2012

Reason and reaction: The dual route of decision making process on social media usage: The case of hospitality brand fan pages

Aikaterini Manthiou
Iowa State University

Reason and reaction: The dual route of decision making process on social media usage: The case of hospitality brand fan pages

by

Aikaterini Manthiou

A dissertation submitted to graduate faculty

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Hospitality Management

Program of Study Committee:
Liang (Rebecca) Tang, Co-major Professor
Robert Bosselman, Co-major Professor
Thomas Schrier
Frederick Lorenz
Anthony Townsend

Iowa State University

Ames, Iowa

2012

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACKNOWLEDGMENTS

My sincere gratitude and appreciation first go to my major professors Dr. Liang (Rebecca) Tang and Dr. Robert Bosselman. Without their constant encouragement, instruction, and support, it would have been impossible for me to leap to this stage. What they taught me was not only the knowledge of tourism and hospitality, but also the qualities that a scholar should possess. Their insight and candid criticism have helped me mature and will accompany me throughout my future career. Thanks also to Dr. Thomas Schrier, Dr. Frederick Lorenz and Dr. Anthony Townsend for their interest and participation in this study as the committee members. I appreciate all of them for their insight and support which aided me in exploring a novel area of study.

I would like to thank all the faculty and graduate colleagues in AESHM. I would also like to give a very special thank you to all of my friends who have helped me along the way. I especially would like to thank Juhee Kang, James Williams, Maryam Farahbakhsh, Lanlung Chiang and Ungk (Fatima) Ungku Zainal Abidin for your support and enormous caring.

Finally, I would like to thank my parents, my brothers, and my fiancé. Their love, sacrifice, and trust in me have helped me grow spiritually and stimulated me to achieve all so far. It is to them that I am indebted forever.

ABSTRACT

A new phenomenon on Facebook, resulting from social media revolution, is the emergence of numerous Facebook fan pages. This form of online brand community is an effective tool for building relationships with consumers. Many hospitality firms (i.e. restaurants) have captured the strength of a fan page because it can enhance brand attractiveness and draw consumer attention.

Little is known about the experiences and possible outcomes of consumers' intentions and willingness on Facebook fan pages. Previous studies on social networking sites have focused on the benefits or needs that members fulfill through participation. This research employed two theories from social psychology: the Theory of Reasoned Action (TRA) and the Prototype Willingness Model to understand the underlying dual processing of behavior on restaurant Facebook fan pages. To the author's knowledge, the two theories have never been combined together to comprehensively investigate consumers' behavior in hospitality industry. The aim of this research was to systematically understand the dual-route when people use restaurant Facebook fan pages with the theoretical support of the Theory of Reasoned Action (TRA) and the Prototype Willingness Model.

The present study investigated the conceptual model in the context of the restaurant Facebook fan pages. Data were collected from online surveys completed by 1131 students. This research performed the two-step structural equation modeling (SEM) approach. The first step involved confirmatory factor analysis (CFA)**,** which was employed to validate the scales for the measurement of specific constructs proposed in the research model and SEM was used to test the conceptual model.

The results indicate that: 1) Fans decision-making is a dual route process, an intentional as well as an unintentional decision-making path. Therefore, both paths operate simultaneously. 2) This research reveals that the cognitive and affective components influence consumer attitude towards participation in restaurant Facebook fan pages. In particular, social interaction ties affect the most attitudes toward fan pages, followed by information source, design characteristics, and entertainment. 3) Attitude is a strong predictor of behavioral intention and behavioral willingness on Facebook Fan pages. 4) Subjective norms are significant and meaningful for consumers' intention and behavioral willingness towards these online communities. 5) The prototype image in the social reaction path is an important determinant of behavioral willingness toward restaurant fan pages. 6) Behavioral willingness and intentions towards fan pages create a positive change in the product purchase behavior of consumers indicating that members modify their consumption behaviors toward the brand because of their membership in the restaurant Facebook fan page.

The research is significant in both theory and practice. From the theoretical perspective, the study contributes substantially to the understanding of consumers' decision-making process on Facebook fan pages. From the practical perspective, the description of fans' cognitive and affective believes assist restaurant marketers and Facebook fan page designers in developing more effective fan pages.

CHAPTER 1. INTRODUCTION

1.1 Background

1.1.1 Social Media Revolution and Facebook Fan Pages

The Internet has revolutionized communication, allowing individuals and organizations to overcome geographical and time constraints (Harris & Rae, 2009). With rapid changes in information technology, online activities are now performed via a new form of communication technology, known as 'Web 2.0' or social media (Gretzel, Kang, & Lee, 2008). Some might consider this time period as the social media era due to individuals' engagement directly and indirectly with social media (i.e., Internet). With the increased use of these online tools and platforms, individuals can share their opinions, insights, experiences, and perspectives with each other through many different forms (e.g., text messages, images, audios, and videos) (Thevenot, 2007).

Social media are defined as "the online activities and behaviors among a group of people who gather in order to create and exchange user generated content (information, knowledge, opinions) by using web-based media or applications" (Kaplan & Haenlein, 2010, p. 61). Content generated in social media include a variety of new and emerging sources of online information that are created, initiated, circulated, and used by consumers with the intent of educating each other about products and services (Blackshaw & Nazzaro, 2006). The variety of applications in social media allows consumers to ''post'', ''tag'', or ''blog" (ways to text information in social media cites) on the Internet (Xiang & Gretzel, 2010). Social media exists in a variety of forms and serve numerous purposes. Kaplan and Haenlein

(2010) classified social media in specific categories such as collaboration, projects, blogs, content communities, virtual game worlds, virtual social worlds, and social networking sites.

Social networking sites (SNSs) have been widely recognized as an important category of social media (Donath & Boyd, 2004; Harris & Rae, 2009; Lin & Lu 2011; Ulusu, 2010). Through these websites, users have opportunities to express themselves, exchange information and knowledge, establish social network ties, and even develop and maintain social relationships (Ellison, Steinfield, & Lampe, 2007). SNSs are considered as the next great wave in technology, business, and social life (Donath & Boyd, 2004). Currently, Facebook is the world's most successful social networking website; it functions as a social entertainer for users, and further it is used as a marketing platform for companies (Lin & Lu, 2011).

A new phenomenon on Facebook, resulting from the social media revolution, is the emergence of numerous virtual brand communities such as brand fan pages. Some corporations have captured the strength of Facebook's function of Fan Page because it can enhance brand attractiveness and attract consumers' attention. Interaction through these pages is a way to tighten the relationships between fans and corporations, while also serving as a valued asset to transmit brand value (Qualman, 2009). Moreover, companies have taken advantage of this platform because they have opportunities to build relationships with their consumers (Ulusu, 2010). Increasing fans have become the primary objective for many marketing campaigns within Facebook (All Facebook, 2011).

Greater participation implies a higher level of involvement with the online brand communities, which may reinforce the feelings that bind each member to the other community members. This binding can be used to improve instruction on communal values,

to encourage conjoint behaviors and information sharing, to enable stronger group cohesion (Casaló, Flavián, & Guinalíu, 2010) and increase brand value perceptions (Qualman, 2009). The online brand communities represent a great opportunity for companies to find out what consumers think about the brand (Casaló et al., 2010). Online brand communities also generated significant changes in consumer behavior because consumers appeared to refer to other consumers' opinions and recommendations during purchase decisions (Casaló et al., 2010). From a management perspective, the online community for brands has been depicted as an innovative model of commercial development and as an effective tool for consumer relationship management (Hanson, 2000).

It might be reasonable to suggest that online brand communities (e.g., Facebook fan pages) represent a revolutionary new trend that should be of interest to companies operating in cyberspace. The concept of Facebook fan pages might need to be included on the agenda for many business executives in today's technology driven era. This study will use Facebook fan pages of restaurants because this industry sector has the highest number of members' participation in fan pages compared to other sectors in the hospitality and tourism industry such as lodging and travel (Top Dining Brands, 2011). Decision makers need to identify ways in which restaurant corporations can make use of fan pages as marketing channels. However, in order to build and manage an active and successful online brand community, restaurant marketers need first to understand their members' motivation components towards their brand community and what stimulate members to generate favorable behaviors for the brand itself (Wasko & Faraj, 2005).

According to Kim, Lee, and Hiemstra (2004), a brand virtual community brings opportunities to both companies and consumers; however, its successful operation depends

largely on understanding its members. When companies focus on the desired benefits and fulfillment of members' needs on their fan pages, they will be able to attract new consumers, to build and enhance relationships, to promote revisits, and to enrich brand attractiveness (Antikainen, 2007; Dholakia, Bagozzi, & Pearo, 2004; Qualman, 2009).

1.1.2 Dual Process Model

The dual-processing model of present study is based on the assumption that there are two processes of decision-making in relation to behavior: an intentional and unintentional decision-making path (Gibbons, Gerrard, & Lane, 2003; Ohtomo & Hirose, 2007). Intentional decision-making involved an analytic process, derived from the Theory of Reasoned Action (TRA) (Gerrard, Gibbons, Houlihan, Stock, & Pomery, 2008). This reasoned path included the attitudes and supportive-subjective norms, which influenced intentions that provoke action behavior (Gibbons, Houlihah, & Gerrard 2009). Unintentional decision-making is a social reaction path that has an image-based perspective, reflected by the Prototype Willingness Model (Gibbons et al., 2009). This second type of decision-making is a social reaction path that is image-based and involves more heuristic processing. The social reaction path is hypothesized to explain consumers' unintended behavior, specifically their unplanned decisions to start, to continue, or to terminate behaviors. This path is much less deliberative and is based on the prototype image, which is an image of individuals who engage in behaviors (e.g., a typical person who uses restaurant Facebook fan pages); subjective norms; and behavioral willingness (e.g. openness to engaging in an opportunity or behavior) (Gibbons et al., 2009)

1.2 Problem Statement

In terms of research, little is known about the experiences and possible outcomes of consumer intentions and willingness based on the prototypes and subjective norms to participate in Facebook fan pages. Previous research studies on virtual communities and social networking sites focused on the benefits or needs that members fulfill through participation (Chung & Buhalis, 2008; Wang & Fesenmaier 2004; Wang, Yu, & Fesenmaier, 2002).Wang et al. (2002) identified four categories of benefits: functional, social, hedonic, and psychological, and found that these benefits had an impact on whether members participate actively or passively. In addition, Chiu, Hsu, and Wang (2006) investigated factors that influenced knowledge sharing among individuals in virtual communities by employing the social capital theory, and used the constructs of social interaction ties, trust, norm of reciprocity, identification, shared vision and shared language.

Moreover, Lin and Lu (2011) explored intention to continue using Facebook fan pages from the perspective of social capital theory. Relatively few empirical studies have been conducted to test the applicability of significant theories of social psychology in the context of Facebook fan pages. Therefore, the current study was carried out to help fill this gap in hospitality industry. This research employed two theories from social psychology: the Theory of Reasoned Action (TRA), and the Theory of Social Reaction (Prototype Willingness Model) to understand the underlying dual processing of behavior. To the author's knowledge, the two theories have never been combined together to comprehensively investigate consumers' behavior in hospitality industry.

The research framework of this study is a modified dual-processing model that is created in an attempt to improve the predictive value of analytic behavioral theory, by

combining elements of heuristic approaches to decision-making. The model is designed to address both reasoned and less reasoned aspects of decision-making process of members within restaurant fan pages. The reasoned and intended decision-making has been widely used in marketing research. However, the model drafted in the study incorporates the prototype image, subjective norms, and behavioral willingness into unplanned or unintended decision making. Three key questions have not been answered yet: 1) How do cognitive beliefs such as functional usefulness (information source), social usefulness (social interaction ties), ease of use (design characteristics) and affective belief (entertainment) influence members' attitude toward the restaurant Facebook fan page; 2) How does the dual-route of processing of attitudes, subjective norms and prototype image generate different behavioral intention and willingness; and 3) Is the dual process of behavioral intention and willingness toward fan pages influencing actual behavioral change toward the respective restaurant brand.

The research is significant in both theory and practice. Broadly speaking, this study makes three main theoretical contributions. First, this is the first paper in hospitality literature that combines the following two strong theories of social psychology in predicting consumers' behavior: Theory of Reasoned Action (TRA) and the Prototype Willingness Model. Second, this research employs a dual-processing route based on the assumption that there are two processes of decision-making involved in fan pages members' behavior: an intentional as well as an unintentional decision-making path. Lastly, this study serves as theoretical foundation for future research on social media marketing. From the practical perspective, this research provides guidance for marketers and fan pages' developers to focus

on how a fan page can be successful, meet members' expectations, and create favorable behaviors toward the fan page and the respective brand.

1.3 Study Objectives

The objectives of the present study are to: (1) examine the cognitive and affective antecedents of members' attitude toward participation on restaurant fan pages; (2) investigate whether fans' behavior may result from a dual-process; an intentional process that involves goal oriented or reasoned decisions that guide fan's behavior, and a reactive process that involves unplanned or unintended decisions to accept a behavior; and (3) explore whether there are behavioral changes in actual purchase patterns because of consumers' membership on restaurant Facebook fan page.

1.4 Definitions of Terms

Throughout the present study, the following terms were utilized for the purpose of conceptualizing social media marketing and defining user behaviors:

Social media: "A group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content." (Kaplan & Haenlein, 2010, p. 61).

Online/Virtual Community: A group of people who share their consumer experiences via social media, including communicating with other members or the company

regarding their concerns and opinions and providing critiques of offered products/services (Rheingold, 1993).

Facebook fan page: A customizable presence for an organization, product, or public personality to join the conversation with Facebook users. By leveraging the real connections between friends on Facebook, a Page lets fans become brand advocates (All Facebook, 2011).

Fans: People who "Like" the Facebook page of a brand/organization/business. In theory these people are potential consumers or simply people who are fans of a particular brand/organization/business (All Facebook, 2011).

Usefulness: "The degree to which a person believes that the use of a particular system would enhance his or her job performance" (Davis, 1989, p. 320).

Functional usefulness: Benefits related to functional, utilitarian or physical performance of a service (Gupta & Kim, 2007).

Social usefulness: Benefits related to the interaction with other members (Gupta & Kim, 2007).

Ease of use: "The degree to which a person believes that the use of a particular system would be free of effort" (Davis, 1989, p. 320).

Website design: The way the content is presented to web visitors (Huizingh, 2000).

Entertainment: The ability of a medium to fulfill audience needs for escapism, diversion, aesthetic enjoyment, or emotional release (Negash, Ryan, & Igbaria, 2003).

Attitude: A personal disposition toward engaging in a behavior (Lee & Choi, 2009).

Subjective norms: Perceived pressures on a person to perform a given behavior and the person's motivation to comply with those pressures (Fishbein & Ajzen, 1975).

Behavioral intention: A stated likelihood to engage in a behavior (Oliver, 1997).

Prototype image: A mental image of the type of person who is interested in certain behavior (Ohtomo & Hirose, 2007).

Behavioral willingness: A process that leads to behaviors in a reactive fashion (Ohtomo & Hirose, 2007).

Behavioral Change: The degree to which members modify their consumption behaviors toward the brand because of their community membership (Qu & Lee, 2011).

CHAPTER 2. REVIEW OF LITERATURE

This chapter introduced the theories of social psychology (Theory of Reasoned Action and Prototype Willingness Model) and provided detailed information about their distinct constructs.

2.1 Theory of Reasoned Action (TRA)

Theory of Reasoned Action (TRA) is a widely studied model from social psychology, which is concerned with the determinants of consciously intended behaviors (Fishbein & Ajzen, 1975). TRA links beliefs, attitudes, intentions and behaviors. In particular, TRA was used to specify a casual sequence; beliefs such as perceived ease of use and perceived usefulness/attitude/behavioral intention (Kim, Kim, & Shin 2009). According to TRA, belief (an individual's subjective probability of the consequence of a particular behavior) influenced attitude (an individual's positive and negative feelings about a particular behavior), which in turn shaped behavioral intention (Hsu & Lu, 2004; Kim et al., 2009). TRA acclaimed that an individual's behavior was determined by their behavioral intentions to perform the behavior, which can lead to more predictable behavioral outcomes (Fishbein & Ajzen, 1975). The perspective of reasoned decision-making presumed that decision-making is a reasoned (planned), and a deliberative process that involved consideration of behavioral options and anticipated outcomes (Gerrard et al., 2008). Thus, TRA was employed in this study because it provided a basic understanding of the formation of members' beliefs, attitude, intention, and behavior toward a restaurant Facebook fan page.

TRA included beliefs such as perceived usefulness and perceived ease of use (Hsu & Lu 2004). The beliefs of perceived usefulness and perceived ease of use were documented by Davis (1989). Usefulness and ease of use represented the cognitive aspect of human decision-making (Gupta & Kim, 2007). However, studies in consumer behavior (Batra & Ahtola, 1990) and social psychology (Zajonc, 1980) also considered the affective aspects of human decision-making in studying attitude formation, which represent the feelings' and emotions' side of consciousness (Oliver, 1997). According to literature, web page features were considered as consumers' perceptions of functional and utilitarian dimensions, such as "ease of use" and "usefulness", as well as their perceptions of emotional and hedonic dimensions such as "entertainment" (Childers, Carr, Peck, & Carson, 2001; Menon & Kahn, 2002; Monsuwé, Dellaert, & Ruyter 2004). Entertainment might result from the fun and play that might arise from the fan page experience. This dual characterization of consumers' beliefs in restaurant fan pages was consistent with our framework. Particularly, "usefulness" and "ease of use" reflected the cognitive aspects of fan pages, and "entertainment" embodied the affective aspect.

2.1.1 Usefulness

Perceived usefulness is defined as ''the degree to which a person believes that the use of a particular system would enhance his or her job performance (Davis, 1989, p. 320). Usefulness refers to consumers' perceptions regarding the outcome of the experience on webpages (Monsuwé et al., 2004). Usefulness on virtual communities can be of two types: functional and social usefulness (Gupta & Kim, 2007). Since a fan page is a form of virtual

community, functional and social usefulness were included in the conceptual model of the present paper.

2.1.1.1 Functional Usefulness

Functional usefulness refers to the benefits related to functional, and utilitarian or physical performance of a service (Gupta & Kim, 2007). Cothrel (2000) defined functional uses as contractual benefits, which were minimum intrinsic informational requirements that a member expected to gain. Such benefits included support for information gathering, seeking for learning and facilitating decision-making purposes, and providing convenience (e.g., no time and geographical constraints) within the virtual community (fan page) (Wang & Fesenmaier, 2004). Therefore, in terms of functional usefulness, virtual communities enabled sharing and dissemination of useful information between participants (Hagel &Armstrong 1997; Wang et al., 2002), and ensured opportunities for information exchange (Arsal, Backman, & Baldwin, 2008). Thus, this study considered information source as an important functional use of restaurants' Facebook fan pages. Additionally, information seeking is a key factor in the analysis of the Facebook fan pages structure. The information on Facebook fan pages is not provided only as extensive information, but also information through the pictures section, the profile information, and the wall. Members can share information about activities and events peers are involved in, important news in the community, and up-to-date information about their favorite brands/products (Quan-Haase & Young, 2010). As a result, in this study, information source was a functional use that reflected an interest that was gratified on restaurant Facebook fan pages.

2.1.1.2 Social Usefulness

Online communities are socially structured, convey social meaning, and meet social needs (Wang et al., 2002). Thus, social usefulness on virtual communities is important and refers to the benefits related to the interaction with other members (Gupta & Kim, 2007). Social usefulness also describes the development of relationships with other people through communication and interaction (Preece, 2000). As individuals spend more time on virtual communities, social interaction becomes a part of their lives (Feenberg & Bakardjieva, 2004). This study incorporated social interaction ties to indicate the social benefit of fans on restaurant Facebook fan pages. Particularly, social interaction ties referred to the network of interpersonal relationships of the members within a network (Chiu et al., 2006; Lin & Lu, 2011; Wasko & Faraj, 2005). Online platforms such as social network sites allow users to establish interpersonal networks mainly because they provide them with communication tools (e.g., text, video, photos), and users are more capable of interacting and communicating with others (Qualman, 2009). Moreover, users are able to maintain and expand interaction (Li & Bernoff, 2008).

2.1.2 Ease of Use

Perceived ease of use is defined as ‘‘the degree to which a person believes that the use of a particular system would be free of effort,’’ (Davis, 1989, p. 320). In addition, ease of use refers to consumers’ perceptions regarding the process leading to the final outcome (Monsuwé et al., 2004). Applying this to the present research context, ease of use indicated member’s perception that the fan page use would involve a minimum amount of effort. The

design characteristics represented the ease of using a Fan page. According to Zeithaml, Parasuraman, and Malhotra (2002), site characteristics such as search functions, download-speed, and navigation played a significant role in shaping ease of use.

2.1.2.1 Fan Page Design Characteristics

Since the emergence of the Internet in the late 1990s, the evaluation of website performance has been a growing concern. Website design refers to the way the content is presented to web visitors (Huizingh, 2000), and the performance (basic component of any information system) which represents the effort a member needs to put for participating in a website (McKinney, Yoon, & Zahedi, 2002). Therefore, fan page appearance and performance is critical for users. Members prefer websites that are simple in design, faster to load and easier to use (Reichheld & Schefter, 2000).

2.1.3 Entertainment

The ability of a medium to fulfill audience needs for escapism, diversion, aesthetic enjoyment, or emotional release refers to entertainment (Ducoffe, 1996; Negash et al., 2003). Entertainment value was a significant factor distinguishing the lowest-rated and highest-rated web pages (Eighmey, 1997). A webpage's entertainment value was expected to be important through its ability to enhance the experience of visitors to the site (Ducoffe, 1996). In addition, the likelihood of a repeat visit to the webpage was enhanced when the visitors had found the visit enjoyable (Rice, 1997).

Entertainment boosted the webpage success because it motivated users to participate, promote users' excitement and concentration, and help them enjoy the visit (Liu & Arnett, 2000). For instance, some online communities allowed members to play games, participate in contests or polls related to members' mutual interests. These activities offered pleasure and entertainment to members (Wang & Fesenmaier, 2004).

2.1.4 Attitude

Attitude is defined as a personal disposition toward engaging in a behavior (Lee & Choi, 2009). Attitudes are determined by a person's assessment of his or her beliefs regarding the target behavior effectiveness in producing outcomes, and an evaluation of these outcomes (Hagger, Chatzisarantis, & Biddle, 2001). Attitude is developed reasonably through consideration of the potential consequences of performing a behavior (Ajzen & Fishbein, 1980). On social network sites, users' favorable attitudes are generated by factors such as informativeness, entertainment (Hausman & Siekpe, 2009), social interaction ties (Lin & Lu, 2011), and webpage design characteristics (Gupta & Kim, 2007). In particular, functional usefulness in terms of information seeking, gathering, and sharing on virtual communities is positively related to attitude toward that community (Gupta & Kim, 2007). Chen, Clifford, and Wells (2002) suggested that a webpage with a high-level of informativeness was likely to generate favorable attitudes toward the web site. Hence, in the restaurant Facebook fan page context, the successful functional usefulness of information source will guide members to develop favorable attitudes toward the fan page. Moreover, the ties based on social interaction are the main factors influencing members' attitude and

continued intention to use online communities (Gupta & Kim, 2007; Lin, & Lu 2011). Fan pages give participants an opportunity to interact, thereby further enhancing positive attitudes toward these pages. Furthermore, a well-designed webpage enhances the ease of use for its members and lead to positive attitudes (Gupta & Kim, 2007). Entertainment is also a strong predictor of attitude, and it has been linked with favorable attitude toward the webpage (Chen et al., 2002; Hausman & Siekpe, 2009; Monsuwé et al., 2004), and intentions to return (Koufaris, 2002). Thus, the researcher expects that the entertainment component of restaurants' fan page creates a favorable attitude towards the fan page. Based on the discussion above, this study proposed the following hypotheses:

H1: Information source has a positive influence on attitude toward the fan page.

H2: Social interaction ties have a positive influence on attitude toward the fan page.

H3: Design characteristics of the fan page have a positive influence on attitude toward the fan page.

H4: Entertainment has a positive influence on attitude toward the fan page.

2.1.5 Subjective Norms

Subjective norms refer to the ‘‘perceived pressures on a person to perform a given behavior and the person's motivation to comply with those pressures’’ (Fishbein & Ajzen, 1975). In other words, subjective norm is an individual's perception of whether people important to him/her think what behavior should be performed by the individual. In particular, subjective norms reflect how consumers are affected by the perception of some significant referents (e.g., family, friends, and colleagues) of his/her behavior (Schofield,

1975). A subjective norm is a normative based cognition and represents individuals' evaluation of whether significant others want them to engage in the target behavior and in turn, their motivation to comply with these desires (Hagger et al., 2001).

Previous studies have theorized that subjective norms are an important determinant of behavioral intention (e.g. Lin, 2007; Yi, Jackson, Park, & Probst, 2006; Venkatesh & Davis, 2000). For instance, theories of conformity in social psychology suggested that members tend to comply with the group norms, and moreover, that these in turn, influenced the perceptions and behavior of the members (Lascu & Zinkhan, 1999). In addition, subjective norms have been extensively incorporated in many models that traditionally assessed the adoption of E-Commerce, such as theory of reasoned action (e.g., Gentry & Calantone, 2002), theory of planned behavior (e.g., Bhattacherjee, 2000; Wu, 2006), and decomposed theory of planned behavior (e.g., Lin, 2007). Our model included subjective norms as an antecedent of behavioral intention. These norms represented the motivation of members on restaurant fan pages to act according to the opinions of people that were relevant to them.

2.1.6 Behavioral Intention

Behavioral intention is defined as a stated likelihood to engage in a behavior (Oliver, 1997). Intentions are generally determined as goals or ‘‘goal states" that are formulated after some deliberation or reasoning (Ajzen, 1999). In the online contexts, according to TRA, an individual's attitude (positive and negative feelings) about a particular behavior would shape their behavioral intention (Hsu & Lu, 2004; Kim et al., 2009). Therefore, the author expected that fans' attitude toward fan pages would influence their behavioral intentions. Apart from

attitude, social norm was also an important factor in influencing individual behavioral intentions (Liang & Lim, 2011). For instance, Hansen, Jensen, and Solgaard (2004) disclosed that subjective norm and attitude had a positive influence on individual online behavioral intention. Similarly, Lam, Cho, and Qu (2007) proved that there was a positive relationship among attitudes, subjective norms and behavioral intention. Therefore, this research proposed the following hypotheses:

H5: Attitude has a positive influence on behavioral intention toward the fan page.

H7: Subjective norms have a positive influence on behavioral intention the fan page.

2.2 Prototype Willingness Model

The prototype willingness model is a dual-processing model which is based on the assumption of two processes of decision-making involved in behavior; an intentional as well as an unintentional decision-making path (Gibbons et al., 2003; Ohtomo & Hirose, 2007; Ouellette, Hessling, Gibbons, Reis-Bergan,& Gerrard, 2005; Thornton, Gibbons, & Gerrard, 2002). In other words, there are two types of decision-making involved in engaging in actual behavior.

The first type of decision-making was a reasoned path similar to that described in the theory of reasoned action, which involved more analytic processing (Gerrard et al., 2008). In this reasoned action pathway, behavioral intention might specify a process that guides behavior in a goal-oriented or intentional manner. In this study, the reasoned path included attitudes toward performing behavior and supportive subjective norms, passed through intentions, and ended up in actual behavior (Gibbons et al., 2009). The second type of

decision-making was a social reaction path that was image-based and involved more heuristic processing. The social reaction path was hypothesized to explain fans' unintended behavior. In other words, there was an assumed unplanned or unintended decision-making. The social reaction path had a separate proximal antecedent, which was behavioral willingness. This path was much less deliberative, and it was not a reasoned decision-making process. Consumers' behavior was determined by their behavioral willingness (Gibbons et al., 2009). In addition, the social reaction path was based on the prototype image, which was an image of individuals who engage in behaviors; subjective norms; and behavioral willingness (e.g. openness to engaging in an opportunity or behavior) (Gibbons et al., 2009).

The prototype willingness model underlined that individuals' behavior was usually volitional, but it was often not planned or even intentional (Gibbons et al., 2009). Actions may not be premeditated or reasoned, but reaction to common conducive situations (Gerrard et al., 2008). Like most dual-process models, the prototype model suggested that the reasoned, intentional process and the image-based social reaction process might operate simultaneously (Chaiken & Maheswaran, 1994; Gerrard et al 2008; Reyna & Farley, 2006). The prototype willingness model examined not only intentional, but also reactive decision-making. This model has been used to predict socially undesirable behavior. However, several researchers have applied the prototype model to socially desirable behavior, such as exercise behavior (Ouellette et al., 2005) recycling behavior (Mannetti, Pierro, & Livi, 2004) and eco-friendly behavior (Ohtomo & Hirose, 2007). The present study employed the prototype willingness model to explore the reasoned path and social reaction path of members on restaurant Fan pages. In addition, fans' behavioral purchase change toward the products of the restaurant's brand was incorporated in the model.

2.2.1 Prototype Image

A prototype is an individual's image of a typical person who belongs to a group or engages in a certain behavior (Cantor & Mischel, 1979; Gibbons & Gerrard, 1995). A prototype image is defined as a mental image of the type of person who is interested in certain behavior (Ohtomo & Hirose, 2007). These images are usually distinct and have a number of different attributes (positive and negative) associated with them. For example, college students can describe a typical person of their age, who is engaged in social media usage, even if they do not have personal experience with this behavior itself.

Extensive research has supported the general notion that social prototype images can predict change in individuals' behaviors, such as exercising (Ouellette et al., 2005), recycling (Mannetti et al., 2004), smoking (Chassin, Presson, Sherman, Corty, & Olshavsky, 1981), and drinking (Gerrard et al., 2006). Research on individuals' behavior has revealed that people are more likely to engage in certain behaviors, if they hold relatively favorable images of the type of person who typically engages in these actions (Gibbons & Gerrard, 1995). The evaluation of prototype images involves an acceptance or avoidance of the characteristics associated with a particular behavior (Ohtomo & Hirose, 2007).

2.2.2 Behavioral Willingness

Behavioral willingness is a process that leads to behaviors in a reactive fashion (Ohtomo & Hirose, 2007). Behavioral willingness is defined as the openness to an opportunity (Gibbons et al., 2009); what an individual would be willing to do in certain situations. According to the prototype willingness model, behavioral willingness is

influenced by three components: attitudes, prototype image and subjective norms. Subjective norms and attitudes are important determinants of behavioral intention and behavioral willingness (e.g., Gibbons et al., 2009). However, prototype images do not affect behavioral intention, rather the images are related only to behavioral willingness (Thornton et al., 2002; Gibbons et al., 2009). Moreover, behavioral willingness influences behavioral intentions (Gibbons et al., 2009). Since this research is adopting the prototype willingness model, the following hypotheses were developed:

H6: Attitude has a positive influence on willingness behavior toward the fan page.

H8: Subjective norms have a positive influence on willingness behavior toward the fan page.

H9: Mental prototype has a positive influence on behavioral willingness toward the fan page.

H10: Willingness behavior has a positive influence on behavioral intention toward the fan page.

2.3 Behavioral Change

Behavioral change is defined as the degree to which members modify their consumption behaviors toward a brand because of their community membership (Qu & Lee, 2011). In this study, members of fan pages indicated the extent to which they modified their consumption behaviors toward the restaurant brand because of their fan page community membership. The impact of online communities on members' modification of buying behaviors has been well documented (Casaló et al., 2010; Cothrel, 2000). For instance, Kim

et al. (2004) investigated that individuals who categorized themselves in a particular online travel service community and identified as members; those members were more likely to accept and purchase products based on other members' suggestions.

Therefore, online brand communities produced significant changes in consumer behavior because consumers appeared to prefer to rely on other consumers' opinions and recommendations to base their purchase decisions (Casaló et al., 2010). Consumers entrusted informal and personal communication sources (e.g., other consumers) when making purchase decisions, instead of formal, organizational sources, such as advertising (Bansal & Voyer, 2000). Algesheimer, Dholakia, and Herrmann (2005) argued that consumer participation in an online community influenced consumer behaviors related to the firm or brand that hosted the network. For example, McAlexander, Schouten, and Koening (2002) found that participation in Jeep community events enhanced consumer loyalty to the Jeep brand. That is, when consumers actively participated in a community, their emotional ties with the brand around which the community centers might increase (Algesheimer et al., 2005). Finally, these effects may favor higher levels of consumer loyalty toward the brand (Koh & Kim, 2004).

There are two proximal antecedents to behavioral change: behavioral intention and behavioral willingness. Behavioral intention is defined as a goal-oriented or intentional decision, similar to TRA. Behavioral intention focuses on reasoned or deliberative decision making based on goal factors. Behavioral willingness is described as the openness to circumstances that are conducive to socially desirable behavior, regardless of the individual's goals or intentions. Behavioral willingness involves unplanned or unintended decision-making that is a reaction to situational factors (Gibbons, Gerrard, & Helweg-Larsen, 1995).

The present study considered the intention and willingness to participate in restaurant fan pages a good indicator of consumer behavioral purchase change toward the products of the respective restaurant brand. Therefore:

H11: Behavioral intention toward the fan page has a positive influence on behavioral change toward the products.

H12: Behavioral willingness toward the fan page has a positive influence on behavioral change toward the products.

Based on the discussion above the following model was proposed:

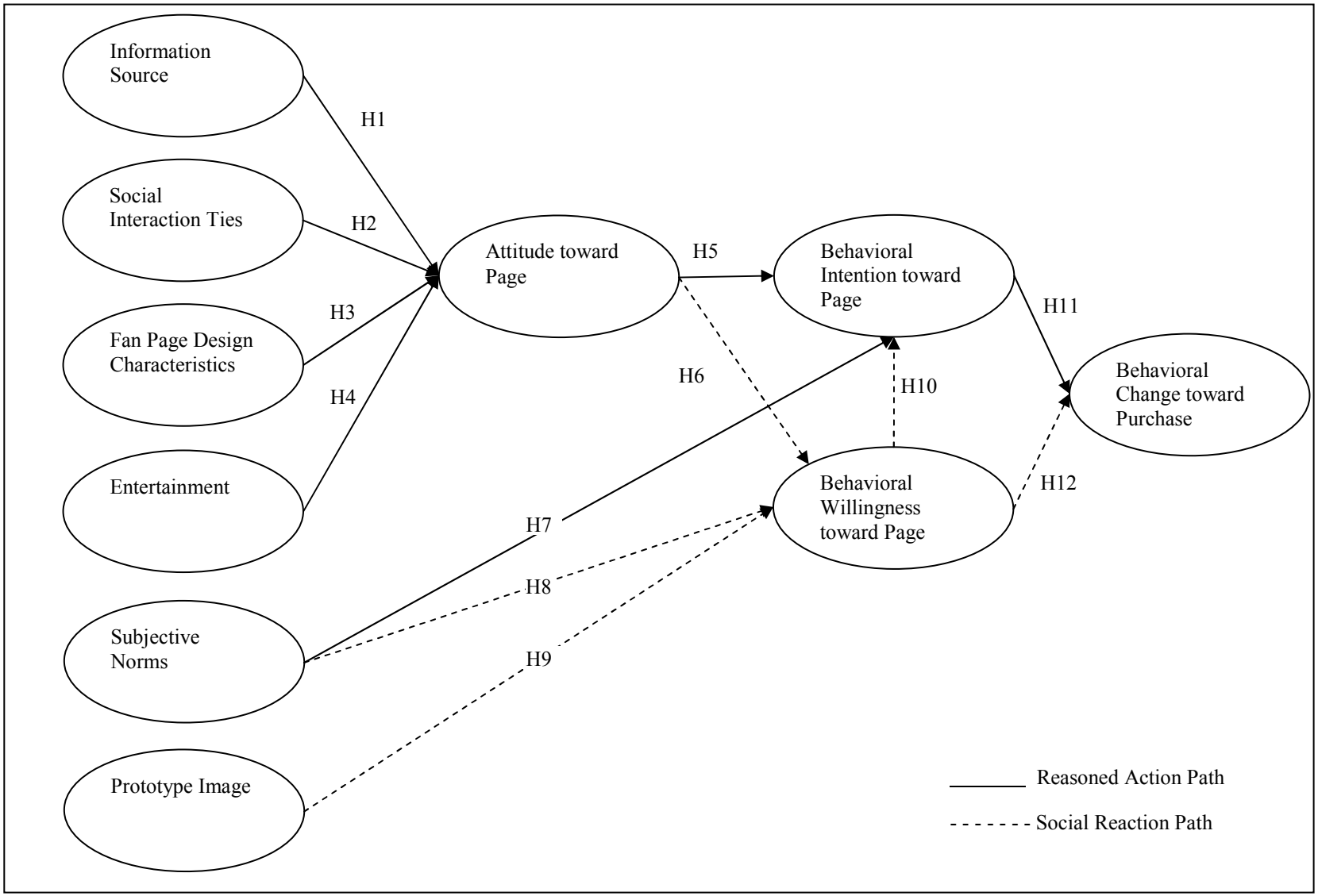


Figure 1. Proposed Conceptual Model

CHAPTER 3. RESEARCH METHODOLOGY AND DESIGN

This chapter included the research methods employed to test the hypotheses presented in Chapter 2. The selection of Facebook fan pages, sampling and data collection, survey instrument, and statistical analysis process were discussed in the following sections.

3.1 Selection of Facebook Fan Pages

The present study investigated Facebook fan pages from restaurants. The quick service restaurant industry sector was selected because it was the segment of the hospitality industry that had millions of members on Facebook fan page (Top Dining Brands, 2011). Restaurants' Facebook fan pages incorporated unique features (e.g., promotions) and encouraged member participation. Among the numerous fan pages, six top quick service restaurant Facebook fan pages were chosen from the list of "Top dining Brands" (Top Dining Brands, 2011). Successfulness of restaurant Facebook fan pages was based on the ratings on the fan page list (Top dining Brands, 2011). Therefore, the following successful fan pages were selected: McDonald's, Subway, Taco Bell, Wendy's, Pizza Hut, and Burger King. In addition, the respondents had the opportunity to indicate any other restaurant brand fan page in the quick service industry that they belonged to.

3.2 Sample

The sample for the present study consisted of college students from Iowa State University. All students were fans of restaurants' Facebook fan pages listed above. Following

approval of the Institutional Review Board (IRB) of Iowa State University, an online survey was developed and distributed to the potential respondents, who were at least 18 years old. Prior to starting the first part of the survey, participants were asked whether they have ever joined a restaurant Facebook fan page. Only those who have confirmed that they have been or are a member of the Facebook page operated by the restaurants' corporations were eligible to complete the survey.

3.3 Survey Instrument

The survey consisted of three sections: (1) cognitive and affective determinants; (2) subjective norms, attitude, prototype image, behavioral intention, behavioral willingness, behavioral change; and (3) demographic information.

The first part of the survey measured the four cognitive and affective determinants of restaurants' Facebook fan pages (information source, social interaction ties, page design characteristics, and entertainment). The measurement scale of Park, Kee, and Valenzuela, (2009) was employed for two constructs: information source and entertainment. These scales have been chosen because they fit well with the social networking context. The scales of fan pages from Lin and Lu (2011) were used for social interaction ties. For the page design characteristics, the measurement scale of Tang and Jang (2011) was adopted. All items were measured with seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree) (Table 1).

Table 1. Constructs and Items of the First Part of Survey

Construct and Measurement Items
Information Source (Park et al., 2009)
IS1: I think of "X" FB page as an important information source.
IS2: I use the "X" FB page to get useful information about its products/services.
IS3: I use the "X" FB page to learn about their events.
Social Interaction Ties (Lin & Lu, 2011)
SIT1: I engage in a high level of interaction with other FB fan page members.
SIT2: I spend considerable time interacting with other FB fan page members.
SIT3: I have frequent communication with other FB fan page members.
FB Page Design Characteristics (Tang & Jang, 2011)
DC1: The "X" FB page quickly loads all the text and graphics.
DC2: The "X" FB page is easy to use.
DC3: The "X" FB page is easy to navigate.
DC4: The "X" FB page is well designed for users.
Entertainment (Park et al., 2009)
E1: It's entertaining to browse the "X" FB page.
E2: The "X" FB page is funny.
E3: The "X" FB page is exciting.

Note: FB=Facebook

The second part of the survey included questions regarding the constructs of subjective norms, attitude, prototype image, behavioral intention, behavioral willingness, and behavioral change. Subjective norms were measured according to the scale of Kim et al. (2009). For attitudes, the present study selected the scale of Tang and Jang (2011). The scales for prototype image included eight descriptors, which were selected from Ohtomo and Hirose (2007). These descriptors were refined to fit the fan page context. For behavioral intention, the scale of Liang and Lim's (2011) was incorporated. In terms of behavioral change, fan pages' members indicated the extent to which they modify their consumption behaviors toward the restaurant brand because of their fan page community membership.

Qu and Lee's (2011) scales were employed for behavioral change towards the restaurant brand. For behavioral willingness, the scales of Ohtomo and Hirose (2007) were reworded to better fit the setting and the respondents were asked about their willingness to react in two ways. Items were measured with the seven-point Likert-type scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The measurements scales of the constructs are included in Table 2.

Table 2. Constructs and Items of the Second Part of Survey

Subjective Norms (Kim et al., 2009)
SN1: People who influence my behavior think that I should the "X" FB page.
SN2: People who are important to me think that I should use the "X" FB page.
SN3: People whose opinions I value prefer that I should use the "X" FB page.
Attitude Toward "X" FB Page (Tang & Jang, 2011)
A1: I trust the "X" FB page.
A2: "X" FB page is pleasant.
A3: Information on "X" FB page is helpful.
A4: I am in favor of the "X" FB page in general.
Prototype Image (Ohtomo & Hirose, 2007)
PI1: Cool
PI2: Independent
PI3: Boring
PI4: Interesting
PI5: Funny
PI6: Attentive
PI7: Sociable
PI8: Learner
Behavioral Intention Toward "X" FB Page (Liang & Lim, 2011)
BI1: I have considered using the "X" FB page in the future.
BI2: I will introduce others the "X" FB page.
BI3: I will continue to the "X" FB page.
Behavioral Willingness Toward "X" FB Page (Ohtomo & Hirose, 2007)
BW1: I am will to keep being a user of the "X" FB page.
BW2: I am willing to stop being a user of the "X" FB page.

Table 2. (continued)

Behavioral Change Toward "X" Brand (Qu & Lee, 2011)
BC1: The way I search for information about products/services has changed as a result of my being a fan of the "X" FB page.
BC2: The "X" FB page has influenced my behavior in some ways such as what products I buy from the restaurant.
BC3: Where I buy products and services have changed as a result of my being a fan of the "X" FB page.
BC4: The "X" FB page has influenced how I go about buying products.

The third part of the survey elicited demographic information such as education, gender, age, and enthicity. Two open-ended questions were also included. The first question asked how long, on average, do you participate in this restaurant Facebook page each week. The author involved this question because on average, consumers spend more than 5.5 hours per day participating on social media Websites (Nelsonwire, 2010). With their increasing use, these sites are perceived as tools for creating online communities of users who share interests, activities, and objectives (Bolotaeva & Cata, 2010). The second open-ended question asked how many restaurant Facebook fan pages are you a member.

A pilot test was undertaken by distributing the survey to three faculty members and 15 graduate students in the Department of Apparel, Events, and Hospitality Management at Iowa State University. Based on their feedback, some rewording was made to maintain clarity.

3.4 Data Collection

An initial list of measurement items for the ten constructs was initially generated from a review of literature. These items were revised by two faculty members in the

department of Apparel, Events, and Hospitality Management at Iowa State University. The preliminary questionnaire was formed and used in the pretest between December 5 and December 16, 2011. Fifteen graduate students in the department of Apparel, Events, and Hospitality Management at Iowa State University participated in the pre-test. The questionnaire was further revised based on the feedback of these respondents. Online survey is a new survey method since the emergence of the Internet. Compared with other traditional approaches, online survey has some merits, which include 1) low survey cost; 2) interactivity; 3) availability to the respondent at any time and any place; and 4) automated data entry and checking (Braithwaite, Emery, de Lusignan, & Sutton, 2003). Therefore, this study used a web-based survey.

Data collection was conducted between January 9 and January 20, 2012. Participants were college students who were members of restaurant Facebook fan pages. The email list of 26,000 college students was provided by the Office of the Registrar of Iowa State University. An email invitation was sent to the potential participants. The survey's website address (URL) was included in the e-mail messages. After the respondents finished the survey, they clicked "submit" on the web page and the responses were collected in the Survey Database of Iowa State University. The email which invited students to complete an online questionnaire was sent on January 9 and a follow-up email was sent out on January 15. In addition, the invitation to the students of Iowa State University included a message regarding a drawing for a $50 gift card as a participation incentive. A total of 1,563 questionnaires were collected. The response rate was 6.01%. Data were screened and the researcher deleted the invalid surveys. Finally, 1,131 responses were kept for further analysis.

3.5 Data Analysis

First, this study employed data preparation and screening. There were two main reasons why data preparation and screening was important. First, most estimation methods for SEM require certain assumptions about the distributional characteristics of the data. Second, data-related problems make SEM computer programs fail to yield a logical solution (Kline, 2005). Therefore, before either a raw data file or a matrix summary of the data was created for SEM, the original data was carefully screened. The evaluation of underlying assumptions of SEM were conducted and explained in detail.

In addition, the present study performed the two-step SEM approach suggested by Anderson and Gerbing (1988). The first step involved confirmatory factor analysis (CFA), which was used to validate scales for the measurement of specific constructs proposed in a research model (Hair, Anderson, Tatham, & Black, 1998) and SEM followed.

3.5.1 Evaluation of Underlying Assumptions of SEM

3.5.1.1 Normality

One of the assumptions of SEM was the normal distribution for continuous variables. Normality is concerned with the distribution of the individual variables. Skew and kurtosis were used to test normality of data distribution (Table 3). Absolute values of skew indexes are advised to be less than 3.0. The absolute values of the kurtosis index are advised to be less than 10.0. The skewness in this study ranged from -1.270 to 0.91, and the kurtosis ranged from -1.217 to 2.020. Therefore both, skewness and kurtosis satisfied the requirement of normality.

Table 3. Distribution for the Observed Variables

Construct/ Items	N= (1131) Mean	SD	Skew	Kurtosis
Information Source				
IS1: I think of "X" FB page as an important information source.	3.81	1.754	-0.096	-0.953
IS2: I use the "X" FB page to get useful information about its products/services.	3.51	1.873	0.091	-1.210
IS3: I use the "X" FB page to learn about their events.	3.77	1.938	-0.098	-1.217
Social Interaction Ties				
SIT1: I engage in a high level of interaction with other FB fan page members.	4.72	.955	-0.104	0.944
SIT2: I spend considerable time interacting with other FB fan page members.	4.82	.936	-0.169	0.975
SIT3: I have frequent communication with other FB fan page members.	4.79	.944	-0.031	0.790
FB Page Design Characteristics				
DC1: The "X" FB page quickly loads all the text and graphics.	5.36	1.538	-1.086	0.805
DC2: The "X" FB page is easy to use.	5.58	1.320	-1.283	2.004
DC3: The "X" FB page is easy to navigate.	5.56	1.316	-1.270	2.020
DC4: The "X" FB page is well designed for users.	5.41	1.327	-1.084	1.475
Entertainment				
E1: It's entertaining to browse the "X" FB page.	4.26	1.589	-0.269	-0.394
E2: The "X" FB page is funny.	3.78	1.448	-0.137	-0.148
E3: The "X" FB page is exciting.	3.92	1.476	-0.245	-0.184

Table 3. (continued)

Construct/ Items	N= (1131) Mean	SD	Skew	Kurtosis
Subjective Norms				
SN1: People who influence my behavior think that I should the "X" FB page.	3.49	1.375	-0.342	0.061
SN2: People who are important to me think that I should use the "X" FB page.	3.47	1.385	-0.292	0.072
SN3: People whose opinions I value prefer that I should use the "X" FB page.	3.52	1.390	-0.336	0.021
Attitude Toward "X" FB Page				
A1: I trust the "X" FB page.	5.26	1.291	-0.817	1.016
A2: "X" FB page is pleasant.	5.28	1.123	-0.751	1.365
A3: Information on "X" FB page is helpful.	5.14	1.207	-0.797	1.409
A4: I am in favor of the "X" FB page in general.	5.01	1.284	-0.731	1.066
Prototype Image				
PI1: Cool	4.83	1.248	-0.372	0.600
PI2: Independent	5.00	1.361	-0.682	0.466
PI3: Boring	4.86	1.405	-0.341	-0.145
PI4: Interesting	4.94	1.188	-0.512	0.768
PI5: Funny	4.95	1.262	-0.447	0.394
PI6: Attentive	4.85	1.267	-0.437	0.340
PI7: Sociable	5.28	1.356	-0.901	0.783
PI8: Learner	5.08	1.300	-0.571	0.420
Behavioral Intention Toward "X" FB Page				
BI1: I have considered using the "X" FB page in the future.	4.72	1.474	-0.688	0.379
BI2: I will introduce others the "X" FB page.	3.73	1.584	0.025	-0.439
BI3: I will continue to the "X" FB page.	4.62	1.483	-0.691	0.369

Table 3. (continued)

Construct/ Items	Mean	N= (1131) SD	Skew	Kurtosis
Behavioral Willingness Toward "X" FB Page				
BW1: I am will to keep being a user of the "X" FB page.	4.77	1.381	-0.618	0.616
BW2: I am willing to stop being a user of the "X" FB page.	4.26	1.505	-0.043	-0.210
Behavioral Change Toward "X" Brand				
BC1: The way I search for information about products/services has changed as a result of my being a fan of the "X" FB page.	4.03	1.269	-0.095	0.407
BC2: The "X" FB page has influenced my behavior in some ways, such as what products I buy from the restaurant.	4.17	1.319	-0.232	0.194
BC3: Where I buy products and services has changed as a result of my being a fan of the "X" FB page.	3.93	1.245	-0.198	0.523
BC4: The "X" FB page has influenced how I go about buying products.	3.95	1.256	-0.212	0.533

Note: FB=Facebook

3.5.1.2 Outliers

Outliers may affect the results of SEM, even when the remainder of the data is well distributed. Univariate outlier is defined as those more than three SD away from the mean ($z>3$). Outliers were remedied through correcting errors or dropping the cases of transforming variables (Murawski, Payakachat, & Koh-Knox, 2008). No outliers were found by the inspection of frequency distributions, and univariate measures of skewness and kurtosis. Mahalanobis distance was used to detect multivariate outliers. A careful examination of Mahalanobis distance did not reveal a multivariate outlier. Therefore, no cases were removed from further data analysis.

3.5.1.3 Missing Data

There are mainly three approaches used to deal with missing data, which include pairwise deletion, listwise deletion, and replacement. Pairwise deletion excludes an observation from a calculation only when it is missing a value needed for that particular calculation. The advantage of pairwise deletion is that it does not lead to substantial decrease in the sample size. The disadvantage of pairwise deletion is that the parameters of the model are calculated based on a different sample size (Kim & Curry, 1977). Pairwise deletion may lead to out of bound values resulting in nonpositive definite/singular covariance matrices, negative variances, and so on. Pairwise deletion is not recommended for SEM (Schreiber, Nora, Stage, Barlow, & King, 2006). Listwise deletion eliminates observations where there is any data value missing. Listwise deletion is used under the assumption that data is missing completely at random, and it leads to unbiased parameter estimates. Listwise deletion

approach discards other information that the respondent provided, and it significantly reduces the sample size (Kim & Curry, 1977). Data replacement helps maximize the effect of present data. When the missing data sample is too large, it is not reasonable to delete all the missing data. Replacement using some specific criteria is the best way because scholars could interpret the results similar to analysis with no missing items. The disadvantage of the data replacement approach is that scholars cannot neglect to adjust the standard errors for imputed data (Kim & Curry, 1977). The imputed data may cause a bias and scholars have to weigh the imputed values based on why the data is missing. Imputation has some uncertainty because the standard error for known data and unknown data are different (Schreiber et al., 2006). Overall, in this study the replacement approach is the most appropriate.

3.5.1.4 Reliability

The reliability of a measure is advised by agreement of two efforts to measure its construct using a maximally similar method (Campbell & Fiske, 1959). It is featured by the "repeatability" of a measure, and types of reliability include a measure's stability over time or subjects (Bollen, 1989; Nunnally & Bernstein, 1994). Three types of reliability were calculated, which included individual item reliability, composite reliability of the overall scale, and the average variance extracted (AVE) from the subscale (Table 4). Cronbach Alpha is used to test the individual item reliability and the cutoff point is advised to be more 0.7 (Moss et al., 1998); while composite reliability and AVE are used to test the reliability of the construct or the latent variables. Composite reliability is the reliability of a summated scale, and average variance extracted (AVE) is the variance in the indicators explained by the

common factor. Composite reliability is advised to be above 0.7 (Hair et al., 1998), and AVE is advised to be greater than 0.5 (Bagozzi & Yi, 1988). The Coefficient alpha of the 10 constructs ranged from 0.72 to 0.96, composite reliability from 0.88 to 0.97, and AVE ranged from 0.83 to 0.97.

3.5.1.5 Construct Validity

Construct validity is concerned in part with a measure's correspondence of other constructs. Measures of other constructs should be valid and reliable, and their correspondences with the target measure should also be theoretically sound (Cronbach & Meehl, 1955). Construct validity is typically advised using correlations. The correlations with a target measure and their plausibility are argued to support or undermine its construct validity. Construct validity mainly include convergent and discriminant validity (Shuttleworth, 2009). Convergent validity is the degree to which an operation is similar to (converges on) other operations that it theoretically should also be similar to. Convergent validity indicated that the assessment is related to what it should theoretically be related to (Anderson & Gerbing, 1988). Confirmatory factor loadings can be evaluated from the measurement model by determining whether each indicator's estimated maximum likelihood loading on the underlying construct is significant (Anderson & Gerbing, 1988). As illustrated in Table 4, all confirmatory factor loadings were significant at the 0.001 level. Therefore, convergent validity of the measures in this study was satisfactory. Discriminant validity describes the degree to which the operationalization is not similar to (diverges from) other operationalizations that it theoretically should not be similar to. Discriminant validity was

evaluated by comparing the AVE values with the squared correlations between constructs (Fornell & Larcker, 1981). The results showed that the squared correlations between pairs of constructs were all less than the AVEs, which indicated acceptable discriminant validity (Table 5).

Table 4. Scale/Item Measurement Properties

Constructs	Items	Cronbach's Alpha	Composite Reliability	AVE	CFA Item Loading
Information Source		0.85	0.88	0.90	
	INFO1				0.803***
	INFO2				0.875***
	INFO3				0.761***
Social Interaction		0.87	0.97	0.91	
	INTER1				0.794***
	INTER2				0.897***
	INTER3				0.795***
Design Characteristics		0.92	0.95	0.93	
	DES1				0.728***
	DES2				0.942***
	DES3				0.952***
	DES4				0.870***
Entertainment		0.86	0.92	0.91	
	ENT1				0.819***
	ENT2				0.811***
	ENT3				0.847***
Attitude		0.88	0.94	0.90	
	ATT1				0.750***
	ATT2				0.834***
	ATT3				0.824***
	ATT4				0.839***

Table 4. (continued)

Constructs	Items	Cronbach's Alpha	Composite Reliability	AVE	CFA Item Loading
Subjective Norms		0.96	0.97	0.97	
	SN1				0.916***
	SN2				0.974***
	SN3				0.922***
Prototype Image		0.88	0.88	0.83	
	PRI1				0.731***
	PRI2				0.721***
	PRI3				0.482***
	PRI4				0.838***
	PRI5				0.780***
	PRI6				0.682***
	PRI7				0.680***
	PRI8				0.665***
Behavioral Intention		0.84	0.92	0.89	
	BI1				0.861***
	BI2				0.668***
	BI3				0.881***
Behavioral Willingness		0.72	0.90	0.87	
	BW1				0.964***
	BW2				0.581***
Behavioral Change		0.92	0.95	0.93	
	BC1				0.813***
	BC2				0.881***
	BC3				0.894***
	BC4				0.878***

Note: *** Significant at the .001 level.

Table 5. Latent Variable Squared Correlation Matrix

	1	2	3	4	5	6	7	8	9	10
1.Information Source	**0.90**									
2. Social Interaction	0.56	**0.91**								
3. Design Characteristics	0.61	0.64	**0.93**							
4. Entertainment	0.74	0.60	0.66	**0.91**						
5. Attitude	0.72	0.85	0.73	0.71	**0.90**					
6. Subjective Norms	0.50	0.35	0.21	0.54	0.45	**0.97**				
7. Prototype Image	0.51	0.52	0.54	0.60	0.61	0.39	**0.83**			
8. Behavioral Intention	0.78	0.65	0.61	0.72	0.86	0.63	0.56	**0.89**		
9. Behavioral Willingness	0.69	0.58	0.56	0.59	0.77	0.50	0.54	0.86	**0.87**	
10. Behavioral Change	0.71	0.54	0.44	0.63	0.69	0.66	0.48	0.87	0.78	**0.93**

Entries under the diagonals are the latent construct correlations. Entries on the diagonal are AVE.

3.5.2 Multicollinearity

SEM assumes that multicollinearity may lead to a nonpositive definite covariance matrix due to high correlations among variables. Pearson correlations among observed variables were evaluated first. Several observed variables had high correlations at the level of 0.05, which indicated that the data might violate the collinearity assumption. Therefore, a collinearity diagnostic test was further conducted to assess multicollinearity. Collinearity may be indicated by a Variable Inflation Index (VIF) greater than 10, conditional index scores of 15 or higher, and variance proportions greater than 0.9. No indicators had a VIF value greater than 10 and no corresponding variance proportions were greater than 0.9. Thus, the results suggested that the data did not violate the assumption of multicollinearity in this study.

3.5.3 Confirmatory Factor Analysis

In confirmatory factor analysis, a model is constructed in advance, the number of latent variables is decided by the research, whether a latent variable influences an observed variable is specified (Harman, 1976).The direct effects of latent on observed variables are also fixed to zero or some other constant, measurement errors may correlate with each other, the covariance of latent variables can be estimated or fixed to some specific value, and parameter identification is also required (Harman, 1976). Considering that the theoretical framework and the measurement scales of each variable in the conceptual model have strong theory base, factor analysis in this study is based on theory testing. Therefore, CFA was an appropriate approach for this research.

3.5.4 Structural Equation Modeling

To validate and to estimate the hypothesized model, SEM was employed (Anderson & Gerbing, 1988). SEM is a statistical technique for testing and estimating causal relationships by combining statistical data and qualitative causal assumptions. SEM is believed to be a major component of applied multivariate statistical analyses and is widely used by biologists, economists, educational researchers, marketing researchers, medical researchers, and a variety of other social and behavioral scientists.

SEM is a general, linear, and cross-sectional statistical modeling technique. As defined by Ulman (1996), SEM allows examination of a set of relationships between one or more independent variables, either continuous or discrete, and one or more dependent variables, either continuous or discrete. SEM encourages confirmatory rather than exploratory modeling. Therefore, SEM is used more often in theory testing rather than theory development; it starts with hypothesis, establishes a model, and tests the model. The data is used to test the causal assumptions embedded in the model (Kline, 2005). SEM can be used to model constructs as latent variables. Latent variables, opposed to observable variables, are variables that are not directly observed but are rather inferred (through a mathematical model) from other variables that are observed and directly measured. SEM has the ability to capture the unreliability of measurement in the model, which allows estimating the structural relations between latent variables (Marcoulides & Moustaki, 2002).

The Amos 6.0 structural equation analysis package was used to conduct the analysis. The maximum likelihood procedure was performed to estimate the measurement models and structural models. In the maximum likelihood procedure, a Chi-square test is the most common goodness-of-fit test. However, this test may be misleading in three ways: 1) the

model is relatively complex; 2) large sample size, and 3) violation of the assumption of multivariate normality (Joreskog & Sorbom, 1993). Therefore, several other fit indices need to be included, such as comparative fit index (CFI) (Bentler, 1990; Hu & Bentler, 1999), and root mean square error of approximation (RMSEA) (Browne & Cudeck, 1993).

Chi-square is beneficial to models with N=75 to N+100. For N>100, Chi square is almost always significant since the magnitude is affected by the sample size. Chi-square is also affected by the size of correlations in the model; the larger the correlations, the poorer the fit (Hu & Bentler, 1995). For Chi-square to df Ratio, there are no consistent standards for what is considered an acceptable model. Some researchers suggested a ratio of 2 to 1. In general, a low Chi-square to df ratio indicates a better fitting model (Hu & Bentler, 1995).

Comparative fit index (CFI) is one of a class of fit statistics known as incremental or comparative fit indexes. It assesses the relative improvement in fit of the model compared with a baseline model. A rule of thumb for the CFI is that value greater than roughly 0.90 and less than 1.0 indicates good fit of the model (Hu & Bentler, 1999).

Root Mean Square Error of Approximation (RMSEA) takes into account the error of approximation in the population and asks the question, “How well would the model, with unknown but optimally chosen parameter values, fit the population covariance matrix if it were available? ” (Browne & Cudeck, 1993) RMSEA values ranging from 0.08 to 0.10 indicate mediocre fit, and those greater than 0.10 indicate poor fit (Hu & Bentler, 1999).

CHAPTER 4. RESULTS

This chapter displayed the results of the data analysis, which included demographic characteristics of the sample, descriptive statistics of the variables, measurement, and Structural Equation Modeling (SEM) test.

4.1 Demographic Characteristics

An email list of 26,000 was used and a total of 1,563 questionnaires were collected. The response rate was 6.01%. Responses that included one or more unanswered sections were removed. After deleting the invalid surveys, 1,131 responses were kept for further analysis. Table 6 presents the demographic profile of the respondents. In addition to demographic characteristics (i.e., gender, age, and education), respondents' information regarding college classification, duration of Facebook membership, average time spent on restaurant brands' Facebook pages per week, and the number of restaurant Facebook page memberships were included.

Female participants accounted for 60%, and male accounted for 40%. Majority of respondents were grouped in the 18-24 years of age range, followed by the 25-35 years of age group. Most of the participants were Americans. Respondents were evenly distributed in their year of school. In terms of usage of restaurant brands' Facebook page, majority of respondents (97.8%) spent less than one hour per week on the restaurant fan page and more than half of the participants (54.4%) belonged to two to four restaurant brands' Facebook pages (Table 6).

Table 6. Demographic Characteristics of the Sample

Demographic Characteristics	Items	Frequency	Percentage
Gender (*n*= 981)			
	Male	392	40
	Female	589	60
Age (*n*= 989)			
	18-19	396	40.0
	20-24	482	48.7
	25-34	95	9.7
	35+	16	1.6
College Classification (*n*= 991)			
	Freshmen	260	26.2
	Sophomore	192	19.4
	Junior	189	19.1
	Senior	222	22.4
	Graduate Students	128	12.9
Ethnicity (*n*= 982)			
	Caucasian	817	83.2
	Asian-American	30	3.1
	Hispanic-American	41	4.2
	African-American	9	0.9
	Pacific Islander	5	0.5
	Asian	54	6.1
	Other	26	2.0
Average time spend per week on Facebook fan page (*n* =989)			
	Less than 30 min	951	96.1
	30 min-60min	17	1.7
	1- 3 hours	11	1.2
	More than 3 hours	10	1.0
Number of restaurant Facebook page memberships (*n* =980)			
	1 membership	287	29.3
	2-4 memberships	533	54.4
	5-10 memberships	104	10.6
	More than 10	56	5.7

There were ten constructs in the study, which included information source, social interaction ties, design characteristics, entertainment, attitude toward fan page, subjective norms, prototype image, behavioral intention toward fan page, behavioral willingness toward fan page, and behavioral change toward products' purchase. The mean of the responses for each construct ranged from 3.49 to 5.48 (Table 7). Information source had the lowest mean, and design characteristics had the highest.

Table 7. The Summary of Construct Information

Construct	Mean	SD
Information Source	3.69	1.63
Social Interaction Ties	4.78	0.84
Design Characteristics	5.48	1.24
Entertainment	4.00	1.33
Attitude toward fan page	5.17	1.06
Subjective Norms	3.49	1.33
Prototype Image	4.97	0.96
Behavioral Intention toward fan page	4.36	1.34
Behavioral Willingness toward fan page	4.52	1.28
Behavioral Change toward products' purchase	4.02	1.15

This study investigated six restaurant Facebook fan pages, which included McDonald's, Subway, Taco Bell, Wendy's, Pizza Hut, and Burger King (Table 8). In addition, participants had the chance to indicate any other restaurant brand that they were members of the fan pages. Among the 1,131 usable responses more than 35% were from Subway, 16.9% from McDonald's, 9.8% from Taco Bell, 6.9% from Wendy's, 9.8% from Pizza Hut, and 3.9% from Burger King. Additionally, 14.3% of the data were from 62 different restaurant brands including Dairy Queen, Arby's, Domino's pizza, and Panera.

Table 8. Brand Profile of the Sample

Restaurant	Frequency	Percent
McDonald's	191	16.9
Subway	434	38.4
Taco Bell	111	9.8
Wendy's	78	6.9
Pizza Hut	111	9.8
Burger King	44	3.9
Other	162	14.3

4.2 Confirmatory Factor Analysis (CFA)

The measurement model consisted of ten latent variables: four functions gratified on restaurant Facebook fan pages (information source, social interaction ties, design characteristics, and entertainment), attitude toward fan page, subjective norms, prototype image, behavioral intention toward fan page, behavioral willingness toward fan page, and behavioral change toward products' purchase. Confirmatory factor analysis (CFA) was conducted to evaluate the overall fit of measurement items in the conceptual model. The CFA tested how well all the measured variables represent the number of constructs. The CFA model included ten constructs with 36 measurement items (Figure 2). The CFA results revealed that the overall fit of the measurement model was satisfactory: ($\chi 2$ (584) = 1870,869 p=0.000, $\chi 2$/df = 3.204, NFI=0.936, IFI=0.955, TLI= 0.945, CFI=0.955, RMSEA= 0.044). The standardized coefficients of all paths were found to be significant at the level of 0.001. All the correlations among the ten latent constructs in the confirmatory factor analysis were positive and ranged from 0.044 to 0.734 (Table 9).

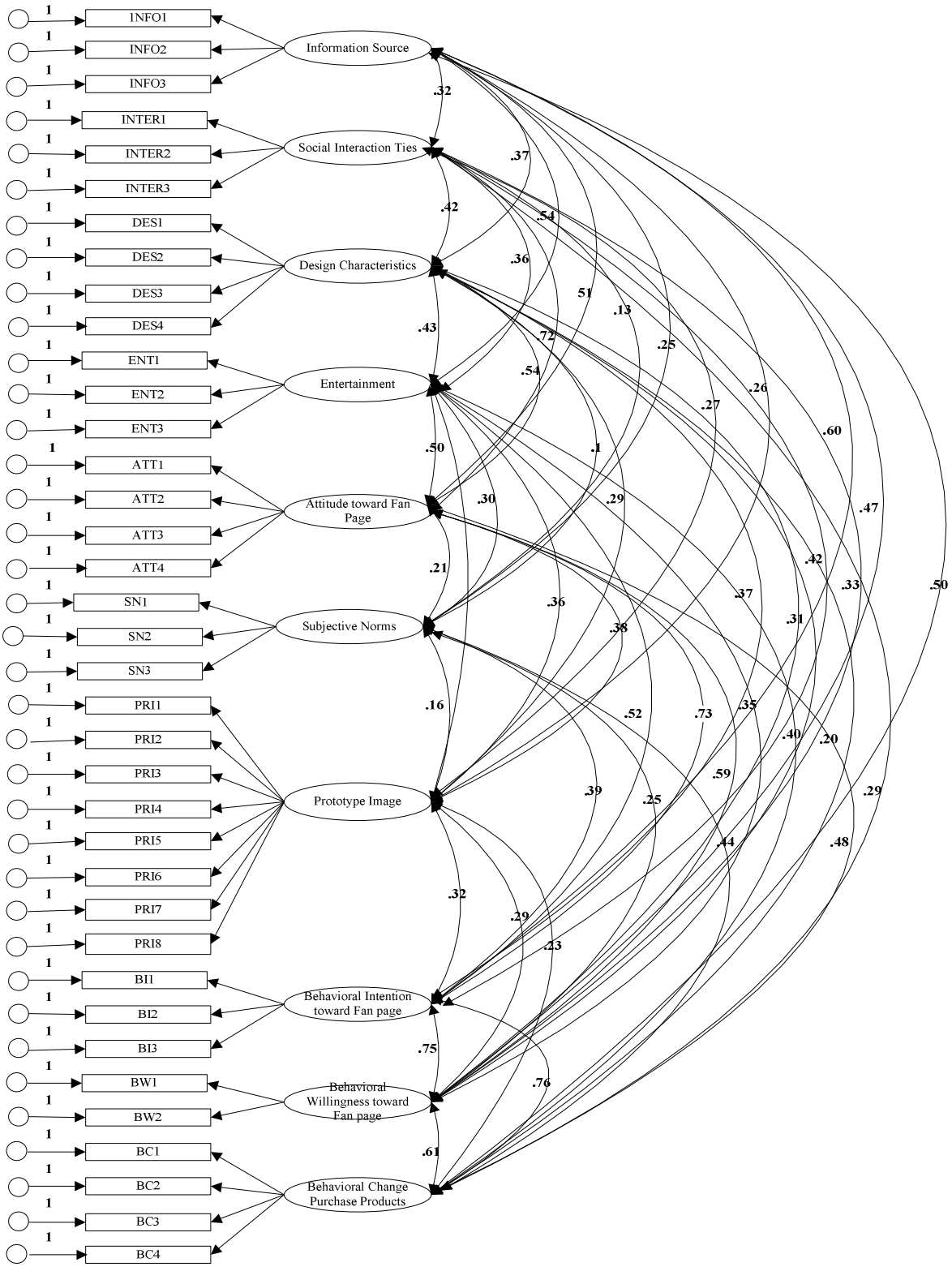


Figure 2. Confirmatory Factor Analysis

Table 9. Regression Weights of Paths in Confirmatory Factor Analysis

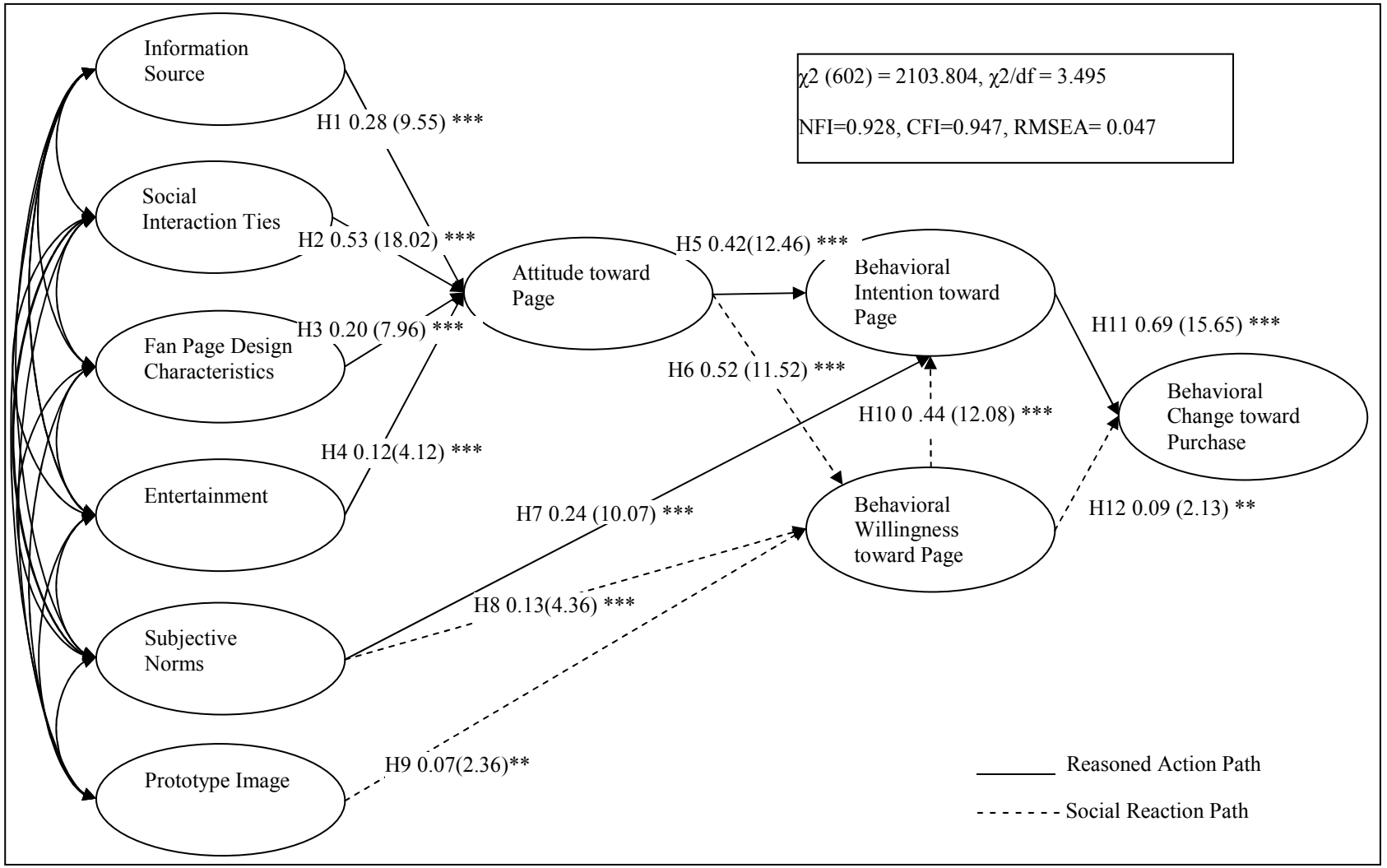
Paths	Correlation
Information Source and Design Characteristics	0.374
Information Source and Social Interaction Ties	0.318
Information Source and Entertainment	0.542
Information Source and Attitude toward Fan page	0.513
Information Source and Subjective Norms	0.251
Information Source and Prototype Image	0.258
Information Source and Behavioral Intention toward Fan page	0.604
Information Source and Behavioral Willingness toward Fan page	0.473
Information Source and Behavioral Change toward purchase	0.504
Social Interaction ties and Design Characteristics	0.404
Social Interaction Ties and Entertainment	0.360
Social Interaction Ties and Attitude toward Fan page	0.718
Social Interaction Ties and Subjective Norms	0.125
Social Interaction Ties and Prototype Image	0.273
Social Interaction Ties and Behavioral Intention toward Fan page	0.421
Social Interaction Ties and Behavioral Willingness toward Fan page	0.331
Social Interaction Ties and Behavioral Change toward Purchase	0.290
Design Characteristics and Entertainment	0.430
Design Characteristics and Attitude toward Fan page	0.539
Design Characteristics and Subjective Norms	0.044
Design Characteristics and Prototype Image	0.293
Design Characteristics Ties and Behavioral Intention toward Fan page	0.369
Design Characteristics and Behavioral Willingness toward Fan page	0.309
Design Characteristics Behavioral Change toward Purchase	0.198
Entertainment and Attitude toward Fan page	0.503
Entertainment and Subjective Norms	0.296
Entertainment and Prototype Image	0.355
Entertainment Ties and Behavioral Intention toward Fan page	0.518
Entertainment and Behavioral Willingness toward Fan page	0.353
Entertainment and Behavioral Change toward Purchase	0.398
Attitude toward Fan page and Subjective Norms	0.207
Attitude toward Fan page and Prototype Image	0.377
Attitude toward Fan page and Behavioral Intention toward Fan page	0.734
Attitude toward Fan page and Behavioral Willingness toward Fan page	0.593
Attitude toward Fan page and Behavioral Change toward Purchase	0.480
Subjective Norms and Behavioral Intention toward Fan page	0.394
Subjective Norms Behavioral and Willingness toward Fan page	0.246

Table 9. (continued)

Paths	Correlation
Subjective Norms and Behavioral Change toward Purchase	0.438
Prototype Image and Subjective Norms	0.156
Prototype Image and Behavioral Intention toward Fan page	0.315
Prototype Image and Behavioral Willingness toward Fan page	0.288
Prototype Image and Behavioral Change toward Purchase	0.232
Behavioral Intention toward Fan page and Behavioral Willingness toward Fan page	0.745
Behavioral Intention toward Fan page and Behavioral Change toward Purchase	0.757
Behavioral Willingness toward Fan page and Behavioral Change toward Purchase	0.605

4.3 Structural Model

The structural model shown in Figure 3 proposed the causal relationships among six exogenous (information source, social interaction ties, design characteristics, entertainment, subjective norms, and prototype image) and four endogenous (attitude toward fan page, behavioral intention toward fan page, behavioral willingness toward fan page, and behavioral change toward products' purchase) constructs. A structural equation model was estimated using a maximum-likelihood estimation procedure. The result indicated that the overall fit was satisfactory ($\chi 2$ (602) = 2103.804, p=0.000, $\chi 2/df$ = 3.495, NFI=0.928, IFI=0.947, TLI= 0.947, CFI=0.947, RMSEA= 0.047). In addition, the standardized coefficients of all paths were found to be significant and positive at the level of 0.001 and 0.05. Figure 3 illustrates standardized path coefficients (β) for each significant path of the conceptual model.



Note. *p<05, **p<0.01, ***p<0.001

Figure 3. Standardized Coefficients and t-Values for Paths in the Conceptual Model

All hypotheses were supported (Table 10). In particular, the paths of information source, social interaction ties, design characteristics, and entertainment to attitude toward fan page were proven to be positive (H1, H2, H3, H4 were accepted). Attitude toward fan page, subjective norms, and willingness toward fan page were all positively related to behavioral intention toward fan page (H5, H7, H10 were supported). In addition, attitude toward fan page, subjective norms, and prototype image had all positive relationship with willingness toward fan page (H6, H8, H9 were accepted). Last, behavioral intention and behavioral willingness toward fan page positively influenced behavioral change toward products' purchase (H11, H12 were supported).

Table 10. Summary of Support for Hypotheses based on the Results of SEM

Hypothesis	Paths	Weights	P	Proposed Effect
H1	Information Source to Attitude toward Fan page	0.281	***	+
H2	Social Interaction Ties to Attitude toward Fan page	0.535	***	+
H3	Design Characteristics to Attitude toward Fan page	0.202	***	+
H4	Entertainment to Attitude toward Fan page	0.121	***	+
H5	Attitude toward Fan page to Behavioral Intention toward Fan page	0.421	***	+
H6	Attitude toward Fan page to Behavioral Willingness toward Fan page	0.529	***	+
H7	Subjective Norms to Behavioral Intention toward Fan page	0.228	***	+
H8	Subjective Norms to Behavioral Willingness toward Fan page	0.127	***	+
H9	Prototype Image to Behavioral Willingness toward Fan page	0.072	0.009	+
H10	Behavioral Willingness toward Fan page to Behavioral Intention toward Fan page	0.438	***	+
H11	Behavioral Intention toward Fan page to Behavioral Change toward Purchase	0.696	***	+
H12	Behavioral Willingness toward Fan page to Behavioral Change toward Purchase	0.086	0.033	+

*p<05, **p<0.01, ***p<0.001

4.4 Fully Recursive Model

A fully recursive model including all the plausible paths was constructed and estimated using SEM (Figure 4). The model generated a total of 29 paths, with 17 paths more than the original conceptual model. The fully recursive model was significant at χ^2 = 1881.478, *df* = 585, $p < .001$. The model fit was also acceptable (NLI = 0.935, IFI= 0.954, TLI=0.942, CFI = 0.955, RMSEA = 0.044). The χ^2 values of the fully recursive model decreased to 221.93 with 17 *df*, which was statistically significant at $p < .001$. From the results, the fully recursive model appeared to have a slightly better fit than the conceptual model (Table 11). However, the present researcher accepted the conceptual model because the goal of this study was to test the dual route of the prototype willingness model and TRA.

Only one path of the conceptual model was not significant in the fully recursive model; from prototype image to behavioral willingness. This path is important because it is a significant part of the prototype willingness model. All the rest eleven paths were significant and were the same as the conceptual model. Moreover, seven additional direct paths were presented by testing the fully recursive model. Three of them were negative and could not been supported because they do not make sense: from social interaction ties to behavioral intention toward fan page; from social interaction ties to behavioral willingness toward fan page; and from design characteristics to behavioral change toward brands. Four new paths were positive and significant: from information source to behavioral intention toward fan page; from information source to behavioral change toward brands, from entertainment to behavioral intention toward fan page; and from subjective norms to behavioral change toward brands. Table 12 shows path coefficients and *t*-values for each path in the reduced

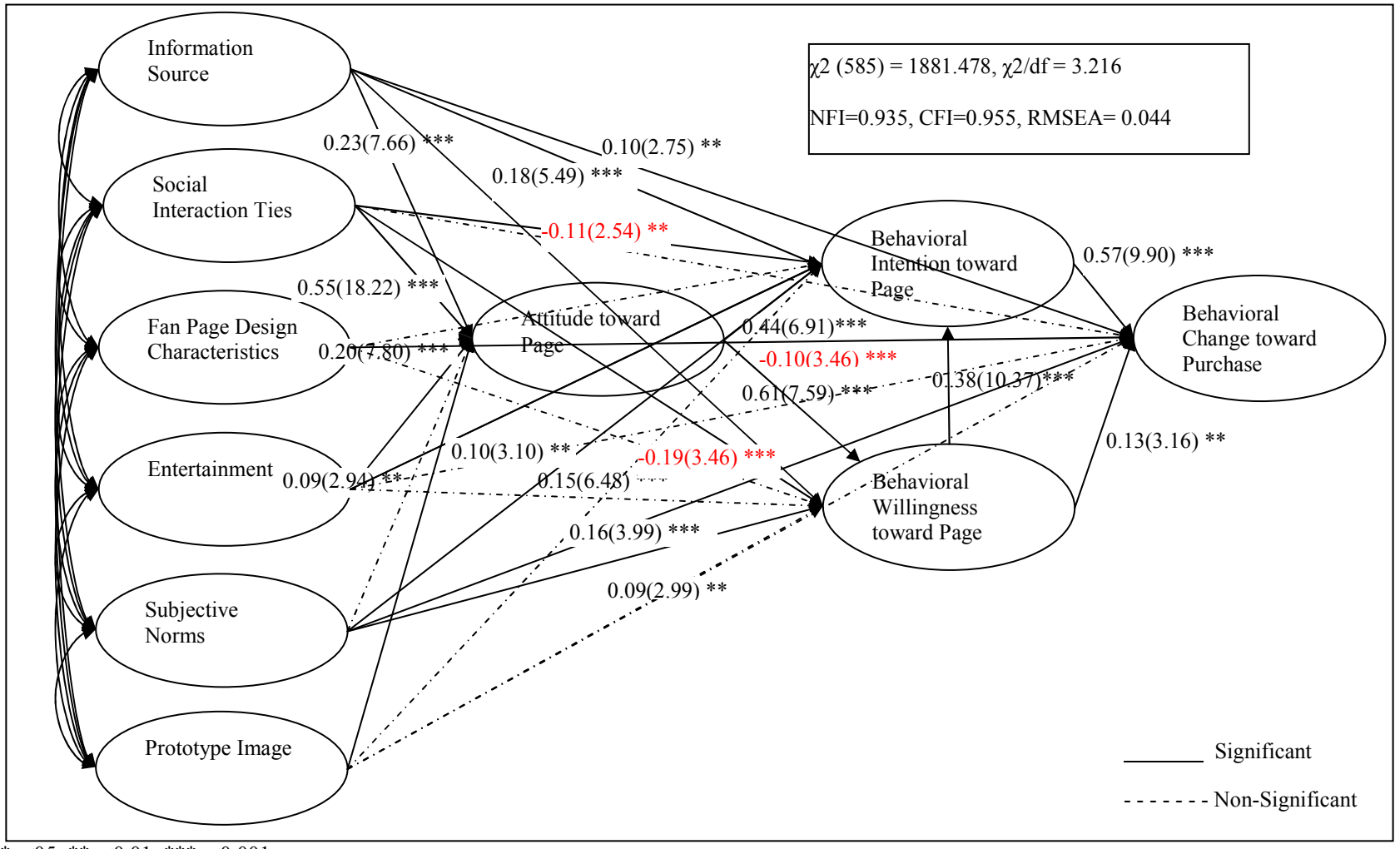
(theoretical) model and the fully recursive model. The goal of this study was to evaluate the dual route supported by TRA and the prototype willingness model. Therefore, none of the four paths was included in the conceptual model.

Table 11. Chi-square Test of Model Comparison

Model comparison	χ^2	*df*	χ^2/df	**NFI**	**TLI**	**CFA**	**RMSEA**
Conceptual model	2103.804	602	3.495	0.928	0.938	0.947	0.047
Fully recursive model	1881.878	585	3.216	0.935	0. 942	0.954	0.044
$\Delta\chi^2$(df)	221.93 (17)						
p	< .001						

Table 12. Unstandardized Path Coefficients and *t*-Values for Structural Model

	Reduced (Theoretical) Model				Fully Recursive Model			
	Attitude toward Fan Page	Behavioral Intention toward Fan Page	Behavioral Willingness toward Fan Page	Behavioral Change toward Brands	Attitude toward Fan Page	Behavioral Intention toward Fan Page	Behavioral Willingness toward Fan Page	Behavioral Change toward Brands
	b(*t*)				b(*t*)			
Information Source	.20(9.54)				.16(7.66)	.17(5.49)	.14(5.22)	.08(2.75)
Social Interaction Ties	.77(18.02)				.79(18.22)	-.20(-2.54)	-.24(-3.46)	-.02(-.41)
Design Characteristics	.17 (7.96)				.17(7.79)	-.05(-1.68)	-.03(-.96)	-.09(-3.46)
Entertainment	.10 (4.12)				.08(2.94)	.11(3.09)	-.03(-1.11)	.00(.13)
Subjective Norms		.23 (10.03)	.09(4.36)		.02(0.92)	.15(6.48)	.06(2.99)	.14(5.99)
Prototype Image			.07(2.36)		.09(3.39)	-.03(-0.69)	.06(1.76)	-.01(-.20)
Attitude toward Fan Page		.54 (12.46)	.45(11.52)			.57(6.91)	.53(7.59)	
Behavioral Intention toward Fan page				.59(15.65)				.48(9.90)
Behavioral Willingness toward fan page		.66(12.08)		.11(2.13)		.57(10.34)		.17(3.16)
Model fit	χ^2 = 2103.804, *df* = 602, NFI= 0. 928, TLI= 0.938, CFI = .947, RMSEA = 0.047				χ^2 = 1881.869, *df* = 585, NFI= 0. 935, TLI= 0.942, CFI = 0.954, RMSEA = 0.044			



*p<05, **p<0.01, ***p<0.001

Figure 4. Standardized Coefficients and t-Values for Paths in the Fully Recursive Model

CHAPTER 5. CONCLUSION

5.1 Findings and Discussions

The findings of this study supported the use of the TRA and prototype willingness model in the prediction and understanding of fans' intentions, willingness, and actual purchase behavior on restaurant Facebook fan pages. All hypothesized causal relationships were supported by the empirical results of path analysis. In particular, the paths of information source, social interaction ties, design characteristics, and entertainment to attitude toward fan pages were proven to be positive (H1, H2, H3, H4 were accepted). Attitude toward fan pages, subjective norms, and willingness were all positively related to behavioral intention toward fan pages (H5, H7, H10 were supported). In addition, attitude toward fan pages, subjective norms, and prototype images all had positive relationships with willingness toward fan pages (H6, H8, H9 were accepted). Lastly, behavioral intention and behavioral willingness toward fan pages positively changed consumers' purchase behavior (H11, H12 were supported).

This research revealed that the cognitive and affective components influenced consumer attitude towards participation in restaurant Facebook fan pages. The framework showed that fans' attitude toward fan pages is not only strongly influenced by cognitive aspects, but is also predicted by hedonic factors like entertainment. This study reported empirical findings that cognitive and psychological factors do have meanings when we attempt to understand what motivates the user of the restaurant Facebook fan page. In particular, the effect of functional, social usefulness, and ease of use on attitude was

significant and was consistent with TRA (Gupta & Kim, 2007). Moreover, the effect of pleasure/entertainment was significant in predicting attitude, and was congruent with previous studies (Batra & Ahtola, 1990; Gupta & Kim, 2007).

The structure model examined how the cognitive (information source, social interaction ties, design characteristics) and affective (entertainment) factors influenced attitudes. Judged by the indirect (via attitude) effect on behavioral intention, usefulness (social interaction ties, information source) was found to be the most significant determinant for members of the restaurant Facebook pages. Ease of use (web page design characteristics) followed, and affect (entertainment) was the least important. This finding is consistent with results from several studies that suggested that perceived usefulness is more important than perceived ease of use in determining whether or not to continue the use of a web page (e.g. Chau, 1996; Venkatesh, 2000). In the model, social interaction ties affected the most attitudes toward fan pages with a regression weight of 0.53, followed by information source (0.28), design characteristics (0.), and entertainment (0.12). The results indicated that a successful restaurant fan page on Facebook must meet multiple members' expectations. Therefore, marketers and designers should adapt to the new environment of Facebook pages, and focus their marketing and fan pages' development efforts based on these four functions gratified on restaurant Facebook fan pages.

This study provides important guidelines for fan pages' designers and marketers. From a practitioner's standpoint, the study identifies specific features that can influence attitudes, might increase intentions to return to the fan page and change actual purchase behavior. The influence of social usefulness on attitude was positive (H2), and the most

significant among the cognitive and affective beliefs. This finding is not as surprising, as it is commonly understood that people joined a virtual community to build friendships and interact (Gupta & Kim, 2007). Thus, social interaction ties were the most important determinants of attitude. In order to promote this function, restaurant brands can definitely benefit by the interactive culture of the fan pages due to the fact that they can open up communication channels with their consumers through this platform (Ulusu, 2010). One of the most helpful ways restaurant businesses and fans can interact with their Facebook page is by commenting via the fan page wall. The fan page's wall is the primary means to communicate with visitors, which is visible to both fans and non-fans (Skellie, 2011). For instance, via the wall restaurant brands can include answering direct questions, posting unique content, and being active in discussions. The discussions between the company and the audience are of value because they give consumers the opportunity to feel more connected to the brand. Enhancing dialogue on Facebook fan pages can be essential to building credibility on the fan pages (Weber, 2007). Therefore, members will feel like their feelings, opinions and suggestions are considered and appreciated. In addition, when the fan page is successful, the restaurant businesses should share the information and thank their members for their contributions (O'Keefe, 2008). Thus, members might consider themselves valuable to the success of the fan page. In addition, fan pages' designers can enhance interactivity by providing quick feedback, multiple alternatives, and predictable screen changes (Negash et al., 2003). Interaction can also be helpful with practical matters such as consumer support. Creating this relationship can increase credibility and affinity. In addition, restaurant managers should consider creating groups in the fan page with members

who have similar characteristics or common interests to interact with them. Subsequently, they can provide groups with useful or valuable links, and tips that the audience may find interesting. By posting unique content, restaurant brands help fans feel like they are part of an exclusive group, bringing them closer to the brand (Skellie, 2011). After all, the nature of an online community is that individuals gather together based on similar interests and purposes (Wang & Fesenmiar, 2004). Furthermore, direct communication via online chat features on the restaurant fan page among consumers and staff of the brand may be an effective approach to build strong interaction bonds and consumer loyalty.

The second most important determinant of attitude was functional usefulness. This usefulness was represented by information source, which positively influenced attitude toward restaurant fan pages (H1). Restaurant fan pages' designers need to actively seek ways to improve information quality provided through fan pages, increase opportunities for fans to find updated information about products/services, or company's events. For instance, moderating the community by periodically updating content and responding to posts is critical. At least once a week, restaurant brands can refresh content with new surveys, videos, photos, articles, and announcements. In addition, the company's status updates is important in the fan page, as it is a fan's invitation to visit the fan page again and be aware of the updates. If companies include a particularly interesting or compelling update, such as a discount code or incentives like bonus content or sneak peeks at upcoming events or products —people will share it, attracting more "Likes" or other fans (Smith, 2011). Once users "Like" the fan page, they will be subscribed to company's updates forever, unless they "Unlike" the page or close their account. This is a powerful way to keep consumers engaged

with the brand over the long-term (Skellie, 2011). Facebook is also a platform suited to brief updates about new products. Because of this, Facebook is appropriate for revealing information about an upcoming launch. After restaurant brands have posted a number of updates that build anticipation about a new product, they can conduct a launch on Facebook fan page. Despite the potential to generate sales via the Facebook fan page wall, any time a fan shares or comments on the product post; it will be posted on their profile and spread to their network of friends, helping the product promotion through new channels. For example, Wendy's, a popular fast-food restaurant, sponsored a branded virtual gift on its fan page to spread the word about its new "flavor dipped" sandwiches (Shih, 2009). Sponsored virtual gifts can be a fun, visual, and memorable form of word-of-mouth awareness of a new product.

Design is the third potent factor of attitudes toward fan pages. Design characteristics positively affected attitudes (H3). The discussion in the study clearly suggested that it would be inappropriate for marketing researchers to overemphasize information content and ignore the role of appealing fan page design characteristics. Visually attractive features can be included to instigate the audiences' interests. Web attractiveness is the most important factor that was found to affect the quality of people's online experience (Skadberg & Kimmel, 2004). Fan pages' designers can encourage consumer excitement and concentration, through inclusion of charming web features. Fan pages' designers may add some features such as appealing graphics, videos, photos, or 3D virtual models to attract and retain consumers. The web pages content should be easy to use, easy to access, and substantial, so that users are more likely to spend time and form positive attitudes (Lee & Choi, 2009). Designers need to

ensure that the fan page has a unique, interesting, and creative web design, particularly text, graphics, and colors, to be visually and emotionally appealing. These design characteristics can attract consumers and give them the chance to enjoy their visit. In a practical sense, web design is critical in building consumer relationships and facilitating customer support (Ghose & Dou, 1998).

Entertainment was the last factor creating favorable attitudes towards restaurant fan pages (H4). For instance, fan pages' designers may add human features such as humor in the fan page. In addition, games are fun and coming up with a game that the community can partake in will definitely help keep members coming back (O'Keefe, 2008). They can include a word-association game, a movie quotes game (where fans try to name which movie a specific quote came from), and so on. The success and retention of each game can be assessed depending on how active the fans are with this type of game in the Facebook page. In addition, contests and giveaways can create a temporary infusion of excitement. Restaurant brands can use deadlines and offer entries in a raffle, and give several prizes (Smith, 2011). Consumers respond to urgency and love a chance to potentially win a big prize. Moreover, restaurant brands can provide special benefits for the fans on these communities. For instance, the Palms Hotel and Casino offered a free night, or a room upgrade to consumers who check in on Facebook page.

In the social media setting, the role of behavioral willingness and behavioral intention is not significantly different. Behavioral willingness measures fans' eagerness to use Facebook Fan page, and behavioral intention counts on fans' intent to use these communities in the future. In other words, users are not forced to participate in the Facebook pages, and

the switching cost from one restaurant Facebook Fan page to another is minimal. Therefore, the antecedents (attitudes, subjective norms and prototype image) of behavioral willingness and behavioral intention are treated as affecting both willingness and intention.

The result of the research strongly supported the role of attitude predicting behavioral intention and behavioral willingness to use Facebook Fan pages; however behavioral intention was a stronger predictor. Attitude had a positive effect on both behavioral intention and behavioral willingness (H5 & H6). From a managerial standpoint, these findings suggest that cultivating positive attitudes is important for fostering favorable intentions and willingness toward the restaurant Facebook fan pages. Therefore, restaurant managers need to make sure that consumers really like the fan page, thus forming positive attitudes and subsequently influencing intentions and willingness. Favorable attitudes can be created by focusing on the development efforts related to the usefulness of the fan page, such as providing useful information, interacting with consumers, and engaging the audience. In addition, successful ease of use is a second component that can lead to positive attitudes. For instance, an attractive and easy to navigate fan page can create such attitudes. Moreover, entertaining activities such as games, contests, and gifts can also assist in forming positive attitudes towards the restaurant Facebook Fan pages.

Subjective norms were significant and meaningful for consumers' intention and behavioral willingness towards these online communities. The results suggested that subjective norms, as a social pressure influenced behavioral intention and behavioral willingness positively (H7 & H8). Once again the path toward behavioral intention was stronger, supporting the reasoned pathway. This may be explained by TRA, which defined

subjective norms as a reasoned or deliberative determinant (Ajzen & Fishbein, 1980; Armitage & Conner, 2001). Particularly, the findings implied that consumers' intention and willingness rely heavily on referents when consumers make use of the Facebook fan pages. As a result, opinions and suggestions by relevant others might have dominant or profound influences in fans' decision-making. As such, important referents of Facebook pages might have a great influence on people. Thus, restaurant brands should turn their attention to referents as they can lead and affect consumers' behavior (Kim et al., 2009). Restaurant managers should strive to attract opinion leaders to affect others' opinion related to Facebook fan pages through a normative effect. In addition, brands can use famous individuals (e.g. singers and actors) for the Facebook fan page campaign. Consumers value their opinions. Furthermore, through word-of-mouth communication or mass advertisements of Facebook fan pages, restaurant managers can accelerate network effects to achieve a perception of critical mass using these communities. The fan page ad campaigns may also be promoted outside of Facebook, such as official brand websites and other famous social media. Moreover, restaurant brands can create a wearable symbol such as a ribbon, a pin, a hat, or a t-shirt that individuals can put on to show support for the fan page campaign. In addition, managers can focus on promoting connectivity on Fan pages, to strengthen bonds and align subjective norms. Managers should also contribute to restaurant fan pages by answering questions and creating values. This may result in a positive response from users, and subsequently, may greatly influence subjective norms. All the above recommendations may result in increasing subjective norms' perceptions.

The prototype image was an important determinant of behavioral willingness toward restaurant fan pages (H9). Consistent with other studies using the social reaction path (e.g., Gerrard et al., 2005; Gerrard et al., 2003), the present study supported the idea that a prototype evaluation is related to willingness, and that willingness, in turn, influences behaviors. Fans appeared to react to the prototype image during their decision-making related to the fan page use. For instance, for those inexperienced consumers with restaurant fan pages, willingness to engage is obviously not based on personal experience but based on a prototype image. In other words, since a typical person is a user of restaurant Facebook fan pages, consumers might choose to become members because of the image. Therefore, the more favorable the image is, the more willing, and eventually the more likely consumers are to engage in a behavior. Therefore, marketers need to promote the prototype image of their members on their Facebook page, thus influencing stronger consumers' participation in these communities. Members join a fan page to showcase their identity first, build relationships second, and then commit to the community (Hurt, 2011). For instance, "I love MacDonald's" says something about consumers; it establishes consumers' identity. Individuals say they love a brand because it ultimately identifies with their interests. Therefore, restaurant marketers should focus the prototype image of members around personal identity, relationship building, and community belongingness. In addition, marketers could conduct surveys and ask their fans about their personalities and benefits they receive by participating in their Facebook page. Therefore, they can have a clear picture of the image of their fans. Subsequently, marketers can make consumers aware of the potential image of people who participate in these communities. For instance, if a person who participates in the restaurant Facebook

pages is sociable and open to new experiences; these components of the prototype image should be mentioned to the official websites of restaurants or commercials. Thus, more consumers may be willing to participate because of the positive prototype image.

This research revealed that behavioral willingness positively influenced behavioral intention showing that members of fan pages who are willing to use fan pages form positive future intentions (H10). This result is consistent with Gibbons et al., (2009). The findings also disclosed that behavioral willingness and intentions towards fan pages created a positive change in the product purchase behavior of consumers (H11 & H12). Therefore, members seem to modify their consumption behaviors toward the brand because of their membership in the restaurant Facebook fan page. These fan pages appeared to produce significant changes in consumer behavior because consumers probably prefer to rely on others' opinion about restaurant products. According to previous studies, consumers entrust informal and personal communication sources (e.g., other consumers) when making purchase decisions instead of formal and organizational sources, such as advertising (Bansal & Voyer, 2000). Therefore, restaurant managers need to pay attention to consumers' opinions because they can influence others purchase behavior. For instance, when there are positive recommendations on the wall about products, marketers need to disclose and show them to the audience. Moreover, Facebook fan pages can be used as an innovative tool by which restaurant brands can take a proactive approach to manage brand relationships with their consumers. Restaurant marketers can identify the most important attributes of their products by analyzing consumers' posts on the fan page. Thus, marketers can take immediate actions based on both complimentary reviews and complaints about the products. All of these efforts can assist

restaurant brands in creating favorable brand images, reinforce buying behavior and encourage consumers' loyalty.

This study confirmed that fans decision-making is a dual route process, an intentional as well as an unintentional decision-making path. Therefore, the reasoned, intentional decisions and the reactive decision-making operated simultaneously.

5.2 Theoretical Contribution

As a theoretical framework, the dual-process of the prototype willingness model which includes reasoned action and social reaction could be applied to understand consumers' decision-making in various fields. Its applicability in different contexts can further help verify the validity and reliability of the model. This study was a pioneer in understanding the decision-making process, and it was the first to apply the prototype willingness model on restaurant Facebook fan pages. In some sense, this study provides groundwork in adapting the prototype willingness model to the hospitality social media setting. The application in a new context contributes to the body of knowledge of the prototype willingness model and further verifies the soundness of the theoretical framework.

5.3 Limitations and Future Research

This study has several limitations that the author would like to address. First, this research aimed to investigate six quick service restaurant brand Facebook fan pages. More types of Facebook fan pages in the hospitality industry should be investigated in the future.

Second, the sample investigated was comprised of only college students at a university in the U.S. Although college students belong to one of the largest segments of social media users, the sample is not representative to the general population. The picture would have been different if the research had drawn a broader sample from the general population. To validate these findings, future research should be directed toward using larger, more generalizable samples. Third, socio-demographic variables such as age, income, and education should be included in the analysis in order to have a more thorough analysis of the dual-route process. They might have significant influence or moderating effect in the proposed model. In addition, future studies may employ other factors, such as involvement or personality traits, which may influence the relationships in the conceptual model. Conducting research using these moderating variables could help explain consumer participation behavior in online brand communities. Fourth, the present study proposed a single final consequence, which was behavioral change toward purchase. Future research may investigate other consequences such as brand commitment, brand equity. Fifth, this research focused on restaurant brand chains and ignored smaller local restaurants. Facebook fan page is also used for businesses catering to a particular city, since the enterprises have the chance to choose the "Local" option while creating their fan page (Shih, 2009). Therefore, local restaurants can be employed in future research. Another limitation is related to how consumers use the Facebook fan page. Future research could identify whether fans visit the main Facebook fan page to check the whole web page or they just refer to the summary of the page. Additionally, the moderating effect of time spent on Facebook fan page can be included in future research. Furthermore, this study did not include the four direct paths indicated in the

fully recursive model as an extension of the dual route model. Future research can incorporate these paths. Last, considering the low response rate, the sample size was small. The main limit of this issue may pertain to the ability of the sample to represent the population. It also has some impact on the SEM analysis (Anderson & Gerbing, 1984).

REFERENCES

Ajzen, I. (1999). Dual-mode processing in the pursuit of insight is no vice. *Psychological Inquiry, 10*, 110–112.

Ajzen, I & Fishbein, M. (1980). *Understanding attitudes and predicting social Behavior.* Prentice-Hall, Englewood Cliffs, NJ.

Algesheimer, R., Dholakia, U. M., & Herrmann, A. (2005). The social influence of brand communities: Evidence from European car clubs. *Journal of Marketing, 59*(3), 19-34.

All Facebook, (2011). The Facebook Marketing Dictionary. Retrieved August 19, 2011, from http://www.allfacebook.com/facebook-marketing-dictionary

Antikainen, M. (2007). *The attraction of company online communities. A multiple case study.* Retrieved October 29, 2011, from http://acta.uta.fi/pdf/978-951-44-6850-6.pdf

Anderson, J. C., & Gerbing, D.W. (1988). Structure equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, *103*(3), 411-423.

Armitage, C. J., & Conner, M. (2001) Efficacy of the theory of planned behavior: A meta-analytic review. *British Journal of Social Psychology, 40*, 471–99.

Arsal, I., Backman, S. & Baldwin, E. (2008). Influence of an online travel community on travel decisions, in O'Connor, P., Hopken, W. & Gretzel, U. (Eds) *Information & Communication Technologies in Tourism* 2008, Wien: Springer-Verlag, 82-93.

Bagozzi, R.P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science, 16*, 74-94.

Bansal, H. S., & Voyer, P. A. (2000). Word-of-mouth processes within a services purchase decision context. *Journal of Service Research, 3*(2), 166-177.

Batra, R., & Ahtola, O. T. (1990). Measuring the hedonic and utilitarian sources of consumer attitudes. *Marketing Letters, 2*(2), 159-170.

Bentler, P.M. (1990). Comparative indexes in structural models. *Psychological Bulletin*, 107, 238-246.

Bhattacherjee, A. (2000). Acceptance of eCommerce services: the case of electronic brokerages. *IEEE Transactions on Systems, Man and Cybernetics, 30*(4), 411–420.

Blackshaw, P., & Nazzaro, M. (2006). *Consumer-generated media (CGM) 101: Word-of-mouth in the age of the web-fortified consumer*. New York: Nielsen BuzzMetrics.

Bollen, K.A. (1989). Structural Equations with Latent Variables. NY: Wiley.

Bolotaeva, V., & Cata, T. (2010). *Marketing opportunities with social networks.* Retrieved April 14, 2012, from http://www.ibimapublishing.com/journals/JISNVC/2009/109111.pdf

Braithwaite, D., Emery, J., de Lusignan, S., & Sutton, S. (2003). Using the Internet to conduct surveys of health professionals: A valid alternative? *Family Practice, 20*(5), 545-551.

Browne, M.W. & Cudeck, R. (1993). Alternative ways of assessing model fit. In K.A.Bollen, and J.S.Long (Eds.), *Testing Structural Equation Models* (pp. 445- 466). Newbury Park, CA: Sage.

Campbell, D.T., & Fiske, D.W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56, 81-105.

Cantor, N., & Mischel, W. (1979). Prototypicality and personality: Effects on free recall and personality impressions. *Journal of Research in Personality*, *13*, 187-205.

Casaló, L. V., Flavián, C., & Guinalíu, M. (2010). Determinants of the intention to participate in firm-hosted online travel communities and effects on consumer behavioral intentions. *Tourism Management, 31*(6), 898-911.

Chaiken, S., & Maheswaran, D. (1994). Heuristic processing can bias systematic processing: Effects of source credibility, argument ambiguity, and task importance on attitude judgment. *Journal of Personality and Social Psychology*, *65*, 460–473.

Chassin,L., Presson,C.C., Sherman, S. J.,Corty, E., & Olshavsky, R.W. (1981). Self-images and cigarette smoking in adolescence. *Personality and Social Psychology Bulletin*, *7*, 670-676.

Chau, P. Y. K. (1996). An empirical assessment of a modified technology acceptance model. *Journal of Management Information Systems, 13*(2), 185-204.

Chen, Q., Clifford SJ., & Wells, WD. (2002).Attitude toward the site II: New information. *Journal of Advertising Research, 42*(2), 33–45.

Childers, T.L., Carr, C.L., Peck, J., & Carson, S. (2001). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing, 77*(40), 511-535.

Chiu, C-M., Hsu M-H., & Wang, E.T.G.(2006). Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision Support Systems, 42*, 1872–1888.

Chung, J.Y. & Buhalis, D. (2008). Information needs in online social networks. *Information Technology & Tourism, 10*(4), 267-281.

Cothrel, J., (2000). Measuring the success of an online community. *Strategy and Leadership*, *28*(2), 17-21.

Cronbach, L J. & Meehl, P.E. (1955). Construct validity in psychological tests. *Psychological Bulletin, 52*, 281-302.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

Dholakia, U. M., Bagozzi, R. P., & Pearo, L. K. (2004). A social influence model of consumer participation in network- and small-group-based virtual communities. *International Journal of Research in Marketing, 21,* 241-163.

Donath, J., & Boyd, D. (2004). Public displays of connection. *BT Technology Journal*, 22(4), 71–82.

Ducoffe R.H. (1996). Advertising value and advertising on the web. *Journal of Advertising Research, 36*(5), 21–35.

Eighmey J. (1997). Profiling user responses to commercial websites. *Journal of Advertising Research,* 37(3), 59–66.

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends": Social capital and college students' use of online social network sites. *Journal of Computer Mediated Communication, 12*(4), 1143–1168.

Feenberg, A., & Bakardjieva, M. (2004). Virtual community: No killer implication. *New Media& Society, 6*(1), 37–43.

Fishbein, M., & Ajzen, I. (1975). *Thinking, attitude, intention and behavior: An introduction to theory and research.* Reading,MA: Addison-Wesley.

Fornell, C., & Larcker, D., (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18* (1), 39–50.

Gentry, L., & Calantone, R. (2002). A comparison of three models to explain shop-bot use on the web. *Psychology and Marketing, 19*(11), 945–956.

Gerrard, M., Gibbons, F.X., Houlihan, A.E., Stock M.L., & Pomery, E.A. (2008). A dual-process approach to health risk decision making: The prototype willingness model. *Developmental Review, 28*, 29–61.

Ghose, S., & Dou, W. (1998). Interactivity functions and their implications on the appeal of Internet presence sites. *Journal of Advertising Research, 38*, 29–43.

Gibbons, F. X., & Gerrard, M. (1995). Predicting young adults' health-risk behavior. *Journal of Personality and Social Psychology*, *74*, 1164-1180.

Gibbons, F. X., Gerrard, M., & Helweg-Larsen, M. (1995). Prevalence estimates and adolescent risk behavior: Cross-cultural differences in social influence. *Journal of Applied Psychology,* 80, 107–121.

Gibbons, F. X., Gerrard, M., & Lane, D. J. (2003). A social reaction model of adolescent health risk. In J. M. Suls & K. Wallston (Eds.), *Social psychological foundations of health and illness.* Oxford, U.K: Blackwell.

Gibbons, F.X., Houlihan A.E., & Gerrard M. (2009). Reason and reaction: The utility of a dual-focus, dual-processing perspective on promotion and prevention of adolescent health risk behavior. *British Journal of Health Psychology, 14*(2), 231–48.

Gretzel, U., Kang, M**.,** & Lee, W. J. (2008). Differences in consumer-generated media adoption and use: A cross-national perspective. *Journal of Hospitality and Leisure Marketing, 17* (1-2), 99-120.

Gupta, S. Kim, H-W. (2007). Developing the commitment to virtual community: The balanced effects of cognition and affect. *Information Resources Management Journal, 20*(1), 28-45.

Hagel, J. & Armstrong, A., (1997). *Net gain: Expanding markets through virtual communities*. Boston: Harvard Business School Press.

Hagger, M. S., Chatzisarantis, N., & Biddle, S. T. H. (2001). Antecedents of children's physical activity intentions and behavior: Predictive validity and longitudinal effects. *Psychology and Health, 16*, 391–407.

Hair, J., Anderson, R., Tatham, R., & Black, W. (1998). *Multivariate data analysis*. (5th ed.). Upper Saddle River, NJ: Prentice Hall.

Hansen, T., Jensen, J.M., & Solgaard, H.S., (2004). Predicting online grocery buying intention: A comparison of the theory of reasoned action and the theory of planned behavior. *International Journal of Information Management, 24*(6), 539–550.

Hanson, W. (2000). *Principles of internet marketing*. Cincinnati, OH: South-Western College Publishing.

Harman, H. H. (1976). *Modern factor analysis* (3rd ed.). Chicago: University of Chicago Press.

Harris, L., & Rae, A. (2009). Social networks: The future of marketing for small businesses. *Journal of Business Strategy, 30*(5), 24-31.

Hausman A.V., & Siekpe J.S. (2009). The effect of web interface features on consumer online purchase intentions. *Journal of Business Research, 62*, 5–13.

Hsu, C-L., & Lu, H-P. (2004). Why do people play on-line games? An extended TAM with social influences and flow experience. *Information and Management, 41*, 853–868.

Hu, L. T., and Bentler, P.M. (1995). Evaluating model fit. In R.H.Hoyle (Eds.), *Structural equation modeling: Concepts, issues and applications* (pp. 76-99). Thousand Oak, CA: Sage.

Hu, L. T., & P. M. Bentler. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1-55.

Huizingh, E. K. R. E. (2000). The content and design of web sites: an empirical study. *Information & Management, 37*(3), 123-134.

Hurt, J. (2011). Why people join social networking sites. Retrieved November 17, 2011, from http://jeffhurtblog.com/2011/01/05/why-people-join-social-networking-sites/

Joreskog, K. G., & D. Sorbom. (1993). *LISREL VIII Manual*. Mooresville, IN: Scientific Software.

Kaplan, A.M.,& Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons, 53*, 59-68.

Kim, J., & Curry, J. (1977). The treatment of missing data in multivariate analyses. *Sociological Methods & Research, 6,* 215–240.

Kim, W. G., Lee, C., & Hiemstra, S. J. (2004). Effects of an online virtual community on customer loyalty and travel product purchases. *Tourism Management, 25*(3), 343-355.

Kim, H-B., Kim T., & Shin S.W. (2009). Modeling roles of subjective norms and eTrust in customers' acceptance of airline B2C eCommerce websites. *Tourism Management, 30*, 266–277.

Kline, R. B. (2005). *Principles and practice of structural equation modeling*. NY: The Guilford Press.

Koh, J., & Kim, D. (2004). Knowledge sharing in virtual communities: An e-business perspective. *Expert Systems with Applications, 26*, 155-166.

Koufaris M. (2003). Applying the technology acceptance model and flow theory to online consumer behavior. *Information systems research,13*(2), 205–224.

Lam, T., Cho, V., & Qu, H., (2007). A study of hotel employee behavioral intentions towards adoption of information technology. *International Journal of Hospitality Management, 26*, 49-65.

Lascu, D., & Zinkhan, G.(1999). Consumer conformity: Review and applications for marketing theory and practice. Journal *of Marketing Theory and Practice, 7*(3), 1–12.

Lee, W.J., & Choi, H-S. C. (2009). Understanding meeting planners' internet use behavior: An extension to the theory of planned behavior. *International Journal of Hospitality & Tourism Administration, 10*(2), 109-128.

Li, C. & Bernoff, J. (2008). *Groundswell: winning in a world transformed by social technologies.* Boston, MA: Harvard Business School Press.

Liang, A.R-D., & Lim, W.M. (2011). Exploring the online buying behavior of specialty food shoppers. *International Journal of Hospitality Management, 30*, 855– 865.

Lin, K-Y., & Lu, H-P. (2011). Intention to continue using Facebook fan pages from the perspective of social capital theory. *Cyberpsychology, Behavior and Social Networking, 0*(0).

Lin, H-F. (2007). Predicting consumer intentions to shop online: An empirical test of competing theories. *Electronic Commerce Research and Applications, 6*(4), 433–442.

Liu, C. & Arnett, K. P. (2000). Exploring the factors associated with web site success in the context of electronic commerce, *Information & Management*, 38, 23–33.

Mannetti, L., Pierro, A., & Livi, S. (2004). Recycling: Planned and selfexpressive behaviour. *Journal of Environmental Psychology*, *24*, 227–236.

Marcoulides, G. A., & Moustaki, I. (2002). *Latent variable and latent structure models.* Mahwah: Lawrence Erlbaum Associates.

McAlexander, J. H., Schouten, J. W., & Koening, H. F. (2002). Building brand community. *Journal of Marketing, 66*(1), 38-54.

McKinney, V., Yoon, K., & Zahedi, F. M. (2002). The measurement of Web-customer satisfaction: An expectation and disconfirmation approach. *Information Systems Research, 13*(3), 296-315.

Menon, S. & Kahn, B. (2002). Cross-category effects of induced arousal and pleasure on the Internet shopping experience. *Journal of Retailing, 78*(1), 31-40.

Monsuwé, T.P., Dellaert, B.G.C., & Ruyter, K., (2004). What drives consumers to shop online? A literature review. *International Journal of Service Industry Management, 15* (1), 102–121.

Moss, S., Prosser, H., Costello, H., Simpson, N., Patel, P., Rowe, S., Turner, S., Hatton, C.,

(1998). Reliability and validity of the PAS-ADD checklist for detecting psychiatric disorders in adults with intellectual disability. *Journal of Intellectual Disability Research, 42*(2), 173–183.

Murawski, M.M., Payakachat, N., & Koh-Knox, C. (2008). Factors affecting job and career satisfaction among community pharmacists: A structural equation modeling approach. *Journal of the American Pharmacists Association, 48* (5), 610-620.

Negash, S., Ryan T., & Igbaria M. (2003) Quality and effectiveness in Web-based customer support systems. *Information & Management*, *40*, 757–768.

Nelsonwire, (2010). Led by Facebook, Twitter, global time spent on social media sites up 82% year over year. Retrieved April 13, 2012, from http://blog.nielsen.com/nielsenwire/global/led-by-facebook-twitter-global-time-spent-on-social-media-sites-up-82-year-over-year/

Nunnally, J.C., and Bernstein, I.H. (1994). *Psychometric Theory* (3rd ed.) NY: McGraw-Hill.

Ohtomo, S., & Hirose, Y. (2007). The dual-process of reactive and intentional decision-making involved in eco-friendly behavior. *Journal of Environmental Psychology,* 27, 117–125.

O'Keefe, P. (2008). *Managing online forums*. New York: AMACOM.

Oliver, R. L. (1997). *Satisfaction: A behavioral perspective on the consumer*. New York: McGraw-Hill.

Ouellette, J. A., Hessling, R., Gibbons, F. X., Reis-Bergan, M., & Gerrard, M. (2005). Using images to increase exercise behavior: Prototypes versus possible selves. *Personality and Social Psychology Bulletin*, *31*, 610 – 620.

Park, N., Kee, K. F., & Valenzuela, S. (2009). Being immersed in social networking environment: Facebook groups, uses and gratifications, and social outcomes. *Cyber Psychology and Behavior*, *12*(6), 729-733.

Preece, J. (2000). *Online communities: Designing usability, supporting sociability*. New York: John Wiley.

Qu H., & Lee, H. (2011). Travelers' social identification and membership behaviors in online travel community. *Tourism Management, 32,* 1262-1270.

Qualman E. (2009) *Socialnomics: How social media transforms the way we live and do business*. Hoboken, NJ: John Wiley & Sons, Inc.

Quan-Haase, A., & Young, A.L. (2010). Uses and gratifications of social media: A comparison of Facebook and instant messaging. *Bulletin of Science, Technology & Society, 30*(5), 350-361.

Reichheld, F. F., & Schefter, P. (2000). E-loyalty: Your secret weapon on the Web. *Harvard Business Review, 78*(4), 105-113.

Reyna, V. F., & Farley, F. (2006). Risk and rationality in adolescent decision making: Implications for theory, practice, and public policy. *Psychological Science in the Public Interest, 7,* 1–44.

Rheingold, H. (1993). *The virtual community: Homesteading on the electronic frontier.* NewYork: Addison Wesley.

Rice, M. (1997). What makes users revisit a web site? *Marketing News, 31*(6), 12-13.

Schofield, J. W. (1975). Effect of norms, public disclosure, and need for approval on volunteering behavior consistent with attitudes. *Journal of Personality and Social Psychology*, *31*, 1126–1133.

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research, 99,* 323–337.

Shih, C.C. (2009). *The Facebook era: Tapping online social networks to build better products, reach new audiences, and sell more stuff.* Boston, MA: Pearson Education, Inc

Skadberg, Y.X., & Kimmel, J.R. (2004). Visitors' flow experience while browsing a Web site: Its measurement, contributing factors and consequences. *Computers in Human Behavior, 20*, 403–422.

Smith, B.E. (2011). Sams teach yourself Facebook for business in 10 minutes. Pearson Education, Inc.

Shuttleworth, M., (2009). Convergent validity and discriminant validity. Retrieved November 23, 2011, from http://www.experiment-resources.com/convergent-validity.html

Skellie (2011). *Successful Facebook marketing*. Rockable Press

Tang L.R., & Jang S.S. (2011). Investigating the routes of communication on destination websites. *Journal of Travel Research, XX*(X), 1–16.

Thevenot, G. (2007). Blogging as a social media. *Tourism and Hospitality Research, 7* (3/4), 282–289.

Thornton, B., Gibbons, F. X., & Gerrard, M. (2002). Risk perception and prototype perception: Independent process predicting risk behavior. *Personality and Social Psychology Bulletin*, *28*, 986–999.

Top Dining Brands (2011). Fan page list. Retrieved November 1, 2011, from http://fanpagelist.com/category/brands/dining/

Ulman, J. B. (1996). Structural equation modeling. In B. G. Tabachnick and L. S. Fidell, *Using Multivariate Statistics* (pp. 709-812). NY: HarperCollins College Publishers.

Ulusu, Y. (2010). Determinant factors of time spent on Facebook: Brand community engagement and usage types**.** *Journal of Yasar University, 18*(5), 2949-2957.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science, 46*(2), 186–204.

Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information Systems Research, 11*(4), 342-365.

Wang, Y., Yu, Q. & Fesenmaier, D. R. (2002). Defining the virtual tourist community: Implications for tourism marketing. *Tourism Management*, *23*(4), 407-417.

Wang, Y. & Fesenmaier, D.R. (2004). Modeling participation in an online travel community. *Journal of Travel Research, 42,* 261-270.

Wasko MM, & Faraj S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic network of practice. *MIS Quarterly, 29*, 35–57.

Weber, L. (2007). *Marketing to the social web: How digital customer communities build your business*. Hoboken: John Wiley & Sons, Inc.

Wu, S-I. (2006). A comparison of the behavior of different customer clusters towards Internet bookstores. *Information and Management, 43*(8), 986–1001.

Xiang, Z., & Gretzel, U. (2010). Role of social media in online travel information search. *Tourism Management, 31*, 179–188.

Yi, M. Y., Jackson, J. D., Park, J. S., & Probst, J. C. (2006). Understanding information technology acceptance by individual professionals: Toward an integrative view. *Information and Management, 43*(3), 350–363.

Zajonc, R. B. (1980). Feeling and thinking: Preferences need no inferences. *American Psychologist, 35*(2), 117-123.

Zeithaml, V., Parasuraman, A. & Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Sciences, 30*(4), 362-75.

APPENDIX A: SURVEY OF USER OF FACEBOOK FAN PAGES FOR RESTAURANT BRANDS

Dear Participant,

I am a Ph.D. candidate in the hospitality management program at Iowa State University. I am conducting a survey to investigate customers' experiences on Facebook fan pages of restaurant brands. It would be greatly appreciated, if you would take the time to fill out this short survey. You may skip any question you do not feel comfortable answering. However, having a complete survey is very helpful for the study. It will take no more than ten minutes.

Your participation in this study is voluntary, but you must be 18 years old or older to participate in this study. Your responses are kept anonymous and will be used for research purposes only. This project has been approved by Iowa State University's "Committee for the Protection of Human Subjects".

As an incentive for your participation, you have an opportunity to win a $50 VISA gift card. To be entered in the drawing, please provide your email address at the end of the survey so that we can contact you if you win. If you choose to enter your email address into the drawing for a $50 Visa Check Card, the survey is no longer anonymous at that point; however, your responses will remain strictly confidential. The winners will be individually contacted by e-mail in January 2012.

Thank you for your time and consideration.

Aikaterini Manthiou
Ph.D. Candidate
Department of Apparel, Events, and Hospitality Management
College of Human Sciences
Iowa State University

Section I. The purpose of this study is to investigate the experiences of fans on the Facebook fan pages of the restaurant industry. Therefore, if you have no experience visiting the Facebook pages of any restaurant, please quit the survey now. Otherwise, please choose one of the following restaurants that you have experience visiting on Facebook fan page (**please check only one**). The following sections of the survey ask about your experience with a specific Facebook fan page of your choosing.

For the purpose of this study, please select only **ONE** of the following:

☐ McDonald's (http://www.facebook.com/McDonalds?sk=app_158242640932714)

☐ Subway (http://www.facebook.com/subway)

☐ Taco Bell (http://www.facebook.com/tacobell)

☐ Wendy's (http://www.facebook.com/wendys)

☐ Pizza Hut (http://www.facebook.com/PizzaHut)

☐ Burger King (http://www.facebook.com/burgerking)

☐ Other (Please specify: _____)

Please recall your previous experience on the specific Facebook page or recheck it. Then answer the questions in the following sections.

Section II: We are interested to know your experience as a fan on this specific Facebook fan page. *This section asks questions which use the rating scale: 1=extremely disagree to 7=extremely agree.* Please select the appropriate number for your rating.

	Strongly Disagree			**Neither**			**Strongly Agree**
Information Source							

I think of the restaurant's Facebook page as an important information source.	1	2	3	4	5	6	7
I use the restaurant's Facebook page to get useful information about its products/services.	1	2	3	4	5	6	7
I use the restaurant's Facebook page to learn about restaurant events.	1	2	3	4	5	6	7
Social Interaction Ties							
I engage in a high level of interaction with other Facebook fan page members in this restaurant's Facebook page.	1	2	3	4	5	6	7
I spend considerable time interacting with other Facebook fan page members in this restaurant's Facebook page.	1	2	3	4	5	6	7
I have frequent communication with other Facebook fan page members in this restaurant's Facebook page.	1	2	3	4	5	6	7
Fan Page Design Characteristics							
The restaurant's Facebook page quickly loads all the text and graphics.	1	2	3	4	5	6	7
The restaurant's Facebook page is easy to use.	1	2	3	4	5	6	7
The restaurant's Facebook page is easy to navigate.	1	2	3	4	5	6	7
The restaurant's Facebook page is well designed for users.	1	2	3	4	5	6	7
Entertainment							

It's entertaining to browse the restaurant's Facebook page.	1	2	3	4	5	6	7
The restaurant's Facebook page is funny.	1	2	3	4	5	6	7
The restaurant's Facebook page is exciting.	1	2	3	4	5	6	7

Section III: Please describe a typical person who is the same age and sex as you, and he /she is a user of the restaurant Facebook fan pages. Assess the following descriptors for this person:

	Strongly Disagree			**Neither**			**Strongly Agree**
Prototype Image							
Cool	1	2	3	4	5	6	7
Independent	1	2	3	4	5	6	7
Boring	1	2	3	4	5	6	7
Interesting	1	2	3	4	5	6	7
Funny	1	2	3	4	5	6	7
Attentive	1	2	3	4	5	6	7
Sociable	1	2	3	4	5	6	7
Learner	1	2	3	4	5	6	7

Section IV: Please describe your **loyalty** based on the values you get from "X" restaurant Facebook Fan Page. Please indicate how you agree with each of the following statements by using a 7-point scale with *1 being "Strongly disagree" and 7 being "Strongly agree".*

	Strongly Disagree			Neither			Strongly Agree
Attitude							
I trust the restaurant's Facebook page.	1	2	3	4	5	6	7
The restaurant's Facebook page is pleasant.	1	2	3	4	5	6	7
Information on the restaurant's Facebook page is helpful.	1	2	3	4	5	6	7
I am in favor of the restaurant's Facebook page in general.	1	2	3	4	5	6	7
Behavioral Intention							
I have considered using the restaurant's Facebook page in the future.	1	2	3	4	5	6	7
I will introduce others the restaurant's Facebook page.	1	2	3	4	5	6	7
I will continue to use the restaurant's Facebook page.	1	2	3	4	5	6	7
Subjective Norms							
People who influence my behavior think that I should use the restaurant's Facebook page.	1	2	3	4	5	6	7
People who are important to me think that I should use the restaurant's Facebook page.	1	2	3	4	5	6	7
People whose opinions I value prefer that I should use "X" Facebook page.	1	2	3	4	5	6	7

Behavioral Willingness	1	2	3	4	5	6	7
I am willing to keep being a user of the restaurant's Facebook page.	1	2	3	4	5	6	7
I am willing to stop being a user of the restaurant's Facebook page.	1	2	3	4	5	6	7
Behavioral Change							
The way I search for information about products/services has changed as a result of my being a fan of the restaurant's Facebook page.	1	2	3	4	5	6	7
The restaurant's Facebook page has influenced my behavior in some ways, such as what products I buy from the restaurant.	1	2	3	4	5	6	7
Where I buy products and services have changed as a result of my being a fan of the restaurant's Facebook page.	1	2	3	4	5	6	7
The restaurant's Facebook page has influenced how I purchase products.	1	2	3	4	5	6	7

Section V: There are just a few more questions on **Facebook users' demographics.**

1. **On average, approximately how much time per week do you spend on this fan page?**

☐ less than 10mins ☐ 10–30mins ☐ 31–60mins

☐ 1–2 hours ☐ 2–3 hours ☐ more than 3 hours

2. **How many restaurant Facebook fan pages are you a member?**

☐ 1

☐ 2-4

☐ 5-10

☐ More than 10

3. **What is your gender?** ☐ Male ☐ Female

4. **Please check your appropriate age group/category?**

☐ 18-19 ☐ 45-49

☐ 20-24 ☐ 50-54

☐ 25-34 ☐ 55-64

☐ 35-44 ☐ 65 and over

5. How would you best describe your ethnicity?

☐ Caucasian ☐ Asian-American ☐ Hispanic-American

☐ African-American ☐ American-Indians ☐ Pacific Islanders

☐ Other (Please specify: _____)

6. Please check your appropriate college classification.

□ Freshmen

□ Sophomore

□ Junior

□ Senior

□ Graduate student

Please provide your email address if you want to be considered for the drawing: _____

**** Your email information will not be connected with your responses.**

Thank You Very Much

APPENDIX B: APPROVAL OF THE USE OF HUMAN SUBJECTS

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Resear
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 12/16/2011

To: Dr. Aikaterini Manthiou
7E MacKay Hall

CC: Dr. Liang Tang
12 MacKay Hall

From: Office for Responsible Research

Title: Reason and Reaction: A Dual Processing Perspective on Using Facebook Fan Pages

IRB ID: 11-593

Study Review Date: 12/16/2011

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey or interview procedures with adults or observation of public behavior where
  - Information obtained is recorded in such a manner that human subjects cannot be identified directly or through identifiers linked to the subjects; or
  - Any disclosure of the human subjects' responses outside the research could not reasonably place the subject at risk of criminal or civil liability or be damaging to their financial standing, employability, or reputation.

The determination of exemption means that:

- **You do not need to submit an application for annual continuing review.**

- **You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., method of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. Changes to key personnel must also be approved. The purpose of review is to determine if the project still meets the federal criteria for exemption.

  Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

  Detailed information about requirements for submission of modifications can be found on the Exempt Study Modification Form. A Personnel Change Form may be submitted when the only modification involves changes in study staff. If it is determined that exemption is no longer warranted, then an Application for Approval of Research Involving Humans Form will need to be submitted and approved before proceeding with data collection.

Please note that you must submit all research involving human participants for review. **Only the IRB or designees may make the determination of exemption**, even if you conduct a study in the future that is exactly like this study.