of-fit indices also indicated that the measurement model fitted data well with value of GFI, AGFI, NFI, TLI, RMSEA and CFI all above required thresholds (table 5). Composite reliability of .96 also indicated the reliability the underlying variables of ‘consumption related cognition’.

Table 5: Standard Regression Weights, Goodness- of- Fit Estimates and Composite Reliability of the Consumption Related Cognition through RTV Involvement		
Standardised Regression Weights	**Estimate**	**Composite Reliability**
Product instruction from RTV	.823	.96
RTV helps recalling	.755	
RTV makes aware of brands	.686	
RTV provides product information	.644	
RTV helps market learning	.602	
RTV ads provide product ideas	.606	
Reliability-Co-efficient alpha α	0.81	
Chi-Square	16.730	
Degree of freedom	9	
P	.053	
Normed Chi-Square (CMIN/DF)	1.859	
Root mean square of error of estimation (RMSEA)	.048	
Goodness of fit index (GFI)	.985	
Adjusted of goodness-of-fit index (AGFI)	.965	
Normed fit index (NFI)	.979	
Tucker-Lewis Index (TLI)	.983	
Comparative fir index (CFI)	.990	

CONCLUSIONS, IMPLICATIONS AND FUTURE RESEARCH

In this research a widely used multi-step process of developing measurement scales of marketing constructs have been followed. After initially, identifying the measurement items of consumption related cognition by RTV from the current literature, the same were refined and adapted for a developing country through qualitative research. These scale items were then tested using two-stage quantitative measures resulting in the confirmation of a six-item measurement scale for the developing country teenagers' consumption related cognition by RTV. Table 6 shows the tested six-tem scale.

Table 6: Multi-item Measurement Scale of Developing Country Teenagers' Consumption Related Cognition through RTV Involvement	
Construct	**Measurement Items**
Developing Country Teenagers' Consumption Related Cognition through RTV Involvement	1. I understand product usage instruction from RTV 2. RTV helps me to recall about certain products 3. RTV make me aware about particular brands 4. RTV provides me a lot of product information 5. RTV is a good way to learn about what products/brands are available in market 6. Advertisements shown in RTV gives me new product ideas

This research has identified and tested the multi-item measurement scale for the construct developing country teenagers' consumption related cognition by RTV. These measurement items can now form the basis for various further researches, particularly on developing country teenagers' RTV involvement and its effect on their consumption behavior.

Understanding consumers' taste and preferences is the key issue for any marketer. Most of the international and local businesses give maximum priority and effort to understanding customers' consumption behaviour through consumption related cognition, attitudes and values. Accordingly, the findings of this research will be of interest to brand marketers and marketing communication planners in Bangladesh and other developing countries. Media strategist and sponsors also can get a clear indication of what are the different ways RTV helps developing country teenagers' consumption related cognition development, which might be useful for their marketing strategies.

This research has been conducted in Bangladesh only. There are many other developing countries in the world. As only one of the developing countries, Bangladesh does not represent all the economic and cultural indicators of all the developing countries. Accordingly, the findings of this research may not be treated as completely applicable to the rest of the developing countries, and needs to be tested further from the perspective of individual countries.

This research has the potential to open up a new area of empirical research. Particularly, findings from this research are relevant only for the TV vehicle, RTV. RTV being a most contemporary vehicle in the electronic media area, such findings may or may not be representative of other TV vehicles. Further research is required to re-test such scales for possible refinement and future usage for other media studies and confirm its applicability.

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A UNIFIED FRAMEWORK FOR EVALUATING BRAND ALLIANCES AND COBRANDING STRATEGIES: IMPLICATIONS AND FUTURE DIRECTIONS

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ABSTRACT

This article treats cobranding as a case of brand extension. The paper draws on research of brand extensions and integrates in it elements from the conceptual combination literature. The result is a unified conceptual framework for evaluating brand alliances and cobranding strategies. The proposed model is abstract enough to be used in evaluating alternative cobranding strategies. Examples include ingredient or component branding, composite brand extensions, co-promotions, online brand alliances, advertising alliances and dual branding. Unlike previous research, the model does not distinguish between a primary and a secondary brand. Thus, the model is flexible enough to account for any asymmetry effects that may arise from such a distinction between the primary and secondary brand. A common conceptual framework will make it possible to organize existing knowledge better, unify alternative streams of research, and examine similarities and differences among alternative cobranding strategies. Such a development will enhance the theoretical understanding of cobranding and other related branding strategies. In addition, the proposed model offers marketers a practical and useful framework to manage effectively, their brands, cobranding relationships, brand alliances and other cooperative activities.

INTRODUCTION

Cobranding strategies includes ingredient branding, composite brand extension, brand alliance, advertising alliance, and joint promotion. Cobranding has received attention as early as 1990s (Hillyer and Tikoo 1995; Park, Jun, and Shocker 1996; Rao and Ruekert 1994; Rao, Qu and Ruekert 1999; Simonin and Ruth 1998). Although interest in cobranding has continued during the last decade (Delgado-Ballester and Hernández-Espallardo 2008; Gammoh, Voss and Chakraborty 2006; Hadjicharalambous 2010; Voss and Gammoh 2004; Washburn, Till and Randi 2004), there is no a conceptual framework that unifies research in the area. Most empirical research focused on the impact of using branded ingredients or components in another brand's product (e.g., Levin, Davis, and Levin 1996; Simonin and Ruth 1998). The contribution of an established brand to a new product may be based on ingredients or components, but potentially a greater contribution may come from the image, expertise, status, companion products, customer franchise, or any other customer perceived benefit (Tauber 1988). Samu, Krishnan, and Smith

(1999) suggested that cobranding goes beyond the use of, branded ingredients or components and includes other brand alliances such as composite brand extensions joint promotions, cosponsoring, brand bundling and other cooperative strategies.

Currently, there is no conceptual framework of cobranding that captures the totality of Tauber's (1988) conceptualization. The position taken in this paper is that the lack of conceptual framework hinders cobranding research. A conceptual framework will provide guidelines for studying cobranding phenomena and will offer researchers the opportunity to highlight similarities and differences among the different types of cobranding strategies, suggesting further research. Shocker, Srivastava, and Ruekert (1994) stated that the cobranding phenomenon needs and deserves more attention from both practitioners and academic researchers. Recently, Saqip and Manchanda (2008) stated that research on cobranding is still preliminary. The purpose of this article is to set the foundations for a unified conceptual framework that can be used to study different cobranding strategies and other cooperative brand activities. The paper reviews relevant literature, highlights alternative cobranding conceptualizations and positions cobranding as a sub case of brand extensions. Next, the paper draws from conceptual combination literature and advances research by proposing a framework for evaluating alternative cobranding strategies. The paper concludes with theoretical and managerial implications and suggestions for further research.

LITERATURE REVIEW

Ingredient or component branding

Ingredient or component branding is the use of a branded ingredient or component in a product introduced by another brand (Norris 1992). Norris proposed that the ingredient branding strategy results in more efficient promotions, easier access to distribution, higher quality products, and higher profit margins. Levin et al. (1996) found that adding a well-known branded ingredient improves product evaluations of both unknown and well known host brands. Simonin and Ruth (1998) used the component branding context and found that spillover effects are moderated by the familiarity and perceptions of each of the two constituent brands. The Simonin and Ruth study was an important step in studying cobranding. However, their model did not account for the simultaneous impact of each of the constituent brands and its characteristics in evaluating the cobranded product. Cobranding is the result of combining two brands to name a product. As suggested by the conceptual combination literature (Hampton 1987; Osherson and Smith 1981, 1982) when evaluating a cobranded product, one has to consider the overall fit between the brand pair and the product.

Composite Brand Extensions

Park et al. (1996) incorporated elements of the conceptual combination literature into their research. In an experimental study, the authors evaluated a composite brand extension by using two real brands to name a new product (Slim-Fast chocolate mix by Godiva). They found that the evaluation of the composite extension depends on the favorability of the constituent brands and, more importantly, on the degree of complementarity between them. They also found that the position (order) of the constituent brand names of a composite brand name is important in the formation of an attribute profile of the composite extension. A problem is that Park and his coauthors limited the investigation to a single product category, thus limiting the generalizability of the results. Second, the authors defined complementarity in terms of whether attributes of the constituent brands had compensating relationships. Thus, the stimuli they used fits well with the ingredient branding strategy. However, leverage and complementarity may be based on an overall image (Eddie Bauer edition of Ford Explorer), status (Coach edition of Lexus), customer franchise (American Airlines Visa, or Citi Amex credit card), expertise-risk reduction (Samsung-Google cell phone) or usage situation (Nike-Coke sports drink). Finally, although Park et al. (1996) stated that the role of fit between each of the constituent brands and the cobranding extension is important in evaluating the composite extension, they failed to test it empirically possibly because of the difficulty in measuring it.

Hillyer and Tikoo (1995, p.123) defined cobranding as "the practice of double branding products, in which a product features more than one brand name". They developed a series of hypotheses about the role of the primary and secondary brands in evaluating the cobranded product. A limitation of their study is the distinction between a primary and a secondary brand. Constituent brands involved in cobranding strategies may be equally important. A proposed model should treat both brands equally and at the same time be flexible enough to account for any brand asymmetry effects that consumers might perceive.

This brief review highlights the problems associated with cobranding research. A conceptual framework that unifies research in the area is still lacking. A conceptual framework will make it possible to organize existing knowledge unify alternative streams of research, examine similarities and differences among alternative cobranding strategies, and allow researchers to explore new perspectives and directions (Gammoh and Voss 2011).

ALTERNATIVE CONCEPTUALIZATIONS OF COBRANDING

A fruitful endeavor toward developing a conceptual framework is to review alternative theoretical approaches and different streams of research that may be useful in developing a conceptual model to study cobranding. The available models from the marketing literature include strategic alliances, bundling, and brand extensions. Their potential and limitations, as frameworks to study cobranding, are reviewed and discussed next.

Cobranding as a Strategic Alliance

Rao and Ruekert (1994) treated cobranding as a strategic alliance. Drawing from the strategic alliance literature and economic perspectives, the authors developed a managerial decision template to analyze the costs and benefits of "joint branding". They discussed the implications for such decisions in different types of alliances and determined the value of each brand to the partners. Strategic alliance has been defined as a partnership or long term relationship that permits partners to meet their goals (Cravens 1994). Cobranding is an alliance that creates a long-term relationship, permitting partners to achieve their goals; therefore, there is justification for using the strategic alliance framework to study the phenomena. Still, using the strategic alliance framework to study cobranding has an inherent limitation. Primarily, the strategic alliance framework concentrates on the supply side of the equation by considering organizational capabilities, strengths, weaknesses and the strategic fit between allies (e.g., Shamdasani and Sheth 1995). Demand side effects are not fully considered. Strategic alliances can take place, and in fact do take place without consumer knowledge. The success of most marketing decisions depends on the response of competitors - supply side effects, as it does on the behavior of consumers - demand side effects (Slater and Narver 1995; Smith and Park 1992). In most cases of strategic alliances consumers do not know, and do not have to know, that there is an alliance between the partners. Cobranding involves an exploitation of one of the most important assets of any firm - a brand name (Aaker 1991). Since the value of the brands to be exploited comes mostly from one source, the consumer (Aaker 1991), cobranding should be studied from the consumer's point of view.

Cobranding Versus Product Bundling

As a marketing stimulus, cobranding can be compared to product bundling. Product Bundling is “the practice of marketing two or more products and/or services in a single package for a special price” (Guiltinan 1987, p. 74). Early research on product bundling drew from economic literature. This research primarily presents the seller’s rationale for bundling with little emphasis on individual buyer behavior. According to the widely accepted additivity assumption (Schmalensee 1982), the total utility of a bundle equals the sum of the individual utilities of items included in the bundle. Goldberg, Green and Wind (1984) questioned the additivity assumption. Using hybrid conjoint analysis to evaluate a bundle, they concluded that the sum of individual utilities of items included in the bundle is not a good predictor of the overall utility of the bundle.

While bundling is similar to cobranding and one can borrow from the former to study the latter, one must also consider existing differences. The major difference between bundling and cobranding is that bundling is the combination of two (or more) products, whereas cobranding is the combination of two or more brands. In the case of product bundling, the components of a bundle can be separated and consumed at different times or by different consumers. However, since a cobrand is a combination of two or more brands, separation is not possible. The consumption or use of one implies the consumption and use of the other. Furthermore studies of bundling generally ignore the impact of brands on the evaluation of a bundle. However, consumer research has repeatedly demonstrated the importance of the brand in information processing, product evaluation, and decision-making (Montgomery and Wernerfelt 1992). In addition, the role of a brand in evaluating brand extensions is undeniably important (Aaker and Keller 1990) and one should expect this to be the case when consumers evaluate cobranded products. Bundling literature can offer some input and theoretical support in developing a framework to study cobranding. However, bundling is generally inadequate and falls short in accounting for all the aspects of the cobranding phenomenon.

Cobranding as a Case of Brand Extensions

In developing a model for evaluating cobranded products one has to consider (1) the components of the cobrand (i.e., constituent brands of the brand pair), (2) the product itself, and (3) the consumer that evaluates them. Most research distinguishes between two basic strategies of brand extensions: (1) line extension (the brand is extended into the same product category) and (2) brand franchise extension (the brand is extended to a new product category) (Tauber 1981). This initial classification allows for a better examination of different types of brand extensions. Cobranding include types of extensions not covered by the above classification. The important characteristic of these extensions is that "new" products are introduced to the market by following strategies involving more than one core brands (Park et al. 1996), making the above classification of brand extensions incomplete.

Brand extension is defined as the use of an existing brand name on a new product or service, not previously associated with the brand name (Tauber 1988; Aaker and Keller 1990). It can be argued that cobranding is a more general case than a brand extension based only on one brand. Then, brand extensions can be classified according to the number of brands involved in the extension. Extensions based on only one brand are classified as single brand extensions, whereas extensions based on more than one brand are classified as cobranding extensions (Hadjicharalambous 2006). The most important element of the above classification is the distinction between single-brand and cobranding extensions. While research on single brand extension is voluminous, theory development and empirical verification of cobranding strategies is lacking. Treating cobranding as a case of brand extension and examining cobranding strategies from the customer's point of view will allow researchers to draw from previously developed rich theoretical and methodological frameworks from the area of brand extensions.

The rationale behind brand extension strategies is that affect associated with the brand used to name the extension is transferred to the extension (Keller 2003). Most researchers have studied brand extensions by adopting a categorization perspective (Fiske, 1982). Since a brand extension is a new stimulus, consumers should undergo the same process as when exposed to any new stimulus. Perceptions of a new stimulus are influenced by the congruity between the stimulus and its category schema (Hastie 1981). The idea often advanced is that when there is a good fit between the extension and other products offered by the core brand, affect is transferred to the extension. However, the problem is that there is no standard definition of fit in the literature.

Some researchers conceptualized and defined fit in terms of product feature similarity (e.g., Boush and Loken 1991). Defining fit in terms of product feature similarity restricts the type and the number of associations that consumers may infer about the brand extension. For example, Aaker and Keller (1990) demonstrate that associations such as usage situation or user's image may contribute to higher level of fit. Park, Milberg and Lawson (1991) found that product feature similarity does not adequately predict or explain brand extension evaluations.

To reduce problems associated with the conceptualization of fit as feature similarity, a number of researchers (Aaker and Keller 1990; Park et al. 1991) conceptualized and measured fit in terms of brand associations. Defining fit as a set of associations is a better approach than defining it in terms of product feature similarity. However, this definition may be problematic because this conceptualization mostly treats a brand as consisting of product-only associations. Extensions are evaluated in terms of their fit with existing products rather than with the meaning of the brand. The extension is compared with other products (not the brand) and is judged for fit on the basis of complementarity, substitutability, or synergies in manufacturing (Aaker and Keller1990). This clearly emphasizes primarily product associations. However, brands are much richer concepts and their meaning may well go beyond products associated with the brand and product associations (Tauber 1988). For example, the Country Time Lemonade brand was so strongly associated with lemonade that consumers did not accept Country Time Apple Cider.

Dawar and Anderson (1994) measured fit in terms of conceptual coherence. Fit as conceptual coherence, considers categories as collections of objects made coherent by theories (Murphy and Medin 1985).The definition of fit as conceptual coherence takes place at a higher level of abstraction than any other definition of fit. This allows measures developed in one case to be used in other cases. In addition, this conceptualization is consistent with research that suggests that consumers organize information at the brand level (Park, Jaworski, and MacInnis 1986). Finally, it offers the possibility of treating brands as cognitive categories and the products that carry the brand name as category members.

Brands as Categories

Brands can be conceptualized as cognitive categories made coherent by theories supplied by consumers (Murphy and Medin 1985; Park et al. 1991). If one conceptualizes brands as cognitive categories, then brand extensions can be considered as an attempt to expand the boundaries of the brand category. Brand extensions can be evaluated on the basis of coherence criteria provided by theories associated with the brand (Dawar and Anderson 1994). These theories provide coherence to the brand category by considering the logic of a collection of different products under the brand and by how much sense it makes for the brand to introduce a new product under its name. For example, the coherence of the set of disparate products under the brand name "BIC" is evaluated by using criteria such as: "BIC is disposable", BIC is simple", BIC is convenient", "BIC saved the day", etc. Using conceptual coherence a potential extension by BIC (e.g., an instant camera) would be evaluated on the basis of the above criteria, rather than on the basis of shared features (similarity approach) or the degree to which the instant camera is substitute or complementary (brand associations) to another BIC product.

Cobranding as a Novel Conceptual Combination

In order to use the brand extension research to evaluate cobranding extensions, it is necessary to assess the level of fit between the cobrand (brand pair) and the cobranding extension. That is, the level of overall fit between the cobrand and the extension, and not the fit between the extension and the two constituent brands separately. In the case of single brand extensions, fit can be conceptualized as the degree of membership of the extension in the category implied by the core brand. In the case of cobranding, the problem is to determine the degree of membership of the extension in the category implied by the cobrand.

The brand extension literature falls short and does not offer any suggestions on how to model and measure overall fit (degree of membership between the cobrand and the product associated with the brand pair). To overcome the problem of measuring overall fit, cobranding is treated as a novel conceptual combination. A conceptual combination is the result of combining two (or more) concepts. The process of conceptual combination involves assessing two or more concepts to determine how they fit together to form a new concept (Wisniewski 1996). Cobranding involves such a combination, the combination of the two or more brands used to name the cobranding extension, therefore conceptual combination literature provides guidelines for measuring overall fit.

From the Degree of Membership to the Overall Fit

An early attempt to solve the problem of determining the degree of membership and identifying exemplar members of the combined category used the fuzzy set theory. According to fuzzy set theory (Zadeh 1965), membership in the combined category is the lesser of the two constituent values. An object belongs in a conceptual combination if, and only if, it is a member of both constituent concepts. Zadeh's position is consistent with the prototype theory of concepts proposed by Rosch (1975). Prototype theory, states that the prototype for a category is a set of attributes that define the central tendency of members of the class, based on the family resemblance of members (Mervis and Rosch 1981).

Osherson and Smith (1981) questioned the consistency between fuzzy logic and the prototype theory. The authors demonstrated that there is no general function that will map the degree to which any object belongs in each of the two concepts or the degree to which it belongs to their conjunction. As Osherson and Smith noted, one can name exemplars that would be better members of the combined category (more typical) than of either of the constituent categories. To solve problems associated with the fuzzy set theory, Osherson and Smith (1982) proposed that in determining the typicality of an object in a conjunction it is not sufficient to consider only the typicality of an object with each of the constituent concepts. One must also consider a third parameter involved in the function. That is, the positive or negative contingency between the two constituent concepts. After reviewing relevant literature Hampton (1987, p.56) stated that *"... it should be possible to find a function or set of functions that would predict how well an item fits a conjunction A&B, given the fit of the item in the constituent concepts A and B separately, and given access to other extensional information."* This point is important because, based on the view expressed by Hampton, a model can be developed to determine the degree of membership (i.e., the level of overall fit) between a conceptual combination and an object (i.e., the cobrand and the cobranding extension) (Thompson and Strutton 2012)

TOWARDS A UNIFIED FRAMEWORK

Branding strategies can be classified based on two criteria: (1) the number of products involved, and (2) the number of brands featured in each strategy (Figure 1). Although these different branding strategies have been studied by academic researchers, no effort has yet been made to unify findings under a common conceptual framework. In light of increased deployment and utilization of branding strategies involving more than one brand there is a need for a unified model for studying alternative branding strategies.

Figure 1: Classification of Branding Strategies

		Number of Brands	
		One	Two or More
Number of Products	One	Brand Extensions Line Extensions	Composite Brand Extensions Ingredient/Component Branding
	Two or More	Product Bundling	Advertising Alliances Brand Bundling Co-Sponsoring Co-Promotions

A unified framework for evaluating alternative cobranding extensions and other cobranding strategies can be developed by drawing from the brand extension research and integrating with it elements from the conceptual combination literature. Cobranding extensions involve at least two brands and a product. Consumers evaluate cobranding extensions using a *variety of criteria based on their knowledge and perceptions about the brands used to name the cobranding extension (Hadjicharalambous 2001). Figure 2 presents the proposed model. Given the level of brand familiarity, it is proposed that consumers evaluate cobranding extensions/strategies by considering:*

- the quality of each constituent brand,
- the level of fit between each of the two constituent brands and the extension,
- the brand fit, i.e., the fit between the brands involved in the extension independently of the product named in the extension,
- the level of overall fit between the co-brand and the product named in the extension.

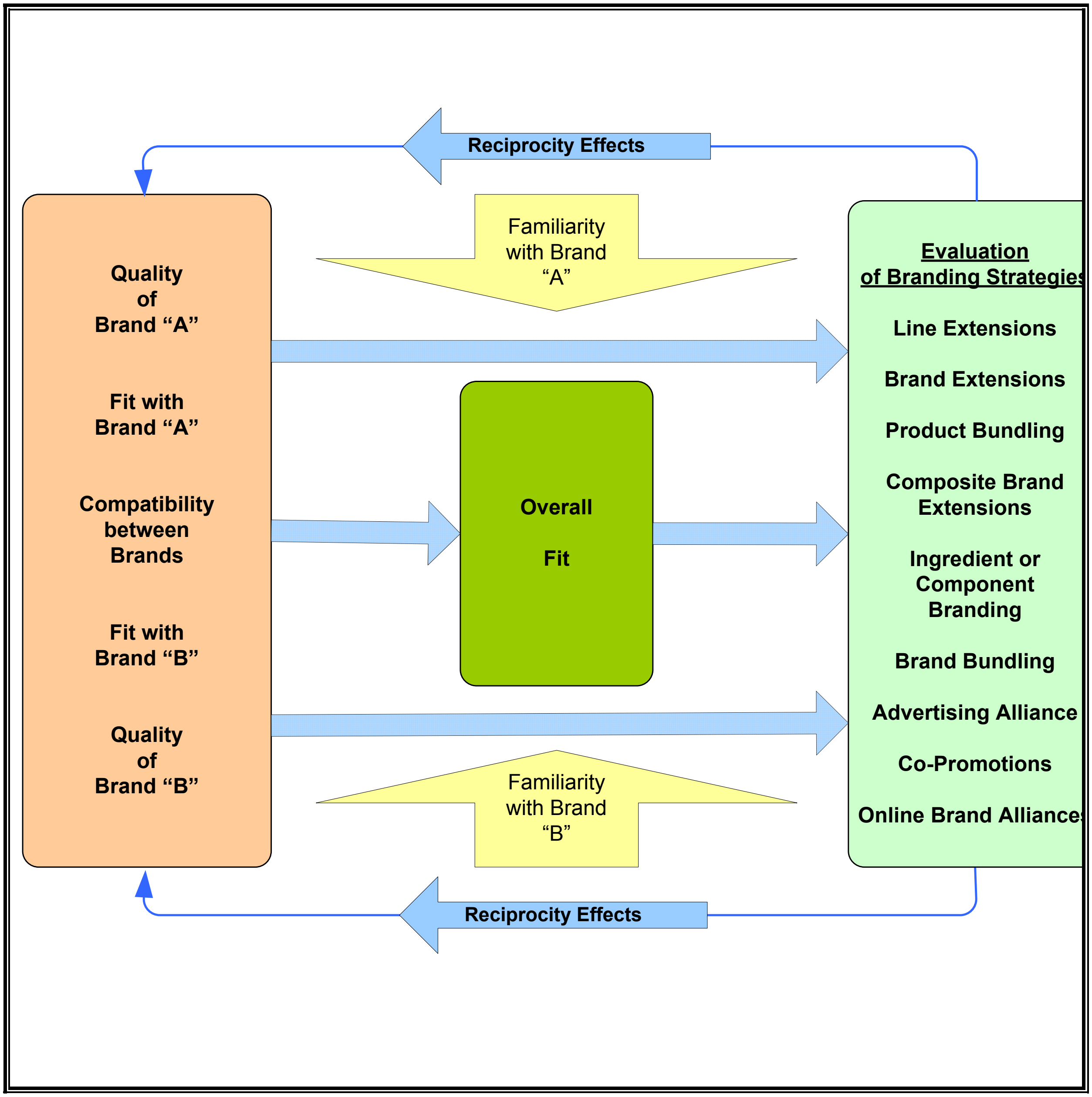
Theoretical Implications

The proposed framework can be used to derive testable propositions assessing the role of each constituent brand. The advantage of the proposed model is that it is abstract enough to be used in studying all the different types of cobranding strategies.

Examples include online brand alliances (Delgado-Ballester and Hernández-Espallardo 2008), ingredient or component branding (Simonin and Ruth 1998), composite brand extensions (Park et al. 1996), co-promotions and advertising alliances (Samu et al. 1999), brand bundling (Rao et al. 1999), and dual branding (Levin et al. 1996). Furthermore, unlike previous research (cf. Hillyer and Tikoo 1995), the model does not distinguish between a primary and a secondary brand. Thus, the model is flexible enough to account for any asymmetry effects that may arise from such a distinction between the primary and secondary brand. The proposed model provides the base for studying all the alternative strategies presented in Figure 1, under a common conceptual framework.

A common conceptual framework will make it possible to better organize existing knowledge, unify alternative streams of research, examine similarities and differences among alternative cobranding strategies, and allow researchers to ask more interesting and complex questions. This should open new avenues for further research in the area of branding, brand equity, and brand management. A promising direction is to examine the possible interaction between fit, quality and the relative contribution of each brand. The model can be used to examine bundle evaluation in cases where bundles featured more than one brand. Furthermore, the model offers insights for studying reciprocity effects as well as evaluating the alternative order of the constituent brands in naming the cobranded products.

Figure 2: Conceptual Framework to Evaluate Cobranding Strategies



Managerial Implications

Brand managers have long understood the value of brands and the effects of different branding strategies on brand equity (Aaker 1991, 1996). The ability to build and maintain strong brand equity depends to some extent on maintaining consistency in brand communications (cf. Keller 2003; Park et al. 1986). In the case of brand extensions based on one brand, the challenge is to choose the product category for the brand extension. For cobranding, there is the added need to choose the right partner brand(s). A wrong partner selection might lead not only to a failure of the cobranding extension, but also might dilute the brand equity of one or more brands involved in the extension. Given the recent increase in cobranding activities the proposed model offers managers a framework for choosing and evaluating alternative cobranding strategies and other cooperative activities.

In summary this article presents a conceptual framework for evaluating different types of cobranding strategies. The proposed framework is based primarily on previous research in brand extensions and the conceptual combination literature. Cobranding was positioned as a case of brand extension, on one hand, and as a conceptual combination, on the other. Thus, drawing from previous research on brand extensions and integrating elements from the conceptual combination literature, a conceptual model for evaluating cobranding extensions is proposed. The proposed conceptual framework can be enriched further by integrating in it parts from information integration theory, inference making, attribution, and signaling literatures. Such a development not only will enhance the theoretical understanding of cobranding and other related branding strategies but also will offer managers a useful framework to better manage their brands cobranding relationships and brand alliances.

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USING SOCIAL MEDIA TO REACH CONSUMERS: A CONTENT ANALYSIS OF OFFICIAL FACEBOOK PAGES

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ABSTRACT

When discussing advertising and marketing strategy today the discussion would be incomplete without considering the use of social media. What is social media and why should companies be considering establishing a presence in social media? The number of people who use social media is always growing rapidly. Given this tremendous growth, companies are scrambling to try and figure how to utilize social media to reach the millions of consumers who use it on a daily basis. This paper examines how companies use social media in their marketing and advertising strategy by content analyzing the official Facebook pages of 70 global brands. It appears that companies have recognized the need to establish a presence in social media but use a variety of approaches with their Facebook pages.

INTRODUCTION

When discussing advertising and marketing strategy today the discussion would be incomplete without considering the use of social media. What is social media and why should companies be considering establishing a presence in social media? Social media refers to "online tools where content, opinions, perspectives, insights, and media can be shared … (and) at its core social media is about relationships and connections between people and organizations (Nair, 2011, p. 45). These tools include blogs, widgets, discussion boards, wikis, vlogs (video logs), consumer product rating sites, chat rooms, and social network sites. Social media is becoming increasingly widespread and popular with consumers. Social network sites, which are the focus of this study, allow users to create profiles on the site, to post information and share that information and communicate with other users of the site (Kaplan & Haenlein, 2010). As of July 2011, the social network site Facebook claims to have over 750 million members and in terms of activity "There are over 900 million objects that people interact with (pages, groups, events and community pages), the average user is connected to 80 community pages, groups and events , the average user creates 90 pieces of content each month and more than 30 billion pieces of content (web links, news stories, blog posts, notes, photo albums, etc.) shared each month." (www.facebook.com). The social network site Linkedin had over 100 million members worldwide as of July 2011 (www.linkedin.com).

Social media is changing how individuals communicate with each other. Social media is highly interactive and users share and process information with others (Aula, 2010). It is also changing where and how consumers spend their time. Consumers are accessing social media on their desktops, laptops, and mobile devices. Given this tremendous growth, companies are scrambling to try and figure how to utilize social media to reach the millions of consumers who use it on a daily basis. Social media is unstructured and is focused on generating conversation and building community and may also have an influence on purchase decisions (Nair, 2011).

While academic research exists on individual consumers of social media there has not been extensive academic research on what companies are actually doing in social media. Parise et. al. (2008) interviewed executives about their use of social media tools to generate some suggestions on how get the best results from social media. Jansen et. al. (2009) evaluated the content of posts or "tweets" on the micro-blog Twitter on corporate accounts and discovered that consumer purchases are influenced by web communications and social media. They also recommend microblogging as an opportunity for building brands and for developing relationships with customers. Colliander & Dahlen (2011) compared consumer reactions to blogs and online magazines and found that consumers exposed to information on blogs and stronger brand attitudes and higher purchase intentions. Phan (2011) investigated the use of social media for thirteen luxury fashion brands to determine if having a presence in social media influenced consumer perceptions of the brands and determined that social media had no impact on consumer purchase intentions or reputation.

NATURE OF SOCIAL MEDIA

Traditionally, advertisers had control over where their message was placed and when consumers would have access to it but with social media advertisers may be able to only control the initial placement of information but not be able to directly control how that information is disseminated once it is placed (Mangold & Faulds, 2009). Consumer use social media to keep in touch with friends and family and also for entertainment and while doing so may also be exposed to ads placed by advertisers. For advertisers social media allows them to talk to their customers as with traditional media but unlike traditional forms of advertising the consumers can also talk directly to the advertiser and to an unlimited number of other consumers (Mangold & Faulds, 2009).

Social media network sites allow individuals to create public or semi-public profiles within a system, to identify other individuals that they share a connection with and to view information about their connections within the system (Boyd & Ellison, 2008). These profiles provide advertisers with a vast amount of useful information. Social media users also generate content, engage in peer-to-peer conversations, collaborate, and share, tag, edit, or create information (McAfee et. al., 2011). Consumers may also use social media to help them make decisions about purchases because they rely on recommendations from friends (The Economist 2009).

COMPANIES AND SOCIAL MEDIA

Companies are trying to encourage consumers to interact with them the same way they do with their friends and family. Today's consumers almost expect companies to have a presence online and in social media and the challenge for companies is how to get involved and establish a presence (Nair, 2011). From a corporate perspective, social media presents both a challenge and a tremendous opportunity. Social media is not just another channel for distributing corporate information or an add-on to a firm's current media offerings because it allows consumers to interact and participate with companies and brands and allows them to share their opinions with others which helps to influence corporate reputations (Aula, 2010; Nair, 2011). Companies must keep in mind their strategic goals when making decisions to be establish a presence in social media and avoid creating a Facebook page or establishing a Twitter account just because everyone else has one without first determining strategically why these moves might be effective for the organization and what goals the organization wants to achieve (Bottles & Sherlock, 2011; Phan, 2011). Choosing the right social media tool depends on the target market, the message being delivered, and the level of control over how the message is disseminated (Kaplan & Haenlein, 2010).

It is important to have a communication strategy for each social media tool used, to develop a style, to find a balance between selling and talking, to update content, and to discriminate between what information should appear on the website and what information should appear in social media (Ramsay, 2010). As with establishing a website just having a presence in social media is not enough and companies must figure out how to attract visitors and how to talk to customers rather than talking at customers (Nair, 2011). For example, if you establish a Facebook page it must have intriguing content, be current, and be responsive to customer queries (Phan, 2011). Challenges include getting the consumer involved, giving the consumer a reason to participate, listening to the customer, resisting the temptation to focus primarily on selling, giving up control, and not being afraid to experiment (Parise et. al., 2008). It is also useful to investigate what others are doing within social media and to compare your strategy with theirs to help determine when to engage, how often to engage, and whether to be a leader or a follower in the social media space (Nair, 2011). It is also strategically important to tailor the tone, content, and language to the audience to avoid alienating that audience (Ramsay, 2010). Kaplan & Haenlein (2010) recommend that companies should strive to be active, interesting, humble, less formal, and honest in social media.

Social media can provide a variety of options for companies who wish to establish a social media presence. Due to its interactive nature, opportunities are available for companies to generate feedback from their consumers that can be helpful in product development, advertising campaign development, and marketing research (McAfee et. al., 2011). Companies can develop applications or "apps" that allow users to customize their profiles, share movie preferences, chart travel histories and share information with others (Boyd & Ellison, 2008). Social media also offers a platform for serving customers, listening to customers, monitoring customer feedback, encouraging dialogue, and establishing connections (Nair, 2011). Companies must also try to integrate their social media activity with their activity in traditional media to increase the likelihood that consumers will be engaged with their brand and to present a cohesive brand image (Mangold & Faulds, 2009; Kapland & Haenlein, 2010). Weinberg & Pehlivan (2011) examine the different types of social media and make recommendations on what types of social media might be most suited for achieving different types of marketing goals. Social network sites, for example, are effective for influencing and tracking consumer beliefs and attitudes related to products and brands, while microblogs are useful for creating awareness and brand recall for established brand and provide a fast option for companies to communicate brief information.

FRAMEWORK

(Kietzmann et. al., 2011) developed a framework that identifies seven functional building blocks of social media. These building blocks will help to guide marketers when developing their social media strategy. These seven building blocks or functionalities include identity, presence, relationships, conversations, groups, reputation, and sharing. *Identity* refers to the extent to which users reveal their identities within the social media network. Facebook allows users to determine what information will be shared and who the information will be shared with. *Presence* refers to the ability of one user to know if other users are available. For example, on Facebook users can click on a Chat button to indicate that they are online and available to communicate with other users. *Relationships* refer to how people are connected to each other on a social network site. Facebook allows users to identify family members and makes notes of mutual friends between users where applicable. *Reputation* refers to the ability of users to identify the standing of others within a social media network. For example, on Linkedin users can endorse other users and on Facebook users can "like" content and make comments on it. *Groups* refer to the ability of users to form communities and sub-communities. Facebook users that "like" a certain brand are identifying themselves as members of a community of users who "like" the same brand. Facebook users can also organize their friends into different groups. *Conversations* refer to the level of communication with other users on the same social media platform which could refer to the number or frequency of postings. *Sharing* refers to the sending and receiving of content between users which could include photos, comments, videos, etc. According to Kietzmann et. al. (2011), Facebook utilizes relationships most strongly and also emphasizes identity, presence, reputation, and conversations.

The purpose of this study is to evaluate the content of official Facebook pages to evaluate what marketers are doing on their pages relative to the seven building blocks and to get a sense of how marketers are using Facebook to target and communicate with their customers in social media.

METHODOLOGY

Facebook was selected because it has the largest membership and it is easily accessible. 70 brands were chosen from the Interbrand Best Global Brands 2010 list and Brandz Top 100 Most Valuable Global Brands 2011 list. A total of 155 brands were found on the two lists. The brands selected for the study are primarily consumer goods and represent brands that are easily recognizable to the American consumer. These brands represent the following product categories: alcohol and tobacco, automotive, clothing, consumer household products, cosmetics, entertainment, fast food restaurants, food and beverage, luxury products, phones, and technology. (See Table 1 – List of brands Included in the Study)

Table 1: List of Brands Included in the Study			
Adidas	Disney	Kleenex	Panasonic
Apple	Ferrari	Lancome	Pepsi
Armani	Ford	L'Oreal	Philips
AT&T	Gillette	Louis Vuitton	Pizza Hut
Audi	Gucci	Marlboro	Porsche
Avon	Heineken	McDonald's	Red Bull
Blackberry	Heinz	Mercedes Benz	Samsung
Budweiser	Hermes	Micrsoft	Smirnoff
BMW	Hewlett-Packard	Moet & Chandon	Sony
Burberry	Honda	MTV	Sprite
Campbell's	Hyundai	Nescafe	Starbucks
Canon	IBM	Nestle	Subway
Cartier	Intel	Nike	Tiffany & Co.
Coca Cola	Jack Daniels	Nintendo	Toyota
Colgate	Johnnie Walker	Nissan	Verizon
Corona	Johnson & Johnson	Nivea	Volkswagen
Dannon	Kellogg's	Nokia	
Dell	KFC	Pampers	

Upon visiting Facebook, a search was conducted to find the official page for each of the 70 brands. Of these 70 brands, 65 had a dedicated official page on Facebook during the time period that this study was conducted. There may have been other pages such as fan pages or community pages dedicated to these brands on Facebook but the focus for this study for comparability purposes was on the main official page sponsored by the brand/company. Official pages provide information for users, offer opportunities for discounts, allow users to follow company developments, and also allow the companies to monitor and control the number and content of posts (Strand, 2011).

After identifying those brands that had official pages on Facebook, each brand's official page was visited and evaluated on three different components: content of tabs, number of likes on the main page, and wall content. On every Facebook page there is a list of tabs on the left hand side of the screen (See Figure 1 – Sample Facebook Tabs – (Facebook © 2011)

A listing of the tabs on each page was recorded. Some of the tabs appear on a high percentage of the pages while others were unique to a particular brand. (See Table 2) The average number of tabs per page was seven, with three tabs being the fewest appearing on a page and fourteen being the most number of tabs appearing on a page.

In terms of the tabs appearing on the official pages, all of the pages included information about the company. A high percentage of the pages included tabs for photos and videos which provides visuals for the consumers. Information related to the product and any campaigns and promotions the company was sponsoring commonly appeared as Tabs. This suggests that the companies understand the opportunity to expand their marketing efforts into social media. A moderate number of pages included tabs for discussions, notes, links, polls or quizzes and the opportunity to download applications. Other Tab options were less frequently used.

Figure 1 – Sample Facebook Tabs

Table 2: Tabs included on Facebook Pages		
Tab	**Number**	**% of 65**
Info.	65	100.0%
Photos	59	90.8%
Video	54	83.1%
Promotion/product/campaign information	47	72.3%
Event Announcements and Coverage	39	60.0%
Discussions	36	55.4%
Notes	28	43.1%
Our Pages/Links	26	40.0%
Polls/Quiz	26	40.0%
Downloads/Apps/Games/Widgets	22	33.8%
Welcome	14	21.5%
Philanthropy/causes	13	20.0%
Connect/Support/Questions/FAQs	9	13.8%

Table 2: Tabs included on Facebook Pages		
Tab	**Number**	**% of 65**
Local/international/My Country	9	13.8%
YouTube	6	9.2%
Twitter Feed	5	7.7%
RSS/Blog/Live Stream	5	7.7%
Store/Gifts/Shop Now/E-catalog	5	7.7%
Responsibility/Policy	5	7.7%
Careers/Company Jobs	4	6.2%
Reviews/Tell us	4	6.2%
Rules/community	4	6.2%
Other (6 options)	9	13.8%

Related to Kietzmann et. al. (2011)'s framework, the tabs can be categorized in the following way. Note that some tabs may help to establish more than one building block. Tabs for information, photos, video, promotion/product/campaign information events, our pages/links, welcome, philanthropy/causes, local/international/my country, responsibility/policy, and careers/company jobs may help to establish a brand's *identity* in social media. The tabs for RSS/Blog/Live stream and connect/support/questions/FAQ may help to establish the brand's *presence*. Tabs for discussions and reviews/tell us help to encourage *relationships* between brands and consumers. Tabs for photos, video, events, promotion/product/campaign information, philanthropy/causes, responsibility/policy, and reviews/tell us could influence a brand's *reputation*. Tabs for discussions, polls/quizzes, connect/support/questions/FAQs provide opportunities for *conversations* between brands and consumers. And finally tabs for discussions, and reviews/tell provide the opportunity of *sharing* to consumers.

On Facebook users have the ability to express their opinion through the simple act of clicking on a button labeled "Like". This is often used as a way to evaluate the popularity of an overall page or of a particular posting on a page. Each "like" represents a Facebook user who clicked on a Like button either on Facebook directly or in other online media. For example, a Facebook user might read an online news article on CNN.com or watch a video online on YouTube and then click on a tab that says Like on Facebook. For the 65 brand pages in the study, the average number of "likes" was 3,636,453. The median number of 'likes' was 790,511. The top five brand pages with the most "likes" were Coca Cola (31,582,837), Disney (26,529,422), MTV (24,997,944), Starbucks (23,483,269), and Red Bull (21,141,583). The bottom five brand pages with the fewest 'likes' were Kleenex (30,904), Johnson & Johnson (16,556), IBM (15,642), CanonUSA (10,957), and Dannon (504).

Within every Facebook page there is a tab called "Wall" where the user can post comments, pictures, videos, links, etc… For this study, the content of each brand's wall on the official page was analyzed. For individual pages, users can limit who accesses their wall content. For commercial pages any Facebook user can access the wall and the posts on the wall are disseminated to the newsfeed of Facebook users who "like" that site as they are posted on the commercial page's wall.

A listing was made of the types of postings appearing on each company's wall within a one month period. All walls included photos. Some walls were primarily dedicated to customer comments and resembled an average person's Facebook wall. Other walls contained information originally posted by the company and covered a wide variety of topics. After visiting each wall, the types of information posted on the walls was categorized into 20 different categories. (See Table 3 – Categories of Wall Content)

Table 3: Categories of Wall Content
Category
Ad campaigns/Product information/Sponsorships
Apps/Games/Downloads
Calls for involvement
Career/Business opportunities
Celebrity/Athlete information/Acknowledgements
Company information/News/History/Fun facts
Contest/Sweepstakes
Customer comments
Entertainment related - TV/movies
Events
Holiday greetings
Information about changes to Facebook page or website
Links
Live events/Live video
Photos
Polls/Poll questions
Product reviews/Tips/Uses/Recipes
Promotions/Coupons/Samples
Social Responsibility/Charity/Philanthropy/Community
Video/You Tube links

These twenty categories can be further classified using Kietzmann et. al.'s (2011) framework. The type of posting may fit into more than one building block. The following types of postings help to establish the brand's *identity* on Facebook: Ad campaigns/Product Information/Sponsorships, Company information/News/History/Fun Facts, Celebrity/Athlete information/acknowledgements, Events, Information about changes to Facebook page or website, Photos, Video, Product information, Entertainment related – TV/Movies, and Social Responsibility/Charity/Philanthropy/Community. Postings about Live events/Live video help a brand to establish *presence* on Facebook as well as the number or frequency of postings (see below). Postings sharing Holiday greetings, polls/poll questions, and calls for involvement represent an attempt to personalize the relationship between the company and the consumer represent *relationships*. *Reputation* is partially determined by the number of Likes and those brands with the highest numbers of Likes appear to have established a solid reputation on Facebook. By clicking on a Like button consumers are self-selecting themselves into *groups*. *Conversations* are a core component on Facebook and may be promoted by: Calls for involvement, Customer comments, Polls/Poll questions, Product Reviews/Tips/Uses/Recipes, and Contests/Sweepstakes. Company efforts that represent *sharing* include:

Apps/Games/Downloads, Career/Business Opportunities, Links, Photos, Product Reviews/Tips/Uses/Recipes, Promotions/Coupons/Samples, and Video/You Tube links.

The frequency of company generated postings within the one month period was also noted. The average number of total postings per month was 24. The highest number of postings was 127, the median number was 20, and 9 pages were almost exclusively dedicated to customer comments with less than a half a dozen company generated postings.

CONCLUSIONS

An encouraging number of companies had established an official Facebook page at the time this study was conducted. Companies are using Facebook for a variety of purposes but the focus seems to be more on trying to develop relationships with consumers rather than on simply providing information. The Facebook pages have a different look and feel to them than the typical website. The tabs used on the official pages provide the consumer with information as the tabs on websites do but they seemed more aimed at encouraging consumer to interaction. On most of the official pages in this study, companies seem to control the wall content rather than allowing users to post directly on their walls without responding to a current posting. Companies post on average 24 times within a month which implies that consumers receive a message in their news feeds from companies that they like every few days. Companies need to be conscious of not bombarding users with messages.

The type of posting varies. Some postings are product related and may either provide product information or ask users to talk about their experience with the product or vote on how they use the product or select their favorite aspects of the products. Fashion companies tended to have postings that showed celebrities using their products at prestigious events such as movie premieres and award shows. Polls and poll questions seem to be useful tools for marketing research. Most companies posted some form of video on their official pages. Videos of commercials offer an additional way to distribute advertising content beyond traditional sources. Content offering consumer incentives such as coupons, sweepstakes, and contents was also frequently used. This type of content gets consumers involved and may get them to purchase the brand which is the ultimate goal of most marketing efforts. Postings requesting feedback from consumers through multiple choice polls or by simply posing questions seem most appropriate for marketing research purposes. Companies appear to be following Kietzmann et. al.'s(2011) framework of building blocks when using social media which suggests that the framework is relevant

Several companies have significantly large numbers of users who "like" them which suggests that the brand is popular but the sheer number of likes does not definitively measure sales figures or purchase intentions (Manjoo, 2011). The like button seems most suited to determining the success of sales promotions such as contests, sweepstakes, and giveaways as participation rates can be compared to previous promotions.

Future research could examine whether Facebook users respond to information that appears in their newsfeeds, whether they notice advertising on Facebook, and whether they are interacting with brands on Facebook beyond initially clicking on the brand's Like button. Research could also investigate whether exposure to social media content influences purchase intentions and actual purchases. While the number of consumers using social media is continuing to grow, it remains to be seen whether companies can effectively tap into this market.

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IN SEARCH OF AESTHETICS IN CONSUMER MARKETING: AN EXAMINATION OF AESTHETIC STIMULI FROM THE PHILOSOPHY OF ART AND THE PSYCHOLOGY OF ART

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ABSTRACT

The purposes of the paper are to illustrate the concept of aesthetics on the basis of the philosophy of art and the psychology of art, and to describe the effects of aesthetic stimuli on consumers' psychological and behavioral responses in an integrated framework. A multi-disciplinary literature review and synthesis are provided to illustrate several important issues: the ontology and axiology of aesthetics, aesthetic judgment and aesthetic experience, experimental aesthetics, theories of the psychology of art, and the dimensionality of aesthetics. An integrated framework of the effects of aesthetics is built upon the Stimulus-Organism-Response framework from environmental psychology, and depicts how the utilitarian and hedonic dimensions of aesthetics influence consumers' cognitive, affective, and behavioral responses in the course of aesthetic judgment and aesthetic experience. Theories of the psychology of art, including psychoanalysis, the Gestalt theory, behaviorism, information theory, and homeostasis theory, are proposed as theoretical foundations. Aesthetic communications theory offers the potential to complement and revive the research stream on store atmospherics and servicescapes, with direct implications for developing marketing strategies dealing with environmental impacts on consumers and the co-creation of value.

Key words: Aesthetics, the psychology of art, the philosophy of art, shopping environment, atmospherics, marketing research.

INTRODUCTION

Human society has marched into a postmodern era. Postmodernism is an artistic and cultural phenomenon beginning in the late-twentieth century that overthrows the role of traditional production economics (Firat and Venkatesh 1995). The postmodern consumer society is characterized by “hyper-reality”, reality constructed on the basis of spectacles (Firat and Venkatesh 1995). Over the past several decades, the hedonic values that shape consumers’ needs and preferences have been recognized and emphasized over the utilitarian values prized in previous decades (Babin, Darden, and Griffin 1994). For example, an eye-catching store atmosphere that is exhibited notably, touchingly, or extraordinarily can be more intriguing for shoppers than another “boring” store that helps to save dimes (Childers et al. 2001; Van der Heijden 2003; Fiore, Jin, and Kim 2005). Implied by the social background, the conceptualization of visual aesthetics in consumer behavior research deserves attention because of its meaningfulness in consumers’ daily life.

Yet in the past decades, the aesthetics topic has received intensive debates and extensive exploration through semiotic investigation. From a production economics perspective, aesthetics was disfavored as a marketing object. Kotler and Levy (1969) and Bagozzi (1975) proposed the concept of marketing exchange, which holds that the marketing discipline includes activities conducted by organizations that have customers and products. Hirschman (1983) argued that the production of aesthetics is a self-oriented activity with an objective of self-expression, and the primary audience is one’s self. Based on the concept of marketing exchange, she contended that the production of aesthetics disfavors commercial creativity that targets the public at large, and thus aesthetics produced by artists was not marketing artifact. This contention has been the dominant principle for understanding aesthetics in marketing for decades.

More recent thoughts in marketing have broadly defined marketing as a cultural production and consumption system (Venkatesh and Meamber 2006). Venkatesh and Meamber (2006) proposed that aesthetics is a key product in the marketing discipline because it is produced and consumed by the society in which marketing activities take place. They suggested that aesthetics should be considered a cultural product in the post-modern era.

Given the fact that the intellectual knowledge of aesthetics has long been limited to professionals in the arts, aesthetics communications in marketing remain preliminary. In order to understand the linkage between aesthetics and marketing, marketing researchers are in need of critical theoretical foundations on the nature of aesthetics, as well as a framework for understanding the impact of aesthetic stimuli on consumers’ psychological and behavioral consequences in the marketplace. In order to exhibit the value of aesthetics in marketing communications, this paper attempts to achieve the following four objectives: (1) To illustrate in depth the concept of aesthetics on the basis of the philosophy of art and the psychology of art; (2) To examine the nature and dimensionality of aesthetics from the multi-disciplinary literature; (3) To describe the effects of aesthetic stimuli on consumers’ psychological and behavioral responses in an integrated framework; and (4) To develop key propositions on the co-creation of aesthetic value in consumer marketing.

AESTHETICS AS STIMULI IN PHILOSOPHY AND PSYCHOLOGY

According to the *American Heritage Dictionary of English Language* (2006), the concept of aesthetics refers to "an artistically beautiful or pleasing appearance". As a subject of study, the term aesthetics refers to, "the branch of philosophy that deals with the nature and expression of beauty" in philosophy, and "the study of the psychological responses to beauty and artistic experiences" in psychology. The word "aesthetics" was created by German philosopher Alexander Baumgarten in 1735 based on the Greek word "aisthetike" (cf. Dickie 1997). Before that, "the philosophy of beauty" and "the philosophy of art" have been widely used in philosophy, for instance, by Greek philosophers Plato and Aristotle (cf. Dickie 1997).

It has been well recognized in the philosophy of art literature that aesthetic features serve as visual stimuli. Art theorist Munro (1956) contended that a visual work of art contains several aspects of aesthetic stimuli. These stimuli include: (1) shapes and colors; (2) the relationships between different shapes and colors; (3) the objects being represented in the visual work, and (4) the normative and emotional values being expressed. He suggested that these aesthetic features are able to evoke a variety of psychological reactions. Another art theorist, Goldman (1995), held that the stimulus of aesthetics comes from the overall quality of, and the relations among the elements in, a work of art. The evaluation of overall quality and the relations among the elements is a cognitive process in reaction to the aesthetic stimuli. At the same time, emotional responses can be evoked by those same qualities and relations.

AESTHETICS IN THE PHILOSOPHY OF ART

An Historical Review of Aesthetics in Philosophy: Ontology and Axiology

Historically, aesthetics has received intensive deliberation in terms of ontology and axiology. These two issues have brought up continuing arguments on objectivity versus subjectivity, and imitation versus expression, respectively.

The objective versus subjective existence of aesthetics in the universe has undergone a long-standing debate (cf. Dickie 1997). Aesthetics was considered an objective property of objects by ancient Greek philosopher Plato more than two thousand years ago. Plato, in his *Symposium,* asserted that ~~the~~ "beauty," in abstraction, lies in all sorts of observed physical objects that are perceived as beautiful, and the forms of beauty are unchanging and non-temporary properties in the universe (cf. Cobb 1993; Dickie 1997). In the eighteenth century, philosophers rejected the idea of objective beauty, and proposed "the philosophy of taste", that is, beauty can only be perceived by human sense and the taste of beauty is subjective (cf. Dickie 1997). Among them, David Hume, in his essay *Of the Standard of Taste,* argued that rules governing beautifulness cannot be intuitively described, and can only be empirically established by the agreement among all peoples and all ages (cf. Dickie 1997). Another philosopher, Edmund Burke in his *On the Sublime and Beautiful,* proposed that the concept of sublimity as a subjective aspect of feeling of beauty is separate from objective beauty (cf. Dickie 1997).

Philosophers of art in the early nineteenth century continued using an objective viewpoint in their theory building. Edward Bullough's psychical distance theory argued that objective aesthetics can only be perceived by keeping a psychical distance from an actual self, and he argued that, once it is over- or under-distancing, an aesthetic object cannot be appreciated (cf. Dickie 1997). Another art philosopher Jerome Stolnitz followed the psychical distance theory and further proposed the notion of disinterested attention (cf. Dickie 1997). He held that objective aesthetics can only be perceived when individuals show a disinterested attention, which is the indifference toward the object (cf. Dickie 1997).

German philosopher Immanuel Kant, in his *Critique of Judgment,* supported the subjective viewpoint of aesthetics because pleasure in response to beauty is subjective, although he contended that the existence of beauty by which the pleasure is evoked is universal (cf. Dickie 1997). Combining both subjective and objective thoughts on aesthetics, he argued that aesthetic judgment is a subjective process of finding the objective nature of beauty (cf. Dickie 1997). He also divided the aesthetic into the beautiful and the sublime—whereas the former is based on physical objects, the latter can be found only in formless objects (cf. Dickie 1997). In the contemporary literature of the philosophy of art, a subjective standpoint of aesthetics is popular, and researchers tend to study aesthetics relying on individual aesthetic judgment and aesthetic experience (Osborne 1968).

The second issue is related to the axiology in philosophy—where is the value of aesthetics from? In the nineteenth century, the emerging expressionism in explaining the creation of aesthetics was confronted with the long-dominant imitation theory established more than two thousand years ago by the ancient Greek philosopher Aristotle (cf. Dickie 1997). Aristotle, in his *Rhetoric,* asserted that the distinctive property of an aesthetic object lies in the fact that it is an imitation of nature—to imitate and to delight via works of imitation are both innate human behaviors (cf. Dickie 1997). The pioneer of expressionism in the late nineteenth century, Leo Tolstoy, argued in his *What Is Art* that aesthetics serves as nothing but a form of self-expression and emotional communication (cf. Dickie 1997). Tolstoy (1896) contended that, by drawing the lines and colors in their works of art, art creators aim to express the feelings experienced by themselves, in order to let the appreciators of the works of art experience the same feelings (cf. Dickie 1997). The expressionist approach removed the restricting link between aesthetics and nature, and fundamentally liberated the understanding of the nature and content of aesthetics (Osborne 1968).

Along with the post-modern movement in the late twentieth century, the concept of beauty can no longer be simply evaluated in binary divisions, such as nice versus ugly (Bouchet 1994; Firat and Venkatesh 1995). In the context of art, the opposition of beauty versus non-beauty is vague; instead, expression becomes the ultimate central focus (Dickie 1997). Dickie

(1997) held that the pleasure experienced during the appreciation of aesthetics is evoked by the power of expression, rather than the power of beauty.

Aesthetic Judgment

Aesthetic judgment, a concept brought up by Immanuel Kant, refers to individuals' evaluation of aesthetic values from a work of art (Fenner 2003). Traditionally, aesthetic values can be represented by beautifulness (Prall 1929). Other theorists regard aesthetic judgment as the evaluation of quality (e.g., Pepper 1937). A broad connotation of aesthetic values may include, but not be limited to, fun, humor, harmony, wisdom, creativity, and so on (Fenner 2003; Stecker 2003). According to Goldman (1995), aesthetic values can be found in the interrelations among elements in a work of art, and such interrelations create the logic that is not presented by the elements or the objects they stand for. The philosophy of art literature clearly asserts that aesthetic judgment is distinctive from functional or moral judgments of an object (Goldman 1995; Dickie 1997).

Early philosophers, including Immanuel Kant, Edward Bullough, and Jerome Stolnitz, contended that, in order to obtain the objective aesthetic value, aesthetic judgment must be made free of interest (cf. Dickie 1997). However, a subjective view of aesthetics is more dominant nowadays, based on individual perceptions of aesthetic values (Osborne 1968). Individuals can make different aesthetic judgments from one another, influenced by their culture, social class, personal preferences, learned experiences, and temporary emotions (Wolff 1993). Overall, the literature suggests a relativistic view of aesthetic judgment for marketing researchers. Accordingly, marketing research should not try to identify the rules and standards for so-called universal aesthetic values; instead, researchers should recognize and allow for individual and cultural differences in aesthetic judgments, and attempts to empirically examine the perceptions of aesthetics on the basis of individuals and cultural groups.

Aesthetic Experience

Art philosophers have mentioned that a most significant function of aesthetics is "the subtle and complex ways in which a work of art affects a sensitive observer" (Munro 1956, p. 8). Aesthetic experience was simply understood by early philosophical thinkers as the enjoyment of beauty or novelty when an individual appreciates a work of art (e.g., Santayana 1896; Dewey 1934; Pepper 1937). It was considered an emotional benefit when an individual perceives the aesthetic features and unity in a work of art. In the art literature, although the proposition that aesthetics is able to elicit feelings and sensations has never been doubted, the process of aesthetic experience has not been systematically explained until the mid twentieth century.

Based on early experimental psychology of art, contemporary art philosopher Monroe Beardsley is one of the earliest to illustrate the aesthetic experience as a process:

> [A] person is having an aesthetic experience during a particular stretch of time if and only if the greater part of his mental activity during that time is united and made pleasurable by being tied to the form and qualities of a sensuously presented or imaginatively intended object on which his primary attention is concentrated. …[He] attends to various features of a phenomenally objective field: to sounds, pictures, etc. At the same time, he is aware of various phenomenally subjective events: his expectations are aroused and he feels satisfactions when they are fulfilled, or he has sympathy-like or angry-like emotions toward the events that occur [in the art]. We can describe the phenomenally objective qualities and forms: these are the properties of the work of art that appear in the experience. We can describe the phenomenally subjective feelings and emotions: they may be said to be "evoked by" or to be "responses to" the work of art, and in this special sense these *affects* can be said to be caused by the objective features" (Beardsley 1969, p. 5-6, word italicized in original article).

According to Beardsley (1969), aesthetic experience is an emotional reaction to some aesthetic features. She insisted that not only aesthetic values can be perceived and described by individuals in their aesthetic judgments, but the emotional responses can also be verbally measured in the same time.

Some thinkers deemed that aesthetic experience, especially the emotional responses, are too complex to measure in any quantitative way (e.g., Munro 1956). But according to Beardsley (1969), different aesthetic experiences can be quantitatively compared in terms of the amount of pleasure (or similar feelings, e.g., enjoyment, satisfaction, gratification, or delight). "X is artistically better than Y if X is capable of providing a more pleasurable aesthetic experience than any that Y is capable of providing" (Beardsley 1969, p. 9). Later, Beardsley (1982) further proposed that aesthetic values in a work of art can be quantitatively measured on the basis of the appreciators' aesthetic experience. She considered aesthetic values as the capacity to provide pleasure to the appreciators. Thus, X has greater aesthetic value than Y because X has the capacity to produce pleasure in a higher magnitude than that produced by Y. The association between aesthetic value and aesthetic experience and a quantitative approach to measure them provides a philosophical and methodological guideline in investigating the relationship between consumers' (as art appreciators) perceptions of aesthetic values and their emotional responses based on aesthetic experience. If marketing researchers are to develop a strong understanding of the impact of aesthetics – whether in store displays or websites – on consumers' purchase behavior, we must be able to meaningfully assess how aesthetic values are form and the factors that influence aesthetic experiences. Thus we must be able to assess aesthetics from the perspective of philosophy of art and from the perspective of the psychology of art, as discussed in the next section.

AESTHETICS IN THE PSYCHOLOGY OF ART

An Historical Review of Experimental Aesthetics

After Plato and Aristotle, aesthetics has been considered a branch of philosophy for thousands of years. The method used in studying the effects of aesthetics was deduction from metaphysics until the 1870s, when German psychologist Gustav Fechner employed the induction method to conduct scientific investigations on the effects of aesthetics (cf. Munro 1956). Fechner (1871, 1876)'s topics of experimental aesthetics included the relationships between beauty and pleasure, and he tried to use experiments and observations to reach generalizations on what kinds of shapes and color combinations are most pleasing to art appreciators (cf. Munro 1956). However, his results did not provide enough findings to answer the central question about what the aesthetic values are (cf. Munro 1956).

Enlightened by Fechner, empirical inquiries into aesthetics have been gradually expanded and strengthened against metaphysical paradigms based on mysticism, absolutism, rationalism, supernaturalism, and transcendentalism (cf. Munro 1956). Munro (1956) argued that ~~the~~ inquiries on individuals' aesthetic judgment and aesthetic experience can be made and should be made on the basis of the findings from psychology and biology. Since the mid twentieth century, researchers have been empirically studying the topic of aesthetic experience by utilizing a number of psychological theories (e.g., Berlyne 1971; Kreitler and Kreitler 1972). Thereafter, it came into agreement that the study of aesthetics is not about how to set up universal laws and rules of beauty, but about how to explain observable phenomena regarding the creation and appreciation of aesthetics (Munro 1956; Lindauer 1994). Nonetheless, the psychological methodologies used to examine the effects of aesthetics are not considered as being developed to replace the philosophy of art; rather, the findings based on psychology are supplementary to the well-built philosophical and metaphysical knowledge of aesthetics (Munro 1956).

Theories Of Aesthetics In Psychology

A number of psychological theories have been used to understand the process of art appreciation and the psychological responses of art appreciators (Vygotsky 1971; Kreitler and Kreitler 1972). Leading psychological theories in the study of appreciators' responses to aesthetics have been illustrated by several art psychologists, such as Berlyne (1971) and Kreitler and Kreitler (1972). These leading theories include psychoanalysis, the Gestalt Theory, behaviorism, information theory, and homeostasis theory, which are commonly and collectively referred to as "the psychology of art".

Psychoanalysis (Freud 1930) focuses on the unconscious desires and motivations of the art appreciators' mental states when they are exposed to works of art. Psychoanalysis thinks of the pleasurable experience of an art appreciator as a "temporary narcotic". It argues that an individual's internal superego has set up norms that prohibit him or her from forming certain wishes, but the appreciation of works of art provides the fantasy that activates his or her hidden wishes. This is how the pleasure is generated.

The Gestalt theory (Kohler 1929) holds that the perception of the whole space is different from that of the sum of its elements. This school engages in studying how the relations among elements in a work of art can be perceived by an appreciator as beautiful. The patterns in which the combinations of different elements in a work of art (e.g., points, lines, or shapes) are perceived as meaningful and organized are "good Gestalts".

The behaviorism paradigm (Berlyne 1960) contends that the emotional process in response to aesthetics includes a rise of arousal in the beginning and then a fall of arousal. The rise of arousal comes from the stimuli in a work of art, such as complexity and beautifulness, which creates conflict in the memory. Further experience of the work of art leads to a perception of redundancy and balance, which resolve the conflict.

Information theory (Shannon and Weaver 1949) argues that the information in a work of art received by the appreciators should be neither redundant nor insufficient because ambiguity and uncertainty may lead to unpleasantness, and so does over-repetition. Information theory provides a strong theoretical foundation for the explanation of the information processing rates.

Homeostasis theory (Child 1924) focuses on the influence of aesthetics on the state of homeostasis mediated by internal tension and relief. Homeostasis was posited as the optimal psychological state of human beings, which is similar to the earlier concepts of harmony (Jowett 1937, after Plato), equilibrium (Spencer 1855), and stability (Fechner 1873). Human feelings of pleasure can be explained by the disruption or restoration of homeostasis. An individual's displeasure is a result of disruption of homeostasis, which raises tension, whereas pleasure is accompanied by the restoration of homeostasis, which produces relief. The appreciation process of aesthetics begins with the rise of tension evoked by the aesthetic features, and ends with the dominance of relief to restore the homeostasis. The restoration of homeostasis results in pleasure.

In recent studies of neuroaesthetics, a branch of neuropsychology, researchers attempted to depict the mechanisms controlling the psychological responses to aesthetics in the human brain by employing advanced computer devices such as Magnetic Resonance Imaging (MRI). Neurophysiology research confirmed that vision is one of the most efficient mechanisms to evoke aesthetic feelings in the brain, and insisted that certain visual patterns or properties are indeed more "aesthetic" than others because they evoke more brain waves (Zeki 1999). Although current findings in neuroaesthetics are exploratory, they clearly show that aesthetic features, as perceived through human vision, such as color, shape, or texture, may significantly evoke brain activities associated with cognitive and affective reactions.

NATURE AND DIMENSIONALITY OF AESTHETICS

Although the philosophy and psychology theories may be used to explain the meaning and impact of aesthetics, they only provide theoretical guidelines, leaving it open for different interpretations of the aesthetic effects of art. Few findings on how specific aesthetic features correspond to different psychological changes have been derived. Certainly, two main theoretical gaps need to be filled in order for marketing researchers to explore the impacts of aesthetic stimuli: (1) the nature and dimensionality of aesthetic stimuli that can depict different functions of aesthetics need to be identified, and (2) a comprehensive theoretical framework that can present the effects of aesthetics on consumers' psychological reactions must be developed. This portion of the paper further elaborates on these two issues.

In early psychology research of experimental aesthetics, Berlyne (1971) identified a list of "collative stimulus properties" to represent aesthetic properties. These collative variables include novelty, complexity, familiarity, congruity, instability, ambiguity, and so on. Although the dimensionality of the aesthetics in question was not investigated, Berlyne's (1971) findings on aesthetic properties provided the psychological basis for a bi-dimensional-conceptualization of aesthetic stimuli. One group of the collative variables, including complexity, congruity, instability, and ambiguity, describe the utilitarian nature of art. The other group, such as novelty and familiarity, reflect the hedonic property that closely links art with emotions and feelings.
Since Plato, the utilitarian aspect of aesthetics has been considered a basic property of aesthetics by art philosophers (cf. Dickie 1997). Birkhoff (1933) called order and complexity the physical properties of an aesthetic object, and proposed a mathematical formulation of aesthetics:

$$M_{\text{Aesthetics}} = f\,(\text{Order / Complexity})$$

This formula holds that aesthetics is positively associated with order, and negatively associated with complexity. In the study of arts, widely accepted definitions of order and complexity were given by Arnheim (1966). Order is defined as "the degree and kind of lawfulness governing the relations among the parts of an entity", and complexity is defined as "the multiplicity of the relationships among the parts of an entity" (Arnheim 1966, p. 123). Lorand (2000) posited that order and complexity are quantitative qualities, which can be manifested in degrees. He also asserted that order and complexity are two coexisting aspects of one phenomenon because order only resides in complex systems. In the field of marketing, the negative relationship of order and complexity has been applied in the study of environmental aesthetics in retail stores (Gilboa and Rafaeli 2003).

On the other side, the hedonic aspect of aesthetics is linked to a higher level of human need (Maslow 1970). George Santayana in his *The Sense of Beauty* attempted to describe the complex nature of aesthetics: "beauty is a value, that is, it is not a perception of a matter of fact or of a relation: it is an emotion, an affection of our volitional and appreciative nature"

(Santayana 1896, p. 49). In psychology, the hedonic property of aesthetics has been considered a "secondary emotion" derived from sensory pleasure (Gaunt, Leyens, and Demoulin 2002; Park, Choi, and Kim 2004).

The distinction between the two dimensions of aesthetics has been well recognized in the fields of industrial engineering, and architectural design. Aesthetic design has a utilitarian and practical aspects in everyday life, but it can go beyond utility (Munro 1956). David Pye in his *The Nature and Aesthetics of Design* held, "the power of design to make for human happiness rest not directly on its useful results, which only serve man's needs and can do no more; but on its power to beautify the environment: on the fact that design is an art, not simply a problem-solving activity and no more" (Pye 1978, p. 107). Beardsley (1982) emphasized "constructive integrity in fact" and "constructive vividness in appearance" as two aspects in evaluating the aesthetic quality of architectural design. Lang (1988) drew the distinction between formal aesthetics and symbolic aesthetics in the field of architectural design. The former is related to complexity and the latter is related to meaningfulness. In engineering systems design, Liu (2003) posited a two-dimensional space, psychosomatic soundness versus attractiveness, to measure engineering aesthetics.

Schenkman and Jonsson (2000) suggested that visual aesthetics has two dimensions: formality and appeal. Aesthetic formality refers to the perceived organization of a design, while aesthetic appeal refers to the perceived impressiveness of a design. Consistent with the findings of Schenkman and Jonsson (2000), a later study by Lavie and Tractinsky (2004) found two similar dimensions of web aesthetics. These two dimensions were identified as classical aesthetics and expressive aesthetics. Classical aesthetics can be measured by the organization, clearness, and symmetricity, and is akin to the aesthetic formality dimension in Schenkman and Jonsson (2000), while expressive aesthetics can be measured by the creativeness, fascination, and originality, and corresponds to the aesthetic appeal dimension in Schenkman and Jonsson (2000).

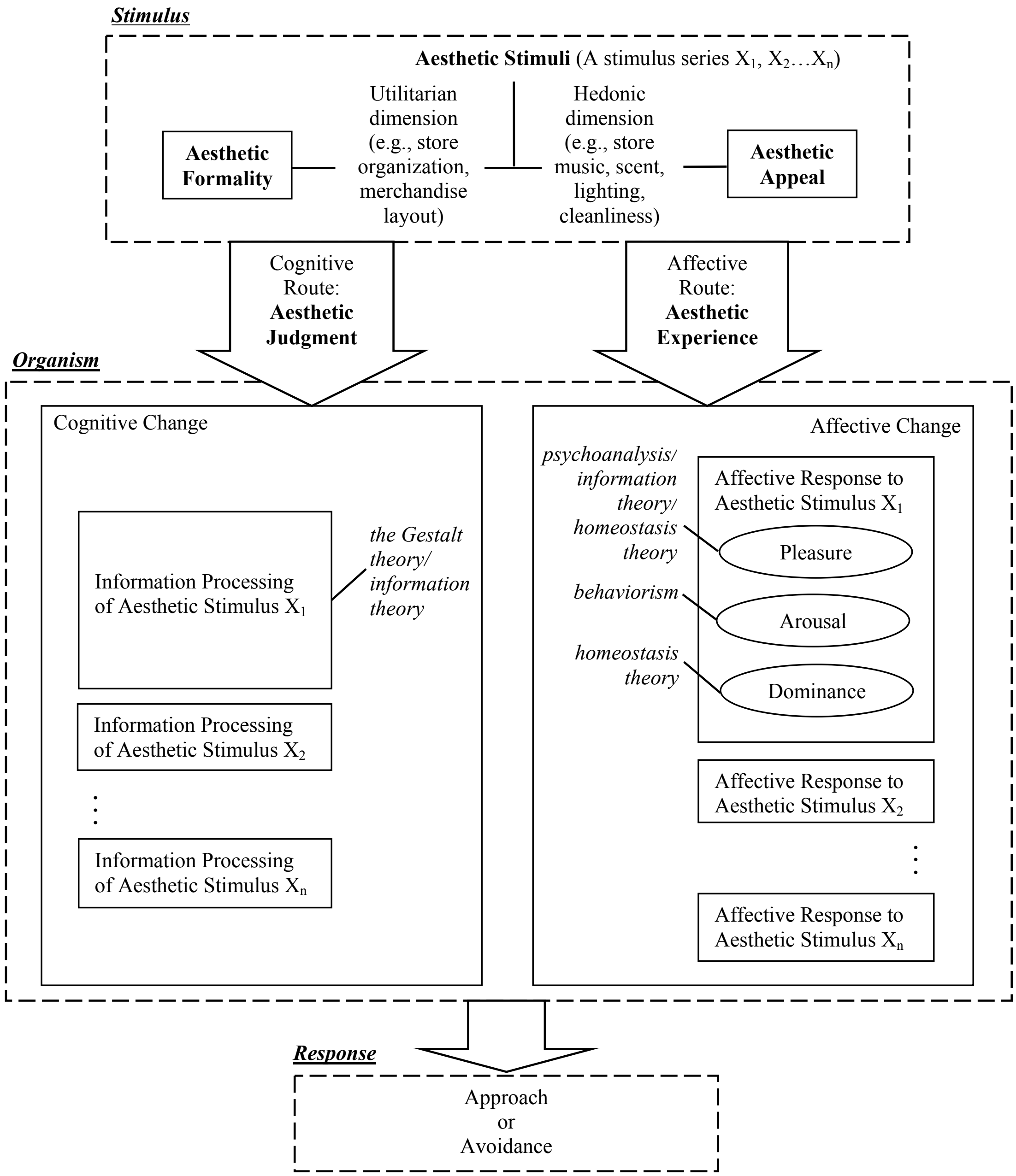
A synthesis of the multi-disciplinary literature has provided a holistic understanding of the dimensionality of aesthetic stimuli. In sum, the literature across disciplines shows that one dimension of aesthetics, aesthetic formality, is exhibited by the practical, economic, and useful features of an artificial design in a utilitarian manner, whereas another dimension, aesthetic appeal, is the fascinating, exquisite, and luxury properties of a design in a hedonic manner.

EFFECTS OF AESTHETICS IN CONSUMER MARKETING: AN INTEGRATED FRAMEWORK

After the illustration of the nature and dimensionality of aesthetics, a subsequent concern is raised as to how to describe the effects of the complex properties of aesthetics on consumers' psychological and behavioral responses under an integrated conceptual framework that incorporates extant literature of aesthetics from the philosophy of art and the psychology of art. Environmental psychologists have proposed the Stimulus-Organism-Response (S-O-R) paradigm to explain the impacts of environmental stimuli on human behavior (e.g., Mehrabian and Russell 1974). According to this paradigm, various environmental stimuli evoke individuals' emotional responses, which, in turn, influence individuals' behavioral consequences. Based on the environmental psychology paradigm, Eroglu, Machleit, and Davis (2001) broadened the S-O-R framework to describe how environmental stimuli influence both cognitive and affective states of consumers and how these psychological states, in turn, jointly determine behavioral outcomes. The cognitive state is the process of information acquisition and interpretation that forms individuals' beliefs and knowledge of the environment. The affective state is the process of emotional reaction to environmental stimuli, which can be measured by Mehrabian and Russell's (1974) pleasure, arousal, and dominance (PAD) trichotomous dimensions.

The S-O-R paradigm offers a suitable conceptual structure for explaining how the aesthetic stimuli from a given environment evoke consumers' cognitive, affective, and behavioral responses. An integrated framework of the effects of aesthetics is described in Figure 1. In the perceptual *Stimulus* (S) stage, the aesthetic stimuli possess utilitarian and/or hedonic properties. The utilitarian properties (aesthetic formality) are represented by order, simplicity, and organization of the design, while the hedonic properties (aesthetic appeal) are represented by impressiveness, creativeness, and meaningfulness of the design. When encountering the design, consumers will engage in "aesthetic judgment" through a cognitive process and enjoy an "aesthetic experience" through an affective process, consciously or unconsciously. The encounter will result in the cognitive and affective changes in the *Organism* (O) stage. From a cognitive angle, the Gestalt theory and information theory may be used to explain how consumers process information from the aesthetic features. From an affective perspective, several theories from the psychology of art, including psychoanalysis, information theory, and homeostasis, can be used to illustrate how pleasure is generated during consumers' aesthetic experience. Behaviorism can be used to explain the rise and fall of arousal. In addition, homeostasis theory can also be used to explain dominance, the third dimension of human emotions that determines consumers' feeling of submissiveness or freedom. The cognitive and affective changes in consumers' organism stage jointly influence behavioral consequences—approach or avoidance in the *Response* (R) stage. A specific environment that consumers encounter (e.g., a store, a website) may have a number of aesthetic stimuli (X_1, $X_2 \ldots X_n$) from *n* designs. Consumers' cognitive, affective, and behavioral responses to all these aesthetic stimuli form the effects of the aesthetic stimuli in the given environment.

Figure 1: The Effects of Aesthetic Stimuli



The framework is built upon Mehrabian and Russell's (1974) Stimuli-Organism-Response paradigm.

AESTHETICS AND SERVICESCAPE

From a theoretical perspective, if aesthetics can affect consumers' psychological and behavioral reactions in the shopping environment, can aesthetics then be used to measure the effective atmospheric stimuli in the shopping environment? Past research has emphasized the concept of servicescape to represent the shopping environment (e.g., Bitner 1992; Turley and Milliman 2000). The key argument, in line with the S-O-R framework, is that store atmospheric stimuli influences shoppers' internal organism (e.g., shopping orientation, evaluation of store, etc.), which, in turn, influence their responses (e.g., shopping enjoyment, amount of purchase, etc.). Findings from past studies showed that the influence of overall physical environment on consumer behavior is salient (e.g., Harrell, Hutt, and Anderson 1980; Bitner 1992; Donovan et al. 1994; Spangenberg, Crowley, and Henderson 1996; Morrin and Ratneshwar 2003). In particular, shoppers' pleasure, arousal, purchase, and shopping time may be positively influenced by color (e.g., Bellizzi and Hite 1992; Babin, Hardesty, and Suter 2003), scent (e.g., Spangenberg, Crowley, and Henderson 1996; Chebat and Michon 2003), and music (e.g., Hui, Dube, and Chebat 1997, Chebat, Chebat, and Vaillant 2001), and so on.

The earliest taxonomy of store atmospheric stimuli was proposed by marketing guru Philip Kotler, who pointed out four sensory categories of store atmosphere. According to Kotler (1974), store atmospheric stimuli may be categorized into visual (e.g., color, brightness), aural (e.g., sound, volume), olfactory (e.g., scent, freshness), and tactile (e.g., smoothness, warmth) aspects. Turley and Milliman (2000) suggested a broad taxonomy in evaluating store atmospherics. They contended that five aspects of store atmospheric variables are of influence on shopper behavior, including exterior variables (e.g., design of building, size of building, location, parking availability), interior variables (e.g., color, lighting, music, scents, temperature, cleanliness), layout variables (e.g., placement of merchandise, placement of cash registers, size of waiting areas), decoration variables (e.g., signs, wall decorations, artworks, price displays), and human variables (e.g., traffic flow, waiting queue, crowding, employee behavior).

Another inclusive taxonomy of servicescape is provided later by Baker (1986) and thus is referred to as Baker's Typology of Environment (cf. D'Astous 2000). According to Baker's Typology of Environment, three aspects of environmental stimuli may influence shoppers in a store environment. They are: (1) ambient factors, which are the influencing atmospheric features that exist below the level of human awareness, e.g., temperature, scent, music, noise, cleanliness; (2) design factors, which are the influencing stimuli that exist at the forefront of human awareness, e.g., color, materials, layout, and (3) social factors, which refer to the influence of other people in the environment, including number, appearance, availability of service personnel and number and behavior of other customers (cf. D'Astous 2000).

However, these functional store atmospheric variables identified by previous research focus on certain physical aspects in the environment, and cannot provide an overall taxonomy of the stimuli in a store environment. Mehrabian and Russell (1974) suggested that "the taxonomy [of environmental variables] must be parsimonious to provide the kind of conceptual economy that is an inherent goal of science and to provide practical solutions to actual design problems" (p. 5). This suggestion offers a valuable guideline in the understanding of taxinomizing a variety of store atmospheric stimuli. Although the functional perspective of design is primarily concerned about "what" design elements should be included, a more powerful approach, the aesthetic perspective of design focuses on "how" to effectively use the design elements (Vygotsky 1971). The aesthetic perspective is particularly important for the post-modern consumers whose minds are constructed upon hyper-reality and hedonic values (Babin, Darden, and Griffin 1994; Firat and Venkatesh 1995). Therefore, the two dimensions of aesthetics, aesthetic formality (utilitarian dimension) and aesthetic appeal (hedonic dimension), may be used as an evolving typology for measuring elements of the servicescape in a consumer-oriented shopping environment. To closely examine the overall influence of servicescape on consumers, we may utilize aesthetics to serve as a useful framework for the evaluation of the design of the shopping environment.

CO-CREATION OF AESTHETIC VALUE IN SERVICESCAPE

Due to the subjective, communicative nature of aesthetics discussed earlier, consumers' positive aesthetic experience highly depends on personal and situational preferences. It creates a question for service providers that the realization of aesthetic value in a servicescape can be a joint effort with consumers. The value co-creation paradigm (Prahalad and Ramaswamy 2000) is distinctive from the conventional approach of consumer marketing. The value co-creation view is that service firms and consumers need to combine and share each other's capabilities to mutually create value through close interaction (Prahalad and Ramaswamy 2000, 2004; Payne and Holt 2001; Jaworski and Kohli 2006). As such, aesthetic value can also be co-created by consumers and a service provider when consumers are able to personalize their aesthetic experience, which is accompanied by a clearer and stronger perception of the aesthetic value offered by the service provider. For example, a shopping website may let online shoppers choose the personalized color background, layout, and themes of the website during online shopping (Wang, Minor, and Wei 2011). With aesthetic subjectivity and value co-creation principles in mind, we propose that:

Proposition 1: *Co-creation of aesthetic value in servicescapes is more likely to be realized if consumers have a greater freedom in arranging the physical surroundings.*

Proposition 2: *Co-creation of aesthetic value in servicescapes is more likely to be realized if consumers have a greater freedom in organizing the service and/or shopping process.*

Consumer involvement in products and services is said to be crucial in their decision making process (Zaichkowsky 1985; Celsi and Olson 1988; Mowen and Minor 2001). In the marketing literature, previous studies suggest that, from a service provider's perspective, value has to be actualized through involving customers in the personalization or value co-creation experience (Bendapudi and Leone 2003; Prahalad and Ramaswamy 2000, 2004). Looking into the nature of service, Vargo and Lusch (2004) also proposed that customer value is not realized until the service experience is provided to consumers. Thus, when consumers are offered the opportunity to personalize their aesthetic preferences, a greater involvement with the service would foster the realization of aesthetic experience. Kristensson, Matthing, and Johansson (2008) suggested that a key strategy in successful co-creation of value is that the value should be derived from user situation. Given that consumers' subjective aesthetic experiences are acquired through sensual contact with the physical surroundings, such as servicescapes, we propose that:

Proposition 3: *Co-creation of aesthetic value in servicescapes is more likely to be realized if consumers have a greater involvement in searching and exploration.*

Proposition 4: *Co-creation of aesthetic value in servicescapes is more likely to be realized if consumers have a greater involvement in a service provider's products and services.*

THEORETICAL IMPLICATIONS AND FUTURE RESEARCH

This paper attempts to conceptualize aesthetics from the perspectives of the philosophy of art and the psychology of art. We aim to make four contributions to theory advancement of aesthetics in marketing. First, the paper proposes aesthetics as a framework for the marketing environment. Previous marketing research suggested that the impact of the environment plays a key role in consumers' evaluations of services and service firms (e.g., Bitner 1992; Donovan et al. 1994; Spangenberg, Crowley, and Henderson 1996). Past research implies that post-modern consumers' aesthetic judgments and aesthetic experiences, in response to the marketing environment, are crucial in their decision making. Based on the reviews of aesthetics in arts, engineering, architecture, and design, the study of aesthetics will help to deepen the conventional understanding of servicescape and the shopping environment.

Second, the paper illustrates the power of aesthetics from a psychological perspective. Based on extant theories in aesthetics, the integrated framework of the effects of the complex properties of aesthetics provides a detailed explanation of the aesthetic stimuli from the marketing environment. The framework in which different dimensions of aesthetics influence consumers' cognition, affect, and behavior provides theoretical foundations that directly help to incorporate aesthetics into marketing research, especially the study of marketing communications to consumers.

Third, the paper illustrates the bi-dimensional nature of aesthetics. Through the multi-disciplinary literature review, the utilitarian and hedonic dimensions of aesthetics are clearly shown. This will not only help researchers to realize the complexity and variability of aesthetic stimuli, but also offers researchers insights for the understanding consumer-oriented design in marketing. Customer-oriented aesthetic design of industrial products has long been an under-explored topic in marketing (Veryzer 1995; Bloch, Brunel, and Arnold 2003). Primarily, the insights from this paper can be directly offered for product design, store design, website design, and so on, to push forward aesthetic marketing communications in this area. In order to aesthetically distinguish products and/or services from those of the competitors, exploring how to manage and organize the utilitarian and hedonic properties of aesthetics under different circumstances is an important area for marketing researchers.

Fourth, the propositions regarding the co-creation of aesthetic value extend the emerging thoughts of value co-creation and personalization in servicescape. Personalization and consumer involvement in aesthetic experiences are in line with service-oriented marketing strategies by which a service provider aims to offer superior customer value (Vargo and Lusch 2004). The service-dominant logic mandates that consumers should be attracted to enjoy all kinds of experiences during value co-creation with a service provider (Lusch, Vargo, and O'Brien 2007). Thus, revealing consumers' aesthetic needs in the post-modern era, aesthetic experiences should be included and emphasized in the value-co-creation framework for the implementation of effective service-oriented marketing strategies.

To conclude, this paper calls attention to aesthetics, the subtle visual stimuli that can determine consumers' approach-avoidance behavior in a given marketing environment. Future research should empirically examine how aesthetics influences consumers' psychological and behavioral responses in various marketing environments by utilizing and extending the integrated framework developed here. This framework follows the environmental psychology paradigm, and future research may apply other approaches, such as the attitude theory paradigm (e.g., theory of planned behavior), to investigate the impact of aesthetics on consumers' attitudes and intentions. The idea of focusing on aesthetics opens a new vision for marketing communications, and aesthetic communications offers the potential to complement and revive the research stream on store atmospherics and web atmospherics, with direct implications for making effective marketing strategies dealing with environmental impacts on consumers.

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MARKETING SUPPLY CHAIN USING B2B BUY-SIDE E-COMMERCE SYSTEMS: DOES ADOPTION IMPACT FINANCIAL PERFORMANCE?

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ABSTRACT

Research suggests that new information technologies can improve the functionality of business processes, leading to improved firm profitability. However, new technologies are not equal in their contributions to a company's bottom line. Further, there is some debate as to whether early adopters of new technology benefit over later adopters. This study examines the financial performance of firms that modify their marketing supply chain by adopting business-to-business (B2B) buy-side e-commerce systems. Analyses show that early adopters outperform their non-adopting industry peers in the post-adoption period. Superior performance in adopters' return on assets (ROA) is driven by increases in profit margins rather than by improved asset turnover. The results are consistent with the claim that B2B buy-side improves company performance through lower purchasing and administrative costs. Early adopters of B2B buy-side systems received a competitive advantage over industry counterparts due to greater market transparency and better transactional efficiency.

INTRODUCTION

Advances in information technologies can improve the operating efficiency and effectiveness of management information processes, thereby leading to improved firm profitability. Business-to-business (B2B) e-commerce has grown rapidly since 1997 and is believed to have fundamentally altered the economy by increasing transactional efficiency and creating more transparent markets (Chen & Siems, 2001). Currently, total B2B e-commerce has been estimated as high as $8 trillion (Roseindia, 2009). The US accounts for almost half of all e-commerce transactions worldwide, with e-commerce predicted to grow about 14% annually and at an even faster rate in Europe and developing countries (Schulman, 2008).

With mounting corporate investment in B2B e-commerce, assessment of its impact on the marketing supply chain is important. This study empirically investigates effects of adoption of B2B buy-side for operating input on early adopters' financial performance.[1] Adoption of B2B technology is expected to improve company performance through improved transparency and transactional efficiency. Prior studies investigating technology investments and financial performance report mixed results, so this study will add to the research addressing this relationship.

In this study, a sample of B2B buy-side adopters is identified from B2B buy-side system vendors' news announcements and from Newswire announcements for the period January 1997 to June 2000. This period was selected because it corresponds to the initial use of B2B buy-side systems, as determined by news announcements. Our research methodology follows Kinney and Wempe (2002) that examines the impact of JIT adoption on firm financial performance. Using these B2B buy-side early adopters and industry- and size-matched control firms, we examine changes in return on assets (ROA) from pre- to post-adoption, and find the between-sample difference in ROA changes is highly significant. Similar analyses of profit margin and asset turnover components of ROA suggest that relative ROA improvement derives primarily from profit margin improvement. Further refined analysis indicates that performance improvement is driven by improvement in SG&A. The results are consistent with the hypothesis that B2B adoption improves market transparency and transactional efficiency, which leads to, improved company financial performance.

We find smaller B2B buy-side adopters obtain relatively greater profit gains than larger adopters. We hypothesize this result derives from a relatively greater financial benefit for smaller adopters from improved market transparency. This result is consistent with our supposition that vendors are more likely to compete to gain the attention of large customers due to their substantial revenue and profit opportunities. In contrast, the revenue and profit opportunities offered by smaller customers do not attract the same quantity of competition, nor result in prices as competitive as those obtained by larger firms.

Finally, we find that B2B buy-side adopters experience deterioration in selling and general administrative (SG&A) expense in years prior to adoption, and that B2B buy-side adoption may be viewed as a tactical move (i.e., a quick fix) to address deteriorating SG&A expense efficiency. Since implementation is relatively simple, its benefits are realized relatively quickly

This study is important for a couple of reasons. First, the effects of B2B buy-side adoption on financial performance have not been empirically demonstrated in the literature. There is a general debate whether early adopters of any new technology receive financial benefits over industry counterparts who wait to adopt the new technology (Pacheco-de-Almeida & Zemsky, 2008; Rahman & Hussain, 2008). On the other hand, some studies show that information technology expenditures are positively associated with subsequent firm performance and shareholder returns (Kobelsky et al., 2008). Our study documents adoption of a specific type of e-commerce technology adoption—B2B buy-side for operating inputs— has a positive impact on firms' profitability.

Second, the empirical results from this study may be of interest to purchasing managers, especially those in developing countries where e-commerce is lagging behind the developed world. We hope these purchasing managers would seriously consider adopting, investing in, and embracing e-commerce technology that can improve their procurement process and improve their firms' financial performance.

The remainder of the paper is organized as follows. Section 2 provides an overview of B2B e-commerce and a literature review of related research. The next section reviews the methodology and develops hypotheses regarding the profitability impact of B2B buy-side adoption. Section 4 presents the results. Finally, Section 5 provides conclusions and limitations of this study.

OVERVIEW OF THE TYPES OF B2B E-COMMERCE

Table 1 shows that B2B e-commerce can be categorized by the nature of products purchased and the host the platform. With regards to the nature of products, Kaplan and Sawhney (2000) classify business purchases into manufacturing inputs and operating inputs. Manufacturing inputs are the raw materials and components that go directly into a product or production process, e.g., chemicals, computer chips, and airplane turbines. These goods are usually purchased from industry-specific suppliers, and are generally delivered using special logistics and fulfillment mechanisms. On the other hand, operating inputs such as office supplies, computers, airline tickets, and services are generic products and are not generally parts of finished products. They are often called maintenance, repair, and operating (MRO) goods. Suppliers of operating inputs such as Staples, Gateway, and American Express serve a wide range of industries and their products are more likely to be shipped by generalists such as United Parcel Service.

Table 1: Classification of B2B E-Commerce

	Buy-Side	Sell-Side	Market Exchange
Manufacturing (Vertical Inputs) In this grid, B2B e-commerce is classified based on products.			
Operating (Horizontal Inputs) In this grid, B2B e-commerce is classified based on who hosts the platform. Buy-side platforms are hosted by buyers, sell-side platforms are hosted by sellers, and market exchange platforms are generally hosted by independent parties who earn commissions on the trades.	**B2B Buy-Side for Operating Input**		

B2B can also be categorized based on whether buyer (as in this study) or seller is hosting the platform. Typically the host of a platform is a larger entity relative to the counterparties and would benefit most from the implementation of the system. A platform hosted by an independent party who earns commission on the trades is called a marketplace. Examples of a marketplace are Elemica and SupplyOn.

B2B buy-side, a system hosted by buyers, offers three potential benefits to adopters: market transparency, purchasing control, and lower administrative (transaction) costs. Market transparency allows buyers to discover new sources of supply, gauge product availability and obtain more accurate and lower market prices. The Internet feature allows buyers to find vendors not only from the same city, but to find vendors from other states, regions, or countries. Buyers can compare offers from different vendors who participate in the B2B buy-side system. With more suppliers, buyers can obtain better purchase terms and compare suppliers' performances.

B2B buy-side improves purchasing control by allowing inclusion of corporate purchasing policies (approval procedures and purchasing limits), lists of preferred suppliers, and volume purchasing agreements to be incorporated within the platform. Most companies have poor control over spending; they allocate total budget amounts but in fact have limited control over exactly what and when employees buy. The National Association of Purchasing Managers estimates that one-third of all corporate purchases are out of compliance with volume purchase agreements, and those mavericks that circumvent these contracts on average pay 18 % – 27 % above the volume purchase agreement price (Phillips & Meeker, 2000). To enhance purchasing control, the B2B buy-side software also offers tracking of suppliers' performance, frequent purchasers, high volume products, and other supporting reports.

Finally, B2B buy-side is expected to decrease administrative costs. The cost of manually processing a purchase order ranges from \$125 to \$175, but online procurement can decrease the cost to \$10 to \$15 per order. The reduction of administrative costs derived mainly from a transfer of activities from corporate central procurement to the requisitioner as corporate policies can be incorporated into the system. As a consequence, companies save costs in central purchasing that helps to reduce processing cost for each requisition / purchase order. Reduction in administrative costs can also result from faster approvals and easier, asynchronous communication with suppliers. Finally, better coordination eliminates mistakes in purchase orders and minimizes the time spent on reconciliation. The purchasing process becomes more efficient because it is automated, paperless, and online.

This study examines adopters of B2B buy-side for operating inputs, a specific type of e-commerce system, for three reasons. First, the B2B buy-side for operating inputs is relatively easy to implement. Examination of adoption announcements reveals that the implementation time for the system ranges from three to six months. Second, B2B buy-side for operating inputs is not integrated with production systems; therefore, it allows refined predictions as to where associated benefits will occur (e.g., administration and purchasing costs). Finally, the expected amount of savings is still significant because the amount of operating purchases is substantial. For example, Eastman Chemical Company's annual procurement amounted to more than \$3 billion and, on average, operating inputs account for about 20% of the total procurement costs. In term of number of transaction, British Telecom handles 1.3 million purchasing transactions of indirect goods annually (Commerce One, 1999). Thus B2B buy-side for operating inputs has the potential to offer significant improvement in purchase price and transactional costs.

LITERATURE REVIEW OF RELATED RESEARCH

There are currently two streams of e-commerce research. The first stream includes studies that evaluate the impact of e-commerce initiatives. These studies include Kaufman et al. (2009), Kotabe et al. (2008), Amblee and Bui (2008), Gregory et al. (2007), Subtramani and Walden (2001), Shankar (2000), Chen and Siems (2001), and Bakos (1997, 1991).

Kauffman et al. (2009) examine e-commerce under channel migration. They propose two pricing strategy models to evaluate how consumer channel migration affects pricing strategy. Findings contribute to better understanding of traditional and Internet-based selling. Findings indicate that in settings of high-level channel migration, a company should manage the two channels as one. On the other hand, in settings of low channel migration, a company should optimize and manage each channel separately. Modeling results were validated by empirical analysis of 10 large South Korean e-commerce companies.

Kotabe et al. (2008) examine the relationship between outsourcing levels and e-commerce. Findings indicate that e-commerce is a factor in determining the optimal point of outsourcing for a firm. The study offers implications for the practice and study of outsourcing and e-commerce. Gregory et al. (2007) develop and test a theoretical model to evaluate how e-commerce drivers affect export marketing strategy. Their findings support including e-commerce constructs into existing theory on export marketing strategy.

Amblee and Bui (2008) evaluate the impact of product reviews in e-commerce. They conducted a longitudinal study involving 395 e-books sold on Amazon’s website. One finding was that firms can improve their sales performance by managing their brand portfolio in ways that improve the likelihood of more reviews of their products. Wang and Benbasat (2007) consider trust in and adoption of online agents. Au and Kauffman (2001) examine e-commerce factors such as network externalities, compatibility issues, and e-billing adoption.

Other recent research regarding e-commerce, focusing specifically on B2B, includes a multi-case approach to identify where and how organizations evaluate their B2B e-commerce initiative (Standing & Lin, 2007). Son and Benbasat (2007) examine use of B2B marketplaces. Ordanini (2006) examines what motivates doing business in B2B exchanges. Aklouf et al. (2006) consider ontologies and web services technologies in a B2B products exchange model. Castro-Lacouture and Skibniewski (2006) propose a B2B e-Work system to improve a contract approval process. Dai and Kauffman 2006 consider managerial choices for e-procurement channels. Claycomb et al. (2005) develop models to predict level of B2B e-commerce, using predictor variables such as innovation characteristics, channel factors, and organizational structure. Yoo et al. (2002-3) examine a model for B2B intermediaries.

The second stream of e-commerce research includes studies that identify special characteristics of e-commerce firms to evaluate firm valuation or stock returns (Hand, 2000; Rajgopal et al., 2002; Trueman et al., 2000). The current study considers the financial impact of management's adoption of B2B e-commerce technology for its marketing supply chain. The current study generally adds to the broad stream of research that uses operational information to analyze the financial impact of changes in business techniques or processes, e.g., IT adoption and investment (Au & Kauffman, 2003), activity-based costing (Datar & Gupta, 1994; Ittner et al., 2002), product quality (Nagar & Rajan, 2001), capital budgeting at Caterpillar, Inc. (Miller & O'Leary, 1997), human resource management (Blackwell et al., 1994), and participative budgeting (Kanodia, 1993).

SAMPLE SELECTION FOR STUDY

The main goal of the sample selection process was to identify a set of observations that represented a homogeneous type of B2B adoption. The time period selected analysis was 1997-June 2000, as this is the period in which B2B buy-side system adoptions were first taking place. The search proceeded in four stages. In the first stage, a prospective list of 174 B2B vendors was obtained from the Morgan Stanley Dean Witter B2B Report entitled '*The B2B Internet Report*.'[2] From this list, we identified eight firms targeting the "procurement" systems market as reported in the "B2B Company Profile Master List" (Phillip & Meeker, 2000, pages 117-120).[3] Second, web sites of the eight firms were searched for announcements of sales and implementations of B2B procurement systems. Three firms (Ariba, Commerce One, and Rightworks) were found to provide announcements regarding adoptions of their B2B buy-side for operating input systems.

In the third stage, an effort was made to add additional sample firms. Lexis-Nexis was searched for B2B buy-side for operating input adoption announcements using keywords "B2B" and "procure" or "buy". Fourth, the announcements of adoptions were read to verify that the systems adopted were for operating input. These four steps identified a total of seven providers (adoptions of systems sold by Oracle, Claris, FreeMarkets, and Intelysis were identified from the Lexis-Nexis search) and 96 adoption announcements for the period 1997- June 2000, with the first announcement appearing in May 1997.[4] Financial information was obtained from the 2002 Compustat file or from 10-K filings. Thirty-four adopters were deleted because they lacked data from publicly-available sources (10-K or Compustat). Our final sample consists of 62 adopters, as shown in Table 2.[5]

Following the studies of firm performance after JIT (Just in Time) adoption (e.g., Balakrishnan et al., 1996; Kinney & Wempe, 2002), this study uses a matched sample to evaluate the profitability impact of B2B buy-side adoption thereby providing controls for general economic, industry, and size effects. Control firms were selected by matching each adopter based on size and industry in the year of adoption (t_0). Matched firms with net sales within 70 % to 130 % of each adopter and within the same 4-digit (Standard Industry Code) SIC code were identified. If no match was found using these criteria, the search proceeded with the same net sales criterion within the 3-digit SIC, and if that search failed, the search was resumed at the 2-digit SIC level. If more than one match was found, then the firm with the lowest absolute difference in net sales was selected as the matched firm for an adopter. Control firm financial statements were reviewed for mention of adoption of B2B buy-side in the sample period. Table 3 lists the adopters and their matched firms.

Table 2: Sample Selection	
Number of B2B buy-side system adopters identified by year:	
1997	6
1998	33
1999	37
Up to June 2000	20
Total adopters identified	96
Adopters with data missing from publicly-available sources:	-34
Final sample available for testing:	62
Notes: A sample of adopters is identified from announcements found in B2B buy-side providers' news section websites. A list of firms providing B2B procurement platforms is identified from Morgan Stanley's report titled *The B2B Internet Report* dated April 1, 2000. In addition, we searched the Lexis-Nexis Newswire and Business Wire database to identify additional B2B buy-side adoptions.	

RESEARCH METHODOLOGY AND HYPOTHESES

The first measure of profitability examined is return on assets (ROA). Paired differences (adopter minus matched firm) in changes in ROA from pre-to post-adoption periods are used to measure the impact of B2B buy-side adoption:

$$DIF\Delta ROA = \Delta ROA_i - \Delta ROA_j \qquad (1)$$

in which

i indicates B2B buy-side adopters,

j indicates matched control firms,

ΔROA is post-adoption ROA minus pre-adoption ROA, where ROA is income before extraordinary and special items divided by average total assets.

If adoption improves ROA, then DIFΔROA should be positive. This leads to our first hypothesis.

H1: Pre- to post-adoption changes in ROA for B2B buy-side adopters exceed those for matched firms.

Because ROA is an aggregate measure, we decompose ROA into its profit margin and asset turnover components, and conduct tests analogous to those conducted for ROA.

$$DIF\Delta PM = \Delta PM_i - \Delta PM_j \quad (2)$$
$$DIF\Delta AT = \Delta AT_i - \Delta AT_j \quad (3)$$

in which

ΔPM is post-adoption profit margin minus pre-adoption profit margin where profit margin is income before extraordinary and special items divided by net sales, and

ΔAT is post-adoption asset turnover minus pre-adoption asset turnover where asset turnover is net sales divided by average total assets.

Table 3: B2B Buy-Side Adopters and Matched Control Firms

No.	Adopters	Matched Firms
1	ADVANCED MICRO DEVICES	NATIONAL SEMICONDUCTOR CORP
2	ALCOA INC	CORUS GROUP
3	ALLTEL CORP	VODAFONE GROUP
4	APPLIED MATERIALS INC	DOVER CORP
5	AUTODESK INC	SYNOPSYS INC
6	BAKER-HUGHES INC	BLACK & DECKER CORP
7	BELL CANADA	ROYAL KPN NV
8	BOEING CO	HONDA MOTOR LTD
9	BRISTOL MYERS SQUIBB	ROCHE HOLDINGS LTD
10	CANADIAN NATIONAL RAILWAY CO	NORFOLK SOUTHERN RAILWAY VA
11	CATERPILLAR INC	SANYO ELECTRIC CO LTD
12	CHEVRONTEXACO CORP	USX CORP
13	CISCO SYSTEMS INC	SUN MICROSYSTEMS INC
14	CITIGROUP INC	GENERAL ELECTRIC CAPITAL SVC
15	COMPAQ COMPUTER CORP	NEC CORP
16	COMTECH TELECOMMUN	BLONDER TONGUE LABS INC
17	CREDIT SUISSE FIRST BOS USA	BEAR STEARNS COMPANIES INC
18	CYPRESS SEMICONDUCTOR CORP	LINEAR TECHNOLOGY CORP
19	DIAGEO PLC	COCA-COLA CO
20	DU PONT	DOW CHEMICAL
21	DYNEGY INC	SHELL OIL CO
22	EARTHGRAINS CO	COORS (ADOLPH)
23	EASTMAN CHEMICAL CO	ROHM & HAAS CO
24	EDWARDS J D & CO	SYBASE INC
25	FEDERAL EXPRESS CORP	DELTA AIR LINES INC
26	FORD MOTOR CO	TOYOTA MOTOR CORP
27	FRESH DEL MONTE PRODUCE INC	CHIQUITA BRANDS INTL
28	FULLER (H. B.) CO	CYTEC INDUSTRIES INC
29	GENERAL ELECTRIC CO	SIEMENS A G
30	GENERAL MILLS INC	KELLOGG CO
31	GENERAL MOTORS CORP	DAIMLERCHRYSLER AG
32	HARLEY-DAVIDSON INC	BORG WARNER INC
33	HD VEST INC	FRIEDMN BILLINGS RMSY
34	HEWLETT-PACKARD CO	TOSHIBA CORP
35	HORMEL FOODS CORP	INTERSTATE BAKERIES CP
36	INVESTMENT TECHNOLOGY GP INC	NATIONAL DISC BROKERS INC
37	LANDS END INC	SYSTEMAX INC
38	LEXMARK INTL INC	MAXTOR CORP
39	LILLY (ELI) & CO	SCHERING-PLOUGH
40	MERCK & CO	JOHNSON & JOHNSON
41	MORGAN STANLEY	MERRILL LYNCH & CO
42	MOTOROLA INC	ERICSSON
43	NOVELL INC	INTERGRAPH CORP
44	OFFICE DEPOT INC	STAPLES INC

Table 3: B2B Buy-Side Adopters and Matched Control Firms

No.	Adopters	Matched Firms
45	PACIFIC GAS & ELECTRIC CO	AQUILA INC
46	PEOPLESOFT INC	ELECTRONIC ARTS INC
47	PEROT SYSTEMS CORP	DST SYSTEMS INC
48	PITNEY BOWES INC	SKF AB
49	PRICE (T. ROWE) GROUP	UNITED ASSET MGMT CORP
50	RAYTHEON CO	EASTMAN KODAK CO
51	SEAGATE TECHNOLOGY	EMC CORP/MA
52	SHAW INDUSTRIES INC	MOHAWK INDUSTRIES INC
53	SONOCO PRODUCTS CO	SEALED AIR CORP
54	SPX CORP	AVX CORP
55	ST PAUL COS	CHUBB CORP
56	TEXAS INSTRUMENTS INC	SOLECTRON CORP
57	UNILEVER	NESTLE S A
58	UNITED TECHNOLOGIES CORP	LOCKHEED MARTIN CORP
59	WELLPOINT HLTH NETWRK	HEALTH NET INC
60	WELLS FARGO & CO	WACHOVIA CORP
61	WORLDCOM INC	BCE INC
62	XEROX CORP	CANON INC

Notes: Matched firms are selected based on net sales and SIC code in the year of adoption. First, we try to identify firms with net sales within 30% of each adopter's net sales in the same 4-digit SIC code. If no firms are found then we proceed to find firms within the same 3-digit SIC code and finally firms within the same 2-digit SIC code. If multiple firms are identified as a potential match, then the firm with the smallest absolute difference in net sales is selected.

Atkinson et al. (2001, page 543) describe asset turnover as a measure of productivity – the ability to generate sales with a given level of investment, and profit margin as a measure of efficiency – the ability to control costs at a given level of sales activity. Adoption of B2B buy-side is expected to decrease purchasing and administrative costs. Therefore, we expect that adopters improve profit margin. By making the purchasing process more efficient, a given level of investment should support a higher level of sales. It this conjecture is true then we may find an increase in asset turnover ratio. This leads to our second and third hypotheses:

H2: The pre- to post-adoption profit margin changes of adopters significantly exceed those of matched firms.

H3: The pre- to post-adoption asset turnover ratio changes of adopters significantly exceed those of matched firms.

Finding significant improvement in profit margin alone is insufficient evidence to conclude that the improvement is attributable to B2B buy-side adoption. For example, improvement in profit margin due to higher net sales, as the result of lower returns, or to lower bad debt provisions is not consistent with the benefits of B2B buy-side adoption. Because evaluation of actual performance using a longer window is subject to the possibility that other factors produce observed results, identifying specific financial measures in which the expected benefits should occur is a means of providing additional assurance that the results are consistent. Therefore, we test whether adopters achieve greater improvement in operating income before depreciation (OIBD).[6] Subsequently we examine relative changes in CGS and SG&A.

$$\text{DIF}\Delta\text{OIBD} = \Delta\text{OIBD}_i - \Delta\text{OIBD}_j \quad (4)$$
$$\text{DIF}\Delta\text{CGS} = \Delta\text{CGS}_i - \Delta\text{CGS}_j \quad (5)$$
$$\text{DIF}\Delta\text{SG\&A} = \Delta\text{SG\&A}_i - \Delta\text{SG\&A}_j \quad (6)$$

in which

ΔOIBD is post-adoption minus pre-adoption operating income before depreciation,

ΔCGS is post-adoption minus pre-adoption cost of goods sold,

ΔSG&A is post-adoption SG&A expense minus pre-adoption SG&A expense. SG&A expense is calculated as net sales minus operating income minus cost of goods sold.[7]

Higher profit margins from lower purchasing and administrative costs should be reflected in a higher proportion of operating income before depreciation to net sales. This leads to our fourth hypothesis.

H4: The pre- to post-adoption changes in proportion of operating income to sales of adopters exceed those of matched firms.

If adoption of B2B buy-side reduces purchasing costs and administrative expenses, then we expect to see lower SG&A expense.[8] Therefore, from this we derive our fifth hypothesis.

H5: The pre- to post-adoption changes in proportion of SG&A expense to sales for adopters are significantly more negative than those for matched firms.

If some B2B buy-side purchases represent items belonging to manufacturing overhead, adoption of B2B could result in lower CGS as well as lower SG&A. If so, we expect CGS as a proportion of sales to decline after B2B adoption. This leads to our sixth hypothesis.

H6: The pre- to post-adoption changes in proportion of cost of goods sold to sales for adopters are significantly more negative than those for matched firms.

B2B buy-side adoption may benefit smaller firms to a greater extent than larger firms. The financial gains from B2B buy-side adoption are likely to derive primarily from improved market transparency and secondarily from reduced transactions costs and improved internal process transparency. The aggregate benefits captured by smaller adopters should exceed those of larger adopters because the potential to improve market transparency is greater for smaller firms. Large firms can exploit scale economy advantages to reduce transaction costs and can wield the promise of volume purchasing to elicit competitive pricing from vendors. Thus, we anticipate that the relative profit gains of smaller adopters will exceed those of larger adopters. We partition the sample firms into two groups by size (net sales). Those with net sales above (below) the median net sales are classified as larger (smaller) firms. This leads to our seventh hypothesis.

H7: The relative pre- to post-adoption profit gains of smaller B2B adopters will exceed those of larger adopters.

We define the B2B buy-side pre-adoption period as the adoption year and the two preceding years, and the post-adoption period as the year following adoption. We use one-year post-adoption period for two reasons. First, B2B buy-side for operating inputs is relatively simple to implement and to use. Because the system can be typically implemented in only 3 to 6 months, we expect the benefits of this system to materialize quickly but they would disappear relatively quickly because it is easy to mimic. Indeed our robustness test (unreported) show that adopters benefits are significant in the first two years after adoption but disappeared afterward. Second, using a longer observation period may allow other subsequent events to confound the validity of the analysis.

MAIN RESULTS ON FIRM PERFORMANCE

Data reported in Table 4 indicate that B2B buy-side adopters represent many industries, but that industrial machinery and computer equipment is the most prevalent industry with 12.9 % of the total observations (Table 3 Panel A). Table 4, Panel B, indicates that more adoptions occurred in 1998 and 1999 than in 1997 or 2000; however, our sample includes only partial-year data for 2000. In Panel A, Table 5, are descriptive statistics for the three-year, pre-adoption period (t-2 to t0) for adopters and matched firms, and in Panel B are statistics for the adoption year (t0) only.

Statistics in Table 5 show that distributions of financial attributes are positively skewed; therefore, both means and medians are displayed. In Panel A, profitability and efficiency measures in the pre-adoption period including ROA, profit margin, and asset turnover do not significantly differ between adopters and matched firms.[9] Our proxies for leverage (Debt to Asset ratio) and fixed costs (Depreciation/CGS) do not significantly differ between the samples.

Although a size criterion is used in the matching process, as shown in Panel B, adopters are larger than matched firms. Mean (median) total assets of adopters is $53,818 million ($9,016 million) and for matched firms mean (median) total assets is $34,826 million ($5,796 million). The mean (median) paired difference in total assets is $18,986 million ($989 million) and is significant at $p = 0.062$ ($p = 0.009$). Mean (median) net sales of adopters is $19,782 million ($8,533 million) and for matched firms mean (median) net sales is $17,596 million ($7,815 million).[10] The mean (median) paired difference in net sales is $2,187 million ($12 million) and is significant (insignificant) at p = 0.068 (p = 0.270). However, there is no statistically significant difference between the samples in the size of inventory.

H1 through H3, respectively, express our expectations regarding differences between adopters and matched firms in pre- to post-adoption changes for ROA, profit margin and asset turnover. Table 6, Panel A, indicates the mean ROA of adopters insignificantly increases from 6.83 % in the pre-adoption period to 6.90 % in the post-adoption period (p = 0.92). The median ROA (Panel B) decreases from 5.61 % to 5.39 %, which is statistically insignificant (p = 0.95).

Table 4: Descriptive Statistics of B2B Buy-Side Adopters and Matched Firms

Panel A: Distribution of 2-digit industry classification

SIC Code	Industry Description	No. of firms	Percent
01	Agriculture Production - Crops	1	1.6
13	Oil and Gas Extraction	2	3.2
20	Food and Kindred Products	5	8.1
22	Textile Mill Products	1	1.6
26	Paper and Allied Products	1	1.6
28	Chemical and Allied Products	6	9.7
29	Petroleum Refining and Related Industries	1	1.6
33	Primary Metal Industries	1	1.6
35	Industrial Machinery & Computer Equipment	8	12.9
36	Electronic and Other Electrical Equipment	6	9.7
37	Transportation Equipment	5	8.1
38	Measurement Instrument and Photographic Goods	1	1.6
40	Railroad Transportation	1	1.6
42	Motor Freight Transportation and Warehouse	1	1.6
45	Transportation by Air	1	1.6
48	Communications	3	4.8
49	Electric, Gas, and Sanitary Services	1	1.6
59	Miscellaneous Retail	2	3.2
60	Depository Institution	1	1.6
61	Nondepository Credit Institution	1	1.6
62	Security and Commodity Brokers	5	8.1
63	Insurance Carriers	2	3.2
73	Business Services	5	8.1
99	Nonclassifiable Establishment	1	1.6
	Total	62	100.0

Panel B: Distribution of B2B Buy-side sample firms by years

Adoption Year	No. of firms	Percent
1997	4	6.5
1998	22	35.5
1999	22	35.5
To June 2000	14	14.5
Total	62	100.0

The mean ROA for matched firms decreases significantly from 6.48 % in the pre-adoption period to 3.61 % in the post-adoption period (p = 0.01). The decrease in median ROA for matched firms is similar in magnitude and significance to the decrease in mean ROA. Consistent with H1, the between-sample mean (median) paired difference in ROA change is 2.94 % (0.63 %). A one-tailed t-test (Wilcoxon sign-rank test) is significant at p = 0.01 (p = 0.03).

Table 5: Financial Attributes of Adopters and Matched Firms

Panel A: Financial attributes; (t-2,t-1, and t0)										
		B2B adopters		Matched firms		Paired differences				
Firm attribute[a]		Mean	Median	Mean	Median	Mean	Median	S. Dev	p-value Mean[b]	p-value Median[c]
ROA (%)		6.83	5.61	6.48	5.56	0.35	0.12	7.88	0.7259	0.8598
Profit Margin (%)		6.54	5.54	6.68	5.63	-0.14	-0.06	8.33	0.8925	0.5532
Asset Turnover		1.16	1.02	1.12	1.03	0.04	-0.08	0.77	0.7100	0.2918
Debt to Asset Ratio		0.61	0.62	0.60	0.60	0.02	0.01	0.19	0.5014	0.4844
Fixed Cost Ratio		0.12	0.07	0.10	0.08	0.02	0.00	0.10	0.1129	0.6989
Panel B: Financial attributes (at t0)										
		B2B adopters		Matched firms		Paired differences				
Firm attribute[a]		Mean	Median	Mean	Median	Mean	Median	S. Dev	p-value Mean[b]	p-value Median[c]
Inventory ($MM)		6,707	439	4,153	451	2,664	-7	16,912	0.2234	0.7802
Total Assets ($MM)		53,813	9,016	34,826	5,796	18,986	989	78,629	**0.0620**	**0.0093**
Net Sales ($MM)		19,782	8,533	17,596	7,815	2,187	12	9,256	**0.0677**	0.2699

Notes:
[a] ROA = income before extraordinary and special items / average total assets. Profit margin = income before extraordinary and special items / sales. Asset turnover = sales / average total assets. Debt to asset ratio = total liabilities / total assets. Fixed cost ratio = depreciation / cost of goods sold.
[b] p-values are the significance levels from two-tailed t-tests.
[c] p-values are the significance levels from two-tailed Wilcoxon signed rank tests.

Mean (median) profit margin of adopters increased from the pre-adoption level of 6.54 % (5.54 %) to 7.52 % (6.53 %) post adoption. The mean (median) change is insignificant at p = 0.27 (p = 0.22). The mean (median) profit margin of matched firms decreased from 6.68 % (5.63 %) pre-adoption to 4.98 % (4.60 %) post adoption. The one-tailed t-test (Wilcoxon test) of change in mean (median) is insignificant; p = 0.16 (p = 0.23). It is interesting to note that the profit margin changes for adopters and matched firms move in opposite directions. The between-sample change in mean (median) profit margin is 2.68 (0.51) and is significant at p = 0.01 (p = 0.06). We interpret this evidence as support for H2.

Asset turnover decreases for both adopters and matched firms from pre-adoption to post-adoption. The decrease in mean (median) asset turnover of 0.09 (0.05) for adopters is significant at p < 0.01 (p< 0.01) and the mean (median) decrease of 0.09 (0.29) for matched firms is significant at p = 0.02 (p < 0.01). A one-tailed mean (median) test of between-sample differences in asset turnover is statistically insignificant; p = 0.47 (p = 0.34). These results are contrary to our expectation expressed in H3; the ROA benefit of B2B adoption appears to derive solely from improved profit margin.

Table 6: Test of Changes in ROA, Profit Margin, and Asset Turnover

Panel A: Mean analysis					
	B2B Adopter	Matched Firms	Paired Difference		
Variables[(a)]	Mean	Mean	Mean	Std Dev	t-test[(b)]
ROA (%)					
Pre-adoption (t-2, t-1 and t0)	6.83	6.48	0.35	7.88	0.7259
Post-adoption (t1)	6.90	3.61	3.29	10.85	**0.0200**
Change	0.07	-2.87	2.94	9.11	**0.0068**
p-value, intra-sample change[(b)]	0.9187	**0.0102**			
Profit Margin (%)					
Pre-adoption (t-2, t-1 and t0)	6.54	6.68	-0.14	8.33	0.8925
Post-adoption (t1)	7.52	4.98	2.54	11.75	**0.0945**
Change	0.98	-1.70	2.68	9.34	**0.0138**
p-value, intra-sample change[(b)]	0.2719	0.1629			
Asset Turnover					
Pre-adoption (t-2, t-1 and t0)	1.16	1.12	0.04	0.77	0.7102
Post-adoption (t1)	1.08	1.04	0.04	0.72	0.6675
Change	-0.09	-0.09	0.00	0.34	0.4743
p-value, intra-sample change[(b)]	**0.0018**	**0.0192**			
Panel B: Median analysis					
	B2B Adopter	Matched Firms	Paired Difference		
Variables[(a)]	Median	Median	Median	Std Dev	median test[(c)]
ROA (%)					
Pre-adoption (t-2, t-1 and t0)	5.61	5.56	0.12	7.88	0.8598
Post-adoption (t1)	5.39	3.54	1.63	10.85	**0.0057**
Change	0.13	-0.63	0.63	9.11	**0.0306**
p-value, intra-sample change[(c)]	0.9475	**0.0212**			
Profit Margin (%)					
Pre-adoption (t-2, t-1 and t0)	5.54	5.63	-0.06	8.33	0.5532
Post-adoption (t1)	6.53	4.60	2.75	11.75	**0.0452**
Change	0.47	-0.12	0.51	9.34	**0.0624**
p-value, intra-sample change[(c)]	0.2160	0.2322			
Asset Turnover					
Pre-adoption (t-2, t-1 and t0)	1.02	1.03	-0.08	0.77	0.2918
Post-adoption (t1)	0.94	0.94	-0.02	0.72	0.8980
Change	-0.05	0.29	0.00	0.34	0.3426
p-value, intra-sample change[(c)]	**<0.0001**	**0.0013**			

Notes:

[(a)] ROA = income before extraordinary and special items/average total assets. Profit margin = income before extraordinary items/sales. Asset turnover = sales/average total assets. Pre-adoption ROA = (ROA_{t-2} + ROA_{t-1} + ROA_{t0})/3. Pre-adoption Profit Margin = (Profit $Margin_{t-2}$ + Profit $Margin_{t-1}$ + Profit $Margin_{t0}$)/3. Pre-adoption Asset Turnover = (Asset $Turnover_{t-2}$ + Asset $Turnover_{t-1}$ + Asset $Turnover_{t0}$)/3.

[(b)] For intra-sample tests, p-values are from two-tailed t tests. For paired differences of pre-adoption and post-adoption tests, p-values are also from two-tailed t-tests. P-values for tests of paired differences of change in ROA, profit margin, and asset turnover are from one-tailed t-tests.

[(c)] For intra-sample tests and paired differences of pre-adoption and post-adoption tests, p-values are from two-tailed signed rank tests. P-values for tests of paired differences of change in ROA, profit margin and asset turnover are from one-tailed signed rank tests.

We conduct a test to assess effects of relative changes in profit margin and asset turnover on relative change in ROA. In this test we examine the ROA effect of relative changes in profit margins by holding the asset turnover at the adopter's pre-adoption level. A like analysis was conducted on asset turnover. Results suggest profit margin dominates asset turnover in explaining the change in relative ROA.[11]

H4 expresses our expectations regarding differences between adopters and matched firms in pre- to post-adoption changes in operating income scaled by sales. H5 and H6 express our expectations regarding differences between adopters and matched firms in pre- to post-adoption changes in SG&A and CGS. To test H5 and H6 requires that we disaggregate operating expenses into two ratios: SG&A expenses scaled by sales, and CGS scaled by sales. Table 7, Panel A, shows that the mean proportion of operating income before depreciation to sales insignificantly increased for adopters (p = 0.58) but significantly decreased for matched firms (p = 0.05). The paired difference in mean change of the proportion in operating income to net sales is 1.73 % and is significant at p = 0.02. Median values show similar changes. The mean 1.73 % improvement in operating income before depreciation to sales is within the 1 % to 6 % projection of Boston Consulting Group (Brewton & Kingseed, 2001). We interpret these results as supporting H4.

The primary, expected benefit of B2B buy-side adoption is lower administrative expenses. The mean SG&A expense expressed as a percentage of sales declines from 18.04 to 17.67 and is statistically insignificant; p = 0.34. The median SG&A expense expressed as a percentage of sales increases from 16.97 to 17.17 and is also statistically insignificant; p = 0.88. The mean SG&A expense as a percentage of sales increases insignificantly for matched firms; p = 0.22. The median SG&A expense as a percentage of sales decreases insignificantly for matched firms; p = 0.94. The mean (median) between-sample difference in change of the proportion of SG&A expense to sales is –0.91 (-0.00) and is significant at p = 0.05 (p = 0.30). We interpret these results as providing modest support for H5.

To provide an economic interpretation of the change in SG&A expense, we observe from Table 7 that mean pre-adoption SG&A for adopters is 18.04 % of sales, and the mean, relative, pre-to-post SG&A cost savings of adopters is 0.91 % of sales. Multiplying 0.91% by mean pre-adoption sales of adopters ($18,384 million from Table 5) yields a mean SG&A cost savings of $167 million.

A secondary, expected benefit of B2B buy-side adoption is lower CGS. Table 7 shows the mean (median) CGS expressed as a percentage of sales changed from 61.06 (64.35) to 61.05 (65.87) for adopters which is insignificant; p = 0.99 (p = 0.39). For matched firms, the mean (median) measure changed from 62.14 (65.68) to 62.96 (66.88) which is insignificant; p = 0.19 (p = 0.26). The mean (median) paired difference in change of the proportion of cost of goods sold to sales is –0.82 (-0.66) and is marginally significant at p = 0.12 (p = 0.11). We interpret these data as providing limited support for H6.

Table 7: Test of Changes in Operating Income before Depreciation, SG&A, and CGS					
Panel A: Mean analysis					
	B2B Adopter	Matched Firms	Paired Difference		
Variables[a]	Mean	Mean	Mean	Std Dev	t-test[b]
Operating Income Before Dep. (OIBD)					
Pre-adoption (t-2, t-1 and t0)	20.90	18.81	2.09	10.05	0.1156
Post-adoption (t1)	21.27	17.45	3.82	11.36	**0.0124**
Change	0.37	-1.36	1.73	6.02	**0.0156**
p-value, intra-sample change[b]	0.5842	**0.0540**			
SG&A					
Pre-adoption (t-2, t-1 and t0)	18.04	19.05	-1.01	13.44	0.5652
Post-adoption (t1)	17.67	19.59	-1.92	13.20	0.2692
Change	-0.36	0.54	-0.91	4.18	**0.0507**
p-value, intra-sample change[b]	0.3446	0.2172			
CGS					
Pre-adoption (t-2, t-1 and t0)	61.06	62.14	-1.08	16.71	0.6221
Post-adoption (t1)	61.05	62.96	-1.90	17.96	0.4194
Change	-0.01	0.81	-0.82	5.40	0.1232
p-value, intra-sample change[b]	0.9880	0.1910			
Panel B: Median analysis					
	B2B Adopter	Matched Firms	Paired Difference		
Variables[a]	Median	Median	Median	Std Dev	median test(c)
Operating Income Before Dep. (OIBD)					
Pre-adoption (t-2, t-1 and t0)	17.10	14.98	1.70	10.05	**0.0853**
Post-adoption (t1)	17.09	13.44	3.50	11.36	**0.0031**
Change	0.36	-0.04	1.12	6.02	**0.0154**
p-value, intra-sample change[c]	0.1889	0.2708			
SG&A					
Pre-adoption (t-2, t-1 and t0)	16.97	18.45	0.00	13.44	0.6405
Post-adoption (t1)	17.17	16.40	0.00	13.20	0.2578
Change	0.00	0.00	0.00	4.18	0.3009
p-value, intra-sample change[c]	0.8817	0.9425			
CGS					
Pre-adoption (t-2, t-1 and t0)	64.35	65.68	-1.21	16.71	0.4780
Post-adoption (t1)	65.87	66.88	-3.42	17.96	0.3123
Change	-0.73	0.19	-0.66	5.40	0.1137
p-value, intra-sample change[c]	0.3941	0.2643			

Notes:

[a] OIBD = (sales – cost of goods sold – selling, general and administrative expenses) / sales. Relative to income before extraordinary and special items, this measure excludes depreciation, interest (income) expense, minority interest, and income taxes. SG&A = selling, general and administrative expenses / sales. CGS = cost of goods sold / sales. Pre-adoption OIBD = $(OIBD_{t-2} + OIBD_{t-1} + OIBD_{t0})/3$. Pre-adoption SG&A = $(SG\&A_{t-2} + SG\&A_{t-1} + SG\&A_{t0})/3$. Pre-adoption CGS = $(CGS_{t-2} + CGS_{t-1} + CGS_{t0})/3$.

[b] For intra-sample tests, paired differences of pre-adoption and post-adoption tests, p-values are from two-tailed t tests. P-values for tests of paired differences of changes in Operating income before depreciation, SG&A, and CGS are from one-tailed t-tests.

[c] For intra-sample tests, paired differences of pre-adoption and post-adoption tests, p-values are from two-tailed signed rank tests. P-values for tests of paired differences of changes in Operating income before depreciation, SG&A, and CGS are from one-tailed signed rank tests.

From the pre- to post-adoption period, B2B firms, relative to matched firms, reduced mean SG&A approximately 5 % (0.91 ÷ 18.04) while adopters' mean CGS decreased relative to matched firms by 1% (0.82 ÷ 61.06). These findings are consistent with the primary benefit of B2B buy-side adoption being reduced SG&A expense. Differences in median statistics are less supportive of this expectation and suggest the improvement in SG&A and CGS may vary substantially across adopters.

LARGE FIRMS VERSUS SMALL FIRMS

We state in H7 that we expect a greater profit improvement effect for small adopters than for large adopters. To test H7 we partition the sample based on sales magnitude in the pre-adoption period. Firms with sales above (below) the median are classified as large (small) firms. In Table 8 we report data for the small (top panel) and large (bottom panel) subsamples similar to those data provided in Table 7 for the original sample. All variables are scaled by sales.

Table 8 data suggest smaller adopters drive the overall improvement in profit margin of adopters. Although pre- to post-adoption pair-wise change in operating income for small adopters is 3.16 % and is significant ($p < 0.01$), the pair-wise increase of 0.25 % for large adopters is insignificant ($p = 0.42$).

It appears that large firms, sans B2B technology, more easily obtain market transparency and competitive pricing. Because large firms represent a substantial revenue and profit opportunity for vendors, vendors are more likely to seek out and to spend marketing budgets to gain the attention of such customers. Furthermore, because vendors are aware that large customers attract similar attention from competitors, vendors are more likely to offer competitive bids to capture the business.

Alternatively, the revenue and profit opportunities offered by smaller customers do not attract the same quantity of competition, nor result in prices as competitive as those obtained by larger firms. The cost of a competitive marketing effort to attract business of smaller firms is more difficult to justify for vendors. With the implementation of B2B, large customers can only marginally enhance the competition among their vendors, because even before implementing B2B, significant competition existed among vendors. However, smaller B2B adopters can potentially improve the competition in their procurement markets dramatically because the costs vendors incur to enter into the competition are minimal relative to conventional marketing efforts. Hence, smaller B2B adopters enjoy substantially more incremental improvement in market transparency relative to large B2B adopters.

Table 8 also suggests that the relative improvement in profit margin of small adopters derives largely from relative improvement in SG&A. Small adopters reduced SG&A, relative to matched firms, by 2.04% which is significant at $p = 0.02$. In contrast large adopters' SG&A, relative to matched firms, insignificantly increased from pre-to post-adoption. Also noteworthy in Table 8 are the marginally significant results indicating large adopters' SG&A is lower than matched firms in both the pre-adoption ($p = 0.09$) and post-adoption ($p = 0.11$) periods. Conversely, even though small adopters enjoy a significant pre- to post-adoption reduction in SG&A, relative to matched firms, there is no significant difference in post-adoption SG&A levels between small adopters and matched firms.

Table 8: Differences in OIBD, SG&A, and CGS between Small and Large Firms					
Panel A: Small firms (N=31)[a]					
	Adopter	Matched	Paired Differences		
Variables[b]	Mean	Mean	Mean	Std. Dev.	t-test[c]
Operating Income Before Depr. (OIBD)					
Pre-adoption	19.44	18.42	1.02	10.94	0.6126
Post-Adoption	20.47	16.29	4.18	12.81	0.0604
Change	1.03	(2.13)	3.16	10.60	**0.0021**
p-value, intra-sample change[c]	0.1864	**0.0316**			
SG&A					
Pre-adoption	22.38	19.98	2.40	12.15	0.2890
Post-Adoption	21.55	21.20	0.35	12.07	0.8743
Change	(0.82)	1.22	(2.04)	4.97	**0.0161**
p-value, intra-sample change[c]	0.2381	0.1143			
CGS					
Pre-adoption	58.18	61.60	(3.42)	14.59	0.2096
Post-Adoption	57.97	62.51	(4.54)	14.91	0.1064
Change	(0.21)	0.91	(1.12)	5.08	0.1222
p-value, intra-sample change[c]	0.7417	0.2585			
Panel B: Large firms (N=31)[a]					
	Adopter	Matched	Paired Differences		
Variables[b]	Mean	Mean	Mean	Std. Dev.	t-test[c]
Operating Income Before Depr. (OIBD)					
Pre-adoption	22.41	19.21	3.19	9.10	0.0691
Post-Adoption	22.10	18.66	3.44	12.07	0.1358
Change	(0.31)	(0.55)	0.25	6.19	0.4157
p-value, intra-sample change[c]	0.5088	0.6075			
SG&A					
Pre-adoption	13.54	18.08	(4.54)	13.99	0.0918
Post-Adoption	13.66	17.92	(4.27)	14.11	0.1147
Change	0.11	(0.16)	0.27	2.78	0.3013
p-value, intra-sample change[c]	0.9937	0.6910			
CGS					
Pre-adoption	64.05	62.70	1.34	18.59	0.7002
Post-Adoption	64.24	63.42	0.82	0.21	0.8306
Change	0.19	0.71	(0.52)	5.72	0.3146
p-value, intra-sample change[c]	0.8845	0.5599			

Notes:

[a] Firms are partitioned by net sales. 31 firms with net sales below the median are classified as small firms and the other 31 firms are large.

[b] OIBD = (sales – cost of goods sold – selling, general and administrative expenses) / sales. Relative to income before extraordinary and special items, this measure excludes depreciation, interest (income) expense, minority interest, and income taxes. SG&A = selling, general and administrative expenses / sales. CGS = cost of goods sold / sales. Pre-adoption OIBD = ($OIBD_{t-2}$ + $OIBD_{t-1}$ + $OIBD_{t0}$)/3. Pre-adoption SG&A = ($SG\&A_{t-2}$ + $SG\&A_{t-1}$ + $SG\&A_{t0}$)/3. Pre-adoption CGS = (CGS_{t-2} + CGS_{t-1} + CGS_{t0})/3.

[c] For intra-sample tests, paired differences of pre-adoption and post-adoption tests, p-values are from two-tailed t tests. P-values for tests of paired differences of changes in Operating income before depreciation, SG&A, and CGS are from one-tailed t-tests.

Some reduction in CGS is observed for smaller adopters. However, the reduction of 1.12 %, relative to matched firms, is only marginally significant; p = 0.12. The relative improvement of 0.52 % for large adopters is insignificant; p = 0.31. To summarize our assessment of Table 8 data, we conclude H4 through H6 are more strongly supported for small adopters than for large adopters. Thus, we find substantial support for H7.

To further explore the influences of firm size and B2B adoption on the changes in CGS and SG&A, we estimate full and reduced versions of the following model:

$$DIF\Delta PM = \alpha + \beta 1(SIZEDUM) + \beta 2(DIF\Delta SG\&A) + \beta 3(DIF\Delta CGS) + \beta 4(SIZEDUM \times DIF\Delta SG\&A) + \beta 5(SIZEDUM \times DIF\Delta CGS) + \varepsilon \quad (7)$$

in which,

DIFΔPM is the adopter's pre- to post-adoption change in profit margin less the like change for the adopter's matched firm,

SIZEDUM is a dummy variable assigned the value of 1 for small adopters (those 31 firms with net sales below the median value for adopters) and 0 otherwise,

DIFΔSG&A is the adopter's pre- to post-adoption change in sales-scaled SG&A less the like change for the adopter's matched firm, and

DIFΔCGS is the adopter's pre- to post-adoption change in sales-scaled CGS less the like change for the adopter's matched firm.

Results of estimating equation 7 appear in Table 9. Model 1 results support our interpretation of Table 8 results: smaller adopters achieve greater relative improvement in profit margin than larger adopters. Model 2 results suggest that the relative improvement in profit margin derives from relative reductions in both CGS and SG&A. Finally, model 3 results suggest that both large and small adopters derive relative improvement in profit margin from reductions in relative CGS; however, smaller adopters derive significantly more relative improvement in profit margin from relative reductions in SG&A than larger adopters. We conclude these results provide further support for H4 through H7.

Table 9: Regression of Paired Difference Change in PM on Paired Difference Changes in SG&A, CGS, and Size Dummy Variable

$$DIFF\Delta PM = a + b1(SIZEDUM) + b2(DIF\Delta SG\&A) + b3(DIF\Delta CGS) + b4(SIZEDUM*DIF\Delta SG\&A) + b5(SIZEDUM*DIF\Delta CGS) + e$$

		Model 1		Model 2		Model 3	
Variables[a]	Expected Sign	Parameter Estimates	p-value	Parameter Estimates	p-value	Parameter Estimates	p-value
Intercept	+	0.16	0.8919	-0.04	0.9625	-0.23	0.8014
SIZEDUM (1 = small firms)	-	4.88	**0.0031**	2.79	**0.0386**	2.03	0.1302
DIFΔSG&A	-			-1.02	**<0.0001**	-0.25	0.1383
DIFΔCGS	-			-0.81	**<0.0001**	-0.67	**0.0001**
SIZEDUM * DIFΔSG&A	-					-1.12	**0.0042**
SIZEDUM * DIFΔCGS	-					-0.39	0.1097

Notes:

(a) The 62 sample firms are partitioned by size (net sales). 31 firms with net sales below the median are classified as small firms, SIZEDUM = 1, and the other 31 firms are classified as large firms, SIZEDUM = 0. $DIF\Delta PM = \Delta PM_i - \Delta PM_j$, $DIF\Delta SG\&A = \Delta SG\&A_i - \Delta SG\&A_j$, $DIF\Delta CGS = \Delta CGS_i - \Delta CGS_j$. Where subcripts 'i' and 'j' represent adopter and matched firm (See Equations 2, 5, and 6).

RESULTS OF SUPPLEMENTARY TESTS

As a robustness check, we evaluate whether differences between adopters and matched firms in profit margin changes are driven by differences in pre- to post-adoption changes in net sales. In untabulated results we calculate the pre-to post-adoption change in sales for adopters and matched firms. The sales changes for the two samples do not significantly differ based on either a t-test or Wilcoxon test.

Finally, we explore the possibility that even though differences between adopters and matched firms in pre- to post-adoption changes in net sales are statistically insignificant, such differences help explain differences in pre-to post-adoption changes in ROA, profit margin, SG&A and CGS. We estimate the following models:

$$DIF\Delta ROA = \alpha + \beta_1 DIF\Delta SALES + \beta 2PREROADIF + \beta_3 DIFDEPR + \beta_4 DIFDEBT + \varepsilon \quad (8)$$

$$DIF\Delta PM = \alpha + \beta_1 DIF\Delta SALES + \beta_2 PREPMDIF + \beta_3 DIFDEPR + \beta_4 DIFDEBT + \varepsilon \quad (9)$$

$$DIF\Delta SG\&A = \alpha + \beta_1 DIF\Delta SALES + \beta_2 PRESG\&ADIF + \beta_3 DIFDEPR + \beta_4 DIFDEBT + \varepsilon \quad (10)$$

$$DIF\Delta CGS = \alpha + \beta_1 DIF\Delta SALES + \beta_2 PRECGSDIF + \beta_3 DIFDEPR + \beta_4 DIFDEBT + \varepsilon \quad (11)$$

in which,

DIFΔROA is the adopter's pre- to post-adoption change in ROA less its matched firm's pre- to post-adoption ROA change,

DIFΔPM is the adopter's pre- to post-adoption change in profit margin less its matched firm's pre- to post-adoption profit margin change,

DIFΔSG&A is the adopter's pre- to post-adoption change in SG&A less its matched firm's pre- to post-adoption SG&A change,

DIFΔCGS is the adopter's pre- to post-adoption change in CGS less its matched firm's pre- to post-adoption CGS change,

DIFΔSALES is the adopter's pre- to post-adoption percentage change in net sales less its matched firm's pre- to post-adoption percentage change in net sales,

PREROADIF is the pre-adoption ROA of the adopter less the pre-adoption ROA of its matched firm,

PREPMDIF is the pre-adoption profit margin of the adopter less the pre-adoption profit margin of its matched firm,

PRESG&ADIF is the pre-adoption SG&A of the adopter less the pre-adoption SG&A of its matched firm

PRECGSDIF is the pre-adoption CGS of the adopter less the pre-adoption CGS of its matched firm, DIFDEPR is the adopter's t_0 ratio of depreciation to CGS less its matched firms' t_0 ratio of depreciation to CGS,

DIFDEBT is the adopter's t_0 ratio of total liabilities to total assets less its matched firm's t_0 ratio of total liabilities to total assets.

All equations are structurally similar as each includes controls for the pre-adoption level of the profit or expense metric that comprises the dependent variable as well as controls for leverage and fixed costs.

Table 10: Regression of Paired Differences in Changes In Performance Measures

Panel A: DIFΔROA = a + b1(DIFΔSALES) + b2(PREROADIF) + b3(DIFDEPR) + b4(DIFDEBT) + e					
n=62	Expected Sign	Model 1	P-value	Model 2	P-value
Intercept	+	**3.0483**	**0.0111**	**2.3014**	**0.0546**
DIFΔSALES	+	-0.0041	0.8073	-0.0029	0.8597
PREROADIF	+	0.2213	0.1398	-0.1176	0.5031
DIFDEPR	?			**0.2292**	**0.0418**
DIFDEBT	?			0.0558	0.4066
Panel B: DIFΔPM = a + b1(DIFΔSALES) + b2(PREPMDIF) + b3(DIFDEPR) + b4(DIFDEBT) + e					
n=62	Expected Sign	Model 1	P-value	Model 2	P-value
Intercept	+	**2.6659**	**0.0307**	**1.8222**	0.1256
DIFΔSALES	+	-0.0009	0.9616	0.0029	0.8648
PREPMDIF	+	-0.1342	0.3738	-0.0657	0.6714
DIFDEPR	?			**0.3149**	**0.0056**
DIFDEBT	?			0.0481	0.4305
Panel C: DIFΔSG&A = a + b1(DIFΔSALES) + b2(PRESG&ADIF) + b3(DIFDEPR) + b4(DIFDEBT) + e					
n=62	Expected Sign	Model 1	P-value	Model 2	P-value
Intercept	-	**-1.0012**	**0.0721**	-0.9638	**0.0992**
DIFΔSALES	-	0.0033	0.6735	0.0030	0.7124
PRESG&ADIF	+	-0.0693	0.1002	-0.0651	0.1565
DIFDEPR	?			-0.0150	0.7879
DIFDEBT	?			-0.0008	0.9777
Panel D:Diff DIFΔCGS = a + b1(DIFΔSALES) + b2(PRECGSDIF) + b3(DIFDEPR) + b4(DIFDEBT) + e					
n=62	Expected Sign	Model 1	P-value	Model 2	P-value
Intercept	-	-0.7311	0.2928	-0.5904	0.4036
DIFΔSALES	-	-0.0043	0.6637	-0.0045	0.6487
PRECGSDIF	+	0.0169	0.6867	0.0152	0.7531
DIFDEPR	?			-0.0711	0.3310
DIFDEBT	?			-0.0472	0.1821

Notes:
DIFΔROA = $\Delta ROA_i - \Delta ROA_j$, DIFΔPM = $\Delta PM_i - \Delta PM_j$, DIFΔSG&A = $\Delta SG\&A_i - \Delta SG\&A_j$, and DIFΔCGS = $\Delta CGS_i - \Delta CGS_j$, where subscript 'i' and 'j' represent adopter and matched control firm (See Equations 1, 2, 5, and 6). DIFΔSALES is the adopter's pre- to post-adoption ROA change in net sales less its matched firm's pre- to post-adoption net sales change. PREROADIF = pre-adoption ROA_i – pre-adoption ROA_j, PREPMDIF = pre-adoption PM_i – pre-adoption PM_j, PRESG&ADIF = pre-adoption $SG\&A_i$ – pre-adoption $SG\&A_j$, PRECGS = pre-adoption CGS_i – pre-adoption CGS_j. DIFDEPR = $DEPR_i$ at t0 – $DEPR_j$ at t0, where DEPR = depreciation / cost of goods sold. DIFDEBT = $DEBT_i$ at t0 – $DEBT_j$ at t0, where DEBT = total assets / total liabilities.

Results of estimating equations 8 through 11 appear in Table 10. Table 10 results indicate the coefficient on DIFΔSALES is statistically insignificant in all equations. Thus, we conclude that differential growth in sales does not account for pre- to post-adoption differences in changes in ROA, profit margin, SG&A, or CGS between adopters and matched firms.

Also of note in Table 10 are statistically significant intercepts (at $p = .10$) for the ROAΔDiff and SG&AΔDiff equations. The intercepts in the other two equations are not statistically significant. These results further support our earlier findings that (1) there is a greater ROA improvement among adopters than matched firms, and (2) the ROA effect may be more related to SG&A improvement than CGS improvement.

COMPARING B2B ADOPTION TO JIT ADOPTION

In this subsection, we offer a comparison between B2B and JIT, which is a popular procurement technology that has been popular for many years. This discussion is included because we follow the methodology used in JIT study. Finding that B2B buy-side adoption benefits accrue more to smaller firms than to larger firms is in contrast to the prior study of JIT adoption which finds larger JIT adopters benefit to a greater extent than smaller adopters (Kinney & Wempe, 2002). This difference in results is informative relative to the origins of the financial benefits of each technology and to the relative opportunity to improve market transparency and improve transparency of internal processes and transactional efficiency for the two technologies. This finding, when contrasted with the JIT studies, suggests that smaller firms have relatively more to gain than larger firms from improving market transparency; and, that the benefits of B2B buy-side are largely derived from that area.

JIT actually constrains, rather than promotes, competition by reducing the set of vendors to a select few. Thus, JIT provides no leverage to improve market transparency. However, JIT improves transparency of internal processes, and improves transactional efficiency by reducing the volume of transactions and the number of vendors. Because larger adopters are found to benefit more significantly than smaller adopters, we can speculate that larger firms benefit to a greater extent than smaller firms from improving transparency of internal processes and improving transactional efficiencies.

Finally, we find that B2B buy-side adopters experience deterioration in SG&A expense in years prior to adoption, and that B2B buy-side adoption may be viewed as a tactical move (i.e., a quick fix) to address deteriorating SG&A expense efficiency. Since implementation is relatively simple, its benefits are realized relatively quickly but disappeared after two years of adoption. In contrast, JIT adoption can be considered a strategic move since full benefits are usually not realized for several years after adoption (Kinney & Wempe, 2002). This difference in adoption-related performance effects may arise because JIT systems are more complex than B2B buy-side systems, and may require closer coordination and re-arrangement of production processes.

CONCLUSIONS

This study evaluates the effect of B2B buy-side adoptions on the marketing supply chain, specifically, profitability of adopters relative to matched firms. A sample of 62 adopters and size- and industry-matched firms was identified for the period in which B2B systems were first being adopted. The results suggest that adopters outperform matched firms following adoption, and that adopters' ROA improvement is primarily the result of an increase in profit margin. Mean and median paired differences in ROA and profit margin changes are significantly positive, whereas mean and median paired differences in asset turnover changes are not. Detailed analyses indicate that improvement in paired profit margin derives from improvement in paired SG&A and to a lesser extent, improvement in paired CGS. The results are consistent with the expectation that B2B buy-side adoption reduces purchasing and transaction costs.

Smaller firms appear to gain greater benefits from adoption than larger firms. We speculate this result may be attributable to the inability of smaller firms to exploit scale economies using traditional purchasing tactics to the same extent as large firms. This finding implies that greater transparency of prices created by B2B systems create benefits that are not homogeneous across firm sizes.

Although the results suggest that B2B e-commerce adoption has a positive impact on company performance, the results should be interpreted in light of the study's limitations. The sample is limited to the 62 adopters and size- and industry-matched firms; this limitation was necessary as to limit observations to the B2B e-commerce initial adoption period. Second, the sample may be biased toward large companies because there is an incentive for the buy-side provider to announce contracts with larger firms. Nevertheless, we find smaller adopters realized a greater profit improvement than the larger adopters in our sample. Finally, this study evaluates the profitability effects of adoption of B2B buy-side only for operating inputs, which is a subset of B2B e-commerce. Therefore, the results should not be generalized to adoption of all types of B2B e-commerce technology.

Even after about a decade of use, B2B e-commerce is still relatively young and is projected to grow and to evolve to be more integrated with other company internal processes. This study provides important evidence suggesting that adoption of one subset of B2B e-commerce does, in general, lead to improvement in financial performance. Future research might evaluate the impact of B2B initiatives for different industries, characteristics of adopters, level of integration, and other types of platforms such as sell-side platforms.

ENDNOTES

1. Hereafter, we abbreviate "B2B buy-side for operating input" to "B2B buy-side." B2B buy-side is a subset of B2B configurations as depicted in Table 1.
2. *The B2B Internet Report*, written by Phillip and Meeker (2000) is available on the Internet at http://msdw.com.
3. These eight firms have "procurement" included in their target markets.
4. Data were not collected beyond June 2000 for two reasons. First, by June 2000 adoption of B2B buy-side systems was no longer the newsworthy event it was previously. Accordingly, after June 2000 it is more difficult to distinguish adopters from nonadopters. Second, after June 2000, firms tend to adopt B2B systems as a package with other systems, most notably ERP systems. Prior to June 2000, the tendency for firms was to purchase B2B buy-side systems as stand-alone systems. Thus, the adoption event becomes much more heterogeneous after June 2000. A large number of news announcements (or follow up news announcement) indicate that the customers implement and use this B2B buy-side system.
5. Both the specific vendor platform and the language of the announcement are used to determine the type of B2B buy-side adoption. For example, in November 1998 Ariba announced an adoption of its Operating Resource Management System™ (ORMS) by Cypress Semiconductor. ORMS is the Ariba platform for B2B buy-side for operating inputs. Excerpts of the announcement follow.

   "Ariba…today announced that Cypress Semiconductor Corporation will implement the Ariba Operating Resource Management System™ as the foundation of a strategic procurement initiative….Cypress will leverage the Ariba ORMS to reduce the costs of *nonproduction goods and services* that the company acquires and manages (emphasis added)."
6. The definition of profit margin in this paper uses income before extraordinary and special items as the numerator. Therefore, it is necessary to remove other non-operating items such as depreciation and interest expenses to allow better evaluation of performance: OIBD = Net Sales – Cost of Goods Sold – Sales and General Administrative Expenses. Hence, non-operating items are removed from OIBD.
7. Pre-and post-adoption OIBD, CGS, and SG&A expense are scaled by net sales of the respective periods.
8. Ideally, we would analyze accounts such as "purchasing and administrative expenses" and "general supplies, repair and maintenance expenses." However, such detailed classifications are not available on Compustat.
9. Wilcoxon sign-rank tests are used for all median tests.
10. Although predetermined criteria were used to select the matched firms, we still found adopters have larger net sales in 41 of the 62 observations. Kinney and Wempe (2002) document that firms with higher net sales are more likely to adopt JIT technology. They suggest firms with greater resources may be more inclined to adopt new technology.
11. Detailed results of test follow.

	Mean	Median	t-test p-value	Wilcoxon p-value
Margin Effect	2.96	0.54	0.07	0.11
Turnover Effect	(0.06)	0.00	0.87	0.89
Difference Effect	3.02	0.64	0.06	0.09

The relative ROA effect of relative changes in profit margin and asset turnover are calculated as follows: Margin effect = paired difference in the change in profit margin × B2B adopter's pre-adoption asset turnover. Turnover effect = paired difference in the change in asset turnover × B2B adopter's pre-adoption profit margin. The Difference effect is tested to assess the relative importance of profit margin and asset turnover performance in B2B buy-side adopter's relative ROA changes.

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THE EFFECT OF BRAND PERSONALITY ON BRAND RELATIONSHIP, ATTITUDE AND PURCHASE INTENTION WITH A FOCUS ON BRAND COMMUNITY

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ABSTRACT

It is very important for marketers to manage brand personalities effectively. As brand personalities affect a consumer-brand relationship and attitude related to the brand positively or negatively. A brand personality can project five attributes : sincere, exciting, strong, sophistication, cute.

In this research, we investigate which brand personalities affect consumer-brand relationships and brand attitudes. According to this research, sincere and cute brand personalities affect consumer-brand relationships (composed of brand trust and brand commitment) and brand attitudes positively. Strong and exciting brand personalities affect consumer-brand relationships and brand attitudes negatively. A sophistication brand personality does not affect consumer-brand relationships and brand attitudes.

Considering participation by the virtual brand community, we examine whether or not brand personalities affect consumer-brand relationships and brand attitudes changes. A consumer-brand relationship is affected participation in the brand community, but a brand attitude is not affected by participation in the brand community. When consumers participate in the brand community, brand personalities affect consumer-brand relationships, but brand personalities don' t affect brand attitudes.

In this study, we suggest that not all brand personalities can effectively promote a consumer-brand relationship and a brand attitude. According to the purpose of a firm or a brand, marketers should manage brand personality strategies selectively. Also, it is important for consumers to participate in brand community activities. Through this study, we suggest each brand personality has different types of influences on consumer-brand relationships and brand attitudes.

INTRODUCTION

It is well established idea that brands have personalities or even human characteristics. The brand personality is a means of expressing consumer identity and a different aspect of the consumer' s self (Aaker 1997; Belk 1988; Escalas and Bettman 2005; Johar, Sengupta, and Aaker 2005). Humanizing a brand allows the brand to play a more central role in customers' lives and allows them to project their selves to create the desirable relationships they seek (Aaker 1997; Wallendorf and Arnould 1988). Moreover, people feel comfort when they sense that the brand "fits" with their self-concept (Aaker 1999; Swaminathan, Page, and Gu¨rhan-Canli 2007). In order to identify the potential of brand personality, it is meaningful to understand how the underlying mechanisms influence the consumer-brand relationship and the brand attitude as well as which brand personality traits affect consumers more positively. Therefore, in this study, we investigate the influences of brand personality traits on consumer-brand relationships and brand attitudes.

Many companies have made efforts to distribute resources to build long-term relationships with their customers (Johnson and Selnes, 2004). As company-customer relationships grow stronger, customers' repurchase and WOM (word-of-mouth) intentions also increase (Maxham and Netemeyer, 2002). Recently in the marketing area, it has been an important issue for brand managers to maintain strong consumer-brand relationships (Gummesson 2002). As a result, many studies have investigated consumer-brand relationships (Marketing Science Institute 2002). Keller (2001) suggested that the consumer-brand relationship was the last step in the building of brand equity. At the same time, marketers have invoked brand attitude as an important concept related to consumer behavior. Prior studies have suggested that brand attitude predicts brand considerations, intentions to purchase and purchase behaviors (Fazio and Petty 2007; Petty, Haugtvedt, and Smith 1995; Priester et al. 2004).

A brand community is a relationship structure in which consumers are situated (McAlexander et al. 2002). With the internet and information technology, virtual brand communities have been effective marketing tools and communication channels for brand building activities (McWilliam, 2000). Brand communities are a better fit for certain types of relationships as compared to consumption communities. Anderson (2005) suggested that a virtual brand community is a communication tool for relationship marketing.

No attempt has been made to link the effect of brand personality traits with community activities of the brand. Also, research that considers whether brand relationships and brand attitudes influence consumers' purchase intentions is rare (Xie & Heung, 2009). Therefore, our study suggests that brand personality traits affects consumer-brand relationships and brand attitudes, but not equally. Also, we investigate whether the effect of a brand personality on brand attitudes and relationships can be affected by consumer participation in the brand community. This study can help brand managers seek strategic ways to build brand personalities and create relationships with consumers.

THEORETICAL BACKGROUND AND PROPOSITION

Brand Personality

A brand personality is formally defined as "a set of human characteristics associated with a brand" (Aaker 1997, p347). Brand personality, which is not separate from brand image, considers human characteristics. However, brand personality and human personality are not identical. Instead, brand personality is a hypothetical concept created by the consumer.

Although human and brand personality traits may be conceptualized similarly (Epstein 1977), Aaker (1997) reported that brand personalities differ from implicit human personality traits in terms of how they are created. Human personality traits are deduced from an individual's behavior, physical characteristics, attitudes and beliefs, and demographic characteristics (Park 1986). On the other hand, a brand personality can be formulated by direct and indirect brand contact experienced by the consumer who encounters the brands (Plummer 1985; Shank and Langmeyer 1994). Thus, a brand personality can be created from both product-related factors (such as packaging, price and physical attributes) and factors not related to the product (such as the consumer's experience, symbols, marketing activities, and word of mouth) (McCracken 1989; Batra, Lehmann and Singh 1993; Aaker 1997).

The definition of brand personality definition also contains demographic feature such as age, gender, and class as well as the personality features of a human (Levy 1959). Like personality characteristics, these demographic characteristics are deduced directly from the employees, the brand's user image and indirectly from other brand associations. After understanding the necessity for further empirical study, Aaker (1997) created a measurement scale for five types of brand personality traits.

Brand Personality Dimension

Aaker (1997) conducted research to demonstrate that brands can be differentially associated with personality traits in consumers' minds. In this research, brand personality was identified using five dimensions of brand personality; 1) sincerity, 2) excitement, 3) competence, 4) sophistication and 5) ruggedness. Sincerity is represented by the attributes of down-to-earth, real, and honest; excitement contains the attributes of daring, exciting, imaginative and contemporary; competence is typified by the attributes of intelligent, reliable, secure and confident; sophistication is typified by the attributes of glamorous, upper class, good looking and charming; and ruggedness is represented by the attributes of tough, outdoorsy, masculine and western. Brand personality can be associated with personality traits through learning and experience, and this association allows the consumer to express themselves or symbolize their benefits through brand consumption (Aaker 1997). These five brand personality dimensions appear to explain the way American consumers perceive brands.

The consumer may perceive a brand personality differently depending on their culture. Here, we use brand personality dimensions as perceived by Koreans. Yang and Cho (2002) developed new scales of brand personality that were appropriate for Korea. The new scales of brand personality were composed of 38 questions, resulting in five factors of brand personality. These brand personality dimensions are 1) sincerity, 2) excitement, 3) sophistication, 4) ruggedness, and 5) cute. The new dimension of brand personality that is different from those of Aaker (1997) is ‘cute’, which is represented by attributes such as primness, prettiness, cuteness and coyness. In this research, we use the scales of brand personality by Yang and Cho (2002) in the Korean brand situation.

Based on past findings, we study how these brand personalities affect consumer-brand relationships and brand attitudes. The brand personality that consumer perceived might differently influence the brand relationship and brand attitude. Therefore, we hypothesize that a brand personality is linked to the consumer-brand relationship and brand attitude.

H1 The brand personality affects a consumer-brand relationship positively.
- *H1-1 A sincere brand personality affects a consumer-brand relationship positively.*
- *H1-2 A exciting brand personality affects a consumer-brand relationship positively.*
- *H1-3 A strong brand personality affects a consumer-brand relationship positively.*
- *H1-4 A sophisticated brand personality affects a consumer-brand relationship positively.*
- *H1-5 A cute brand personality affects a consumer-brand relationship positively.*

H2 The brand personality affects a brand attitude positively.
- *H2-1 A sincere brand personality affects a brand attitude positively.*
- *H2-2 A exciting brand personality affects a brand attitude positively.*
- *H2-3 A strong brand personality affects a brand attitude positively.*
- *H2-4 A sophisticated brand personality affects a brand attitude positively.*
- *H2-5 A cute brand personality affects a brand attitude positively.*

H3 The consumer-brand relationship affects purchase intensions positively.

H4 The brand attitude affects purchase intensions positively.

Brand Community

The term ‘brand community’ was first used by Muniz and O’Guinn (1995). They defined brand community as “a specialized, non-geographically bound community, based on a structured set of social relations among the admirers of a brand” (Muniz and O’Guinn 2001). They also stated that a brand community is a set of individuals who participate voluntarily for their needs or interest in some brand or product. This community is a better fit for certain types of relationships. Muniz and O’Guinn (2001) indicated that inter-consumer relationships are closely related to loyalty equation. A brand community comes from a consumer community, where consumers contact each other based on a particular product (Lin, Ming and Bin 2011). When community participants gradually shape their product issues into particular brands, the community may become a brand community. Muniz and O’Guinn (2001) insisted that a brand community is a customer-customer-brand triad. A brand community can be constructed by brand users and their relationships to the brand itself (Aaker 1996; Aaker 1997; McAlexander, Schouten and Koenig 2002).

Muniz and O’Guinn (2001) suggested four types of formal communities; 1) consciousness of a kind, 2) shared ritual and traditions, 3) moral responsibility, 4) not bounded by geography. Also, there are three dimensions; 1) geographic concentrations, 2) social context, 3) temporality (Fischer, Bristor and Gainer 1996; Granitz and Ward 1996). Each community is differentiated by a geography dimension. Although brand communities are characterized as non-geographically bounded (Muniz and O’Guinn 2001), they can be concentrated geographically (Holt 1995) or dispersed (Boorstin 1974). However, on the Internet, brand communities exist in an entirely non-geographical space (Granitz and Ward 1996; Kozinets 1997).

Interactions within a brand community can be rich in social context (Fischer, Bristor and Gainer 1996), as community members exchange a great deal of information about one another and openly argue regarding their issue knowledge (Granitz and Ward 1996).

Temporality means that brand communities can be maintained temporarily or stably (Schouten and McAlexander 1995; Arnould and Price 1993; Holt 1995). The temporal stability of a brand community may be a marketing responsibility. It was also found that situational communities can share meaningful consumption experiences (Arnould and Price 1993; McGrath, Sherry, and Heisley 1993).

Virtual Brand Community

In the environment of the Internet and modern information technology, the virtual community has become a marketing tool. It is also an important marketing communication channel for brand managers who seek to build a brand (McWilliam 2000). A virtual community was initially defined as a social group which originated on the Internet (Rheingold 1993). A virtual brand community is defined as a customer group with the characteristics of self-selection and non-geographical boundaries formed based on an association with a specific brand (Amine and Sitz 2004). In a brand community, customers share values, practices and social symbols about the brand and feel a sense of belonging. A virtual brand community is also considered as an effective means of communication for relationship marketing which could surmount the limitations of time and space and develop the potential market value (Anderson 2005).

Hagel and Armstrong (1997) suggested that virtual communities satisfy four types of consumer need 1) sharing resources, 2) establishing resources, 3) trading, and 4) living fantasies. Lin, Ming and Bin (2011) suggested that the antecedents of virtual brand community participation are 1) brand information sharing, 2) brand experience, and 3) brand community identification. They also suggested that brand attitudinal loyalty and brand behavioral loyalty are consequences of participation in a virtual brand community. Participation is one of the most important factors for the development and sustainability of virtual communities. A greater level of participation in a virtual community helps members to share knowledge and disseminate ideas quickly. It also provides emotional support to members (Koh and Kim 2004).

Muniz and O' Guinn (2001) suggested that consumer relationships, brands and consumers have a triadic relationship in a brand community. Thus, brand community participation can strengthen the consumer relationship with the brand. Consumers frequently view brands in human terms, assigning animated characteristics to the brand (Aaker 1997). Thus, the relationship between brand personality and consumer-brand relationships and brand attitudes can differ due to the level of participation in the brand community. Consequently, we hypothesize that participation in a brand community affects the relationship between the brand and the consumer.

H5 *If a consumer participates in the brand community, brand personality affects the consumer-brand relationship more positively.*

H6 *If a consumer participates in the brand community, brand personality affects the brand attitude more positively.*

METHODS

356 samples were collected from universities throughout South Korea. After excluding samples containing missing data, we were left with 299 samples. In the final sample of 299 respondents, 54.6% were female. In addition, 20.3% of the respondents were either 18 or 19 years old, and 79.3% were between 20 and 29.

We measured brand personality using the scales from Yang and Cho (2002). Consumer-brand relationships were measured by the scales that formulated by Morgan and Hunt (1994) in their study of trust and commitment. Trust was measured by three questions created by

Sirdeshmukh, Singh and Sabol (2002). Commitment was measured by three questions formulated by De Wulf et al. (2001). Also, we measured brand attitude with degrees of brand preference and brand favorableness on the seven-point scales used by Pham (1996) and Jun (2011).

We used structural equation modeling, which is a multivariate statistical technique for structural theories. Table 1 shows the exploratory factor analysis results of the measurement scales for the brand personality dimensions. Factor analysis uses Varimax rotation. Yang and Cho (2002) suggested 38 items to identify brand personality dimension, but we choose 13 items to show brand personality clearly. Table 2 shows the reliability of the dependent variables. The reliability indices are proper when these values (Table 2) exceed 0.6 (Palmatier, Dant, Grewal, & Evans 2006).

Table 1: Brand Personality Exploratory Factor Analysis

Construct	Item	sincere	strong	exciting	sophistication	cute
Brand Personality	1. Exemplary	.827				
	2. Reliable	.822				
	3. Credible	.786				
	4. Tight		.824			
	5. wild		.760			
	6. cool-headed		.680			
	7. vigorous			.862		
	8. pleasant			.828		
	9. interesting			.769		
	10. forward-looking				.796	
	11. up-to-date				.767	
	12. juicy					.924
	13. cute					.591

Table 2: Validity of Dependent Variables

Construct	Item	C1	C2	C3	reliability
Trust	1. Reliable brand/firm	.860			.815
	2. Competent brand/firm	.715			
	3. Genuine brand/firm	.657			
Commitment	1 Immersed in brand/firm		.890		.903
	2 Keep relationship with brand/firm for a long time		.873		
	3 Make an effort to keep relationship		.779		
Brand Attitude	1. Brand preference			.878	.930
	2. Brand favorableness			.859	

RESULTS

Many goodness-of-fit-criteria can be used to estimate an acceptable model fit. Among them, the comparative fit index (CFI) and the Tucker-Lewis coefficient index (TLI) are preferred measures (Bagozzi and Yi 1988; Bearden et al. 1982). We used Amos 18.0 to analyze the hypothesized model, and we compared the result of the hypothesized model in two groups according to their levels of brand community participation.

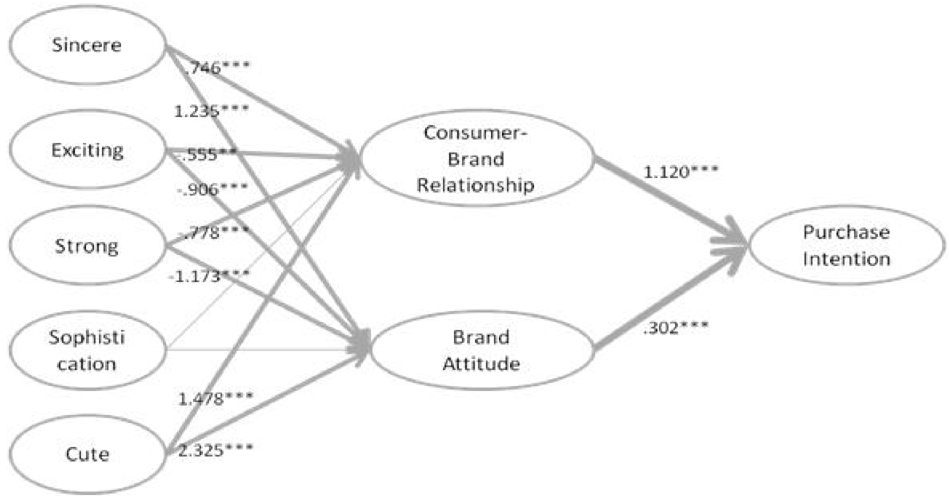
Table 3: Confirmatory factor analysis fitness

	Chi-square	df	GFI	TLI	NFI	CFI	RMSEA
Model(H1~H4)	364.917 (p=.000)	130	.892	.897	.885	.922	.078
Model - Compared with two groups (H5&6)	511.203 (p=.000)	260	.853	.884	.840	.912	.058

In this study, we examine model validity by means of a confirmatory factor analysis. The structural model results are shown in Table 3. There are several commonly used goodness-of-fit indices for a structural equation model analysis: GFI, TLI, RMSEA, and CFI. We used Amos 18.0 to examine the hypothesized model, and we adopted CFI and TLI as adequate fit indices. CFI may display a small amount of standard error with regard to the sample size, and TLI is related to the degrees of freedom. A model was deemed appropriate when its CFI was greater than 0.9 and its RMSEA was between 0.05 and 0.08. All goodness-of-fit indices for 'model-all' in this study were satisfactory : – χ^2 = 364.917 (df = 130), GFI = 0.892, TLI = 0.897, RMSEA = 0.078, CFI = 0.922. Also, all goodness-of-fit indices of the 'model-comparison of two groups' in this study were satisfactory, as well: – χ^2 = 511.203 (df = 160), GFI = 0.853, TLI = 0.884, RMSEA = 0.058, CFI = 0.912. As a result, the hypothesized model in this research is deemed feasible for use.

Figure 1 shows the results of 'model-H1~H4'. After the hypothesis test, we found that H1-1, H1-5, H2-1, H2-5, H3 and H4 are supported. Unusually, H1-2, H1-3, H2-2, H2-3 are effective in the opposite direction, where as H1-4 and H2-4 are not supported. Table 4 shows the results of the hypotheses tests and Table 5 compares the results of two groups according to brand community participation. H5 and H6 are supported partially.

Figure 1. Structural model test result – Model-H1~H4



Note: *** p<0.001, ** p<0.05, * p<0.1

Table 4: Test of Hypotheses				
Hypotheses	Path	Regression weight	p-value	Results of test
H1 : Brand Personality → Consumer-Brand Relationship				
H1-1	Sincere → CBR	.746	.001	Supported
H1-2	Exciting → CBR	-.555	.014	Opposite direction
H1-3	Strong → CBR	-.778	.004	Opposite direction
H1-4	Sophistication → CBR	.190	.377	Not Supported
H1-5	Cute → CBR	1.478	.000	Supported
H2 : Brand Personality → Brand Attitude				
H2-1	Sincere → BA	1.235	.000	Supported
H2-2	Exciting → BA	-.906	.009	Opposite direction
H2-3	Strong → BA	-1.173	.004	Opposite direction
H2-4	Sophistication → BA	-.020	.953	Not Supported
H2-5	Cute → BA	2.325	.000	Supported
H3 : CBR → Purchase Intention		1.120	.000	Supported
H4 : BA → Purchase Intention		.302	.000	Supported

Table 5: Result of Comparison by Brand Community Participation				
Hypotheses	Path	Participated	Not Participated	Results of test
H5 : Brand Personality → Consumer-Brand Relationship				
	Sincere → CBR	-.302	-1.231	Not Supported
	Exciting → CBR	-2.001**	-1.282	Supported
	Strong → CBR	-.662***	-3.879	Supported
	Sophistication → CBR	1.803***	3.223	Supported
	Cute → CBR	.493*	.108	Supported
H6 : Brand Personality → Brand Attitude				
	Sincere → BA	-.976	-.039	Not Supported
	Exciting → BA	-3.579*	-.975**	Not Supported
	Strong → BA	-1.291***	-3.059***	Not Supported
	Sophistication → BA	3.202**	2.194**	Not Supported
	Cute → BA	.923*	.082	Supported

DISCUSSION AND FUTURE RESEARCH

Brand personalities have received much attention from many marketing researchers. Many researchers also studied the effect of the brand personality on consumers (Aaker 1997; Aaker, Fournier and Brasel 2004; Malar, Krohmer, Hoyer and Nyffenegger 2011; Freling, Crosno and Henard 2011). When a brand builds favorable brand personality, they can enhance brand attitudes, consumer-brand relationships and purchase intentions(Freling, Crosno and Henard 2011). But researches about the brand personality did not consider the effect of each of brand personalities on a consumer-brand relationship and a brand attitude. Overall brand personality might positively affect a consumer-brand relationship and a brand attitude. However, each dimensions of brand personality may not affect a consumer-brand relationship and a brand attitude positively. Accordingly, we examine the effect of each of brand personality dimension on a consumer-brand relationship and a brand attitude.

In the environment of internet and information technology, consumers are used to participate in the virtual brand community. Participation of the brand community could strengthen consumer's perception of the brand personality. Muniz and O'Guinn (2001) suggested that the brand and customer constitute a brand community triad. Customers value their relationships with their branded possessions (Belk 1988; Holbrook and Hirschman 1982; Wallendorf and Arnould 1988). McAlexander, Schouten and Koenig (2002) suggested that the brand community has a customer-centric structure and that it enhances the customer experience meaningfully. Thus, consumers can perceive brand personality more clearly in the brand community. In this research, we investigate whether the effect of brand personality on a consumer-brand relationship and brand attitude change or not by participation in the brand community.

According to this study, not all types of brand personalities affect the consumer-brand relationship and brand attitude. First, the sincere and cute brand personalities affect the consumer-brand relationship and a brand attitude positively. However, the exciting and strong brand personalities affect the consumer-brand relationship and brand attitude negatively. The sophistication brand personality does not have a relationship with consumer-brand relationship or brand attitude. These results may have arisen due to the brand personality attributes. The sincere and cute brand personalities contain positive attributes such as reliable, credible, juicy and cute. On the other hand, the exciting and strong brand personalities contain slightly negative attributes such as tight and wild or less reliable attributes such as pleasant and interesting. Thus, consumers may perceive the exciting and strong brand personalities less positively, and this may affect the result, though in the opposite direction. Moreover, because the sophistication brand personality has neutral or ambivalent attributes such as up-to-date and forward-looking, there are no relationships with consumer-brand relationships or brand attitudes.

In this research, we investigated the effect of participation in a brand community. The hypotheses are partially accepted. When consumers participate in a brand community, all of the brand personality dimensions measured here except sincere affect the consumer-brand relationship positively. However, there are very few differences in the case of a brand attribute. These results can be explained in terms of differences between a consumer-brand relationship and a brand attitude. Keller (2001) suggested that a consumer-brand relationship is a relatively long-term concept as compared to a brand attitude. That is, a consumer-brand relationship can be formed by accumulating a brand attitude, a brand association or a brand image, for instance. In particular, a consumer-brand relationship can be maintained by a brand attitude being formed positively (Beerli, Martin and Quintana 2004; Burnham, Frels and Mahajan 2003). Accordingly, we determined that participation in a brand community can affect consumers over the long term.

In this study, we suggest that not all brand personalities are effective at promoting a consumer-brand relationship and a brand attitude. According to the purpose of a firm or a brand, marketing managers should supervise brand personality strategies properly. Also, it is important for consumers to be encouraged to participate in a brand community for the sake of building a long-term consumer-brand relationship.

AUTHORS' NOTE

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OUTSOURCING THE SALES FUNCTION: THE INFLUENCE OF COMMUNICATION AND CUSTOMER ORIENTATION

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ABSTRACT

Manufacturers may choose to outsource the sales function to manufacturers' representatives on an extended contract basis. They benefit from a representative's sales experience, established customer contacts and the ability to cover territories that are not served by a direct sales force. Manufacturers also benefit by not having to incur the costs required to staff and supervise a company owned sales force. A trade-off is the manufacturer's potential loss of customers if the representative chooses to terminate the relationship. The representative will enter into an agreement with another manufacturer and customers more loyal to the representative may begin purchasing products produced by this manufacturer.

This study conceptualized a model representing the influence of a manufacturer's customer orientation and communication on the representative's evaluation of the manufacturer's effectiveness and sales performance. The representative's perceptions of effectiveness and sales performance were also analyzed in relation to the manufacturers' perceived dependence. Path analysis was completed to test hypothesized relationships. Findings suggest that placing attention on the antecedents is likely to reduce the probability that a manufacturers' representative would terminate the interfirm relationship, thus avoiding the possibility of losing customers.

INTRODUCTION

Manufacturers' representatives sell noncompeting product lines on a commission basis within specific territories on behalf of several manufacturers. They perform the selling function on an extended contract basis usually without taking possession, or ownership, of products. In this paper, manufacturers' representatives are referred to as *MRs* and manufacturers are called *principals*, as they are commonly identified in the literature.

Principals benefit from the MR's sales experience, established customer contacts and the MR's ability to cover territories that are not served by a direct sales force. They also benefit by not having to incur the costs required to staff and supervise a company owned sales force. However, a significant trade-off exists. Customers may be loyal to a manufacturer at one time and then develop stronger relationships with the MR. There is the potential for a principal to lose customers if the MR chooses to terminate the relationship.

A remedy for the principal is to ensure that the MR perceives the MR-Principal relationship to be effective and that it leads to acceptable sales performance. Furthermore, the principal would want to develop MR dependence on the interfirm relationship. To that end, this study explored the influence of principals' communication and customer orientation on the MR's perceptions of effectiveness and performance. In turn, these outcomes are examined in relation to dependence. Research pertaining to working relationships between manufacturers and manufacturers' representatives is limited, even though the growth of sales revenues from this type of relationship is significant.

The most recent economic census (released November 24, 2009) reported there are 45,213 U.S. MR firms (U.S. Census Bureau, Economic Census, 2007). A previous census reported 32,320 MR firms operating within the United States (U.S. Census Bureau, Economic Census, 2002), representing a growth of 39.9%. Because MRs are boundary spanners working on behalf of principals Study findings complement research that has examined differences in the quality of MR-principal relationships (Sibley & Teas, 1979), described how the firms develop and maintain relationships (McQuiston, 2001), and explained the structuring of these relationships (Dishman, 1996).

BACKGROUND

Firms are eager to outsource because it allows them to focus on core competencies and reduce costs, thus achieving competitive advantages and beneficial bottom-line results. However, outsourcing does not contribute to success unless it is implemented effectively. Many firms are able to develop reasonably accurate estimates of outsourcing costs but it may be difficult for them to interact effectively with independently owned firms. Therefore, understanding how a firm's communication and customer orientation influences a partnering firm is important. As noted, there is the potential for a principal to lose customers if the MR chooses to terminate the relationship so understanding factors that influence these outcomes is beneficial.

Frequent interactions between the MR and principal occur as they rely on each other to perform their respective roles. When performing a quasi-employee role, an MR is influenced in much the same way as a principal's own internal employees would be influenced. The principal undertakes internal marketing through communication with the MR in tandem with providing sales support (e.g., product training and technical support). Similar to an internal employee judging the principal's actions, the MR does so when evaluating effectiveness of the principal. *Effectiveness* of a principal is defined as the extent to which the MR is committed to the relationship and finds it to be productive and worthwhile. This definition mirrors a definition of perceived effectiveness (Bucklin & Sengupta, 1993) that emphasizes mutual perceptions held by firms: "The extent to which both firms are committed to the alliance and find it to be productive and worthwhile." The MR also judges the sales performance achieved with the principal.

Performance with the principal is defined as the sales level reached with a principal, how often sales goals are exceeded and how the performance compares with that achieved through other principals (Sujan, Weitz & Kumar, 1994).

HYPOTHESES

Constructs examined in this study are described below with hypotheses advanced to support testing. Relationships stated by hypotheses H1-H4 are depicted in Figure 1. This is followed by descriptions of the methodology, data analysis and findings, and discussion of the findings.

Customer Orientation

Adopting a customer orientation is a fundamental principle of marketing; to be successful firms need to focus on their customers. Customer orientation is defined as "the set of beliefs that puts the customer's interest first, while not excluding those of all other stakeholders such as owners, managers, and employees, in order to develop a long-term profitable enterprise" (Deshpande, Farley & Webster, 1993, Pg. 27). This orientation is noted as one of three components of market orientation (Narver & Slater, 1990) along with competitor orientation and interfunctional coordination. Customer orientation is part of a firm's overall culture and leads to the integration of customer focused values and beliefs throughout the firm (Deshpande, Farley & Webster, 1993). Its pervasive nature extends to all aspect of the firm including interactions with the MR. As the principal's customer orientation increases, the principal's communication will reflect the orientation, thus addressing matters that may improve the MR's interactions with customers. For example, communication related to product specific issues, technical support and product delivery would place the customers' interests first. Therefore, it is hypothesized below (H1) that a positive relationship exists between customer orientation exhibited by the principal and how well the principal communicates with the MR.

It is also hypothesized (H2a, H2b) that customer orientation will directly influence the MR's perceptions of principal effectiveness and performance with the principal. This is due to the broad influence of customer orientation on interfirm aspects other than principal communication. For example, customer orientation is likely to be exhibited via sales support provided by a principal; content of a principal's product training and technical support will reflect a customer orientation. The pervasive nature of customer orientation supports advancing H2a and H2b. Although not formally hypothesized, the impact of customer orientation is also expected to have positive indirect effects on the MR's perceptions of principal effectiveness and performance with the principal. This study also examined those indirect effects with total and direct effects.

H1: There is a positive relationship between the principal's customer orientation and the quality of communication with the MR.

H2: The principal's customer orientation is positively related to MR perceptions of: (a) effectiveness of the principal, and (b) performance with the principal.

Communication

Communication between firms is the "glue that holds together a channel of distribution (Mohr & Nevin, 1990, p. 36) and influences the continuity of interfirm relationships (Anderson & Weitz, 1989). It is defined as "the formal as well as informal sharing of meaningful and timely information between firms" (Anderson & Narus, 1990. p. 44). Communication with the principal is important because an MR must be able to interact with the principal in order to meet customer needs. Taking the view of an MR as a quasi-employee, studies of employee participation that inherently include communication are pertinent to this study. These studies find that participation contributes to the employees' motivation to perform (e.g., Kohli, 1985; Teas, 1982; Tyagi, 1985). Findings from these studies suggest that effective communication leads to increases in MR motivation to perform, thus increasing sales with customers. Therefore, a positive relationship is hypothesized (H3a) to exist between communication with the principal and performance with the principal. The principal's efforts to communicate effectively will also have a positive influence on MR perceptions of the principal's effectiveness because the MR realizes benefits (e.g., increased sales) from it. The reasoning supports advancing H3b.

H3: The quality of a principal's communication is positively related to MR perceptions of: (a) effectiveness of the principal, and (b) performance with the principal.

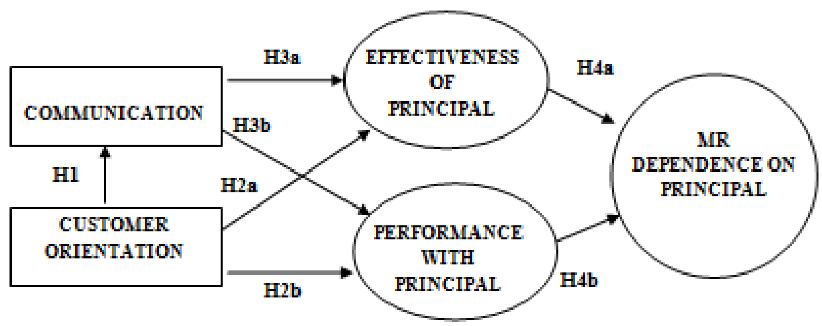
Dependence: Influence of Effectiveness and Performance

Dependence on another firm exists when a firm needs to maintain the relationship with another firm to achieve its goals (Frazier, 1983; Heide & John, 1988). It is associated with long-term interfirm relationships, or with characteristics (e.g., commitment) suggesting that a long–term orientation exists between firms (Frazier, 1983; Ganesan, 1994; Johnson, 1999). An MR will be dependent to a certain extent on the principal because selling the principal's products enables the MR to successfully operate an independent business. Dependence increases when resources provided by a firm are difficult to replace (Pfeffer & Salancik, 2003). An MR's positive evaluation of a principal's effectiveness and performance suggests the existence of underlying resources that an MR may find difficult to replace through a replacement principal.

Therefore, we expect the MR's perceived dependence on the principal to increase as the MR's judgments of effectiveness and performance improve. These relationships are stated formally as H4a and H4b. Although not formally hypothesized, both the principal's customer orientation and communication are examined to determine if they have positive indirect effects on MR dependence.

> *H4: Dependence of an MR is positively related to MR perceptions of: (a) effectiveness of the principal, and (b) performance with the principal.*

FIGURE 1
THE INFLUENCE OF COMMUNICATION AND CUSTOMER ORIENTATION



METHODOLOGY

Leaders of MR firms were randomly selected from a membership list provided by the Manufacturers' Representatives Educational Research Foundation (MRERF). A total of 2,895 of these executives were contacted through an e-mail message requesting participation in the study and presenting them with the questionnaire as an attachment. They were asked to complete the questionnaire and return it by facsimile to MRERF. Reminder messages were sent including a link to a website where the questionnaire was available. This study is assumed to be *exploratory* because of the 2,895 questionnaires distributed, 1606 of the e-mail messages were opened by potential respondents and 61 were returned to yield a 3.8% response rate. Due to this response rate, the findings are not generalizable to other firms although they suggest relationships that can be explored further.

Variance in the constructs was generated indirectly by asking respondents to provide their opinions about principals working with them in both effective and ineffective relationships. A response for each type of principal was obtained for each scale item on the questionnaire. This method is similar to the approach taken in previous studies of channel relationships (e.g., Sibley & Teas, 1979; Barclay & Smith, 1997).

An effective relationship was described as one that members thought the time and effort invested to develop and maintain the relationship is worthwhile, productive and satisfying (Bucklin & Sengupta, 1993). The possibility of common method variance was reduced by configuring the data so each respondent's assessment of only one type of principal (i.e. effective or ineffective) would be used in the main data set for analysis.

The majority of respondents work with one to ten principals (47%) with the remaining study participants representing eleven to twenty principals (38%), or greater than twenty principals (15%). Annual sales volumes were reported at less than \$5 million (46%), \$5 million to \$11 million (23%) and above \$11 million (31%). Regarding the length of time that respondents worked with the principals, they reported having a relationship with them less than two years (13%), 3-10 years (66%), or greater than 10 years (21%).

Measures

Constructs were measured using previously published scales with Cronbach's alpha scores exceeding the recommended level of .70 (Nunnally, 1978). Modifications were made to the published measures but changes were kept to a minimum. A seven-point Likert type scale with Strongly Disagree (1) to Strongly Agree (7) anchors was presented with each scale item statement to obtain responses. Exploratory factor analysis was completed to determine final scale items to represent each construct. Appendix A presents sources of the construct measures with scale items. Reliability scores determined from this study are also provided and exceed the .70 level (Nunnally, 1978).

DATA ANALYSIS AND FINDINGS

Mean scores for each measure were generated for modeling with LISREL 8.51 (Jöreskog & Sörbom, 2001) using a covariance matrix and maximum likelihood estimation with listwise deletion. The resulting path analysis enabled simultaneous analysis of hypothesized relationships. Use of LISREL is appropriate for the small sample size (n=61) because the model includes four constructs as independent variables. This ratio (20 to 1) of independent constructs to observations (i.e. respondents) is generally accepted in the literature (Stevens, 1996; Hair, Anderson, Tatham & Black, 1998). Mean scores of the constructs were used instead of examining a more complex model with indicators for each construct, thus assuming that construct measures are strong in terms of reliability and validity. This assumption is supported by acceptable Cronbach's alpha scores and the content of scale items that is drawn from previous research.

Table 1 presents the construct means, standard deviations and correlations. Figure 2 and Table 2 reports the modeling results. Based on Marsh, Hau and Wen's (2004) caution against rejecting content-valid models, Browne and Cudek's (1993) index criterion of at least .90 is used to indicate a good fit. The hypothesized model has an acceptable fit, as indicated by fit measures exceeding .90 and the RMSEA below .05. However, the AGFI falls just below the .90 criterion with an index of .89. Significant relationships were found supporting all hypotheses except H4b. Table 2 also reports modeling results when this hypothesized relationship (H4b) is dropped from the framework. The revised model has an acceptable fit and RMSEA, thus supporting the remaining hypothesized relationships, which are depicted in Figure 2.

Although not formally hypothesized, indirect effects were explored for customer orientation to effectiveness, performance and dependence. The potential indirect effect of communication on dependence was also examined. Table 3 reports the decomposition of total effects to the effects that are direct, if they exist, and indirect effects associated with mediating variables. Positive indirect effects of customer orientation on effectiveness and performance exist and these indirect effects are associated with the MR's perception of the principal's communication. Also reported in Table 3, MR dependence is influenced indirectly and positively by both communication and customer orientation. The indirect effects are associated with the MR's perceptions of principal effectiveness and performance.

Table 1: Means, Standard Deviations and Intercorrelations

			Pearson Correlations				
Construct	Mean (n=61)	SD	1	2	3	4	5
1. Effectiveness	4.39	2.10	1.00				
2. Communication	4.37	1.87	0.84	1.00			
3. Customer Orientation	4.33	1.73	0.65	0.54	1.00		
4. Dependence	5.07	1.62	0.43	0.38	0.28	1.00	
5. Performance	4.50	1.77	0.72	0.70	0.60	0.32	1.00

All correlations are significant at the $p<.05$.

Table 2: Modeling Results

Hypothesized Model

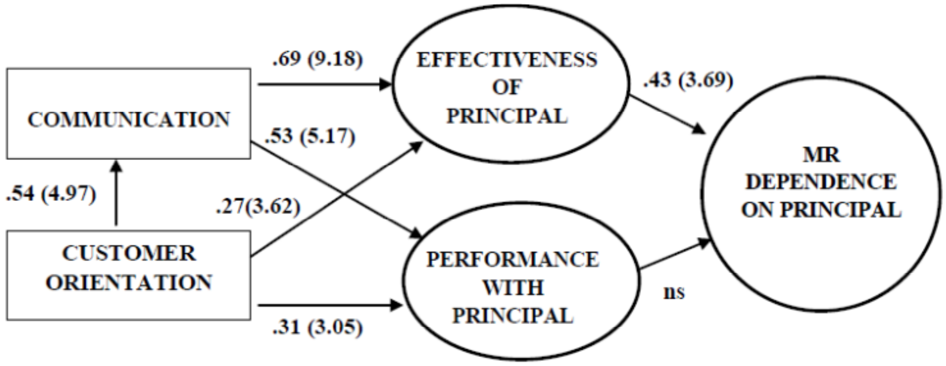
From \ To	Communication	Effectiveness	Performance	Dependence
Customer Orientation	H1 .54(4.97)	H2a .27(3.62)	H2b .31(3.05)	-
Communication	-	H3a .69(4.97)	H3b .53(5.17)	-
Effectiveness	-	-	-	H4a .42(2.74)
Performance (ns)	-	-	-	H4b .01 (.092)
R^2	30%	76%	56%	19%
Model Fit	χ^2=3.26; p=.35, 3 df, RMSEA=.038,NFI=.98,GFI=.98,AGFI=.89, n=61			

Revised Model

From \ To	Communication	Effectiveness	Performance	Dependence
Customer Orientation	H1 .54(4.97)	H2a .27(3.62)	H2b .31(3.05)	-
Communication	-	H3a .69(9.18)	H3b .53(5.17)	-
Effectiveness	-	-	-	H4a .43(3.69)
Performance	-	-	-	-
R^2	30%	76%	56%	19%
Model Fit	χ^2=3.26; p=.52, 4 df, RMSEA=.00, NFI=.98, GFI=.98 , AGFI=.92, n=61			

Note: Loadings are standardized. ns indicates not significant t-values are in parentheses

FIGURE 2
THE INFLUENCE OF COMMUNICATION AND CUSTOMER ORIENTATION
FINDINGS



Loadings are standardized. ns indicates not significant t-values are in parentheses

Table 3: Decomposition of Direct, Indirect and Total Effects					
From	**To**	**Total Effects**	**Direct Effects**	**Mediating Variables**	**Indirect Effects**
Customer Orientation	Effectiveness	.65 (6.58)	.27 (3.62)	Communication	.38 (4.37)
Customer Orientation	Performance	.60 (5.79)	.31 (3.08)	Communication	.29 (3.58)
Customer Orientation	Dependence	.28 (3.22)	-	Effectiveness	.28 (3.22)
Communication	Dependence	.30 (3.43)	-	Effectiveness	.30 (3.43)
Loadings are standardized. t-values are in parentheses					

CONCLUSION

The importance of knowing what influences MR's perceptions is suggested by researchers explaining how interfirm relationships develop through processes or stages (Ring & Van De Ven, 1994; Dwyer, Schurr & Oh, 1987; Frazier, 1983). As noted, there is the potential for a principal to lose customers if the MR chooses to terminate the relationship. This may happen as customers that are loyal to a principal at one time develop stronger relationships with the MR. The model (Figure 2) resulting from tested hypotheses provides a guide for principals wishing to influence MR perceptions.

Linking the MR's assessments of a principal's communication and customer orientation to perceptions of principal effectiveness and performance indicate areas for principals to consider. Specifically, the principal's communication and customer orientation are key areas needing attention when attempting to improve the MR-Principal relationship. Moreover, cultivating MR perceptions of these antecedents is beneficial because they indirectly and positively influence MR dependence on the interfirm relationship.

One conclusion is that placing attention on these areas is likely to reduce the probability that a manufacturers' representative would terminate the interfirm relationship, thus avoiding the possibility of losing customers. Another conclusion is that MR perceptions of customer orientation and communication are intertwined, so attention must be given to both when interacting with the MR. Therefore, a principal choosing to outsource to an MR as a means to primarily reduce costs without giving attention to both factors may not cultivate MR perceptions that the principal is effective. As less effectiveness is perceived, the MR's dependence on the principal declines. Furthermore, the MR's perceptions of sales performance with the principal are also apt to decline with declining principal communication and sales orientation.

The analysis of these constructs will hopefully stimulate discussion and ideas that will advance research activity in this area. One area suggested by the findings is the need to further examine MR dependence to determine other factors associated with this construct. The low R-square associated with dependence, although significant, suggests that other factors contribute to this outcome. Determining these would add to our knowledge of how to maintain MR-Principal relationships.

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APPENDIX A	
Construct, Source, Reliability	**Scale Items**
Dependence Heide and John (1988) (Cronbach's alpha =.86)	1. If we no longer represented the Principal, we could easily compensate for it by switching our effort to other product lines – which we currently carry. (reverse coded) 2. If we no longer represented the Principal, the loss of the product line(s) would hurt sales of other related product lines**.** 3. If we no longer represented the Principal, we could easily replace the product line(s) with similar line(s) from other Principals. (reverse coded)
Effectiveness Bucklin and Sengupta (1993) (Cronbach's alpha =.97)	1. The relationship between my firm and the Principal has been productive. 2 The time and effort spent in developing and maintaining a relationship with the Principal has been worthwhile. 3. The relationship between my firm and the Principal has been satisfactory.
Communication Anderson, Lodish. and Weitz (1987)(Cronbach's alpha =.88)	The Principal keeps us informed of new developments. 2. The Principal provides us with frequent constructive feedback on our performance. 3. The Principal communicates regularly with us.
Customer Orientation Deshpande, Farley and Webster(1993) (Cronbach's alpha =.88)	1. The Principal's product development is based on good market and customer information. 2. The Principal has a good sense of how customers value its products. 3. The Principal believes that our customers should always come first.
Performance Sujan, Weitz and Kumar (1994) (Cronbach's alpha =.87)	1. We generate a high level of dollar sales with this Principal. 2. We regularly exceed sales goals with this Principal 3. Our performance with this principal compares favorably with the performance achieved with other Principals.
U.S. Census Bureau. 2007 Economic Census; Wholesale Trade: Subject Series -Misc Subjects: Sales and Commissions of Electronic Markets, Agents, Brokers, and Commission Merchants for the United States: 2007. Retrieved from American FactFinder at http://factfinder2.census.gov/faces/tableservices/jsf/ pages/productview.xhtml?pid=ECN_2007_US_42SXSB05&prodType=table	

BREAKING THROUGH THE CLUTTER: THE IMPACT OF EMOTIONS AND FLOW ON VIRAL MARKETING

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ABSTRACT

Given the increasing importance of consumer-driven electronic word-of-mouth for promotion, marketing researchers have sought to identify the types of content most likely to "go viral." Several studies suggest that pleasant content results in greatest pass-along, while conflicting findings report that unpleasant content generates the highest probability of pass-along. The present study uses an experimental design to assess the relative impact of pleasant vs. unpleasant Internet content, as well as the impact of emotional engagement per se, conceptualized as flow, on consumer intentions. Analyses show that individuals who experience flow are significantly more likely to pass along, download, or purchase content, regardless of whether the content they observe is pleasant or unpleasant.

INTRODUCTION

Given the proliferation of brand-related information experienced by the average consumer on a daily basis, it has become increasingly important for brand managers to identify ways to break through the commercial clutter to make a positive and lasting impression on target consumers. Certainly, a media saturation campaign may provide an opportunity to overcome consumers' perceptual barriers, but the rising cost of media buys argues against such an approach in favor of alternative, less expensive tactics. As industry statistics reveal, more and more companies have shifted the balance of promotional expenditures to reflect greater interest in communication efforts other than advertising (O'Guinn, Allen, & Semenik, 2012).

One particular communication method that has received renewed interest in recent years is interpersonal communication, documented in the archives of communication research as highly influential, and shown to be potentially even more effective in today's Internet era. Word-of-mouth communication from friends and family has long been known to be more effective in influencing purchase decisions than mass-mediated communication alone (Katz & Lazarsfeld, 1995; Rogers, 1995), and it promises to have even greater potential for influence given the vast expansion of social networks made possible by the Internet (Allsop, Bassett, & Hoskins, 2007). Electronic word-of-mouth, also called viral marketing, online buzz, social networking, or peer-to-peer communication, promises to be a continuing force in marketing communication.

Ironically, however, marketers have no direct control over this powerful consumer-driven form of communication. To further complicate the issue, negative word-of-mouth can have as great an impact as positive word-of-mouth. Thus, strategies to generate viral marketing must be carefully designed to ensure that communication is prolific and positive.

While there is no direct control over word-of-mouth, that is not to say that there is no connection between marketer-controlled efforts and consumer-driven communication. Keller and Fay (2009) have shown that advertising serves as the source of information for about 20% of word-of-mouth about brands. Though their study did not investigate what types of content promote positive electronic word-of-mouth, other authors have examined the connection between content and electronic word-of-mouth communication.

EMOTIONS AND VIRAL MARKETING

Several studies have shown that emotions play a role in whether or not a message will go viral, but there are inconsistent findings regarding which emotions will result in greater pass-along. Chiu, Hsieh, Kao, and Lee (2007) reported that ad messages which provide higher utilitarian and hedonic benefits, such as information perceived to be useful, entertaining, or enjoyable, are more likely to be passed along. Similarly, Eckler and Bolls (2011) reported that ads with pleasant emotional tones are more likely to be forwarded.

On the other hand, a study by Brown, Bhadury, and Pope (2010) found that content which elicits negative emotions results in greater electronic word-of-mouth. In their study, the greater the comedic violence and the more severe the consequences of violence, the higher the probability of pass-along.

Lindgreen and Vanhamme (2005) suggested that surprise is important for viral success, and many advertisers have resorted to shocking content, such as sexuality, nudity, and violence (Porter & Golan 2006; Eckler & Bolls 2011) to create intense emotional responses in viewers. The view is supported by Dahl, Frankenberger, and Manchanda (2003), who reported that shocking advertising content increases attention and positive behavior. In a similar vein, Henke (2011) found that disgusting content results in a higher probability of pass-along among consumers who have low involvement with the advertised product.

Phelps et al. (2004) concluded that emails that spark emotions, whether positive or negative, are more likely to be forwarded. Similarly, Siefert, et al. (2009) determined that emotional engagement was significantly correlated to the number of times ads were downloaded and viewed, as well as the number of times audience members commented on the ads online.

EMOTION VS. ENGAGEMENT: THE PRESENCE OF FLOW

The conflicting findings regarding emotion and viral marketing, as well as a number of studies using biometric measures, suggest that it is the level of engagement, rather than its emotional valence, which is significant in viral marketing. Siefert and his colleagues (2009), for example, used biometric measures such as skin conductance, heart rate, and respiration to indicate the intensity, but not the valence, of emotional engagement among study participants, and found a correlation between engagement and online buzz. Similarly, Micu and Plummer (2010) used physiological measures to assess emotional responses to advertising, but their study was not able to discriminate the valence of the emotions. These findings suggest that the level of engagement, or the intensity of the experience, is more important than the specific emotion elicited by the content, and whether the emotion is positive or negative.

In a study that examined the relationship between consumers' online engagement and Web site effectiveness, Sicilia and Ruiz (2007) conceptualized engagement as flow, a concept first introduced by Csikszentmihalyi (1990), who describes flow as "optimal experience" characterized by total involvement with life, the opposite of anomie and alienation, and "the state in which people are so involved in an activity that nothing else seems to matter."

Psychologists and marketing communication researchers have attempted to empirically define flow. Rodriguez-Sanchez, Schaufeli, Salanova, and Cifre (2008) reported that the construct of flow consists of absorption, enjoyment, and intrinsic interest. Drengner, Gaus, and Jahn (2008) viewed flow as a five-dimensional construct consisting of full concentration, absent-mindedness, loss of sense of time, the impression that consciousness and activity are merging, and the subjective impression of having one's activity under control.

Although much of the original research on the flow experience involved artists and athletes (Csikszentmihalyi 1990; Csikszentmihalyi 1997, Csikszentmihalyi & Csikszentmihalyi 1988), the flow experience has been shown to be particularly important in defining online experiences and their effect on consumers. Studies have shown that individuals experience flow while using computers (Trevino & Webster 1992; Novak, Hoffman, & Yung 2000), and Hoffman and Novak (1996) and Novak, Hoffman, and Yung (2000) suggested that the facilitation of a flow state is necessary for the creation of compelling online experiences. They defined flow as a state characterized by a seamless sequence of responses facilitated by machine interactivity, intrinsically enjoyable, accompanied by loss of self-consciousness, and self-reinforcing (Hoffman & Novak 1996). Novak, Hoffman, and Duhachek (2003) found that online flow experiences occur for both experiential and goal-directed activities.

Many studies confirm the positive impact of online flow on consumer decisions. Huang (2003) found that the more intense the flow state, the more positively consumers rate the Web site. Hoffman and Novak (1996) reported that online flow increases recall, positive behavior, and a positive rating of the experience. Similarly, Sicilia and Ruiz (2007) found that Web sites that cause consumers to experience flow result in significantly more positive comments, significantly more positive attitudes toward the Web site, and, indirectly, significant increases in purchase intentions.

FOCUS OF THE PRESENT STUDY

Based on the review of the relevant literature, and given the consistent positive findings regarding the experience of an online flow state and consequent consumer cognitions, attitudes, and behavior, the present study seeks to determine whether a flow state among Internet consumers results in more positive perceptions of an Internet site, more positive perceptions of the product portrayed on the site, and increased intentions to pass along content or purchase the product featured on the site.

In addition, because of the conflicting findings regarding the impact of emotional valence on consumer perceptions and behaviors, the study seeks to determine the relative impact of flow vs. emotional valence on viral marketing.

Specifically, the study assesses how pleasant stimuli, disgusting stimuli, and stimuli that elicit flow affect consumer attitudes, purchase intentions, and probability of pass-along.

METHOD

To address the research questions, the study used an experimental design employing pleasant vs. unpleasant YouTube content and two levels of perceived flow.

Subjects

Haridakis and Hanson (2009) reported that college students constitute the primary audience of YouTube, at 85% use. In addition, Riegner (2007) reported that 90% of people between the ages of 18 and 24 use Email. Therefore, because college students are a realistic target market for viral marketing, undergraduate students served as the subjects for the study. Fifty-five students were randomly assigned to one of two experimental conditions and run in small groups.

Treatment Conditions and Pretests

The independent variable in the study was the perceived pleasantness of the stimulus. In the pleasant condition, subjects listened to a melodic song from a YouTube video. In the unpleasant condition, subjects heard the song and viewed the accompanying YouTube video, which featured bleeding and injured people in what appears to be a hospital emergency room. Subjects were not familiar with the YouTube video.

Perceived pleasantness was measured using a seven-point semantic differential (pleasant/unpleasant). Subjects found the music-only treatment to be significantly more pleasant (M=5.34), the music video treatment to be significantly more unpleasant (M=2.12) (t (53df) = 77.956, $p < .000$).

Perceived flow served as the two-level moderating variable, measured using the seven-point scale used by Chen, Wigand, and Nilan (1999), Novak, Hoffman, and Yung (2000), and Sicilia and Ruiz (2007). Respondents were divided into two categories using a median split, with flow characterized as High or Low. Interestingly, there was no significant difference in flow between the two treatment conditions (Pleasant condition M=3.45, Unpleasant condition M=3.12) (t (53df) = .448, n.s.). Subjects in the pleasant and unpleasant conditions were equally likely to experience flow.

Dependent Variables

The likelihood of downloading, passing along, or purchasing the content, or attending a concert by the band, were measured using an eleven-point scale, where 1 meant “no chance/0 in 100” and 11 meant “certain/99 in 100.” The scale was developed by Juster (1966) and modified by Brown, Bhadury, & Pope (2010).

ANALYSES

One-way analyses of variance were conducted, comparing the main effects of the two treatment conditions (pleasant vs. unpleasant) and accounting for the effects of perceived flow (high vs. low).

FINDINGS

Intention to download content was significantly higher for individuals who experienced high flow (M=5.44) than for those who experienced low flow (M=1.47) ($F(1,53) = 31.059$, $p < .000$). There was no main effect for pleasant vs. unpleasant condition ($F(1,53) = 2.755$, n.s.), and no interaction effect ($F(1,53) = .153$, n.s.).

Willingness to pass along content was significantly higher among high flow individuals (M=5.48) than low flow individuals (M=1.67) ($F(1,53) = 28.141$, $p < .000$). There was no main effect for level of pleasantness (F91,53) = .949, n.s.), and no interaction effect (F-(1,53) = .427, n.s.).

Individuals who experienced high flow were significantly more likely to purchase the content (M=3.32) than those who experienced low flow (M=1.23) (F(1,53) = 12.171, $p < .001$). There was no main effect for level of pleasantness (F (1,53) = 3.425, n.s.) and no interaction effect (F (1,53) = .884, n.s.).

Finally, high flow was significantly more likely to result in the intention to attend a performance by the band featured in the content (M=6.20) compared to low flow (M=2.03) (F(1,53) = 31.763, $p < .000$). Three was no main effect for level of pleasantness (F(1,53) = .118, n.s.) and no interaction effect (F(1,53) = 1.033, n.s.).

DISCUSSION

Findings indicate that the subjective experience of flow is an extremely potent force in viral marketing, occurring for pleasant as well as unpleasant stimuli and overriding the impact of both. Respondents who experienced flow were significantly more likely to download, pass along, and purchase the content, and to report an intention to attend a concert by the band featured in the content.

The results are intriguing because, although treatments were considered significantly different in their ability to evoke pleasant or unpleasant emotions, flow occurred in both treatment conditions, reinforcing the idea that the flow state is a subjective experience and a unique individual response to the stimulus. Flow resulted in significantly more positive attitudes and intentions related to viral marketing, but was not related to the valence of the emotional engagement experienced by the respondents.

LIMITATIONS AND FUTURE RESEARCH

The findings raise the question of which factors predict the occurrence of the flow state. Flow occurred regardless of whether the observed stimuli were perceived to be pleasant or unpleasant. Thus, it is likely that the internal state of each individual determines whether the flow state will occur in response to observation of the stimuli. While the findings reinforce the notion that it is what the individual brings to the medium, and not the content of the medium, that determines impact, the findings do not provide an answer to the question of which characteristics of the internal state result in flow. Future research might attempt to identify these antecedents of flow.

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MEASURING HOTEL SERVICE QUALITY PERCEPTIONS: THE DISPARITY BETWEEN COMMENT CARDS AND LODGSERV

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ABSTRACT

Service quality is an important measure for the success of a hotel. The higher the perception of service quality, the more likely guests will return to the hotel, spread favorable word-of-mouth and increase brand loyalty. Many hotel managers find comment cards to be an important aspect of assessing guest satisfaction and use them to measure the gap between the service quality they believe they are providing and customer perceptions of service quality. This study presents a content analysis of hotel chains' comment cards to determine disparities with the industry specific LODGSERV model developed to measure perceived hotel quality. Findings indicate that the hotel comment cards include LODGSERV dimensions but include a greater assessment of tangible services and employee empathy and a lesser assessment of reliability, responsiveness, and assurance. In order for hotel managers to better measure service quality, improvements in the content and design of hotel comment cards are suggested.

Keywords: LODGSERV; comment cards; service quality; hotel; SERVQUAL

INTRODUCTION

The U.S. hotel and motel industry, comprised of about 40,000 companies operating 50,000 properties, has annual revenue of approximately $120 billion with the 50 largest companies generating nearly 45 percent of revenue (Hoover's, 2011). During the recent economic downturn, many hoteliers reduced costs by eliminating staff and delaying investment in property improvements. Now according to the J.D. Power and Associates 2011 North America Hotel Guest Satisfaction Index Study (2011), while room rates and occupancy are increasing guest satisfaction with hotel facilities and services is declining. According to J.D. Power and Associates, "The decline in overall satisfaction in 2011 reflects that hotel improvement efforts and investments are lagging behind rising customer expectations." Hotels that can attract, maintain, satisfy and retain customers are more likely to survive (Choi and Chu, 2001). According to industry experts, providers best positioned to harness future growth will be the ones that are able to elevate the guest experience and meet escalating customer service and quality expectations (Litchford, 2007).

Customer perception of value is influential in determining guests' satisfaction level and likelihood of returning to the same hotel (Choi and Chu, 2001; Sim et al., 2006). For a hotel to remain competitive and profitable, it must establish strong customer relationships through customer advocacy, loyalty, and repeat usage (J.D. Power and Associates, 2011). Customers who are satisfied are more likely to establish loyalty, repeat purchases and favorable word-of-mouth (Fornell, 1992; Hu et al., 2009; Matzler et al., 2006). In the hotel industry, service quality is often measured to determine customer perceptions of the guest experience. Service quality is an antecedent of consumer satisfaction that, in turn, impacts purchase intentions (Cronin and Taylor, 1992). Consumer satisfaction also increases shareholder value (Anderson et al., 2004). Thus, the hotelier who is able to provide better service and value has the competitive advantage (Stevens et al., 1995).

In order to provide better service and value, it becomes increasingly important for hotels to monitor customer perceptions of service quality. Many hotel managers choose comment cards as a method to measure guest satisfaction. However, the question remains as to whether comment cards are an effective evaluation tool and whether the appropriate service quality dimensions are being assessed. The purpose of this study is to identify the general dimensions and specific attributes measured in hotel comment cards and compare them to what the literature indicates should be measured, specifically the dimensions and attributes contained in the LODGSERV model.

RELATED LITERATURE

Business focus is shifting from products and services to an *experience* economy (Toffler, 1970; Pine and Gilmore, 1999). While there is no widely agreed upon definition for experience, Knutson and Beck (2003) propose that experience involves individualized participation by a consumer in three phases: pre-experience, participation and post-experience. Knutson and Beck (2009, 2010) propose that service quality is a holistic experience impacted by each of the three phases. However in the hospitality industry, most service quality measurement focuses on the gap between consumer expectation and perceived experience.

Service Quality Scales

The widely accepted service quality measurement scale SERVQUAL (Parasuraman et al., 1988) was developed to measure the gap between what customers expect from a service firm and the service they perceive to have been provided. SERVQUAL is considered a gap theory model because it measures the difference between expectations of the customer prior to experiencing the service and the evaluation of the outcome of the service encounter (Clow and Vorhies, 1993). Pre-post experience measures allow assessment of the extent and direction of the gap. The SERVQUAL instrument identifies five dimensions of service quality using 22 indicators

(Parasuraman et al., 1988). The dimensions include *tangibles*, *reliability*, *responsiveness*, *assurance* and *empathy*. Descriptions of the five dimensions, as defined by Parasuraman et al. (1988, p. 6), are given in Table 1.

Table 1: Servqual Dimensions of Service Quality

Dimension	Description
Tangibles	Physical facilities, equipment, and appearance of personnel
Reliability	Ability to perform the promised service dependably and accurately
Responsiveness	Willingness to help customers and provide prompt service
Assurance	Knowledge and courtesy of employees and their ability to inspire trust and confidence
Empathy	Caring, individualized attention the firm provides its customers

While SERVQUAL is the most widely used model for measuring service quality, other models of service quality have also been discussed in the literature. One alternative is the performance only SERVPERF measurement scale developed by Cronin and Taylor (1992). They believed that the expectation component included in SERVQUAL confounded the measurement of satisfaction and service quality (which they perceived as an attitude). SERVPERF is more parsimonious than SERVQUAL, asking half the questions and reducing the data collection task. Cronin and Taylor's (1992) findings suggested that service quality is an antecedent to consumer satisfaction that, in turn, has a stronger influence on purchase intentions than service quality. They also suggested that relevant scale items may differ based on the industry and may be influenced by the level of the consumer's involvement (Cronin and Taylor, 1992). Jain and Gupta (2004) compared the SERVQUAL and SERVPERF scales in the context of fast food restaurants in Delhi, India. SERVPERF was shown to have greater convergent and discriminate validity in explaining the service quality construct. However, SERVQUAL was found to possess the highest diagnostic power in pinpointing service quality shortcomings that can be addressed by the service provider (Jain and Gupta, 2004).

As another alternative to SERVQUAL, the FAIRSERV model was offered as an alternative or additional conceptualization of consumer reactions to service (Carr, 2007). The FAIRSERV model is based on justice and equity theory with the premise that consumers are interested in service fairness in addition to service quality (Carr, 2007). Justice plays a significant role on post-recovery satisfaction and behavioral outcomes (Ok et al., 2005). Carr (2007) compared the new FAIRSERV model with the widely accepted SERVQUAL using evaluation of information system services as the context with service satisfaction and re-patronage intention as the dependent variables. The four dimensions of systemic service fairness were identified as *procedural*, *distributive*, *interpersonal* and *informational*. Carr (2007) found support for the validity of the FAIRSERV model; service fairness impacts service quality, as well as service satisfaction and re-patronage intention.

Industry-Specific Service Quality Scales

As suggested by Cronin and Taylor (1992), different scale items may be more relevant than others in measuring service quality depending upon the specific industry. Examples include Bowers et al. (1994) for health care; Stafford (1996) for banking, Weeks et al. (1996) for professional services; Dabholkar et al. (1996) for retail; Oyewole (1999) for fast food; and Chan et al. (2011) for leisure services. For the lodging industry, Knutson et al. (1990; 1992) created and tested LODGSERV based on the five dimensions of service quality identified in SERVQUAL, but made up of 25 lodging-specific items. LODGSERV and its five dimensions as summarized by Patton et al. (1994) are listed in Table 2.

Table 2: Lodgserv Dimensions Of Service Quality

Dimension	Item #	The hotel should…
Tangibles	1	have personnel who are clean, neat and appropriately dressed.
	2	serve food and beverages that are consistently high in quality.
	3	give you a room which is visually attractive.
	4	have décor consistent in keeping with its image and price range.
	5	have buildings, lobbies, and public areas which are visually attractive to you.
	6	have up to date equipment.
Reliability	7	have utilities and equipment that work well.
	8	be dependable, consistent, and able to be counted on.
	9	quickly correct anything that is wrong.
	10	provide promised or advertised services on time.
Responsiveness	11	provide prompt and quick service.
	12	have personnel shift to help where line occur.
	13	have staff that gives extra effort to handle your special requests.
Assurance	14	have personnel who seem well-trained, competent and experienced.
	15	make you feel comfortable and confident in your dealings with them.
	16	seem to give employees support so they can do their jobs well.
	17	have personnel who are both able and willing to give you information about hotel and outside services.
	18	have knowledgeable phone reservationists who answer your questions completely.
Empathy	19	make you feel like a special and valued guest.
	20	have employees who are sympathetic and reassuring if something is wrong.
	21	eliminate unnecessary bureaucracy to contact a hotel manager or supervisor.
	22	have employees who are sensitive to your individual needs and wants rather than always going by the book.
	23	anticipate your individual needs and wants.
	24	provide complimentary services like courtesy shuttles, morning coffee and morning newspaper.
	25	have restaurant and room service menus that include healthful and/or special diet options.

In contrast to the multidimensional SERVQUAL/LODGSERV service quality measurement instruments, Mells et al. (1997) proposed a reduced model comprised of only two dimensions of service quality. The two dimensions identified were *tangibles* and the remaining highly correlated SERVQUAL/LODGSERV dimensions collapsed into a second dimension. Ekinci et al. (1998) tested the two-dimensional model in the context of resort hotel service quality with results supporting the reduced model as adequate and appropriate for assessing service quality. Thus, various schools of thought exist as to how to best measure service quality in the hospitality industry with the SERVQUAL/LODGSERV instrument being the most detailed and comprehensive approach.

HYPOTHESES

Although hoteliers have several service quality instruments available to them, LODGSERV can be perceived as a comprehensive, ready-to-use survey. However, many hotel managers use comment cards to elicit customer feedback concerning service quality. The customer comment card is a source of customer feedback at the time of the service experience and, therefore, a useful tool for assessing service quality. Information gained from comment cards can be used for service recovery and direction of quality improvement (Sampson, 1996). Similar to LODGSERV, customer comment cards represent a performance-based measure of the perception of service outcomes. The issue is whether the questions asked on hotel comment cards are in synch with the LODGSERV scale in assessing service quality. Wisner and Corney (1997) believe that comment cards are not used to their full potential. Often the cards are used to placate customers or to punish employees. Poor card availability and problematic return methods contribute to ineffective evaluation. Also Wisner and Corney (1997) indicate that the typical comment cards do not assess all five, service quality dimensions established in the SERVQUAL instrument. If comment cards were more congruent with the elements captured by LODGSERV, they would prove to be more intellectually and managerially valuable.

Since the LODGSERV instrument was created specifically to measure service quality in a hotel context, two research questions were developed to assess the potential gap between LODGSERV and comment card content:

H1: *Hotel comment cards assess all five, service quality dimensions identified in* LODGSERV.

H2: *Hotel comment cards do not assess service quality using the same 25 items identified in* LODGSERV.

METHODOLOGY

Due to the relative stability and uniformity of service paradigms and facilities, regardless of location, 75 major hotel chains throughout the United States were selected for the research sample. Comment cards were collected from each hotel chain and a content analysis of the comment cards was conducted. The comment cards were analyzed for general dimensions, as well as the items used to specifically measure each dimension. Two coders separately categorized the data then compared their results. Inter-coder reliability was found to be 98.96, with coders resolving the differences found. The resulting comment card database was analyzed for LODGSERV dimension congruence/incongruence and for the frequency of occurrence of each specific attribute within each dimension.

RESULTS AND DISCUSSION

Hotel Comment Card Content Analysis Dimensions

Six dimensions emerged from the content analysis of the comment cards - *room*, *service*, *staff/personnel*, *restaurant/bar*, *facilities*, and *overall experience*. The first five dimensions – *room*, *service*, *staff/personnel*, *restaurant/bar*, *and facilities* – were measured using from five to twelve specific attributes. The remaining dimension - *overall experience* - was measured using two attributes, one relating to overall experience and one relating to overall service quality. The frequency and percent of occurrence of each attribute within each dimension are given in Table 3.

Table 3: Hotel Comment Card Content Analysis

Hotel Comment Card Content		Occurrence		LODGSERV
Dimension	Attribute	Frequency(n=75)	Percent(%)	DimensionItem #
Room	Cleanliness	62	83	3
	Value/Price	41	55	4
	Comfort	30	40	4
	Equipment	30	40	6, 7
	Appearance	29	39	3, 4
	Bathroom	28	37	3, 4, 7
	Furnishings	22	29	3, 4
	Supplies	20	27	3, 4, 23
	Bed/Bedding	18	24	3, 4
	TV/Radio	18	24	6, 7
	Heating/AC	16	21	6, 7
	Lighting	16	21	6, 7

Table 3: Hotel Comment Card Content Analysis				
Hotel Comment Card Content		Occurrence		LODGSERV
Service	Check-in/Front desk	51	58	1, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23
	Checkout	39	52	8, 9, 10, 11, 12, 13, 14, 15, 19, 20, 21, 22, 23
	Reservations	38	51	18, 19, 20, 21, 22, 23
	Housekeeping	28	37	1, 8, 9, 10, 11, 14, 15, 19, 20, 22, 23
	Telephone	25	33	6, 7
	Mail/Messages	18	24	6, 7, 8, 10, 11, 15
	Wake-up calls	18	24	6, 7, 8, 10, 11, 15, 19
	Valet/Special services	12	16	1, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24
Staff/Personnel	Friendliness	47	63	19, 21, 22, 23
	Courtesy	24	32	20, 21, 22, 23
	Efficiency	20	27	9, 10, 11, 21
	Helpfulness	16	21	8, 9, 13, 17, 18, 20, 21, 22, 23
	Promptness	15	20	9, 10, 11
Restaurant/Bar	Food quality	44	59	2, 25
	Beverage	17	23	2, 25
	Value/Price	16	21	---
	Variety	14	19	25
	Breakfast	13	17	24
Facilities	Appearance	21	28	4, 5
	Lobby	18	24	4, 5
	Bar/Lounge	18	24	4, 5
	Pool	18	24	4, 5, 6, 7
	Recreation	16	21	4, 5, 6, 7
	Convention	15	20	4, 5, 6, 7
	Safety/Security	14	19	6, 7
	Parking lot	14	19	5
	Banquet room	12	16	4, 5
Overall Measures	Experience	45	60	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25
	Service quality	18	24	1, 2, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25

As shown in Table 3, the room attributes included *cleanliness*, *value/price, comfort*, *equipment*, *appearance*, *bathroom*, *furnishings*, *supplies*, *bed/bedding*, *TV/radio, heating/AC*, and *lighting*. Across the comment cards, the most consistently asked room attributes were cleanliness (83%) and value/price (55%). The service attributes included *check-in/front desk*, *checkout*, *reservations*, *housekeeping*, *telephone*, *mail/messages*, *wake-up calls*, and *valet/special services*. The top three most noted attributes were check-in/front desk (58%), checkout (52%) and reservations (51%). The staff/personnel attributes included *friendliness*, *courtesy*, *efficiency*, *helpfulness*, and *promptness*. The attributed used most to assess the staff/personnel was friendliness (63%) with the other staff/personnel attributes displaying a much lower frequency of occurrence.

Additionally as illustrated in Table 3, restaurant/bar was assessed using the attributes of *food quality*, *beverage*, *value/price*, *variety*, and *breakfast*. Of the five, restaurant/bar attributes only food quality had a fairly high frequency of inclusion across the comment cards (59%). In comparison to the other dimensions, the nine attributes related to facilities had relatively low levels of occurrence across all hotel comment cards (≤ 28%). The nine facilities attributes included *appearance*, *lobby*, *bar/lounge*, *pool*, *recreation*, *convention*, *safety/security*, *parking lot*, and *banquet room*. Two overall measures – *experience* and *service quality* – were included on the comment cards. However, the rate of inclusion was very different with experience appearing on 60 percent and service quality appearing on only 24 percent of the hotel comment cards.

In addition to the six dimensions identified via the hotel comment card content analysis - *room*, *service*, *staff/personnel*, *restaurant/bar*, *facilities*, and *overall experience* - the comment card content analysis found that hotels are providing consumers with the opportunity for self-generated feedback. Out of the 75 major hotel chains surveyed, comment cards at 69 of the hotels (92%) included an open-ended question soliciting suggestions or comments. In addition, comment cards at 58 of the hotels surveyed (77%) provided guests the opportunity to indicate whether or not they would consider a return visit. The inclusion of a question concerning intention to revisit provides an indication of consumer loyalty.

Hotel Comment Card Dimensions VS. Lodgserv Dimensions

As shown in Table 3, the results of the comparison of the hotel comment card dimensions with the five service quality dimensions of the SERVQUAL (Table 1) and LODGSERV scales (Table 2) reveal that all service quality dimensions are included on the comment cards, but to varying degrees. Generally, the comment card dimensions of *room* and *facilities* relate to the LODGSERV dimensions of *tangibles* and *reliability* and, to a much lesser degree, *empathy*. The LODGSERV dimension *empathy,* where individual needs and wants are anticipated, was included because of the *room* attribute, *supplies*, that may encompass necessary personal amenities such as shampoo, soap, hand lotion, etc. that the guest may have forgotten to bring along.

The hotel comment card dimension of *restaurant/bar* was determined to be associated with the LODGSERV dimensions of *tangibles* and *empathy*. The *staff/personnel* dimension of the hotel comment card was associated with the four LODGSERV dimensions *reliability*, *responsiveness*, *assurance*, and *empathy*. Only the *service* dimension of the hotel comment card was related to all five LODGSERV dimensions – *tangibles*, *reliability*, *responsiveness*, *assurance*, and *empathy*. Unlike LODGSERV, the hotel comment cards contained two overall measures, *experience* and *service quality*. Additionally, both overall measures of *experience* and *service quality* were associated with all five LODGSERV dimensions.

Hotel Comment Card Attributes VS. Lodgserv Items

An analysis of the hotel comment cards contained in Table 3 revealed that customers were queried concerning up to 39 attributes of the guest experience. More specifically, twelve attributes related to the *room* dimension, nine to *facilities*, eight to *service*, and five each to *staff/personnel* and *restaurant/bar*. In addition, hotel comment cards included up to two overall attributes, *experience* and *service quality*. On the other hand, the 25 items contained in LODGSERV (Table 2) address very specific areas of the hotel guest experience. Further, LODGSERV does not include items to measure the overall guest experience or service quality.

When comparing the hotel comment card attributes to the LODGSERV items, several areas of disparity and congruence were noted. One area of disparity is that LODGSERV does not specifically address the value or price of restaurant or bar offerings. Therefore, the *restaurant/bar* comment card attribute of *value/price* could not be identified with any of the LODGSERV items. Areas of commonality include the fact that the *staff/personnel* attributes of the hotel comment card were associated with 12 items of the LODGSERV instrument. *Service* attributes were related to 18 of the 25 LODGSERV items, more than any other hotel comment card dimension. Further, the overall measures of *experience* and *service quality* contained in the hotel comment cards were associated with a majority of the LODGSERV items. More specifically, *experience* was related to all 25 LODGSERV items; *service quality* was associated with 20 LODGSERV items.

Hotel Comment Card Content VS. Lodgserv

As the results indicate, there are differences in the measures taken by comment cards and those indicated in the LODGSERV instrument. Each method encompasses some unique measures of quality and service not available with the other. Comment cards do include at least one measure in each of the five service quality LODGSERV dimensions. Therefore, Hypothesis 1 that states that the hotel comment cards assess all five, service quality dimensions identified in LODGSERV is supported. However, the differences noted in the comment card attributes and the LODGSERV items support Hypothesis 2 that hotel comment cards do not assess service quality using the same items as LODGSERV. Actually, with hotel comment cards, there is a larger assessment of the *tangible* nature of hotel services and hotel employee *empathy* toward guests and a lesser assessment of *reliability*, *responsiveness*, and *assurance*.

IMPLICATIONS FOR HOTEL PRACTITIONERS

Service quality is an important component in evaluating the consumer's hospitality experience (Knutson et al. 2010). Based on SERVQUAL, LODGSERV was developed to measure service quality specifically in the hotel context. The higher the perception of service quality, the greater is the intention of the consumer to return to the hotel and to spread positive word-of-mouth (Boulding et al., 1993). Further, attention to product and service quality builds brand loyalty (Reich et al., 2005). Comment cards can play an important role in assessing consumer satisfaction by providing the hotelier with a measure at the time of the service encounter, providing a useful diagnostic tool. However, findings indicate that not all of the LODGSERV questions are utilized in comment cards. Given the size limitation of the comment card, this is understandable. However, hoteliers should be conscientious to include at least one measure from each of the established five service quality dimensions in LODGSERV. Additionally, expectations of the consumer should be considered in determining the attributes to include on the hotel comment card. For example, patrons of higher priced hotels are likely to have higher expectations from those establishments (Knutson et al., 1992). Thus, higher end hotels might consider the inclusion of questions that address areas of increased customer expectations such as special room amenities, dining and room service offerings, concierge services, and recreation and exercise facilities. When designing comment cards to access the guest experience, hoteliers also might consider customer gender. Yelkur and Chakrabarty (2006) found gender differences in customer expectations with the expectations of women being higher than men.

Comment cards can be an important part of the assessing consumers' satisfaction with their hotel experience. A study in the context of internal marketing found that satisfaction with service quality is mediated by service encounters (Durvasula et al., 2005). Service satisfaction is affected by both service quality perceptions and perceptions of the service encounter. This was reiterated in the work of Bitner (1994) and Simmers et al. (2008) who demonstrated that satisfaction with each service encounter builds to determine a consumer's overall satisfaction with the service provider. The use of a critical incident technique has been recommended (Bitner et al., 1990) to identify source of service satisfaction and dissatisfaction. Comment cards are inexpensive and available to every customer. They collect standardized information continuously so can be used to monitor service quality over time and to identify improvement opportunities (Sampson, 1996). Comment cards are designed to capture what is most important to management. Wisner and Corney (1997) found that *tangibles*, *responsiveness* and *assurance* factors were of greatest concern. We found *tangibles* and *empathy* to be most important. Intangible services are often evaluated based on the tangible aspects, so it makes sense that hoteliers would want to capture these data. Open-ended responses also offer a richer understanding of customer expectations (Pullman et al., 2005).

Comment cards fit well into the research strategy of the hotelier by providing relevant information at the time of the service encounter. Merely completing comment cards have been shown to have a positive effect on customer behavior. Based on their study with U.S. automotive services, Borle et al. (2007) found that survey participation has a positive impact on the number of coupons redeemed, the number of services purchased, purchase frequency, and the amount of money spent on each visit to the firm's stores. If managed properly, the feedback received from comment cards can be used as a diagnostic tool for improving the service quality of the hotel and encouraging re-patronage.

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DOES SATISFACTION AFFECT BRAND LOYALTY?

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ABSTRACT

Customer satisfaction and brand loyalty, a consequence of customer satisfaction, have been treated as marketing goals for most firms. Many researches consider loyalty as a multidimensional base. Despite the finding of many researches that satisfaction has a positive impact on repurchase behavior, there are few researches which treat loyalty as actual repurchase behavior. Therefore, this study investigated loyalty as actual repurchase behavior. For this study, we divided loyal consumers into 4 groups, and conducted a longitudinal survey for two years. The results showed that customer satisfaction influenced repurchase intention and behavior differently according to each group.

INTRODUCTION

During the past three decades, customer satisfaction has been treated as a strategic goal for most companies(Mittal and Kamakura, 2001). Capraro, Broniarczyk, and Srivastava (2003) observe that "today, most firm's programs to control customer defections center heavily on the management of customer satisfaction."

Most companies are running programs that can estimate customer satisfaction levels and provide more customer-oriented products and services. Because customer satisfaction is a post hoc evaluation of consumption experience, it has been regarded as a fundamental determinant of long-term consumer behavior (Oliver, 1980). These days researchers study the outcome of customer satisfaction, but there have not been enough researches which deal with consumer complaints, negative WOM, and repurchase intention (Szymanski and Henard, 2001). Especially, studies on the real link between customer satisfaction and customer loyalty are still limited. There are, however, some researches that shows effects of customer satisfaction. It indicates that higher levels of customer satisfaction would lead to greater customer loyalty, which in turn has a positive impact on profitability (Reichhedl and Teal, 1996).

There are a lot of environmental factors that are important to a firm's outcome (Bernhardt, Donthu and Kennett, 2000). Therefore, until recently, challenges have been from researchers to find a direct link between customer satisfaction and its outcomes.

Loyalty is also an important strategic objective for all marketing managers. Oliver (1999) proposes that a shift in emphasis from satisfaction to loyalty appears to be a worthwhile change in strategy for most firms. Oliver (1997) defines loyalty as "the deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing to purchase same-brand or same brand-set repetitively, despite situational influences and marketing efforts have the potential to cause switching behavior." According to Oliver (1999), consumer loyalty can occur at four different levels: cognitive, affective, conative, and behavioral. Although all four views of consumer loyalty are meaningful, the current research focuses on attitudinal and behavioral loyalty. Loyalty is a construct that has both attitudinal and behavioral elements when defined as "the biased behavioral response expressed over time by some decision-making units with respect to one or more alternative brands out of a set of such brands, which is a function of psychological(decision making, evaluative) processes"(Jacoby and Chestnut 1978,p80). Measuring loyalty by only one facet, that is, attitudinal or behavioral aspects, would result in a spurious attitude (an unstable attitude that does not influence consequent behaviors such as purchase) or spurious behavior (such as inertial behavior or impulsive behavior). Therefore, it is necessary to understand both attitudinal and behavioral loyalty.

Theoretically, customer satisfaction should be linked to loyalty behavior. But there are some contradictions about their relationship. For example, Lemon, White, and Winer (2002) and Rust, Lemon, and Zeithaml (2004) maintain that many non-satisfaction elements that increase switching costs are important factors in whether satisfaction has a strong relationship to loyalty or not.

Despite their strategic importance, many researches on customer satisfaction and loyalty have focused on the relationship between the satisfaction and repurchase intention. This is largely due to difficulties associated with the survey process and methodology. If a research is trying to find the relationship between satisfaction and real purchase behavior, it is required to survey at least twice for the same person with longitudinal steps. There are some arguments that discern true brand loyalty from spurious brand loyalty. It is suggested that an understanding of the difference between the true meaning of loyalty and spurious loyalty is necessary. Fournier (1998) argued that the true meaning of attitudinal loyalty has been lost in traditional brand loyalty research because of indifferent operationalization of inertia. He also claimed that people change their behaviors when they really buy products. For example, according to Seip and Stand (1992), only 10% of consumers pay the same amount of money compared to the price of intention. And under 30% of consumers actually bought the product compared to the repurchase intention. So it is required to study this relationship based on actual data. Therefore, we focus on the following research questions.

First, we examine where there is a positive relationship between customer satisfaction and behavioral loyalty at the individual level. We conduct empirical research to confirm the line between satisfaction and loyalty. Especially, we aim to find levels of loyalty according to consumers' attitudes and behavior.

Second, we investigate to see if there is a positive link between the level of customer satisfaction and the degree of actual purchase. Understanding the structure of this relationship is important to managers to determine the communication strategy.

The goal of this study is to investigate whether the relationship between customer satisfaction and behavioral loyalty is positive, as well as to gauge behavioral loyalty with a multidimensional approach. One of our research questions is how loyalty is conceptualized and measured.

LITERATURE REVIEW AND HYPOTHESIS

Customer Satisfaction

Customer satisfaction has traditionally been regarded as a fundamental determinant of long-term consumer behavior (Oliver, 1980). Many researches on customer satisfaction have focused on the relationship between satisfaction and actual consumer behavior. It seems natural to focus on cumulative customer satisfaction, rather than on the satisfaction of a specific transaction, since it will provide a more accurate value of a customer's attachment for future consumption of a product or service. There are many satisfaction measures, and many studies have attempted to identify the antecedents and consequences of customer satisfaction. In this study, customer satisfaction is defined as an evaluation after consumption experience. Outcome variables related to customer satisfaction can be divided into customer related outcomes and company-related outcomes. In this research, we focused on customer- related outcomes.

We focused on the link between these outcome variables and customer satisfaction, and classified the outcome variables into 4 categories.

First, we examined the relationship between customer satisfaction and loyalty (Anderson and Sullivan, 1993; Fornell, 1992; Oliver and Swan, 1989). These researches show that the more consumers are satisfied, the more loyalty will be expected. As a result, there will be a positive impact on the firm's profitability.

Second, there exist researches that have studied customer satisfaction and repurchase behavior (Seiders et al., 2005; Paulssen and Birk, 2007). According to Mittal, Kamakura (2001), there is a limit in the evaluation of customer satisfaction, and there is influence on real purchase according to consumers' characteristics. It has also been shown that it is very risky to predict the volume of purchase solely based on repurchase intention.

Third, WOM (word of mouth) is a result outcome of customer satisfaction. Satisfied consumers are willing to spread positive WOM to other people, which will result in the firm's higher profitability. Based on the customers' experiences of product or service usage, the possibility will grow.

Along with these variables it is necessary to consider real purchase behavior. But until now few researches have dealt with the relationship between customer satisfaction and real purchase behavior. Compared to previous researches, it is required to find the actual contribution of customer satisfaction to a firm's profitability.

Table 1: Classification of Outcome Variables of Customer Satisfaction				
CLASSIFICATION		OUTCOME VARIABLE	RESEARCHERS	THESIS
Customer related outcome variables	Intentional outcomes	Customer's commitment	Gustafasson, Johnson, and Roos(2005)	Finding the relationship between customer satisfaction and affective commitment and cognitive commitment.
			Lian and Wang(2004)	Influence of product attribute and benefits on customer satisfaction
		Intention to repurchase	Szymanski and Henard(2001)	Predict the relationship between customer satisfaction and repurchase with meta analysis
		Willingness to pay	Homburg, Hoyer, and Koschate(2005)	Finding the link between willingness to pay and customer satisfaction; then estimate the functional structure.
		Price sensitivity	Stock(2005)	Study of the link between customer satisfaction and price sensitivity in the B2B market
	Behavioral outcomes	Customer loyalty	Seiders et. al.(2005)	Moderating effects of the strength of relationship between customer satisfaction and repurchase intention
		Repurchase behavior (intention)	Mittal and Kamakura (2001)	Moderating effects of customer characteristics between customer satisfaction and repurchase
			Paulssen and Birk(2007)	In the B2B market, estimate the effects of customer satisfaction and repurchase
		WOM	Brown et al.(2005)	Customer satisfaction as an antecedent of positive WOM
			Ping(1993)	Finding the relationship between customer satisfaction and WOM in a channel

Loyalty

Loyalty is presumably a consequence of customer satisfaction (Oliver, 1999). Many researchers consider loyalty on a multidimensional basis by adding attitudinal or conative components. Often, loyalty is equated with future behavioral intentions, but an intention is only a tentative measure of behavioral loyalty. Several studies have found that intention does not mean actual repurchase. Seiders et al. (2005) use consumer allocation theory to show a significant difference between intentions and subsequent behavior. Many researchers view behavioral intention as the most predictable of behaviors, and thus propose a direct antecedent of loyalty behavior. Sometimes this intentional loyalty construct is called "brand commitment." In psychology, the concept of commitment is regarded as having intentional aspects. The impact of customer satisfaction and loyalty is not the same for all industries. Fornell (1992), who reports an overall positive relationship, says that "Loyal customers are not necessarily satisfied customers, but satisfied customers tend to be loyal customers."

Table 2: Multidimensional Approach of Loyalty Measure	
Researchers	Loyalty Measure
Anderson and Sullivan (1993)	Repurchase Intention
Anderson (1996)	Price Tolerance
Bolton (1998)	Repurchase Intention
Chandrashekaran et al. (2007)	Recommendation Intention
Cooil et al. (2007)	Share of Wallet
Dowling and Hammond (2003)	Share of Wallet
Fornell (1992)	Repurchase Intention, Price Tolerance
Jones and Sasser (1995)	Repurchase Intention
Keiningham et al. (2005)	Share of Wallet
Mittal and Kamakura (2001)	Repurchase Intention, Repurchase Behavior

In estimating loyalty at the individual level there are several indicators. One important question pertains to how loyalty is conceptualized and measured. Many of the researches on loyalty behavior have focused on the relationship between satisfaction and retention. This is largely the result of early research, which identified customer retention as a key driver of firm profitability (Reichheld 1993; Reichheld and Kenny 1991). Many firms allocated resources to examine how customer satisfaction affects customer retention (Bolton 1998), and researchers and marketers have become increasingly interested in consumers' share of spending as a behavioral measure of loyalty (Keiningham, Aksoy, et al. 2005; Uncles, Dowling, and Hammond 2003). Many studies have linked customer satisfaction to purchase behavior (Anderson and Sullivan 1993; Bolton 1998; Jones and Sasser 1995; Mittal and Kamakura 2001; Newman and Werbel 1973; Sambandam and Lord 1995). Loyalty can be measured with recommendation intention, and Chandrashekaran et al. (2007) measured loyalty by asking customers whether they would recommend products or services to other customers.

Despite the claim that customer satisfaction is linked to loyalty, there have been few attempts to show the existence of a relationship between customer satisfaction and actual repurchase behavior. As Newman and Werbel (1973) suggested, we tried to measure loyalty as the repurchase of the same brand.

HYPOTHESIS DEVELOPMENT

Because a key implication of this study is to examine how customer satisfaction affects the variables related to customer loyalty, it is important to define the different terms. "Satisfaction" is the result of post-consumption or post usage evaluation, and is applicable to both cognitive and affective elements (Oliver, 1997). In this research, we concentrate on satisfaction with "performance," which is a post-consumption evaluation of perceived quality relative to pre-purchase performance.

Some researches show that satisfaction can be divided into "transaction-specific satisfaction" and "cumulative satisfaction." Transaction-specific satisfaction is a customer's satisfaction with a particular product/service transaction (Olsen and Johnson, 2003). And cumulative satisfaction refers to the customer's overall evaluation of a product or service provider to date (Johnson, Anderson, and Fornell, 1995). In this research, we surveyed cumulative satisfaction. Because transaction-specific satisfaction is just related to a particular product transaction, cumulative satisfaction is preferred for this research on the satisfaction of durable goods.

Although longitudinal examinations of the effect of customer satisfaction have found a positive relationship with customer retention, the impact of true loyalty remains elusive. In this study, we tried to segment loyalty. Behavioral predictions are of great concern to marketing researchers because many corporate decisions are derived from forecasts of consumers' behaviors. We can assume that there are considerable links between multiple constructs (attitudes-related variables) and behavior. We can also use intentions to predict behavior. Therefore, we thought loyalty can consist of a combination of attitudinal and behavioral constructs. We hypothesize the following :

H1. The relationship between customer satisfaction and customer loyalty is positive

- *1-1. The relationship between customer satisfaction and customer loyalty(the owned brand [year t] is the same as the intended brand [year t]) is positive*
- *1-2. The relationship between customer satisfaction and customer loyalty(owned brand [year t] is the same as the actual repurchased brand [year t+1])is positive*
- *1-3. The relationship between customer satisfaction and customer loyalty (the intended brand [year t] is the same as the actual repurchased brand [year t+1] is positive*
- *1-4. The relationship between customer satisfaction and customer loyalty (the owned brand [year t] , the intended brand [year t] and the actual repurchased brand [year t+1] are the same) is positive.*

We tried to segment loyalty related to time into the past purchased brand and the repurchased brand. We also tried to divide loyalty based on attitude and behavior.

DATA AND METHODOLOGY

The Data

Theoretically, cumulative customer satisfaction must have a positive relationship to behavioral loyalty measure, and to repurchase behavior. Yet, this link may be difficult to observe in a general satisfaction survey. Given the need for further empirical study on loyalty – the firm's profit link, we conducted a large scale survey. Despite its strategic importance, empirical research linking satisfaction to repurchase behavior has been lacking, especially for durable goods.

We developed and tested a model that investigates to find a link between two constructs with a durable product, a cell phone. Therefore, the data used in this study came from a consumer survey of cell phone owners in Korea. A cell phone is a personal product and it often has a short replacement period of less than two years— one of the shortest for electronic appliances'- in Korea. Therefore, we can trace the former purchase behavior of participants more precisely.

For the first survey, in the year t, the survey measures (1) the owned cell phone brand, (2) overall satisfaction with using the cell phone, (3) intended repurchase of the cell phone brand, and (4) some demographic information among other variables. The participants who were surveyed in the year t participated in a telephone survey one year later in the year t+1. In the second survey, we asked (4) whether they had changed their cell phone, (5) whether they had repurchased the same cell phone brand and some other variables.

The survey is designed to measure satisfaction into the ownership cycle (the cell phone is the fastest repurchasing durable product in Korea), thus providing managers insights into new customers and maintenance of dialogue with them.

For the first survey, there were 1,800 total samples in the year t, which were selected randomly according to the population ratio by age in regions across the country. In the following survey, which was done one year later in the year t+1, 442 people repurchased cell phones. Thus, we used 442 samples for our analysis.

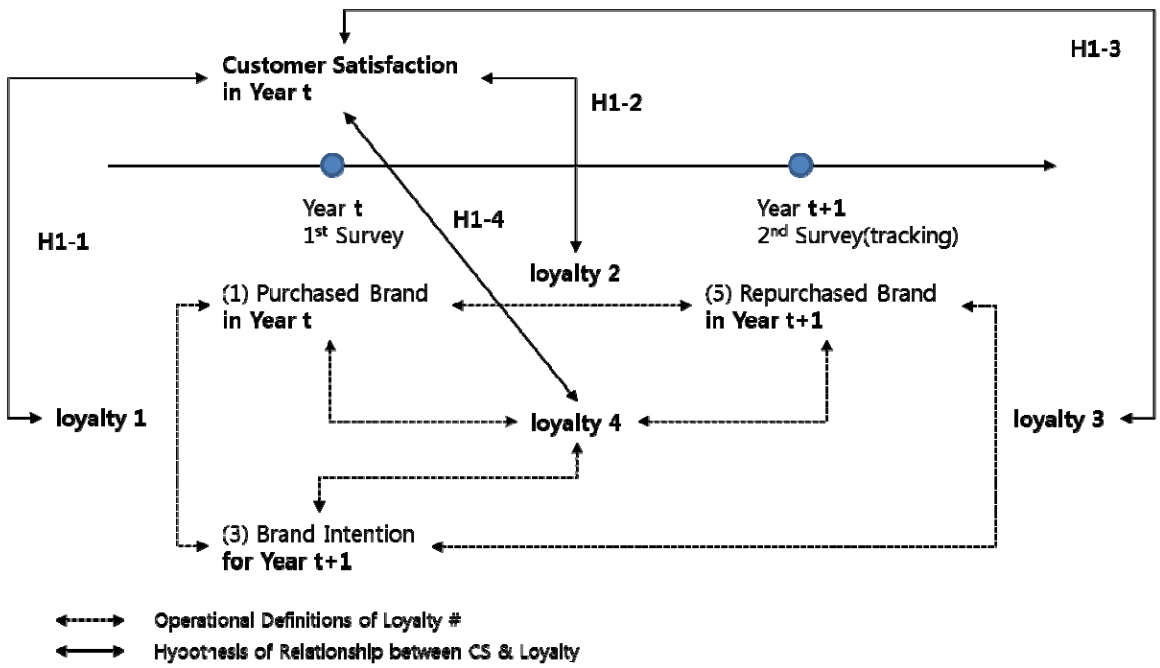
METHODOLOGY

We developed a model that captures the relationship between customer satisfaction, repurchase behavior and consumer characteristics. Two courses of survey have been administered for developing the model. Customer satisfaction was measured on a seven-point scale (7 = "very satisfied," 4= "neither satisfied nor dissatisfied," and 1 = "very dissatisfied") to answer the question, "Based on your ownership experience, how would you rate your satisfaction with this product?" Loyalty was measured entirely by purchase behavior. Newman and Werbel (1973) suggested that purchase of the same brand twice in succession typically has been used as evidence of loyalty for durable goods.

The impact of CS on loyalty in view of the attitudes and behavioral aspects can be classified. Here, dealing with the effects of the behavioral aspects of loyalty, most existing researches have regarded loyalty as the intention of buying. In this study, CS was classified into four kinds of loyalty, and their effects on each type of loyalty were examined. In other words, we will make detailed comparisons of the relationship between CS and 4 sub loyalty concepts.

By default, relationships between customer satisfaction and brand loyalty are treated in this model like many research studies. Here, the data are classified into 4 categories for mobile phones that are (1) the recently purchased product brand, (3) the product brand for the next purchase intention, and (5) the next repurchase product brands, the linkage between (1), (3) and (5) are classified.

Figure 1: The Construct of the Relationship between CS and Each Loyalty



First, the loyalty 1 of (1) and (3) is the relationship between the recently purchased product brand and repurchase of the product brand intentions. Second, the loyalty 2 of (1) and (5) is the relationship between recently purchased product brands and repurchase of the product brand. Third, the loyalty 3 of (3) and (5) is the relationship between the repurchase of the product brand intentions and repurchase of the product brand. Lastly, the loyalty 4 of (1), (3) and (5) is the relationship between the recently purchased product brand, repurchase of the product brand intentions and repurchase of the product brand.

In each case of loyalty (1, 2, 3 and 4), if all brands are the same, loyalty # is coded as 1; and if the brands are not the same, loyalty # is coded as 0. Loyalty # is coded as 9 in cases of null data (some survey participants did not insert recently purchased brand information or did not intend to repurchase). The overall construct is shown in Figure 1.

Samples are divided into two groups: with loyalty and without loyalty. First, if there is any difference in satisfaction between the two groups (with loyalty and without loyalty), it was confirmed by analysis of variance. Secondly, how different overall satisfaction is depending on loyalty will be tested through binary logit analysis.

RESULTS

Analysis of Variance

In order to examine the proposed hypothesis, statistical analyses, including the analysis of variance (ANOVA) and the Chi-square test, were conducted. We performed ANOVAs for the continuous measures and Chi-square test for the dichotomous measure. First, as shown in Tables 4, the customer satisfaction measure was significantly different among the groups. Therefore, H1 was strongly supported.

Table 3: CS of Loyalty 1 Group				
	N	**Mean**	**sd.**	**se**
Different Brands	111	4.23	1.219	.116
Same Brand	100	4.98	1.247	.125
Total	211	4.58	1.286	.089

Table 4: ANOVA of Loyalty 1 Group					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between groups	29.969	1	29.969	19.738	.000
Within groups	317.329	209	1.518		
Total	347.299	210			

The average CS by group is 4.98 for loyal groups and 4.23 for non-loyal groups. The F-value is 19.738 in the ANOVA analysis. This shows that a significant difference was found between the groups. In other words, loyal groups have higher CS than non-loyal groups do.

Second, as shown in Tables 6, the customer satisfaction measure was significantly different among the groups. Therefore, H2 was strongly supported.

Table 5: CS of Loyalty 2 Group				
	N	**Mean**	**sd.**	**se**
Different Brands	219	4.47	1.220	.082
Same Brand	152	4.76	1.227	.100
Total	371	4.59	1.230	.064

Table 6: ANOVA of Loyalty 2 Group					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between groups	7.936	1	7.936	5.305	.022
Within groups	551.967	369	1.496		
Total	559.903	370			

As shown by the results, the average CS by group is 4.76 for loyal groups and 4.47 for non-loyal groups. The F-value is 5.305 in the ANOVA analysis. This shows that a significant difference was found between the groups. In other words, loyal groups have higher CS than non-loyal groups do.

Third, as shown in Tables 8, the customer satisfaction measure was not significantly different among the groups. Therefore, H3 was not supported.

Table 7: CS of Loyalty 3 Group				
	N	**Mean**	**sd.**	**se**
Different Brands	133	4.47	1.209	133
Same Brand	100	4.72	1.311	100
Total	233	4.58	1.258	233

Table 8: ANOVA of Loyalty 3 Group					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between groups	3.678	1	3.678	2.339	.128
Within groups	363.258	231	1.573		
Total	366.936	232			

As shown by the results, the average CS by group is 4.72 for loyal groups and 4.47 for non-loyal groups. The F-value is 2.395 in the ANOVA analysis and significance value is .128. This shows that s significant difference was not found between the groups.

Fourth, as shown in Tables 10, the customer satisfaction measure was significantly different among the groups. Therefore, H4 was strongly supported.

Table 9: CS of Loyalty 4 Group				
	N	**Mean**	**sd.**	**se**
Different Brands	146	4.42	1.259	146
Same Brand	68	4.90	1.271	68
Total	214	4.57	1.279	214

Table 10. ANOVA of Loyalty 4 Group					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between groups	10.353	1	10.353	6.495	.012
Within groups	337.951	212	1.594		
Total	348.304	213			

As the results shows, the average CS by group is 4.90 for loyal groups and 4.42 for non-loyal groups. The F-value is 6.495 in the ANOVA analysis. This shows that a significant difference was found between the groups. In other words, loyal groups have higher CS than non-loyal groups do. Chi-square tests were conducted for each group, but there was no difference of demographic variables between the groups.

Binary Logit Analysis

To find out the relationship between customer satisfaction and degree of loyalty, more concrete analysis was followed. The following analysis is of the binary logit. Conversely, customer satisfaction and loyalty in binary logit analysis of any impact on the formation will be discussed. Loyalty classified into 4 types depending on relationships with customer satisfaction, and were analyzed.

First, in looking for models, the Nagelkerke R^2 value of loyalty 1 group is 0.116 so that there is some variance, but in the case of the loyalty 2-4 the Nagelkerke R^2 values of 0.019, 0.013, and 0.042 are relatively small to have self-explanatory power in the model.

Second, Hosmer and Lemeshow's test values are .715 for loyalty 1, .570 for loyalty 3 and .583 for loyalty 4; as a result, they are suitable as a model. But loyalty 2 has a value of .000, so the model fit is low and somewhat poorly relevant.

Table 11. Analysis of Binary Logit for Loyalty 1~4

		Loyalty 1			Loyalty 2			Loyalty 3			Loyalty 4		
Model Summary	step	1			1			1			1		
	-2 Log Likelihood	272.821			496.829			315.964			261.048		
	Cox and Snell' R^2	.087			.014			.010			.030		
	Nagelkerke R^2	.116			.019			.013			.042		
Model coefficient test		step	Block	Model	step	Block	Model	step	Block	Model	step	Block	Model
	chi square	19.113	19.113	19.113	5.320	5.320	5.320	2.353	2.353	2.353	6.523	6.523	6.523
	df	1	1	1	1	1	1	1	1	1	1	1	1
	sig	.000	.000	.000	.021	.021	.021	.125	.125	.125	.011	.011	.011
Hosmer and Lemeshow's test	chi square	2.115			19.800			2.928			2.852		
	df	4			3			4			4		
	sig	.715			.000			.570			.583		
Variables in the equation		CS	constant		CS	constant		CS	constant		CS	constant	
	B	.505	-2.433		.201	-1.294		.163	-1.036		.304	-2.180	
	S.E.	.124	.591		.088	.424		.107	.513		.122	.599	
	Wald	16.702	16.948		5.178	9.303		2.312	4.071		6.186	13.261	
	Df.	1	1		1	1		1	1		1	1	
	Sig.	.000	.000		.023	.002		.128	.044		.013	.000	
	EXP(B)	1.657	.088		1.223	.274		1.178	.355		1.355	.113	

Third, the beta values of loyalty 1 and 4 are big enough and that of loyalty 2 is large enough to be seen as acceptable levels. However, the value of loyalty 3 was relatively small.

Likewise, all regression coefficients and constant terms are significant for loyalty 1, 2, and 4 in relation to customer satisfaction. However, loyalty 3 was needed to be treated in somewhat detailed way later.

Three kinds of analysis were discussed above with respect to binary logit analysis, according to customer satisfaction and loyalty depending on whether the relevance of loyalty was significant— with the exception of loyalty 3. However, in-depth empirical research is needed to improve the negative aspects related to fitness and future modifications in the loyalty 2 model.

Comprehensive analysis of previous two results is as follows. First, an intention on the relationship between CS and loyalty, and a portion of the existing studies showed the same vein. Second, the ANOVA model is proper, but the binary logit model is not full enough to analyze the relationship between CS and loyalty 3. Therefore, we intended to analyze CS and loyalty 4 for the high strength of the target and the result was significant.If the current product brands in year t and the repurchase product brand in year t+1 are the same except for the product brand intention, we think that can cause a strange sense. We can argue that the model suitable for the analysis of loyalty 2 binary logit has relatively a poor Nagelkerke R^2 value for the explanatory power of the model.

Table 12. Analysis of Variance and Binary Logit for Hypothesis

Hypothesis		ANOVA	Binary Logit
H1	CS —→ loyalty	O	O
H1-1	CS —→ loyalty 1	O	O
H1-2	CS —→ loyalty 2	O	O
H1-3	CS —→ loyalty 3	X	Δ
H1-4	CS —→ loyalty 4	O	O

Many different research approaches have been loyal to the brand for products intended for the same brand as before the results were visible. While ANOVA is suitable for analysis of repurchase intention and real repurchase, the binary logit model needed to be supplemented later by more deepened research.

The entire groups are well enough from the analysis results, even though the most loyal group, loyalty 4 reduces the effect of CS relatively. Interpretation in the passage of time or point of purchase may indicate a different impact. To view loyalty from the behavioral side, loyalty 4 indicates the best loyalty quality, but the effect is weakened. Further research should attempt to use real data. Needs can be found if you have to try on a variety of research.

DISCUSSION

This study examined the relationship between customer satisfaction and behavioral loyalty, and found a positive relationship. The more satisfied a customer tends to be, the higher is the actual loyalty of the customer is. From the perspective of the firm, the findings imply that marketing managers should maintain customer satisfaction which is strongly related with actual repurchase behavior.

There are several potential issues for future research beyond the scope of current paper. The limitation of this study is that only brand-level data were available for analysis because a consumer may have purchased the same brand but switched to a different model.

This research tried to identify the difference between intention and behavior related to loyalty. This research question is in line with the increasing interest in more concrete and complex structures of the links in the satisfaction-loyalty chain. However, there has been a lack of a theoretical base in the relationship between customer satisfaction and loyalty-related outcome variables.

Overall, our primary finding is that satisfied customers are likely to show brand loyalty. In addition, satisfaction strength was found to play a critical role in behavior related to loyalty. The close relationship between satisfaction and true brand loyalty was confirmed through logistic regression and analysis of mean differentiation. As with all research, this study has some limitations that need to be addressed. The limited number of products used should be noted in interpreting our study and applying it to other situations. However, we surveyed random samples regardless of age, gender, or location. Thus, the survey results may represent most consumers' opinions.

Although we asked the participants to answer questions about their purchased brands and intended brands in the questionnaire to measure their brand loyalty, we suspect that there might still be some more affective loyalty measurement that was inevitably excluded in our study. The functional structure of the relationship between customer satisfaction and customer behavior at the individual level should be examined. This is because it may have a nonlinear effect on the satisfaction outcomes.

Nevertheless, this study provides various theoretical and managerial implications for marketing practitioners and researchers. The generalizability and robustness of the proposed model was examined via the use of the most appropriate durable product. Managerially, our findings, specifically about the important and differential role of customer satisfaction, can be used for the retention of acquired customers.

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