EXAMINING SOCIAL NETWORKING COMMUNITY USERS' PERCEPTION OF COMPANY FAN PAGE USE, BEHAVIORAL INTENTION, AND ACTUAL VISITING BEHAVIORS

by

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ABSTRACT

Seeking to capitalize on the widespread popularity of Facebook, many not-for-profit and for-profit organizations have started their own brand or fan pages in social media to better communicate with customers. Notably, such pages play an important role in providing regular new product or service information to users who subscribe to those pages. This dissertation research sheds light on various aspects of fan page users' perceptions while they follow or subscribe to a company's Facebook fan page. To measure page subscribers' perceptions of those pages, this dissertation combines three distinct studies under a core topic: what are the influential factors affecting fan page followers' intention to visit or actual visiting behaviors? Each study raises its own research questions and build a research model with a set of hypotheses. The author of this dissertation collected data through a survey of Facebook page subscribers and used partial least squares (PLS) to conduct data analysis to test suggested hypotheses. Pilot tests were conducted to check the validity of each set of survey questions. A total of 178 usable survey responses were drawn from 353 participants. All studies examined both convergent and discriminant validities prior to analyzing data and testing research hypotheses. Common method bias tests are also considered for both three studies, which tests include Harman's one-factor test and the effects of a single unmeasured latent method factor.

The first study examines factors affecting page followers' intentions to visit company pages by incorporating media richness and uncertainty reduction theory. This study focuses on how Facebook users resolve their uncertainty of products or services presented on companies' fan pages and examines the role of perceived richness of Facebook media on Facebook users' intention to visit. The research findings reveal that uncertainty reduction strategies and the richness of Facebook media significantly associates to followers' intention to visit companies' pages. This study found interactive uncertainty reduction strategies have a greater effect on users' perceived reduced uncertainty of products or services on company's fan page. The second study examined the impact of Facebook information transmission capabilities on repeat visits to fan pages and found that the relationship is mediated by perceived usefulness of postings. Media synchronicity theory is employed as a foundational theoretical underpinning for this study. Additionally, Facebook loyalty is employed to identify mediating effects on loyalty between capabilities and perceived usefulness and between capabilities and visiting behaviors. The research findings reveal that transmission capabilities positively influence both loyalty and perceived usefulness of postings. Repeated visits to fan page are also accounted for by the perceived usefulness of a company's postings. This study confirmed that loyalty plays a salient mediating role in the relationship between transmission capabilities and perceived usefulness. The third study examined the role of company page followers' elaboration processes on the perception of trust by employing the elaboration likelihood model and its eventual influence on the user's intention to visit a company's fan page. The role of satisfaction with overall Facebook use is adopted to examine its moderating effects on elaboration. The research findings reveal that both posting quality

and poster credibility are significant factors of emotional and cognitive trust. Additionally, a Facebook user's intention to visit a company's page is significantly impacted by both emotional and cognitive trust. Overall positive satisfaction with Facebook usage is also positively related to the interaction effect between a company's postings and its credibility.

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LIST OF ABBREVIATIONS

SNS   Social Networking Site

URT   Uncertainty Reduction Theory

URS   Uncertainty Reduction Strategy

IURS   Interaction Uncertainty Reduction Strategy

PURS   Passive Uncertainty Reduction Strategy

AURS   Active Uncertainty Reduction Strategy

MRT   Media Richness Theory

MST   Media Synchronicity Theory

ELM   Elaboration Likelihood Model

HSM   Heuristic Systematic Model

CHAPTER 1 : INTRODUCTION

As social media becomes a predominant communication medium, different types of social media have emerged with different types of content. Typically, social media users interact by sharing various forms of multimedia formats such as videos, photos, music and files. Such diverse communication formats enhances a users' sense of feeling. Consequently, the use of social media has played a significant role in supplementing or substituting face-to-face communication. While many social media outlets are used, Facebook (facebook.com) is one of the most popular.

As of June 2014, on average, there were 829 million total daily active users and 654 million active users on mobile devices accessing Facebook. A total of 1.32 billion (1.07 billion for mobile users) users were active on a monthly bases as of June 30, 2014. Approximately 82 percent of active daily Facebook users reside outside the United States and Canada (Facebook, 2014). In addition to individual users, organizations have taken to Facebook for their marketing campaigns. One study took a survey more than 3,000 company marketers regarding their understanding and experience of social media including Facebook (Stelzner, 2013). Overall, 86 percent of marketers responded that social media is highly a valuable communication tool for their business. Specifically, more than 85 percent of marketers want to master the methods of engaging with Facebook users for their marketing. About half of the marketers chose Facebook as most the influential social media for their business. The greatest benefit of social media for

marketers is increased exposure to the public and web traffic, followed by providing

marketplace insight and retaining loyal fans. For organizations, creating a Facebook fan

page to develop an online social community has been a contemporary trend along with

paid Facebook commercial and promotional posts. Launching a fan page is free of

charge. Facebook users are able to simply join those fan pages by clicking the "Like" or

"Follow" icon in each page. There are no limits to the pages that can be followed.

Uncertainty and Its Reduction

Facebook is categorized as a cue-rich computer mediated communication (CMC),

which supports not only plain text messages or feeds but also multimedia enhanced

messages (e.g., photos or videos). It also implements a location-based check-in feature

that Facebook users enable. This allows them to poke and post their current activity

location in their Facebook timeline. Millions of companies also open and manage their

Facebook fan page to communicate with potential customers and to post relevant

products or service information. SNSs and blogs are other examples of cue-rich CMC,

which similarly trigger multimedia content or information exchange between users. On

the other hand, instant messaging (IM) services are cue-poor CMC because of limited

functionality for handling multimedia contents. IMs are usually focused only on

immediate message reciprocation with a peer or within a limited group of participants.

From the perspective of a company's use of cue-rich CMC for marketing

campaigns, it is uncertain: 1) whether individual cue-rich CMC users (e.g., Facebook

users) are confident regarding the quality of products or service after reading company

postings, and 2) how such individuals reduce their uncertainty or curiosity of products or

services. Any associated uncertainty of products or services is important because uncertainty itself is coupled with the level of risk when users consume or purchase products or services by relying on posted information. The author of this dissertation examines uncertainty reduction strategies (URS) under the uncertainty reduction theory (URT). The second chapter of this dissertation applies URT and URS to examine any behavioral intention in the context of a company's fan page in Facebook. Additionally, media richness theory (MRT) is used to explain Facebook users' perceived richness of Facebook and how it affects their behavioral intention. The research model and hypotheses are proposed, followed by empirical analysis. Implications and limitations are then discussed.

Media Transmission Capability

The era of mobile devices with networking capability helped the popularity of social media flourish with the launch of mobile applications that mobile device users can access regardless of time and place. Many scholars who study media theories explore the capability of sending and receiving rich information. For example, media richness theory (MRT) (Daft & Lengel, 1986) argues that each communication medium differs from others in terms of their capabilities of transmitting information or cues. MRT categorized types of media by their capability of sending cues from most rich to least rich. For example, face-to-face communication is the richest, while document communication is the leanest from the MRT perspective. Because new media has emerged, the author of this dissertation adopts one of the most recent media theories, media synchronicity theory (MST), to consider the media capability of sending rich information in the context of Facebook. The key major differences of MST from other prior media theories are that it

focuses on communication processes under supporting media capabilities regardless of communication objectives. The processes consist of information conveyance and convergence of meaning. The benefit of switching the focus of media theory is to allow the precise examination of media capabilities and identify media user's communicating activities, as opposed to other theories' heavy emphasis on communication tasks or objectives. The author of this dissertation examines how Facebook user visits to a company's fan page are impacted by Facebook media capabilities within the lens of MST in the third chapter. The research model and hypotheses are developed using MST underpinnings. Empirical testing results and implications are discussed at the end of the third chapter.

The Processes of Information Elaboration

The last research focus of this dissertation begins with considering human information processing and reliance of routes of information processing in the context of individual Facebook users and company fan page use in Facebook. In terms of information processing by human cognitive processes, each information recipient relies on his or her information processing tendencies. The current research embraces the elaboration likelihood model (ELM) for the theoretical underpinning that classifies cognitive central and peripheral routes of information processing. The classification is based on information recipients' voluntary effort to elaborate on information or simply relying on information providers' credentials. Each individual Facebook user who follows company fan pages shapes their perceptions of products or services by his or her information processing. Because each route shapes perception and leads to subsequent behaviors, it is reasonable to assume that Facebook user's post-behaviors may vary after

viewing information regarding products or services. Therefore, the author of this dissertation considers which elaboration process is more impactful in shaping intent to visit a company's fan page. Furthermore, the author examines the impact of each influential process on development of trust in company's postings. Eventually, trust determines the outcome of the individual's intention. An empirical research model is suggested and hypotheses are posited. Research findings and implications are discussed.

The following chapters address the examination of uncertainty reduction strategy, Facebook media capabilities and the role of influential processes. A summary of this dissertation and concluding remarks follow.

CHAPTER 2 : EXAMINING THE IMPACT OF UNCERTAINTY REDUCTION STRATEGIES ON FACEBOOK USERS' INTENTION TO VISIT COMPANIES' FAN PAGES

Introduction

Social media sites such as Facebook have become more visible and have emerged as a means of shaping a company's image and promoting their products and services (Ang, 2011). In general, social media refers to "the 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). Depending on the characteristics and application of social media, Kaplan and Haenlein (2010) put this media into four categories: content community, social networking sites (SNS), micro blogging, and virtual social worlds.

Among current social media outlets, Facebook (facebook.com) is one of the most popular SNSs and it offers considerable user-generated content (UGC) that supports various communication features for its users. In addition to Facebook's individual users, companies also actively use Facebook to deliver information about their products and services by opening their own fan pages, joining sponsored stores or paying for direct advertisements on Facebook's website (Lipsman, Mud, Rich, & Bruich, 2012). Opening a

fan page in Facebook is free of charge, thus enabling companies to encourage users'

participation with minimal administrative costs and resulting in better brand recognition

from potential customers (Lin & Lu, 2011). From a buyer-seller relationship perspective

via Facebook pages, information providers (e.g., companies that use a Facebook page)

gain a more advantageous position than information consumers (e.g., Facebook users

who subscribe to companies' Facebook pages) in terms of the amount of information

released on fan pages. A seller's moral hazard may be an issue, which is "when a seller

reduces the quality of the goods after the auction contract is concluded to increase his or

her benefit" (McKnight, Choudhury, & Kacmar, 2002, p. 156). For example, potential

customers (information consumers) on Facebook are often exposed to transaction risks

when sellers (information providers) release only limited information about products or

services either intentionally or unintentionally on their pages. Such buyers may not select

satisfactory products or services when they are unable to rely on the information provided

by the seller. This may lead to general uncertainty regarding such sites.

In terms of alleviating the asymmetry of information caused by a lack of

information between two parties, researchers have adopted uncertainty reduction theory

(URT) to predict attitudes or behaviors between the information provider and consumer

(e.g. Antheunis, Schouten, Valkenburg, & Peter, 2011). This theory suggests three core

types of uncertainty reduction strategies (URS) (passive, active and interactive strategies)

to curtail the level of uncertainty regarding someone's future behaviors or attitudes. By

using URSs, information seekers may discern targeted behaviors, emotions or intentions

(Antheunis, Valkenburg, & Peter, 2010). In the context of both rich- and poor-computer

mediated communication (CMC) environments, CMC studies have exhibited the

application of URS, indicating each URS plays a significant role in reduction of uncertainty in different CMC settings. For example, in cue-poor CMC (e.g., dyadic communication tools, instant messaging) interactive strategies are predominantly effective whereas interactive or passive strategies are well demonstrated in cue-rich CMC (e.g., Tidwell & Walther, 2002).

Few earlier studies examine to the role of URS nor extended the use of URS in the context of organizations' use of brand pages in SNS. Although SNSs have become a primary tool of marketing campaigns, prior studies have found little evidence of the effectiveness of page adoptions. Therefore, this study begins by assuming that two communicating parties (individual and company) in the context of Facebook are primary information providers and seekers regarding products or services on fan pages. Thus they reciprocate products or service information via Facebook fan pages, which involves a certain degree of uncertainty. It is questionable whether any influence is exerted on a Facebook user's intentional behaviors by efforts to eliminate uncertainties regarding products and services on a company's Facebook page. In addition to examining the role of URS, the current study also considers that a communication medium's richness also plays an important role in reducing uncertainty because different media have different impacts. Each user may discern distinct levels of richness of Facebook. Based on the arguments stated above, the current study examines two research questions.

> RQ1: What is the role of Facebook users' use of uncertainty reduction strategies on perceived uncertainty regarding products or services and what are their influences on intentions to visit their subscribed companies' Facebook fan pages?

RQ2: During the use of uncertainty reduction strategies, how do individual

Facebook users who subscribe companies' pages perceive the media

richness of Facebook and how does it impact their intention to visit?

To answer these research questions and to address the research gap from the prior

literature, the current study draws from two theoretical underpinnings: uncertainty

reduction theory (URT) and media richness theory (MRT). MRT theory states that each

communication medium has a different capacity for transmitting and processing

information (Trevino, Daft, & Lengel, 1990). Because users who become companies'

fans via Facebook tend to be more loyal consumers than other users, the fans' intentional

behaviors (e.g., visiting Facebook pages) are also important in terms of generating profit

streams. Dholakia and Durham (2010) found that brand fans tend to visit the local stores

more often than non-brand fans and such brand fans have a more favorable word-of-

mouth effect on the markets. Therefore, even for users who are already fans of companies

via Facebook, visiting behaviors both online (companies' fan pages) and offline

(storefront) are potentially meaningful in that they broaden the brand-customer

relationship (Muniz Jr & O'guinn, 2001).

The next section reviews both URS and MRT. Both theories are examined to

identify the effect on Facebook users' intention to visit those pages. Then, the research

model and hypotheses are described.

Theoretical Background

Uncertainty Reduction Strategies (URS)

Uncertainty reduction theory (URT) describes perceived uncertainty regarding another party or person who relates with one's behavioral involvement as "an interactant's subjective sense of the number of alternative predictions available when thinking about a partner's future, for example, or the number of alternative explanations available when thinking about a partner's past behavior" (Bradac, 2001, p. 458). More specifically, Berger and Calabrese's (1975) study noted "central to the present [URT] theory is the assumption that when strangers meet, their primary concern is one of uncertainty reduction or increasing predictability about the behavior of both themselves and others in the interaction" (p. 100). Under URT, one becomes uncomfortable when no clear predictions or explanations exist and the existence of many alternatives inhibits evaluation and decision-making. Such unpredictable behaviors induce one's motivation to reduce uncertainty to ensure future behaviors toward the target party (Byron & Baldridge, 2007). To decrease uncertainty in ongoing relationships, URT suggests three general uncertainty reduction strategies: passive, active, and interactive (Antheunis et al., 2010).

Passive Uncertainty Reduction Strategy (PURS). The goal of passive uncertainty reduction strategies is to acquire information from other people in unobtrusive ways (Tidwell & Walther, 2002). In terms of cue-rich communication media (e.g., Facebook) and cue-poor communication media (e.g., email or instant messaging), prior studies indicate that cue-poorer media effectively reduces any associated uncertainty by employing passive uncertainty reduction strategies (Curtis, 1996).

Contrarily, cue-rich media is more advantageous than cue-poor media because it affords more informational cues such as visual (video clips or images) and audio (voice or music) cues in addition to monotonic text-based cues. Such an affluence of cues allows for better information gathering and helps relieve uncertainty. For example, in the context of Facebook, a user is able to obtain another user's information unobtrusively by seeing photos or watching video clips as well as reading his or her personal profile or daily posts (Tong, Van Der Heide, Langwell, & Walther, 2008). These activities enable Facebook users to collect information without any correspondence with the message posters; this is helpful to understanding a message poster's current status. Facebook users can also observe their Facebook friends' interactions with other users unobtrusively by reading postings between them. Applying the concept of passive uncertainty reduction strategies in the context of companies' Facebook fan pages and individual Facebook users, Facebook users might read or watch postings regarding products or services posted on companies' Facebook pages if the users already subscribe to any new events. This may increase information gathering about services and products viewed. In such a case, a passive strategy may be an optimal way to gather information and reduce uncertainty with minimum exertion.

Interactive Uncertainty Reduction Strategy (IURS). Interactive uncertainty reduction strategies enhance direct interactions, such as direct questioning of the communicating party, self-presentation or self-disclosure (Antheunis et al., 2010). For example, Facebook users can contact their Facebook friends by asking questions directly via messaging features in Facebook. Additionally, this strategy covers deception detection and identification of any falsification (Tidwell & Walther, 2002). Individual Facebook

users can directly request information in the comments section of postings, ask questions to gather information, interact directly with other Facebook users, and post responses to messages on companies' Facebook pages while engaging in an interactive uncertainty reduction strategy.

Active Uncertainty Reduction Strategy (AURS). Active uncertainty reduction strategies lead to active involvement on the part of one party to understand the other person without confrontation. For example, a Facebook user may ask questions of other users by sending direct messages or posting messages, with the option of being invisible to friends. However, in the current research context, an active uncertainty reduction strategy may be less feasible because attaining information about subscribed companies' products or services from other third-party companies via their Facebook pages does not usually work.

In the current research context of this study, the notion of URSs supported by URT is practically coupled with unclear explanations or limited description of products or services on a fan page. Thus, these posts may rouse readers' curiosity of, or potential benefits from, products or services. Among the three uncertainty reduction strategies, the current research employs passive and interactive uncertainty reduction strategies to reduce any uncertainty on a company's page because of the inapplicability of an active uncertainty reduction strategy.

Perceived Media Richness

Media richness has been well developed by media richness theory (MRT) especially in the context of an organization's communication media use for business

purposes. Prior studies of MRT categorized two perspectives: prescriptive and descriptive (Suh, 1999). In earlier applications of MRT, the research model formed prescriptive ways that studies considered the effects of media matching between organizational tasks and media richness. In later research, the model evolved into testing hypotheses of managers' perceptions of media and choices (Robert & Dennis, 2005; Trevino et al., 1990). Media richness theory (MRT) has been one of the most popular theories used to explain the richness of communication media, choice of media, and media usage (Daft & Lengel, 1986; Liu, Liao, & Pratt, 2009). MRT defines the characteristics of organizational tasks in two ways: task uncertainty and task equivocality (Daft & Lengel, 1986). Task uncertainty is defined as "the difference between the amount of information required to perform a task and the amount of information already possessed by the individual" (Daft & Lengel, 1986, p. 556). This implies that the provision for more information typically lessens the degree of task uncertainty and that an organization should facilitate the flow of information (Koo, Wati, & Jung, 2011). Task equivocality is defined as the complexity and ambiguity stemming from "the existence of multiple and conflicting interpretation[s] about an organizational task." Thus, more information increases the extent of confusion and decreases comprehension about the task when equivocality exists.

MRT theory also defines the concept of media richness as "a channel's ability to convey messages that communicate varying amounts of message content" (Simon & Peppas, 2004, p. 272). Generally, the amount of information should match the performed task. The communication medium should be able to deliver only that information required to perform a task, resulting in the medium being rich and, therefore, more effective than lean media. Nevertheless, information overload might cause the task to

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become complex as a result of unfamiliar information being transmitted or an incompatibility of the task conductor's capability of delivering-and-receiving information (Otondo, Van Scotter, Allen, & Palvia, 2008). The richness of media is supported by four characteristics of medium capability: immediacy of feedback, language variety, multiple cues, and personal focus. Immediacy of feedback refers to the medium's ability to provide feedback in a timely manner. Language variety is defined as the medium's ability to use a variety of symbols or expressions in written or in spoken format. Multiple cues refer to a medium's ability to deliver a variety of cues such as sound or sight. Personal focus is defined to convey a variety of personal feelings such as sensitivity and warmth respectively (Lee, Cheung & Chen, 2007). Depending on the degree of the four characteristics of media capability, communication media ranges from rich to lean (Daft & Lengel, 1986). Generally, prior studies agree that face-to-face is the richest medium, followed by telephone calls, personal written documents (e.g., letters) and formal written documents (e.g., bulletins) (Suh, 1999). Face-to-face communication offers fast and immediate feedback and delivers multiple non-verbal cues (e.g., gestures, facial expressions, vocal tones, and more). Such a rich communication medium is regarded as appropriate for more equivocal tasks because it enables individuals to "process subjective messages, to create shared meaning, and to resolve ambiguity stemming from multiple, conflicting interpretations of a situation" (Kaplan & Haenlein, 2010, p. 446). On the other hand, lean communication media, such as written media (e.g., postal mail), convey fewer non-verbal cues and less immediate feedback. Therefore, lean media are regarded as appropriate formats for conducting simple tasks that need less elaboration of information delivered to the recipients.

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Under MRT theory and in line with prior literature, the current study uses Facebook because of its capacity for media richness. In terms of immediacy of feedback, Facebook supports both real-time communication features through chat rooms and non-real-time communication by facilitating posting of messages on a Facebook timeline. Additionally, to promote rapid communication among its users, Facebook provides a few notification features that enables account owners to check new messages from other Facebook users in a short time. Facebook pages have partially limited language variety, defined as "the use of a variety of signs and symbols in written form (such as using numeric data or pictures to convey a message), and a variety of language formats in spoken form (such as non-word utterances that have meanings)." Because Facebook allows a variety of symbols to express users' emotions or feelings (e.g., using emoticons in the Facebook timeline), spoken forms of expression are rarely used on Facebook (Ferry, Kydd, & Sawyer, 2001, p. 70) but are possible through video or audio postings. In reference to the ability to convey multiple cues, Facebook users can upload video clips (audio and visual cues), photos (visual cues), and write plain text messages on their timeline. Thus, users can not only read plain text postings but also watch video clips and a variety of images posted on companies' Facebook pages regarding new or currently launched products or promotional events. Last, in reference to personal focus, Facebook users are able to individualize their messages by attaching photos, pictures and emoticons to convey feelings and emotions to target message recipients, similar to the features of multimedia messaging services (MMS) (Lee et al., 2007).

Research Model and Hypotheses

Based on media richness and uncertainty theories, this study examines how individual Facebook users who follow company's fan pages perceive uncertainty of products or services and how that impacts their intention to visit. The research model and hypotheses are proposed based on following (see Figure 2.1).
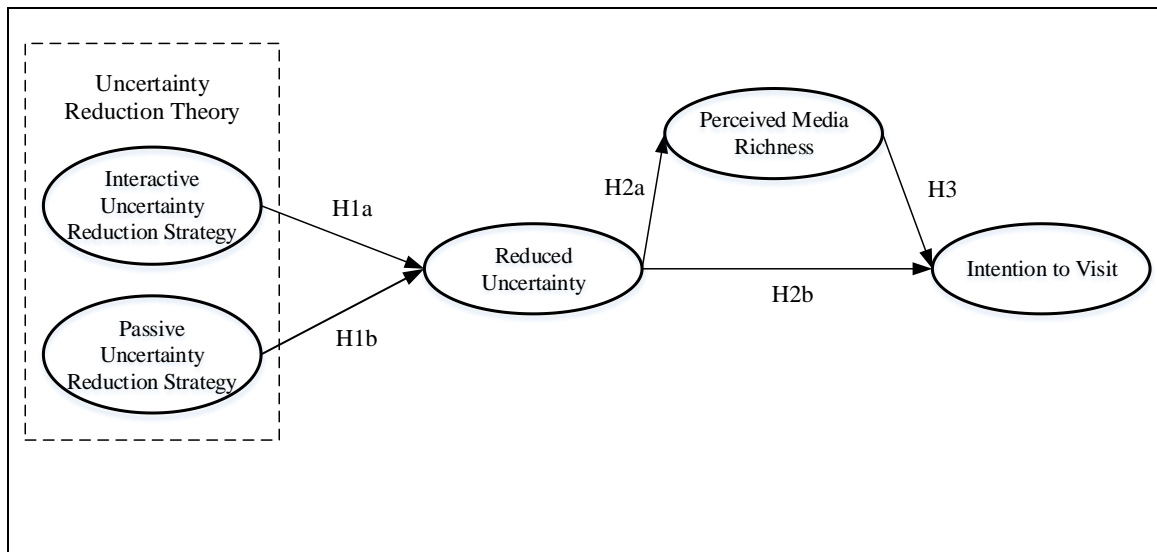
Figure 2.1 Research model and hypotheses

Role of URS and its Impact on Reduced Uncertainty

An acquiring information regarding products or services from a Facebook fan page might be limited if the consumer relies only on postings. Furthermore, the company releases relevant information on an infrequent or one-time basis, resulting in a lack of information available to Facebook users who are interested in these products or services. The absence or insufficiency of products or services required by Facebook users who are interested in them impedes further information processing (i.e., considering and evaluating functions or features of products) and may inhibit follow-up behaviors (e.g.,

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actual purchase of products). Consequently, Facebook users will either take action to acquire more information or lose interest if insufficient information is provided.

Uncertainty reduction strategies play an important role in shaping information seekers' ability to deduce more information and that those strategies elicit more behaviors from information providers (Antheunis et al., 2011). For example, in text-based computer-mediated communication (CMC) settings, interactive strategies are identified to help shape favorable impressions of each other by reciprocating additional informational cues (e.g. Antheunis et al., 2011; Ramirez, Walther, Burgoon, & Sunnafrank, 2002; Tidwell & Walther, 2002). Furthermore, prior studies reveal that an interactive uncertainty reduction strategy is a significant predictor of a low level of perceived uncertainty in the context of social networking sites (Antheunis et al., 2010).

Passive strategies are deemed comparable to an online communication environment forum, where activities include reading others' posts and reviewing their profiles unobtrusively (Ramirez et al., 2002). Under supporting Web technologies, passive strategies help reduce uncertainty by watching visual-based cues and listening to audio-based cues as well as reading text-based cues in CMC environment. Non-verbal cues in a communication channel also increase the amount of social information, which eventually results in a reduction of uncertainty and allows users to form an impression of each other (Walther, 1992).

In the context of companies' use of Facebook fan pages to promote events or advertise products with various information cues, the current study postulates that informational cues are enriched by the use of uncertainty reduction strategies. Both

passive and interactive strategies enrich a company's self-disclosure, resulting in a reduction of uncertainty regarding products or services on fan pages. Therefore, this study posits:

H1: An individual Facebook user's interactive (H1a) and passive (H1b) uncertainty reduction strategies will be positively associated with that individual's perceived reduced uncertainty of products or services.

Impact of Reduced Uncertainty on Media Richness and Intention

From a buyers (e.g., individual Facebook users) and sellers (e.g., companies where use fan pages) perspective, successful transactions rely on a seller's promised fulfillment of a buyer's request (e.g., product orders or service inquiries). However, when engaging in initial relationships with sellers, buyers tend to overestimate the possibility of future loss or risk from intentional or unintentional fraud from sellers. Such buyers' intrinsic perception of transactions risk intensifies the level of risk perception because of a lack of prior-transaction experience with the sellers (Pavlou, Liang, & Xue, 2007). Consequently, the degree of uncertainty or future risk results in restricted further interest, attention to transaction targets, and behavioral intention. It becomes even serious restriction of buyers' behavioral transaction activities if there is a high possibility of potential loss or risk.

The current study argues that companies are not always able to release all product or service specifications and information because of the inherent limitations of the media platform. For example, individual Facebook users can be exposed to exaggerated expressions and defrauding proposed products or services via companies' Facebook

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pages. Further, individual Facebook users might experience uncertainty of product quality such as overpriced goods or a lower quality of products or services than expected (Pavlou et al., 2007). Such uncertainty and risk may inhibit reciprocal communication or even cause cessation of reading future postings on companies' Facebook fan pages. Thereby, a low level of uncertainty requires that the message senders provide more information and facilitate the flow of information to achieve the task. More information regarding marketing of products or services via Facebook pages should reduce perceived uncertainty and it should also increase the perceived media richness of Facebook. Based on these arguments, therefore, this study posits:

>**H2:** An individual Facebook user's perceived reduced uncertainty will be positively associated with the perceived media richness of Facebook (H2a) and intention to visit companies' Facebook fan pages (H2b).

Role of Perceived Media Richness and Its Impact on Intention

Along with company's posting activities on fan page and Facebook users' effort to reduce uncertainty regarding product or services, the current study argues that richness of media affects Facebook user's behavioral intention. Because Facebook plays a significant role in communication between Facebook users, its capability of information delivery has effect on the transmission of feeling and the degree of psychological effort required to know the target objects (Lee et al., 2007). Prior empirical studies support the existence of a relationship between perceived richness of media and intention formation in the context of using various information systems. Specifically, in the context of a multimedia messaging service (MMS), perceived media richness indirectly affected

behavioral intention to use MMS mediated by perceived usefulness, perceived ease of use, and perceived enjoyment (Lee et al., 2007). Lai and Chang (2011) found that eBook readers who perceived a high level of media richness showed more intention to use eBooks. In an ecommerce context, along with findings from the communication medium, perceived media richness played a significant role in affecting the intention to use an online market (Brunelle, 2009). Facebook users who perceive a high degree of Facebook richness will likely have increase intention to visit companies' Facebook fan pages where products or services are presented. Therefore, based on the above arguments, this study posits:

H3: An individual Facebook user's perceived media richness of Facebook will be positively associated with Facebook fan-page visit intention.

Research Methodology

Research Context

To measure Facebook user's perception of company's use of Facebook fan page and to examine the role of uncertainty reduction strategies, the current study adopts individual Facebook users who follow at least one company's Facebook page. Currently, Facebook is one of the biggest SNSs in terms of the number of active users; Facebook has 1.32 billion monthly active users including both individuals and corporations as of June 2014 (Facebook, 2014). On average, 829 million active users are logged in and using Facebook, and 81.7% of monthly active users reside outside the U.S. and Canada. Over 1.07 million monthly active users use mobile platforms to access Facebook, and more than 70 languages are represented. In terms of companies' use of Facebook, more

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than 100,000 brand pages are active over the world as of March 2014 (Socialbakers, 2014).

Selection of Measurement Items

A total of five constructs were measured using web-based survey questions after modifying items from prior literature (see Table 2.1 and measurement items in Appendix A). All survey items were assessed via a 7-point Likert scale ranging from '1 (strongly disagree)' to '7 (strongly agree).'

Table 2.1. Measurement items

Measurement	References	Number of Items	Composite Reliability
Demographics	N/A	4	N/A
Facebook Usage	N/A	6	N/A
Interactive Strategies	Antheunis et al. (2010)	3	0.95
Passive Strategies		3	0.76
Perceived Uncertainty	Pavlou et al. (2007)	3	0.96
Perceived Media Richness	Lee et al. (2007)	3	0.91
Intention	Pavlou and Fygenson (2006)	3	0.96
Total number of items		25	

Data Collection Procedures

The author of the current study collected data from public Facebook users using a web-based survey tool; this type of survey is well known for its advantages over paper-based surveys in terms of lower cost, faster and easier responses, unlimited accessibility and higher response rate (Kaplowitz, Hadlock, & Levine, 2004). The survey was

administered through a contract survey firm (Qualtrics.com) and respondents were drawn from the firm's pool of potential participants who currently use Facebook.

The author of this study informed potential participants about the purpose of the study, any associated risks, and explained how to participate in survey. The initial question asked whether the potential respondent had experience in clicking the "Like" button on any company's Facebook postings or were currently subscribed to any companies' Facebook pages. Only individuals who subscribed to any messages from companies were considered as research participants. Potential participants who did not subscribe were excused. Subsequent questions asked about how they gathered information about products or services. Additional questions were asked about their perceived reduced uncertainty, perceived media richness of Facebook, and eventual intention to visit companies' Facebook fan pages.

Pilot test. Before conducting primary data collection, the author of the current study conducted a pilot test with the preliminary version of survey questions for Facebook users. A total of 98 Facebook users, 21 to 43 years old, who had current experience with companies' postings or pages in Facebook, were recruited to complete the survey questions. After collecting data, all measurement items were validated to fit them to the current research with modifications and clarifications of the questions in the context of Facebook. The final survey excluded highly correlated questions as well or revised statements to increase validity.

Data Analysis

     Participant description. In the main data collection phase, a total of 353

participants joined the survey and 178 participants (50.4%) answered the survey

completely. They were qualified under the current research requirements: those who used

Facebook and had experience in clicking "like" on companies' postings to express their

interests in products or services provided on companies' Facebook pages. Thus, the

analysis is based on 178 responses.

     Demographics reveal that 38.8 percent of respondents were male and 61.2 percent

were female, with an age range of 19 to over 60 years old. The largest age groups were

the ages from 23 through 29 (25.3%) and from 30 through 39 (24.7%). The number of

respondents of age groups of forty (40 to 49 years) and fifty (50 to 59 years) were 18.0

percent and 17.4 percent, respectively. Seven respondents who were over the age of 60

joined the survey also responded (see Table 2.2).

Table 2.2. Demographics

Demographics		Number of Participants	Percentage
Gender	Male	69	38.8%
	Female	109	61.2%
	Total	178	100%
Age	19 – 22	19	10.7%
	23 – 29	45	25.3%
	30 – 39	44	24.7%
	40 – 49	32	18.0%
	50 – 59	31	17.4%
	60 – 69	7	3.9%
	Total	178	100%

Fifty seven percent of total respondents reported a household income ranging from $20,000 to $74,999 and 3.4 percent of respondents reported their earned income is $150,000 and more (see Table 2.3).

Table 2.3. Participant's household income

Income Range	Number of Participants	Percent
Over $150,000	6	3.4 %
$100,000 – $150,000	17	9.6 %
$75,000 – $99,000	24	13.5 %
$50,000 – $74,999	35	19.7 %
$40,000 – $49,999	17	9.6 %
$30,000 – $39,999	26	14.6 %
$20,000 – $29,999	23	12.9 %
$10,000 – $19,999	13	7.3 %
Under $10,000	8	4.5 %
Rather not to say	9	5.1 %
Total	178	100.0%

Half of the respondents responded that they currently lived in a suburban area (50.0%) and 32.0 percent and 18.0 percent of respondents lived in urban and rural areas, respectively (see Table 2.4).

Table 2.4. Participant's residence area

Residence Area	Number of Participants	Percent
Urban	57	32.0%
Suburban	89	50.0%
Rural	32	18.0%
Total	178	100.0%

With regard to Facebook usage, 50.6 percent of respondents had more than five

years of experience using Facebook, and 33.1 percent of respondents had used Facebook

for three to five years. Overall, 84 percent of respondents indicated that they used

Facebook for more than three years (see Table 2.5).

Table 2.5. Period of Facebook usage

Periods	Number of Participants	Percent
More than 5 years	90	50.6%
More than 3 years but less than 5 years	59	33.1%
More than 1 year but less than 3 years	22	12.4%
More than 6 months but less than 1 year	4	2.2%
Less than 6 months	3	1.7%
Total	178	100.0%

A total of 83.7 percent of respondents visit Facebook at least once a day. Only 2

percent of respondents indicated that they visit Facebook only two or three times a week

(see Table 2.6).

Table 2.6. Frequency of Facebook visiting

Frequency	Number of Participants	Percent
More than once a day	83	46.6%
Daily	66	37.1%
2 – 3 Times a Week	17	9.6%
Once a Week	7	3.9%
2 – 3 Times a Month	3	1.7%
Once a Month	2	1.1%
Total	178	100.0%

Twenty three percent of respondents "liked" more than 20 companies' fan pages and 21.3 percent of respondents "liked" between 11 and 20 companies' fan pages. Thirty three percent of the survey respondents "liked" between 6 and 10 companies' fan pages, and 22.5 percent "liked" between 1 and 5 companies' fan pages (see Table 2.7).

Table 2.7. Number of "Liked" companies

Number of "Liked" companies	Number of Participants	Percent
1 – 5	40	22.5%
6 – 10	59	33.1%
11 – 20	38	21.3%
20 and more	41	23.0%
Total	178	100.0%

Survey respondents indicated their "clicked" companies fan pages (the questions of survey allowed multiple choice). Food and dining fan pages were the top respondents' selection, followed by entertainment and shopping related fan pages. Housing related fan pages were the least preferred choice of the survey respondents (see Table 2.8).

Table 2.8. Fan page preference

Types of chosen fan page	Number of selection
Food and dining	141
Education	47
Entertainment	121
Shopping	124
Travel	58
Financial service (e.g., Credit card, banking)	43
Housing	26
Others	51
Government or non-profit organization	32

Among respondents who subscribed to at least one company fan page, 12.4 percent of respondents read postings all the time when the company post their new content, and 36.5 percent of the survey respondents often read postings (see Table 2.9).

Table 2.9. Frequencies of reading postings

Frequencies of reading postings	Number of Participants	Percent
Never	3	1.7%
Rarely	16	9.0%
Sometimes	72	40.4%
Often	65	36.5%
All the time	22	12.4%
Total	178	100.0%

Results

The current research model examined only reflective latent variables. Of the two analysis techniques of structural equation modeling (SEM) – covariance-based and variance-based methods – the current study chose the variance-based method, generally called PLS-based SEM, to explore the suggested research framework. This study employed partial least squares (PLS) methodology using WarpPLS 3.0 (Kock, 2012) to consider any possible existence of non-linear relationships among the measured constructs, which is a very typical phenomenon in social and behavioral studies (Kock, 2010). Such non-linear relationships among constructs are usually plotted to either an S-shape or a U-shape, and WarpPLS software is able to identify a non-linear relationship as opposed to standard PLS software that rarely does.

Data Structures

     Summary Statistics. Descriptive statistics of each construct is presented in Table 2.10. Because a 7-point Likert scale was used in the survey, all observations' noise were minimized, indicating a small amount of standard deviation in each item that is similar to other prior Likert-scale employed studies (Serenko & Turel, 2007) (see Table 2.10).

Table 2.10. Summary statistics of constructs

Constructs	Items	Mean	Standard Deviation
Interactive Uncertainty Reduction Strategy	IURS1	4.31	1.79
	IURS2	3.95	1.75
	IURS3	4.28	1.76
Passive Uncertainty Reduction Strategy	PURS1	5.02	1.39
	PURS2	4.61	1.49
	PURS3	4.81	1.48
Perceived Reduced Uncertainty	UR1	4.37	1.22
	UR2	4.46	1.20
	UR3	4.60	1.27
Intention to Visit Companies' Fan Pages	INT1	5.15	1.25
	INT2	5.09	1.25
	INT3	5.24	1.20
Perceived Media Richness of Facebook	MRIF1	5.04	1.04
	MRIF2	5.08	1.15
	MRIF3	4.98	1.15

     Construct Relationship. The results of plotting relationships among constructs are depicted in Figure 2.2 to Figure 2.4 after rotating data points using oblique rotation.

Figure 2.2 depicts that both PURS – UR and IURS – UR relationships are almost

linear fashion. The significant number of data points are plotted over -1.09 standard

deviation from the mean of PURS and over -0.85 standard deviation from the mean of

UR. This particular trend is comparable to the plotting between IURS and UR in that

IURS and UR data points are shown linearly along the trend line (see Figure 2.2).
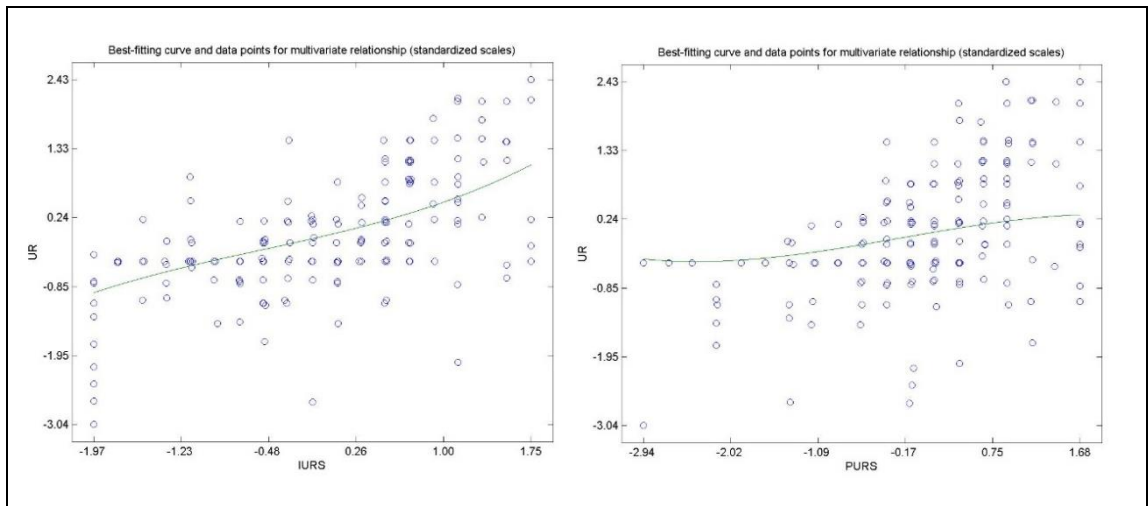
Note: IURS – Interactive uncertainty reduction strategy, PURS – Passive uncertainty
reduction strategy, UR – Reduced uncertainty

Figure 2.2 Latent variable relationships

Figure 2.3 depicts that perceived reduced uncertainty is non-linearly related with

perceived media richness of Facebook. Facebook users' perception of media richness

improved when they perceived a lesser degree of uncertainty. However, fewer data points

were identifiable roughly below the -1.05 standard deviation from the mean of UR and -

1.75 standard deviation from the mean of MR. A relationship between intention to visit

companies' fan pages and perceived uncertainty depicted roughly as a linear; data points

are concentrated between -0.85 and 1.33 standard deviations from the mean of UR (see

Figure 2.3).
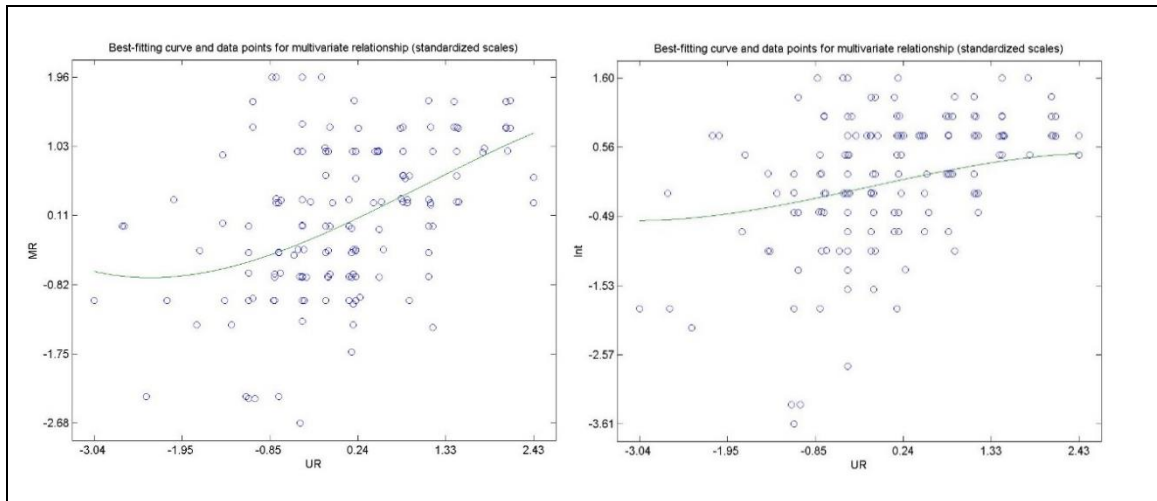
Note: MR – Perceived media richness, Int – Intention, UR – Reduced uncertainty

Figure 2.3 Latent variable relationships

Perceived media richness of Facebook and intention to visit companies' fan pages are roughly S-shaped. All data points plotted over approximately -0.82 standard deviations from the mean of MR and over -1.53 standard deviation from the mean of intention. This shows that survey respondents represent themselves to have more perceived media richness of Facebook which leads to intention to visit companies' fan pages on Facebook; also, a lesser degree of perception of media richness rarely increases the intention to visit companies' Facebook fan pages (see Figure 2.4).
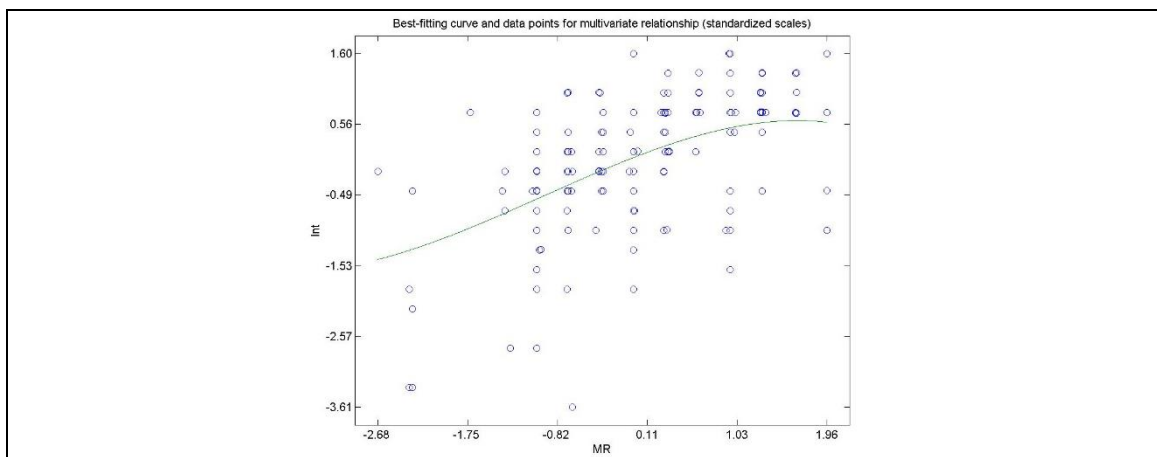
Note: MR – Perceived media richness, Int - Intention

Figure 2.4 Latent variable relationships

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Measurement Model Assessment

Convergent validity. Convergent validity is defined as the amount of variance shared by indicators of a specific construct (Hair, Black, Babin, Anderson, & Tatham, 2006). It identifies whether individual participants' actual answers fit the author's questions with sufficient correlation with designated latent variables (Ketkar, Kock, Parente, & Verville, 2012). The current study examined convergent validity by multiple statistical methods; 1) composite reliability, 2) coefficient alpha (Cronbach's alpha), 3) average variance extracted (AVE), and 4) standardized factor loadings.

The composite reliability of each construct is in the acceptable range of 0.7 and above (0.88 to 0.95) (Bagozzi & Yi, 1988). All coefficient alpha's ranged from 0.80 to 0.93, which surpasses the recommend criteria of 0.6 (Hair et al., 2006). All constructs exhibited well-above-acceptable levels of average variance extracted (0.50), ranging from 0.72 to 0.87, indicating convergent validity (see Table 2.11).

Table 2.11. Convergent validity

Constructs	Composite Reliability	Cronbach's Alpha	AVE
Interactive Strategies	0.94	0.90	0.84
Passive Strategies	0.92	0.87	0.80
Perceived Reduced Uncertainty	0.88	0.80	0.72
Perceived Media Richness	0.93	0.88	0.81
Intention to Visit	0.95	0.93	0.87

Table 2.12 lists pattern factor loadings and cross-loadings of items of each constructs. Prior studies recommend an acceptable factor loading range at least 0.6 (Chin,

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1998). Items in this study were all above 0.6. Because the option of oblique rotation was selected, factor loading of one item (PURS1) was higher than 1.00 because pattern matrices are not normalized, but that has no influence on result interpretation or on signs of data abnormalities (Kock & Lynn, 2012; Rencher, 1998). Convergent validity is achieved in this study.

Table 2.12. Pattern loadings and cross-loadings

	IURS	PURS	UR	MRT	INT
IURS1	**0.92**	0.04	0.00	-0.01	-0.08
IURS2	**0.86**	-0.06	0.10	-0.01	0.05
IURS3	**0.97**	0.02	-0.10	0.02	0.03
PURS1	-0.10	**1.01**	0.00	-0.13	0.02
PURS2	-0.01	**0.84**	0.08	0.04	-0.01
PURS3	0.10	**0.83**	-0.08	0.10	-0.02
UR1	0.01	0.00	**0.91**	-0.12	-0.01
UR2	-0.08	-0.03	**0.93**	0.04	0.01
UR3	0.08	0.03	**0.68**	0.09	-0.01
MRIF1	0.06	-0.01	-0.10	**0.95**	-0.05
MRIF2	0.01	-0.03	0.05	**0.91**	0.00
MRIF3	-0.07	0.04	0.05	**0.84**	0.05
INT1	0.04	-0.07	0.06	-0.01	**0.95**
INT2	-0.09	0.04	0.05	0.04	**0.90**
INT3	0.05	0.03	-0.12	-0.03	**0.95**

Note: IURS – Interactive Uncertainty Reduction Strategy, PURS – Passive Uncertainty Reduction Strategy, UR – Perceived Reduced Uncertainty, MRT – Perceived Media Richness, INT – Intention to Visit

Discriminant validity. Discriminant validity is described as "the extent to which a construct is truly distinct from other constructs" (Hair et al., 2006, p. 778), and verifies any existence of correlation from actual individual answers to researcher's intention of questions with other latent variables. The current study assessed discriminant validity in

two ways, first by examining correlations among constructs with the square root of AVEs and then by examining cross-loadings among items and constructs (Chin, 1988).

First, if the square root of AVEs exceeds the correlations among the constructs, there is acceptable discriminant validity (Fornell & Larcker, 1981). In the present study, all the square roots of the AVEs were higher than the correlations among the constructs, resulting in a good benchmark of acceptable discriminant validity (see Table 2.13). Second, all rotated cross-loadings that those are less than factor loadings for each item across all constructs indicate discriminant validity (see Table 2.12).

Table 2.13. Discriminant validity

Constructs	Interactive Strategies	Passive Strategies	Perceived Uncertainty	Perceived Media Richness	Intention
Interactive Strategies	**0.92**				
Passive Strategies	0.60	**0.89**			
Perceived Uncertainty	0.62	0.50	**0.85**		
Perceived Media Richness	0.53	0.48	0.44	**0.90**	
Intention	0.46	0.66	0.45	0.59	**0.93**

Note: Square roots of Average variances extracted (AVEs) shown on diagonal

Multicollinearity

The current study examined the existence of multicollinearity among the construct results presented in Table 2.14. As an indicator of multicollinearity, variance inflation factors (VIFs) were employed to identify: 1) lateral collinearity (horizontal direction in the research model—a full collinearity) that measures collinearity among latent variable predictors and one criterion latent variable and 2) vertical collinearity (vertical direction

in the research model) that measures collinearity among latent each variable predictors (Kock & Lynn, 2012). Prior literature recommends thresholds of 3.3; any VIFs higher than such thresholds indicate the existence of collinearity (Hair et al., 2006; Kline, 2005; Kock & Lynn, 2012). The values of both block-based each latent variable's collinearity (vertical collinearity) and full collinearity (lateral collinearity) tests range from 1.27 to 2.26. Such results were less than the minimum criteria (3.3) in the present study, indicating no significant collinearity.

Table 2.14. Variance inflation factors (VIFs)

Constructs	Interactive Strategies	Passive Strategies	Perceived Uncertainty	Perceived Media Richness	Intention
Interactive Strategies					
Passive Strategies					
Perceived Uncertainty	1.60	1.60			
Perceived Media Richness					
Intention			1.27	1.27	
Full Collinearity VIFs	2.18	2.26	1.75	1.77	2.19

Common Method Bias

The current study examined any possible existence of common method bias as a result of research methodology and data collection procedures by employing two tests: 1) Harman's one-factor test (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), and 2) the current study examines "the effects of a single unmeasured latent method factor" (Podsakoff et al., 2003, p. 894) by using 'method' latent variable with all indicators of constructs from research model (see Table 2.15).

Table 2.15. Common method bias testing

Construct	Indicators	Substantive Factor Loading (R1)	$R1^2$	Method Factor Loading (R2)	$R2^2$
Interactive Uncertainty Reduction Strategy	IURS1	0.96*	0.91	-0.07	0.00
	IURS2	0.87*	0.75	0.05	0.00
	IURS3	0.92*	0.85	0.02	0.00
Passive Uncertainty Reduction Strategy	PURS1	1.06*	1.12	-0.21*	0.04
	PURS2	0.82*	0.67	0.09	0.01
	PURS3	0.80*	0.64	0.11	0.01
Reduced Uncertainty	UR1	0.91*	0.83	-0.09	0.01
	UR2	0.91*	0.83	-0.03	0.00
	UR3	0.71*	0.51	0.12	0.02
Perceived Media Richness	MRT1	0.97*	0.94	-0.09	0.01
	MRT2	0.90*	0.81	0.03	0.00
	MRT3	0.84*	0.70	0.06	0.00
Intention	INT1	0.91*	0.82	0.04	0.00
	INT2	0.93*	0.87	0.01	0.00
	INT3	0.96*	0.93	-0.05	0.00
Average			0.81		0.007

Note: $*p < 0.01$

First, Harman's one-factor test utilized an exploratory factor analysis (EFA), including all measurement items (Podsakoff et al., 2003). The results of analysis confirmed that no statistically significant common method bias was detected; three factors explained 70.7 percent of the total variance and the first factor explained 50.9 percent of the total variance. Second, by calculating "each indicator's variances substantively explained by the principal construct and by the method" (Liang, Saraf, Hu, & Xue, 2007, p. 71), the results indicate the average explained variance of the indicator is 0.81 and method indicator is 0.007 respectively. The ratio of principal and method variance is 106.4. Factor loadings were not significant at the 1 percent level of

confidence; thus, very minimal common method bias was detected in the current study. It is unlikely to affect analysis or the interpretation of results.

Structural Model Assessment and Hypothesis Testing

The hypotheses were tested using Partial Least Squares (PLS) analysis. Results are presented in Table 2.16 and Figure 2.5 depicts each path coefficient, confidence level of significance, and portion of variance explained by each construct (R^2 value, coefficient of determinant).

Table 2.16. Summary of hypotheses testing

	Hypotheses	Path Coefficients	p value	Support
H1a	Interactive URS → Perceived Reduced Uncertainty	0.50	0.001	Yes[*]
H1b	Passive URS → Perceived Reduced Uncertainty	0.21	0.001	Yes[*]
H2a	Perceived Reduced Uncertainty → Perceived Media Richness	0.45	0.001	Yes[*]
H2b	Perceived Reduced Uncertainty → Intention to Visit	0.23	0.001	Yes[*]
H3	Perceived Media Richness → Intention to Visit	0.49	0.001	Yes[*]

Note: *p<0.01

A Facebook user's interactive and passive uncertainty reduction strategies through companies' Facebook fan pages are significantly associated with their perceived reduced uncertainty regarding the product or services posted on those pages ($\beta = 0.50$, $p < 0.01$; $\beta = 0.21$, $p < 0.01$, respectively). Perceived reduced uncertainty positively influences perceived media richness of Facebook, as well as the intention to visit companies' Facebook fan pages ($\beta = 0.45$, $p < 0.01$; $\beta = 0.23$, $p < 0.01$, respectively). Perceived media richness of Facebook also significantly contributes to intention to visit companies' fan pages on Facebook ($\beta = 0.49$, $p < 0.01$). Importantly, perceived media

richness of Facebook partially mediated the relationship between perceived reduced uncertainty regarding products or services and Facebook user's intention to visit companies' Facebook fan pages.

Overall, Facebook users' interactive and passive uncertainty reduction strategies explained 42 percent (adjusted $R^2 = 0.41$) of the variance of perceived reduced uncertainty. Similarly, perceived reduced uncertainty explained 21 percent (adjusted $R^2 = 0.20$) of the perceived media richness of Facebook. Facebook users' intention to visit companies' Facebook fan pages jointly explained 40 percent (adjusted $R^2 = 0.39$) of the total variance by Facebook user's perceived reduced uncertainty about products or services posted via fan pages and perceived media richness of Facebook.
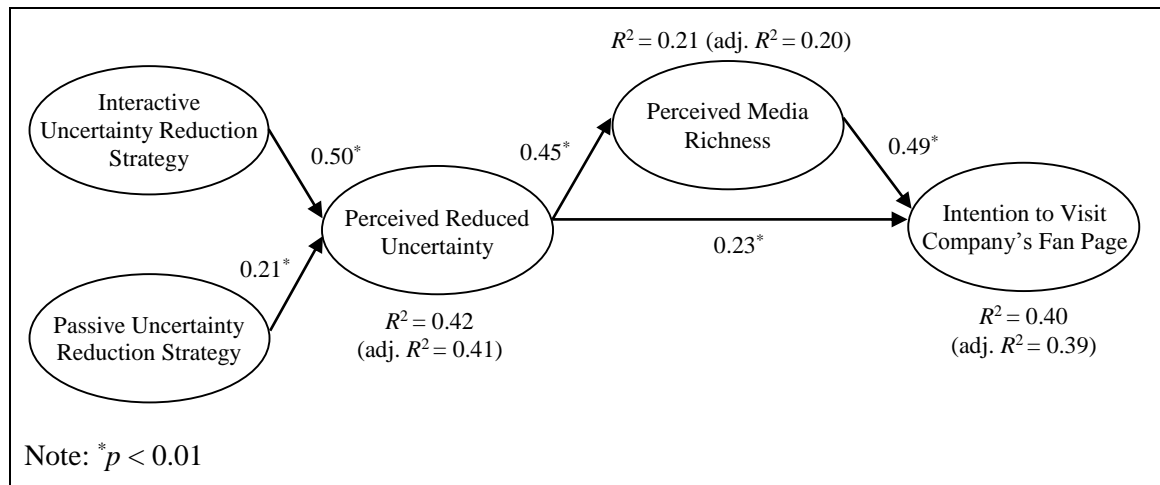
Figure 2.5 Hypotheses testing

Discussion

Overview of Research

The current study addresses two research questions. First, does Facebook users' use of uncertainty reduction strategies have any impact on their perceived uncertainty and their intention to visit their subscribed companies' Facebook fan pages? Second, how do Facebook users view the influence of media richness on their future intentions to visit companies' Facebook pages after the adoption of uncertainty reduction strategies? Two theoretical underpinnings are employed – uncertainty reduction strategy (URS) and media richness theory (MRT) in the context of individual Facebook users and companies' Facebook pages use. First, two URSs are employed to explain the impact of URS on reduced uncertainty associated with products or services that are posted on companies' Facebook pages. Second, media richness theory was used to explain how individual Facebook users' perception of the media richness of Facebook influences on their intention to visit companies' Facebook fan pages. The current study collected data from Facebook users who currently follow at least one company's fan page to test a research model and hypotheses using the survey method. A total of 178 responses were gathered and the data was analyzed using WarpPLS 3.0.

Key Findings

The current research tested hypotheses under two theoretical backgrounds (URT and MRT). First, the relationships between two URSs and perceived reduced uncertainty (H1a and H1b) were examined. Then, the author of this study tested two hypotheses involving perceived reduced uncertainty and perceived media richness (H2a) and

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involving perceived reduced uncertainty and intention (H2b). Last, any association between perceived media richness and intention was identified (H3).

In reference to the relationship between two URSs (interactive and passive) and perceived reduced uncertainty, prior studies noted that interactive and passive uncertainty reduction strategies are popularly adopted to acquire the counterparty's information in the context of SNSs (e.g., Antheunis et al., 2010). The research findings confirmed interactive (H1a) and passive (H1b) uncertainty reduction strategies are positively associated with perceived reduced uncertainty ($\beta = 0.50$, $p < 0.01$; $\beta = 0.21$, $p < 0.01$, respectively) in the context of individual Facebook users and companies' use of Facebook pages. The URSs jointly explained 42 percent of the total variance of the perceived reduced uncertainty. The research findings indicate that both strategies play a salient role in reduction of any associated uncertainty regarding products or services posted on companies' Facebook pages. Additionally, the current research findings showed that interactive strategy is more powerful than passive strategy when Facebook users attempt to reduce uncertainty. These findings align with the axioms of uncertainty reduction theory in that a high volume of communication increases mutual liking and reduces further information-seeking behaviors. The research findings support the position that interactive communication provides a volume of information, resulting in alleviating information asymmetry in the context of Facebook users and companies' Facebook pages.

Facebook users' perceived reduced uncertainty led to better perceived media richness of Facebook (H2a) and promoted the intention to visit companies' Facebook fan pages (H2b). Research findings revealed that individual Facebook users' perceptions of

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reduced uncertainty affect their perceptions regarding media's capability of message delivery ($\beta = 0.45$, $p < 0.01$). This influence is greater than perceived reduced uncertainty influencing on Facebook users' intentions to visit companies' Facebook pages ($\beta = 0.23$, $p < 0.01$). According to such findings, perceived reduced uncertainty by deploying two URSs regarding posted products or services steered the degree of perceived media richness of Facebook. It suggests a greater amount of information reduced uncertainty about products or services and gave rise to a more positive perception of the capability of Facebook's information richness. Currently, Facebook provides diverse message delivery features that support the four characteristics of MRT. These features help readers to understand meanings of postings via fan pages or individual Facebook users' communications with others. This aspect of Facebook fulfills the requisite capability of exchanging "accurate, objective and quantitative data" and thereby achieving a reduction of uncertainty (El-Shinnawy & Markus, 1997, p. 450). The current research findings support and align with these arguments.

The research findings also support the hypothesis that perceived reduced uncertainty of products or services posted on companies' Facebook pages positively influences Facebook users' intention to visit those pages ($\beta = 0.23$, $p < 0.01$). These findings indicate that perceived reduced uncertainty of products or services gives rise to the formation of the intention to visit companies' Facebook pages. Prior findings show that a high level of perceived uncertainty is negatively associated with purchase intention (e.g., in the context of online exchange) (Pavlou et al., 2007). This negative association has been accounted for by the high likelihood of opportunistic selling (or delivering) behaviors and the existence of substantial information asymmetry (Pavlou et al., 2007).

Our research findings are another benchmark of a positive relationship between perceived reduced uncertainty and intention to visit under the concept of information asymmetry in the context of fan pages usage. The author of this study argues that the perception of risk under the state of information asymmetry via fan pages also plays a salient role in driving an overestimation of potential loss or damage. In such case it becomes page followers perceive awareness of greater risk than actually is when they finally decide to consume or purchase products or services.

The last hypothesis involves the relationship between perceived media richness of Facebook and users' intentions to visit companies' pages ($\beta = 0.49$, $p < 0.01$) (H3); the current research findings reveal positive relationships between these two constructs. Along with similar research findings (e.g., Lai & Chang, 2011), the current finding is meaningful in that Facebook users' perception of higher media richness of Facebook significantly influenced their intention to visit companies' pages. It suggests that Facebook's capability of aiding and supplementing information cues comes from features such as users' ability to leave feedback promptly. Therefore, the site's capability for multiple types of messages (e.g., videos or photos) enables Facebook users to develop intentional behaviors.

Findings of Mediating Relationships between Constructs

With respect to the mediated relationships in the research model, two mediated relationships were identified: 1) the relationships among constructs: URSs, perceived reduced uncertainty and intention to visit, and 2) the relationship among constructs: perceived reduced uncertainty, perceived media richness and intention to visit). The

current research findings revealed that all mediated relationships are statistically significant.

First, Facebook users' perceived reduced uncertainty was fully mediated by both strategies (interactive and passive strategies) and intention to visit companies' Facebook pages. The result suggests that Facebook users' intention is influenced through the process of uncertainty reduction stage. To examine any existence of partial mediation between strategies and intention, a post-hoc analysis is conducted; this analysis revealed no significant partial mediating effect at a one percent significance level of confidence.

Second, the research findings suggest that perceived media richness of Facebook significantly but partially mediated the relationship between perceived reduced uncertainty about products or services on companies' Facebook page and individual user's intention to visit companies' pages. Occasionally, both mediation and a moderation effect arise in the same research model, a phenomenon referred to as moderated mediation (Preacher, Rucker, & Hayes, 2007). The author of this study conducted additional post-hoc analysis to examine the moderated mediation effect of perceived media richness on the relationship between perceived reduced uncertainty about products or services and individual intention to visit companies' pages. Findings from a post-hoc analysis revealed no significant moderated mediation effect. Therefore, it is concluded that perceived media richness of Facebook does not play a pivotal role in affecting the strength of relationship between perceived reduced uncertainty regarding products or services and intention to visit companies' Facebook pages.

Research Contribution and Implications

The current study extends the boundary of uncertainty reduction theory by deploying uncertainty reduction strategies in the context of companies' use of Facebook fan pages and individual Facebook users. First, the findings indicate that URT and its strategies are applicable to Facebook interactions between individual users and company's use of a fan page, extending the boundary of URT to a computer mediated communication (CMC) research artifact. Second, the research findings imply that interactive URS is more involved during low levels of perceived uncertainty than passive URS. This implication is supported by the broadened concept of verbal language use, which is described by the human voice but the meaning itself has been extended to phonology, similarity, and pragmatics (Bradac, Bowers, & Courtright, 1980). The current findings indicate that use of verbal communication significantly affected the relationship between perceived uncertainty reduction and interactive URS. Furthermore, seminal URT suggests that non-verbal behaviors (e.g., reading postings) also have an influence on the low degree of uncertainty. Aligning with these arguments, the current study also shows that reading follow-up feedback or comments on Facebook postings functions well to alleviate the degree of uncertainty. These results are supported by prior literature (e.g., Antheunis et al., 2011; Antheunis et al., 2010; Walther, Loh, & Granka, 2005). Third, the current research findings also suggest URSs as salient antecedents of uncertainty reduction. Empirical testing results indicate that the usage of URSs play a role in lessening the degree of uncertainty and relieving a variety of perceived risks (e.g., potentially lower product quality than expected) because of information asymmetry when they simply rely on the posted information on a company page. Definite assurance of

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products or services will be determined only after the actual completion of the transaction. Accordingly, high perceived information asymmetry is related to high perceived uncertainty; therefore, uncertainty reduction strategies may be necessary. This study suggests that Facebook users would benefit from interactive and passive URS to gain supplemental information, lessen the asymmetry of information, and reduce uncertainty.

The current study also demonstrates that two mediators play an important role in explaining Facebook users' intention to visit companies' pages. First, perceived reduced uncertainty of products or services acts as a full mediator between uncertainty reduction strategies and intention. This implies that a low level of uncertainty increases URS users' behavioral intentions, which clarifies how URSs eventually influence behavioral intention. Second, the perceived media richness of Facebook is identified as a partial mediator between reduced uncertainty and behavioral intention. This research finding implies that the relationship between perceived uncertainty and behavioral intention is also accounted for by the characteristics of communication media and its capability for information delivery.

The current study has crucial practical implications. First, the research findings suggest that the use of an interactive uncertainty reduction strategy reduces perceived uncertainty better than the use of a passive uncertainty reduction strategy. This suggests that companies' immediate and continuous responses increase Facebook users' understanding of products or services posted on the companies' pages. This results in a greater tendency for users to visit these Facebook pages. Given the importance of continuous reciprocation, companies' page managers should be alerted when no follow-

up feedback or comments are posted from page subscribers. A significant proportion of Facebook users rely on reading postings without conducting further information gathering activities to satisfy their curiosity. Therefore, companies' pages contain a variety of visual aids and textual content (i.e., cue-rich information) will play a salient role in attracting users' attention and resolving the degree of uncertainty. Cue-richer environments (e.g., an SNS such as Facebook) facilitate information gathering by providing sufficient informational cues. This type of information on companies' Facebook pages will favorably affect users' intention to visit companies' pages. This is true when such pages facilitate interaction with Facebook users in addition to facilitating posting of new information (or updating existing postings).

Second, given that perceived media richness of Facebook impacts users' intent to visit, companies' managers should strive to deliver rich information or content on their pages. Because characteristics of media determine the richness of media, and richness affects intention, maintaining a high level of immediacy of communication will increase the chance that users will visit companies' Facebook pages. Multiple formats of content delivery is another way to draw Facebook users' attention because different message cues are a salient determinant of richness of media. For example, prior literature found that video content is perceived to be more useful than text-based content (Lim & Benbasat, 2000). This implies that more visually oriented information stimulates behavioral motivation, so that any company's marketing efforts should be linked to visual content via fan pages. Additionally, personally-focused communication with Facebook page subscribers should not be ignored. More personal emotion- and feeling-infused

communication tends to develop a media user's actual behaviors in accordance with MRT (e.g., Lai & Chang, 2011).

Research Limitations

Like most research, the current study suffers from some limitations. First, even though Facebook is one of the most prevalent SNSs and CMC at the time of this study, other formats of CMC and SNSs exist. Thus, generalizability may be limited. Another limitation is the use of survey methodology. However, demographics show that respondents not only had at least three years experiences with Facebook and they still engage on a daily basis, reducing the impact of survey methodology.

Suggested Future Research Directions

Future research should consider examine other SNSs. Depending on types of SNSs, users perceive media richness differently because each SNS fulfills different needs. Such distinct features may influence the users' intention to visit. Similarly, the participants of the current study were the general public who used Facebook, but future research may consider using individual users who are listed in certain companies' fan pages.

Additional future research could center on multiple aspects of postings such as duration of posting, potential posting readers and frequency of postings in a certain time frame. For example, the years of experience influences familiarity with Facebook itself. These users have been exposed to similar postings from company's fan pages over the

years. Such aspects may influence the degree of uncertainty with products or services. Additionally, individual users' personal characteristics may influence fan pages choice.

Chapter Summary and Concluding Remarks

The purpose of this study is to examine the salient determinants affecting individual Facebook users' intention to visit companies' Facebook fan pages by incorporating uncertainty reduction theory and media richness theory. Because Facebook is one of the primary communication tools among individuals, companies' use of Facebook for their marketing campaigns has become widespread. However, it is still arguable whether individual Facebook users perceive company's use of Facebook pages and postings positively. This may result in how well the pages increase those users' intention to visit the pages. Individual Facebook users' perceived Facebook richness is also considered as a mediating factor to behavioral intention because of the importance of media capabilities that should not be ignored. The research findings indicate that URSs are positively associated with users' reduced uncertainty of products or services. Then, a low level of uncertainty accounts for their visiting intention to fan pages. Page followers' perceived media richness also plays an important role in mediating between level of uncertainty and their behavioral intention.

The research findings of the current study provide theoretical and practical insights and empirical confidence to answer the research questions. URSs and perceived media richness play a salient role in explaining individual users' behavioral intention. The research findings imply that in a cue-rich communication environment such as Facebook, both passive and interactive URSs take on an important role in achieving reduction of

uncertainty of products or services posted via fan pages. Such reduced uncertainty of products or services has a significant influence on user's behavioral intention. Practically, managers or page administrators are informed of the importance of immediate communication and posting variety of types of contents on pages, which is a noteworthy implication under two theoretical underpinnings. Overall, the current study extends the application of URS and MRT in the context of company's Facebook page use and individual users who follow those pages, which helps socially-oriented future CMC studies in the context of IS-based communication artifacts.

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CHAPTER 3 : EXPLORING FACTORS THAT INFLUENCE FACEBOOK FAN PAGE SUBSCRIBERS' CONTINUOUS VISITING BEHAVIORS

Introduction

Over the past ten years, Facebook has rapidly increased in popularity. Not only are individuals interested in using the site, but company marketers have become majority users for communication between Facebook members and the companies (Stelzner, 2013). Typically, marketers use branded Facebook fan pages for the purpose of launching marketing campaigns and attracting viewers. Contents in brand fan pages may consist of video clips, photos, anecdotes, or other product relevant content. For example, the Starbucks Facebook fan page advertises the launch of various promotional products using photos and video clips. Product features can be easily accessible with visible and audible informational cues along with textual description of products.

Facebook users can now become "friends" with companies by clicking "like" on their fan pages. Those users thus belong to the company's fan page member group and receive new postings directly to their newsfeed. Members of company fan pages are known to become more loyal customers and more open-minded to brand information than

non-members (de Vries, Gensler, & Leeflang, 2012). One benefit of becoming a page member (other than the constant subscription to new product information) is the ability to create content on the company page. Users who are members of fan pages can not only communicate with other page members with minimal interruption by the company's page managers, but are allowed to post their self-created content directly to the page based on their experience. For example, members of the Korean Air fan page can freely post photos (usually with company related content or personal experience) and share feedback with other page members. Because of such aspects, the page itself may appear as a company-initiated blog or community (Pöyry, Parvinen, & Malmivaara, 2013). However, fan pages have many of the characteristics of a member-initiated community in which members are able to be involved in communicating and sharing content with other members (Jin, Park, & Kim, 2010; Pöyry et al., 2013). Another function of the company fan page is to allow users who have become fans of the brand to share the company's page content with their other Facebook friends. The page followers (or subscribers) may broadcast their interests in those companies' products or services to their own friends through Facebook supported sharing platforms. More than 62 percent of online shoppers read comments or feedback regarding products or services shared by their friends on Facebook (Khan, 2013). However, sharing their interests does not guarantee that the fans of a company's pages are currently looking for products and related information (Ang, 2011). Friends of a company's fan page, therefore, cannot be automatically be considered visitors of a fan page, even though they are statistically more likely visit the page and get information than non-fans. Therefore, the process of Facebook users' changing status

from inactive visitor to active visitor of a company's page raises a few important questions.

RQ1: What features of company's fan pages induce page subscribers to form the behaviors of continuous visits to the pages?

RQ2: Is there a meaningful influence of media loyalty on page followers' perception of usefulness and their eventual visiting behaviors?

To fill this research gap, the current study employs two theoretical lenses to examine page subscribers' visiting behavior to company's fan pages: media synchronicity theory (MST) and the concept of loyalty. MST describes communication as the use of several core aspects, including the capability of the media in communicating processes to achieve good communication performance. In the current research context, communication performance refers to sharing a company's postings with fan page followers, thereby inducing them to more frequently visit a company's fan page. The current study also examines how the perception of loyalty impacts perceived usefulness of a company's postings on fan pages. The conventional concept of loyalty is hereby extended to fit customers who are active in an online communication environment.

Theoretical Background

To answer the research questions raised above and to explain the influence of media on fan page followers' visiting behaviors, the current study adopts MST and the concept of loyalty as theoretical underpinnings. First, the MST is chosen because it facilitates consideration of the communication process and media capabilities. The

process and capabilities are central aspects of the current study because achieving a well-shared meaning of fan page contents are key to understanding page followers' visiting behaviors. Second, the current study examines the impact of patronage of Facebook on the relationship between users' perceived Facebook capabilities of information delivery and perceived usefulness of postings on the page.

Media Synchronicity Theory (MST)

Along with other well-known media theories (e.g., media richness theory), MST has been adopted to explain the role of media and media users' task achievement. Particularly, MST holds its target media to the emergence of new media (e.g., Facebook) and its supplanting of traditional media (Dennis et al., 2008). MST accounts for achievement of a communication task through two aspects of communication: 1) communication processes, and 2) communication media capabilities. MST claims that a task would be successfully achieved when communication processes are performed under appropriate capabilities of communication media. If communication is defined as "a process in which participants create and share information with one another in order to reach a mutual understanding," then the MST perspective considers media a conduit for flowing communication (Dennis et al., 2008, p. 580). By this definition of communication, higher information processing and fast transmission promotes better sharing of information between communicators. The theory asserts that mutually-shared understanding via information processing and transmission (or sharing) leads to better communication performance (Dennis et al., 2008).

Communication processes. According to MST, most tasks require the appropriate combination of two sub communication processes: 1) the conveyance process, and 2) the convergence process. The conveyance process focuses on transmitting and exchanging a large amount of new information. This process disseminates relatively raw information to receivers. Such information plays an important role in initiating and revising information in the recipients' mental model. For example, companies' fan pages assist in the formation of an initial communication conduit between companies and individual users when companies update their pages and when individual users read postings from the pages. Through this process, the two parties are simply transmitting and receiving raw information rather than achieving a mutually agreed understanding of posted information. At this stage, no determination can be made regarding whether page subscribers will attempt to receive further information about the company.

Next, MST defines the convergence process as "the discussion of preprocessed information about each individual's interpretation of a situation, not the raw information itself" (Dennis et al., 2008, p. 580). Essentially, under the convergence process, communicating parties can transact small amounts of pre-processed information quickly. Rapid exchange of information based on the parties' existing mental models then promotes a mutually-shared understanding between the two. Reciprocating a small amount of information (e.g. feedback, questions, or comments) plays an important role in achieving mutual understanding. Eventually, such communication will invoke an opportunity to share more information regarding products or services.

Capabilities of communication media. Media capabilities of communication must properly support the processes as defined by MST. The two sub media capabilities

of communication are: 1) transmission capability and 2) processing capability. These two media capabilities play a pivotal role in completing the communication process, eventually impacting overall communication performance.

Transmission capability consists of three characteristics: *transmission velocity*, *parallelism*, and *symbol sets*. Transmission velocity refers to "the speed at which a medium can deliver a message to its intended recipients" (Dennis et al., 2008, p. 584). High transmission velocity enables recipients to receive messages immediately, respond faster, and thereby facilitates the convergence processes. For example, computer-mediated communication (CMC) media (e.g. blogs, instant messaging, and social networking sites) provide features that enable high transmission velocity. In comparison to traditional media such as postal mail, which takes multiple days to deliver messages, CMC media users can upload or post messages nearly instantaneously. Parallelism is an extension of this idea – it refers to the capability of delivering multiple messages simultaneously within a certain time frame. This is a distinct feature as opposed to traditional media that usually allows only one-on-one communication (Dennis et al., 2008; Ou, Davison, Zhong, & Liang, 2010). Symbol sets refer to a communication medium's ability to convey messages in a number of different formats both verbally and non-verbally (e.g., by gestures, tones, or written documents). Multimedia formats such as video clips or photos utilize symbol sets rather than plain, text-based sentences.

Within the concept of processing capability, there exists two sub components: *rehearsability* and *reprocessability*. Rehearsability refers to when "the media enables the sender to rehearse or fine tune a message during encoding, before sending" (Dennis et al., 2008, p. 587). Rehearsability helps senders consider their messages before transmitting

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them. Reprocessability occurs when "the medium enables a message to be reexamined or processed again, during decoding, either within the context of the communication event or after the event has passed" (Dennis et al., 2008, p. 587). Reprocessability enables recipients to reexamine and revisit messages for an unlimited amount of time when processing information.

Media Synchronicity and task performance. When considering communication processes and the media capabilities jointly together, MST considers the level of communication synchronicity as another core element in engendering better communication performance. MST describes the concepts of *synchronicity* as "a state in which actions move at the same rate and exactly together" (Dennis et al., 2008, p. 581). Given this concept of synchronicity, *media synchronicity* is "the extent to which the capabilities of a communication medium enable individuals to achieve synchronicity" (Dennis et al., 2008, p. 581). In terms of media synchronicity, high media synchronicity is favorable in the convergence process in that high synchronicity tends to expedite information processing; thereby, it promotes faster message reciprocation. On the other hand, low media synchronicity better supports the conveyance process because this process mainly focuses on information delivery where mutual understanding has not yet been achieved.

In the current research context, communication performance determines the level of visits subscribers pay to company fan pages. Therefore, to gain maximum communication performance, companies should also successfully complete the communication task (e.g., conveying the intended meaning of a posting) to attract a subscriber's attention and to drive him or her to visit the company's fan page. The

information recipient (e.g., page subscriber) more likely grasp the content when there is shared understanding; this requires well-performed convergence processes. Accordingly, company postings regarding products or services should be mutually understood, as high transmission velocity and a variety of symbol sets should play a key role in obtaining of media synchronicity. In essence, an active convergence process requires high media synchronicity, high transmission velocity of messages, and multiple formats (symbol sets) of message delivery to achieve success. Accordingly, transmission velocity and symbol sets act as the primary factors affecting the likelihood of a company obtaining continuously visiting fans in the current research context.

Loyalty

Conventionally, the concept of loyalty has served as a key factor for a company's long-term survival, as loyal customers are essential to retaining competitiveness in a changing market. The current study considers the concept of loyalty as a mediating factor between transmission capabilities of Facebook and individual Facebook user's perceived usefulness because loyalty generally plays an important role in motivating and steering individual's perception toward IS use. Since Copeland (1923) first addressed the seminal definition of the term, literature has divided the assessment of loyalty into two facets: stochastic and deterministic approaches (e.g. Jensen & Hansen, 2006; Odin, Odin, & Valette-Florence, 2001). The stochastic approach asserts that loyalty is manifested by an individual's repeated behaviors without pinpointing any determining behavioral factor as the origin. Conversely, the deterministic approach argues that loyalty stems from an individual's attitude, commitment, or intention to buy rather than from actual behaviors.

Integrating the two approaches, Day (1969) suggests two dimensions of the loyalty aspect — attitudinal and behavioral — that connect consumer traits such as habit to the purchase of products. Jacoby (1971) stipulates that loyalty arises from repeat purchasing of a certain brand through psychological evaluation (the attitudinal dimension). Additionally, Dick and Basu (1994) view customer loyalty as "the strength of the relationship between an individual's relative attitude toward repeat patronage" (p. 99). Under this definition, they suggest four types of loyalty: true loyalty (high relative attitude and repeat patronage), latent loyalty (high relative attitude and low repeat patronage), spurious loyalty (low relative attitude and high repeat patronage), and no loyalty (low relative attitude and low repeat patronage) (Dick & Basu, 1994). For example, truly loyal consumers tend not to be swayed by competitors' offers of better deals (high relative attitude) and tend to maintain repeated purchases (high repeated patronages). However, spurious consumers are easily distracted by other sellers' temptations (low relative attitude and high repeated patronages) (Dick & Basu, 1994).

In later research, Oliver (1997) defined loyalty as "a deeply held commitment to re-buy or patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing despite situational influences and marketing efforts having the potential to cause switching behavior" (p. 392). Oliver develops the concept of loyalty under these two perspectives in more detail by categorizing four stages: 1) cognitive loyalty, a belief that a target product or brand is better than the alternatives, 2) affective loyalty, affection for and a favorable attitude toward a product or brand, 3) conative loyalty, a committed attachment to a product or

brand, and 4) action loyalty, strong resistance to attempts by competitors to convince them to switch products or brands (Oliver, 1999).

While applying the definition of loyalty to traditional seller and buyer relationships, the loyalty perimeter extends to online transaction environments, such as e-retailing or e-business. Anderson and Srinivasan (2003) define e-loyalty as "the customer's favorable attitude toward an electronic business resulting in repeat buying behavior" (p. 125). In the context of Facebook use by both companies and individuals, the current study posits that loyalty can be described as patronizing Facebook more than any other website as a communication medium. More specifically, it is Facebook users' affirmative attitudes toward Facebook and strong commitment toward repeat use of the site.

Research Model and Hypothesis Development

Based on the theoretical backgrounds of MST and loyalty, the current study postulates that the direct effects of Facebook transmission capability (associated with perceived usefulness) affects continuous visiting behaviors. It also argues that Facebook loyalty plays a role in mediating relationships between transmission capability and perceived usefulness, as well as between transmission capability and continuous visiting behaviors. The research model and hypotheses are depicted in Figure 3.1.
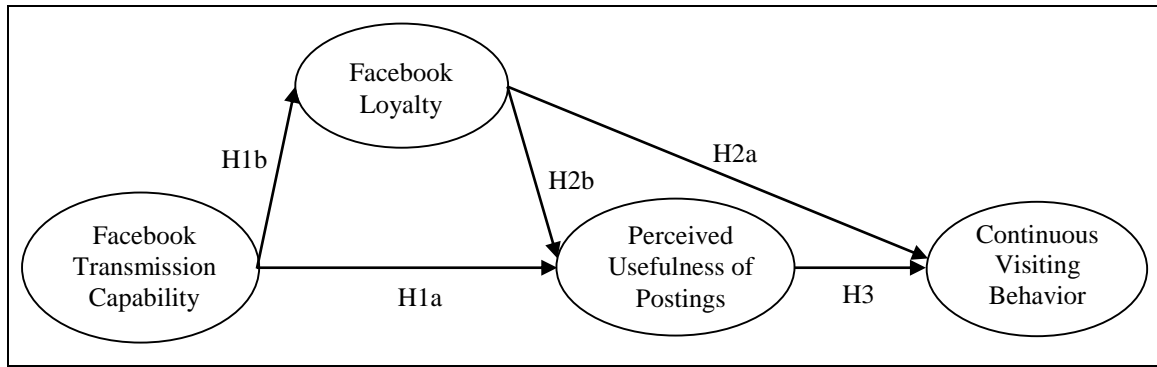
Figure 3.1 Research model and hypotheses

According to MST, transmission capability is an important backbone to communication, encouraging high media synchronicity and facilitating good communication performance. The current research model depicts successful media capability as consisting of immediacy of communication and message variety. *Immediacy of communication* refers to transmission velocity, or the extent to which Facebook supports rapid communication between message senders and receivers. For example, high immediacy of communication is achieved when individual Facebook users receive rapid feedback to their comments on company fan pages. *Message variety* is an evaluation of symbol sets or a "multiplicity of cues and language variety" (Dennis et al., 2008, p. 585). In the current research context, message variety refers to the company's ability to use different message posting formats such as videos, photos and voice messages to deliver product information or describe promotional events. MST describes the characteristics of visual symbol sets as more efficient for transmitting messages (e.g. showing a thumbs up) than simple text alone (e.g. writing "Great!") (Dennis et al., 2008). The theory also asserts that some symbol sets (physical, visual, and verbal) help to encode messages easily and evoke more immediate reactions than simple text sentences. Appropriate use of symbol sets also lessens the message encoder's and decoder's cognitive load when

processing information (Miranda & Saunders, 2003). For example, video clips highlight new products better than text-based descriptions of the product features. The current study proposes that message variety aids the effort of message encoding and decoding when those multiple formats of messages are appropriately matched with message readers' needs.

Transmission Capability and its Impact on Loyalty and Perceived Usefulness

Based on the arguments above, the current research postulates that the transmission capability of Facebook has a positive relationship with viewers' perceived usefulness of postings. First, immediate message exchanges with page managers help Facebook users rapidly acquire an amount of information about products or services. Second, multiple message formats assist to deliver the meaning of messages more clearly by lessening message recipients' cognitive load when processing information regarding target products (which support Facebook users' understanding of informational cues). Therefore, given that a definition of perceived usefulness is "the degree to which a person believes that using a particular system will enhance his or her job performance" (Davis, 1989, p. 320), the current study posits that more available information resources supported by Facebook's capabilities leads to better viewer understanding of posting content, and results in their favorable perception of posting usefulness.

The current research also postulates that Facebook users' active communication with multiple message formats and immediate message reciprocation can supplement the development of Facebook loyalty. From an MST perspective, uncertainty of products or services and associated future transaction risk tend to be abated if Facebook users'

information requests are immediately fulfilled, or if their cognitive efforts are lessened by informational cues. Because a series of faithful transactions or lessened transaction risk can be a building block of loyalty, better transmission capabilities of information should foster a higher degree of loyalty. Prior literature found supportive results (regular frequency of and positive association with a brand in a virtual community) supported loyalty behaviors (Shang, Chen, & Liao, 2006). Based on the above arguments:

H1: Facebook's perceived capabilities of message transmission will be positively associated with perceived usefulness of companies' postings on their Facebook fan pages (H1a) and Facebook users' loyalty (H1b).

The Role of Loyalty in Perceived Usefulness and Visiting Behaviors

The current study argues that there are two aspects of loyalty relevant to discussing the relationship between loyalty and perceived usefulness/visiting behaviors. The attitudinal loyalty aspect argues that loyal Facebook users tend to have more favorable attitudes toward information posted on Facebook, and use less cognitive effort to process said information than others. The behavioral loyalty aspect posits that loyal Facebook users are more likely to participate in communicating and sharing activities with their friends than those who are non-loyal users. Therefore, from both loyalty aspects, the degree of posting usefulness can be enhanced by more involvement in a series of communications and by acquiring more information. Such arguments are also supported by the fact that media loyalty represents repeated use behaviors and favorable attitude with less cognitive effort. Therefore, stronger patronage enhances better

communication under higher familiarity as well as gains more benefit from use of the media.

In terms of word-of-mouth effects, the current study claims that loyal Facebook users will tend to be those who speak favorably regarding newly introduced products or promotions on a company's fan page if they are subscribers. Their strong repeat patronage will likely invoke consistent or continuous visiting behaviors if they need to get information about products or services. Further, Facebook loyalty can be accounted for by communication satisfaction over the years with friends for a long time, during which time no communication media alternatives are chosen or little consideration is given to switching. Furthermore, larger gaps between Facebook users' expectations of information fulfillment and post-performance feeling (or feeling after gathering information) from a company's fan page will lead them to visit the page to gather required information. Prior literature supports the notion that loyalty is a salient antecedent to transaction intention (Huang, 2008) and that loyalty directly affects repurchase intention (Petrick & Backman, 2002). Prior literature has rarely identified the relationship between loyal Facebook users' continued visits to company fan pages and their perceived usefulness of postings on fan pages. Therefore, the current study posits:

H2: Facebook users' loyalty toward Facebook will be positively associated with continued visits to a company's Facebook fan page (H2a) and perceived usefulness of information in company postings (H2b).

Perceived Usefulness and its Impact on Continuous Visiting Behaviors

The concept of perceived usefulness has been a crucial determinant of behavioral attitudes and the use of information systems (IS). It is a key factor influencing ongoing reciprocal behaviors, and is a salient antecedent of retention behaviors (Bhattacherjee, 2001; Blau, 1964). Perceived usefulness frequently refers to "the most salient ex-post expectation influencing users' post-acceptance affect" (Wu, Tsai, Chen, & Wu, 2006, p. 295). Derived from the technology acceptance model (TAM) perspective (Davis, 1989), perceived usefulness motivates IS acceptance and determines consequential continuous IS usage. Prior studies support a strong relationship between perceived usefulness and intention/continuance usage. For example, Koufaris (2002) found that online consumers' perceived usefulness was positively associated with their intention to return to web-based stores. In the context of a document management system and its users, perception of post-usage usefulness positively accounted for users' actual continuous usage behaviors (Bhattacherjee, Perols, & Sanford, 2008).

In a similar vein with prior literature, the current research postulates that Facebook users' perceived usefulness of postings eventually becomes positively associated with those users continuous visiting behaviors to a company's page. If postings regarding products or service are beneficial to consumers or exceed their expectation, such satisfactory experience becomes a motivating factor for repeat readers. Thereby, the current study claims that continuous visiting behaviors to a company's fan page is accounted for by Facebook users' belief of potential benefit from postings. Therefore, the current study posits:

H3: Individual Facebook users' perceived usefulness of company postings will be

positively associated with their continuous visits to a company's Facebook fan-

page.

Research Methodology

Research Context

Facebook users include both companies (via their fan pages) and individuals who

follow those companies' Facebook pages. These users were chosen for the current

research context because of the popularity of Facebook and its wide use among the

general public and hundreds of commercial entities. Currently, Facebook retains more

than 1.32 billion active users, and an average of 829 million users are actively using the

site each day (as of June 2014). With increasing use of mobile platforms, more than 654

million monthly users access Facebook via their mobile platform (as of June 2014).

Roughly 82 percent of daily active users reside in countries other than the U.S and

Canada, with more than 70 languages represented on the site.

Selection of Measurement Items

A total of four constructs were measured using extant modifying measurement

items (see Table 3.1 and Appendix A for measurement items). All survey items were

assessed via a 7-point Likert scale, ranging from "1 (strongly disagree)" to "7 (strongly

agree)."

Table 3.1. Measurement items

Measurement	References	Number of Items	Composite Reliability
Demographics	N/A	4	N/A
Facebook usage	N/A	6	N/A
Transmission capability	Carswell, Agarwal and Sambamurthy (2001)	3	0.89
Loyalty	Gupta and Kabadayi (2010)	3	0.86
Perceived usefulness	Bhattacherjee et al. (2003)	3	0.90
Continuous Behaviors	Bhattacherjee, Perols and Sanford (2008)	3	0.97
	Total number of items	22	

Data Collection

Procedures. General public Facebook users were recruited by through a survey contract firm (Qaultrics.com). A survey link was sent to participants drawn from the pool. Respondents were first asked whether they were currently Facebook users. Then, they were further asked whether they were currently subscribing to company pages by clicking "Like" or "Subscribe" from any postings or any invitations from the company. If the answer for both questions was positive, the survey was presented. Otherwise, respondents were allowed to leave the survey.

Pilot test. To verify the validity of the questionnaires, a pilot test was conducted with Facebook users who are currently subscribing to at least one company's fan page. A total of 86 university-attending Facebook users participated. Their ages ranged from 21 to 28, and they were located in the southeastern region of the U.S. After analyzing the collected data, measurement questions were again modified to fit to the research purpose.

Unclear and highly correlated questions were eliminated or restated from the set of questions. Pilot test responses are not represented in the analysis below.

Data Analysis

Participant Description. A total of 178 usable surveys were collected from 353 total surveys. Respondents are 38.8 percent male and 61.2 percent female. Eleven percent of respondents were 19 to 22 years old and 25.3 percent were 23 to 29 years old. Twenty five percent were in the 30 to 39 year range and 18.0 percent were between 40 and 49. Twenty one percent of respondents were 50 or older (see Table 3.2).

Table 3.2. Demographic information

Gender	Male	69	38.8%
	Female	109	61.2%
	Total	178	100.0%
Age	19 – 22	19	10.7%
	23 – 29	45	25.3%
	30 – 39	44	24.7%
	40 – 49	32	18.0%
	50 – 59	31	17.4%
	60 – 69	7	3.9%
	Total	178	100.0%

Twenty percent of the survey respondents earned an income that ranged from $50,000 to $74,999. Fourteen percent of respondents who reported their income ranged from $75,000 to $99,999. Three percent (3.4%) of respondents indicates that they earned more than $150,000 per year (see Table 3.3).

Table 3.3. Participant's household income

Income Range	Number of Participants	Percent
Over $150,000	6	3.4 %
$100,000 – $150,000	17	9.6 %
$75,000 – $99,000	24	13.5 %
$50,000 – $74,999	35	19.7 %
$40,000 – $49,999	17	9.6 %
$30,000 – $39,999	26	14.6 %
$20,000 – $29,999	23	12.9 %
$10,000 – $19,999	13	7.3 %
Under $10,000	8	4.5 %
Rather not to say	9	5.1 %
Total	178	100.0%

Additionally, 50.0 percent of respondents currently live in a suburban area, followed by urban and rural areas (32.0% and 18.0%, respectively) (see Table 3.4).

Table 3.4. Participant's residence area

Residence Area	Number of Participants	Percent
Urban	57	32.0%
Suburban	89	50.0%
Rural	32	18.0%
Total	178	100.0%

Fifty one percent of respondents have more than 5 years of experience with Facebook. Thirty three percent of respondents have used Facebook for 3 to 5 years. The less-active portion of respondents include 12.4 percent as having been a Facebook

member for more than 1 year but less than 3 years. Four percent of respondents indicated that they have used Facebook less than a year (see Table 3.5).

Table 3.5. Period of Facebook usage

Periods	Number of Participants	Percent
More than 5 years	90	50.6%
More than 3 years but less than 5 years	59	33.1%
More than 1 year but less than 3 years	22	12.4%
More than 6 months but less than 1 year	4	2.2%
Less than 6 months	3	1.7%
Total	178	100.0%

Forty seven percent (46.6%) of respondents visit Facebook multiple times a day, and 37.1 percent of respondents accessed Facebook at least once a day. Nine percent of respondents used Facebook a couple of times a week, and 3.9 percent of participants used Facebook only once a week (see Table 3.6).

Table 3.6. Frequency of Facebook visiting

Frequency	Number of Participants	Percent
More than once a day	83	46.6%
Daily	66	37.1%
2 – 3 Times a Week	17	9.6%
Once a Week	7	3.9%
2 – 3 Times a Month	3	1.7%
Once a Month	2	1.1%
Total	178	100.0%

Twenty three percent of the survey respondents currently subscribe to 1 to 5 companies' pages, and 33.1 percent of respondents "liked" between 6 and 10 company fan pages. Twenty one percent of respondents "liked" between 11 and 20 companies' pages, and 23 percent of respondents indicated that they "liked" more than 20 companies pages (see Table 3.7).

Table 3.7. Number of "Liked" companies

Number of "Liked" companies	Number of Participants	Percent
1 – 5	40	22.5%
6 – 10	59	33.1%
11 – 20	38	21.3%
20 and more	41	23.0%
Total	178	100.0%

Nine percent of respondents "rarely" read postings when companies posted new information via their fan pages and 40.4 percent of respondents read postings "sometimes". Thirty seven percent of respondents read companies' postings "often", and 12.4 percent of respondents reported that they "always" read postings when they see companies' newest postings (see Table 3.8).

Table 3.8. Frequencies of reading postings

Frequencies of reading postings	Number of Participants	Percent
Never	3	1.7%
Rarely	16	9.0%
Sometimes	72	40.4%
Often	65	36.5%
All the time	22	12.4%
Total	178	100.0%

Results

The current study employed partial least squares (PLS) methodology, using the WarpPLS 3.0 software package (Kock, 2012), to test the hypotheses suggested in the current research model. All reflective latent variables were considered.

Data Structures

The summary statistics of each measurement item is presented in Table 3.9. The mean value ranged from 3.96 to 5.76 and standard deviation ranged from 1.09 to 1.77 (see Table 3.9).

Table 3.9. Summary statistics of constructs

Constructs	Items	Mean	Standard Deviation
Facebook Transmission Capabilities (TC)	TC1	5.09	1.21
	TC2	5.00	1.21
	TC3	5.22	1.06
	TC4	5.19	1.09
Perceived Usefulness (PU)	PU1	5.35	1.09
	PU2	5.13	1.10
	PU3	4.69	1.21
Facebook Loyalty (SL)	SL1	5.74	1.14
	SL2	5.74	1.19
	SL3	5.76	1.15
Continuous Visiting Behavior (CB)	CB1	4.26	1.68
	CB2	3.96	1.62
	CB3	4.05	1.77

This study plotted relationships among latent variables. All relationships depicted non-linear relationships as either U- or S-shaped curves.

With respect to latent variable relationships between Facebook transmission capabilities and Facebook loyalty, the curve was depicted to be roughly U-shaped. Between Facebook transmission capabilities and perceived usefulness of companies' postings on Facebook fan page, a lightly S-shaped curve was depicted (see Figure 3.2). Most data points plotted over -1.5 standard deviation from the mean of Facebook transmission capabilities with both perceived usefulness and Facebook loyalty. Plotting of Facebook transmission capabilities and perceived usefulness tend to show the degree of increment responded one-to-one with each other. However, the Facebook loyalty and transmission capabilities does not respond in this way, and less Facebook loyalty was plotted below -1.0 standard deviation from the mean of loyalty.
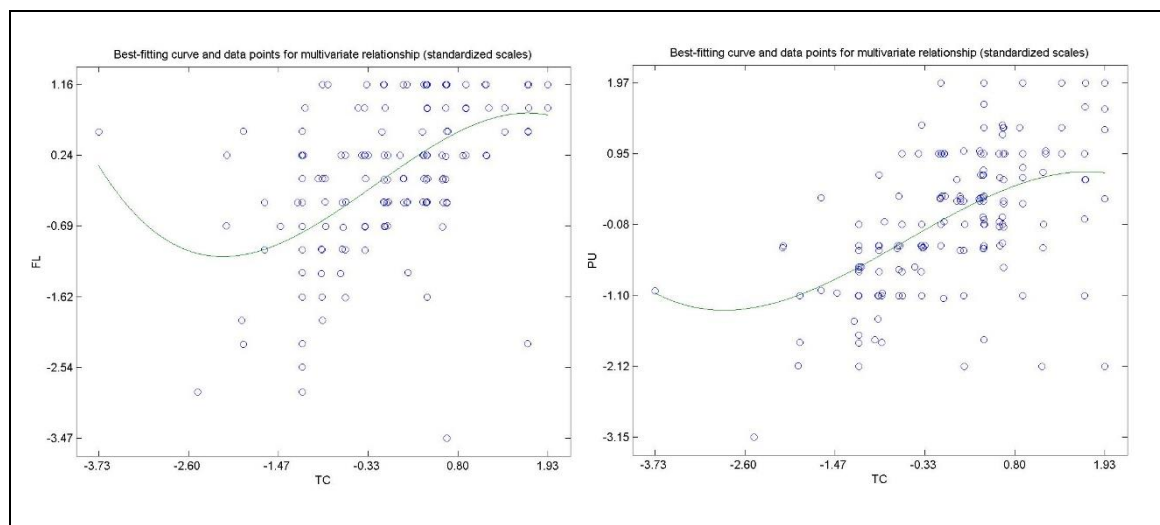
Note: TC – Transmission capabilities, FL – Facebook loyalty, PU – Perceived usefulness
Figure 3.2. Latent variable relationships

No specific tendency exists for continuous behavior and loyalty. Linearly-arrayed data points over -1.62 standard deviation from the mean of Facebook loyalty range

widely on continuous behavior (see Figure 3.3). Facebook loyalty and perceived

usefulness similarly depicted a linear relationship. Between -1.62 and 1.16 standard

deviations from the mean of Facebook loyalty, perceived usefulness is also plotted in a

wide range on perceived usefulness between -2.12 and 1.97 standard deviations from the

mean of perceived usefulness.
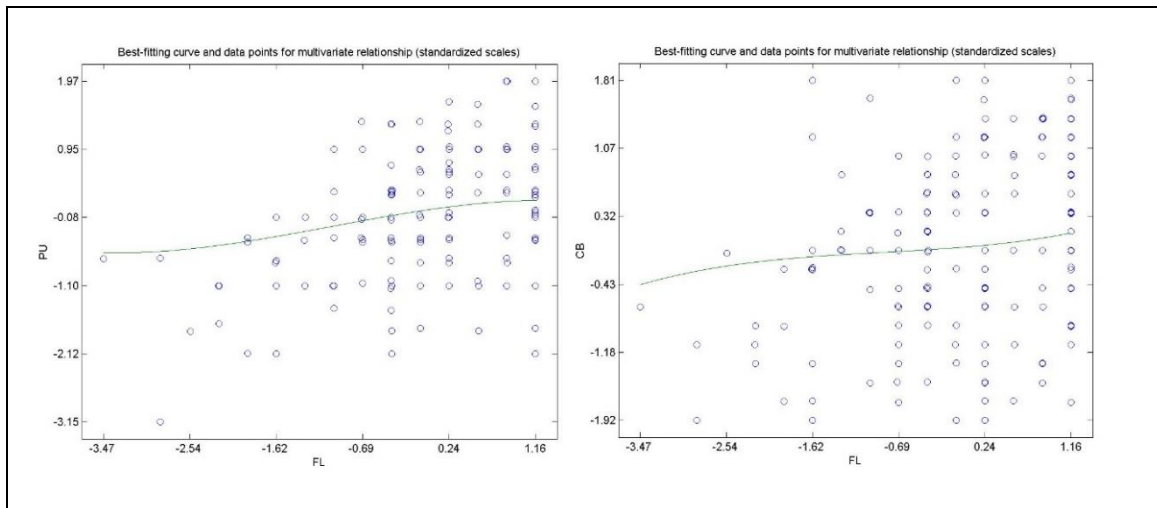
Note: FL – Facebook loyalty, CB – Continuous visiting behavior, PU – Perceived usefulness
Figure 3.3 Latent variable relationships

Latent variable relationships between perceived usefulness and continuous

behaviors clearly depicted a U-shaped curve when plotted. Additionally, groups of data

that plotted between -1.1 and 1.0 standard deviation from the mean of perceived

usefulness ranged from -1.92 to 1.07 standard deviations from the mean of continuous

behaviors (see Figure 3.4).
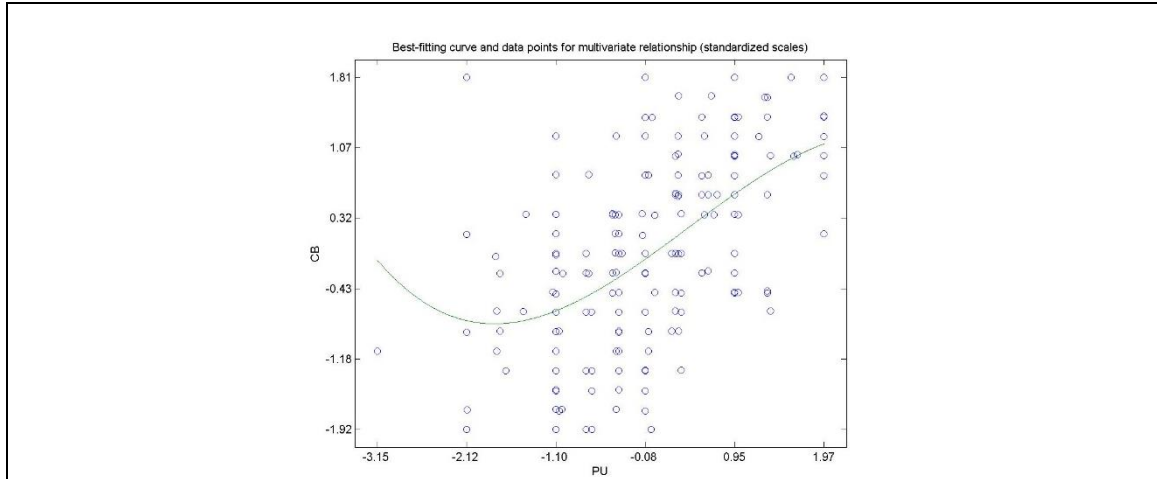
Note: CB − Continuous visiting behavior, PU − Perceived usefulness

Figure 3.4 Latent variable relationships

Measurement Model Assessment

Convergent Validity. The current study assessed convergent validity (Hair et al., 2006). A total of four examination methods were employed: 1) standardized rotated factor loadings, 2) composite reliability, 3) average percentage of variance extracted (AVE), and 4) coefficient alpha (Cronbach's alpha).

All factor loadings were obliquely rotated. All standardized rotated factor loadings ranged from 0.72 to 0.99, which is a good benchmark of convergent validity under the suggested criteria of at least 0.6 or higher (Chin, 1998) (see Table 3.10).

Composite reliability of each construct ranged from 0.90 to 0.97, exceeding the recommended criteria of 0.7 (Bagozzi & Yi, 1988). The values of the average percentage of variance extracted (AVE) ranged from 0.73 to 0.91—levels greater than the suggested level of 0.5. Cronbach's alphas (between 0.83 and 0.95) also indicated good convergent validity, exceeding the minimum requirement of 0.6 (Hair et al., 2006).

Table 3.10. Pattern loadings and cross-loadings

	TC	FL	PU	CB
TC1	**0.86**	-0.07	-0.04	0.11
TC2	**0.91**	-0.06	-0.10	0.07
TC3	**0.86**	0.05	0.07	-0.10
TC4	**0.77**	0.08	0.06	-0.08
FL1	-0.07	**0.89**	0.06	0.09
FL2	0.04	**0.93**	0.03	-0.08
FL3	0.03	**0.97**	-0.08	-0.01
PU1	-0.16	0.22	**0.87**	-0.06
PU2	0.01	-0.07	**0.99**	-0.07
PU3	0.16	-0.15	**0.72**	0.13
CB1	-0.04	-0.01	0.07	**0.93**
CB2	-0.05	0.02	0.01	**0.97**
CB3	0.09	-0.01	-0.08	**0.96**

Note: TC: Transmission capabilities, FL: Facebook loyalty, PU: Perceived usefulness, CB: Continuous visiting behaviors

All examinations of convergent validity were acceptable, which suggests convergent validity (see Table 3.11).

Table 3.11. Convergent validity

Constructs	Composite Reliability	Cronbach's Alpha	AVE
Transmission Capabilities	0.91	0.87	0.73
Facebook Loyalty	0.95	0.92	0.87
Perceived Usefulness	0.90	0.83	0.75
Continuous Behavior	0.97	0.95	0.91

Discriminant Validity. Discriminant validity was examined in two ways: 1) cross-loadings among items and constructs (Chin, 1998), and 2) the comparison between correlations among constructs and the square root of AVEs. First, all rotated cross-loadings for each item across all constructs indicate discriminant validity, which factor loadings are much greater than cross loadings (see Table 3.10). Second, all correlations among constructs were less than the square root of AVEs, which is an indicator of discriminant validity (Fornell & Larcker, 1981) (see Table 3.12).

Table 3.12. Discriminant validity

Constructs	Transmission Capabilities	Facebook Loyalty	Perceived Usefulness	Continuous Behavior
Transmission Capabilities	**0.85**			
Facebook Loyalty	0.52	**0.93**		
Perceived Usefulness	0.61	0.47	**0.87**	
Continuous Behavior	0.54	0.32	0.56	**0.95**

Note: Square roots of Average Variances Extracted (AVEs) shown on diagonal

Multicollinearity

To examine any existence of multicollinearity among measured latent variables, both block-based collinearity (vertically measuring multicollinearity among predictor latent variables) and full collinearity (horizontally measuring multicollinearity—one latent variable across all other latent variables), variance inflation factors (VIFs) were reviewed (Kock & Lynn, 2012). The results of multicollinearity testing indicate that all multicollinearities ranged from 1.22 to 1.42 for vertical collinearity and ranged from 1.45 to 1.96 for horizontal multicollinearity.

This result shows that all values were less than 3.3 indicating little or no

multicollinearity (Hair et al., 2006; Kline, 2005; Kock & Lynn, 2012) (see Table 3.13).

Table 3.13. Variance Inflation Factors (VIFs)

Constructs	Transmission Capabilities	Facebook loyalty	Perceived Usefulness	Continuous Behavior
Transmission Capabilities				
Facebook Loyalty				
Perceived Usefulness	1.42	1.42		
Continuous Behavior		1.22	1.22	
Full Collinearity VIFs	1.96	1.45	1.89	1.62

Common Method Bias

Common method bias was evaluated two ways: 1) Harman's one factor test

(Podsakoff et al., 2003), and 2) Lindell and Whitney's (2001) test of partial correlation

procedure with a marker variable.

First, using Harman's one-factor test to examine common method bias, the current

study ran an exploratory analysis (EFA) including all measurement items in each

construct. The analysis listed three factors to explain 74.1 percent of the total variance,

with the first factor alone explaining 50.9 percent of the variance. Second, Lindell and

Whitney's (2001) partial correlation procedure was adopted by employing a proxy of

marker variable, which is "the smallest observed correlation among the manifest

variables as a proxy for common method variance" (Podsakoff et al., 2003, p. 893). The

smallest correlation of the current study between Facebook loyalty and continuous

behavior is 0.32. Using this correlation, variance-adjusted correlations were calculated

and comparisons were made between unadjusted and adjusted correlation of each

construct (Malhotra, Kim, & Patil, 2006). All comparisons were statistically significant.

Overall, these results indicate very minimal common method bias associated with this

study.

Structural Model Assessment and Hypothesis Testing

All hypotheses were tested using PLS methodology. The results of this analysis

are listed in Table 3.14 and depicted in Figure 3.5 with path coefficients, coefficients of

determinants (R^2 value), and level of significance of each coefficient given.

Table 3.14. Summary of hypotheses test

	Hypotheses	Coefficients	p value	Support
H1a	Facebook transmission capabilities $\rightarrow$ Perceived Usefulness	0.51	0.00	Yes[*]
H1b	Facebook transmission capabilities $\rightarrow$ Facebook loyalty	0.56	0.00	Yes[*]
H2a	Facebook loyalty $\rightarrow$ Continuous Behavior	0.10	0.05	Yes[**]
H2b	Facebook loyalty $\rightarrow$ Perceived Usefulness	0.20	0.00	Yes[*]
H3	Perceived Usefulness $\rightarrow$ Continuous Behavior	0.55	0.00	Yes[*]

Note: $*p < 0.01$, $**p < 0.05$

First, Facebook transmission capabilities positively influence both Facebook

loyalty and perceived usefulness of postings ($\beta = 0.56$, $p < 0.01$; $\beta = 0.51$, $p < 0.01$,

respectively). Second, Facebook loyalty has a significant effect on perceived usefulness

of companies' postings on their fan pages and continuous visiting behaviors ($\beta = 0.20$, p

< 0.01; $\beta = 0.10$, $p < 0.05$, respectively). Last, Facebook user's perceived usefulness of

companies' postings played a significant role in influencing continuous visiting behaviors

to company's fan pages ($\beta = 0.55$, $p < 0.01$).

Facebook transmission capabilities explained 31 percent (adjusted $R^2 = 0.30$) of

the total variance of Facebook loyalty. Perceived usefulness of companies postings is

explained by 41 percent (adjusted $R^2 = 0.40$) of the total variance by Facebook user's

loyalty on Facebook jointly with Facebook transmission capabilities. Lastly, Facebook

users continuous visiting behavior to companies' fan pages is explained by 35 percent

(adjusted $R^2 = 0.34$) of the total variance by Facebook user's perceived usefulness of
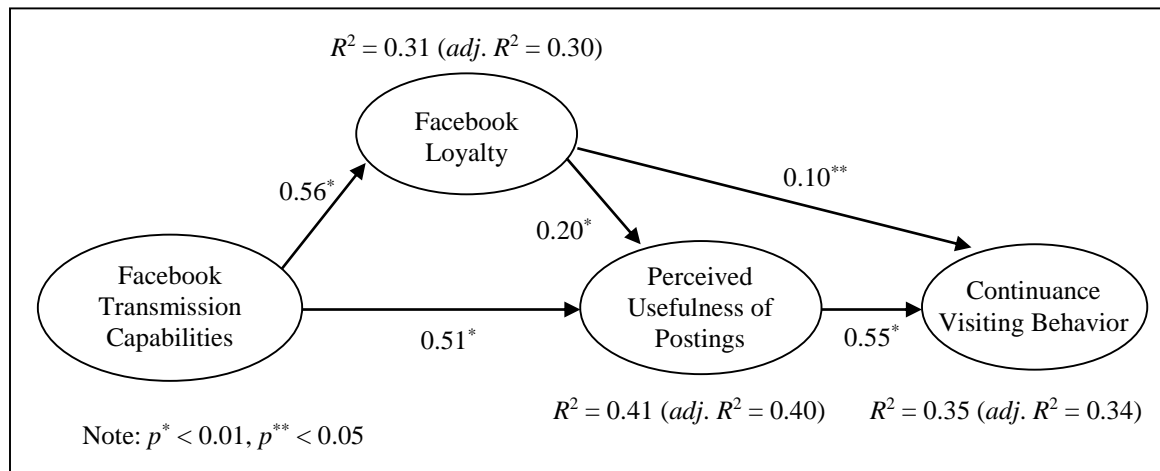
postings and Facebook loyalty together.

Figure 3.5 Hypotheses testing

Discussion

Overview of Research

The purpose of this study is to identify factors affecting Facebook user's

continuous visiting behavior to company's fan pages. Accordingly, three research

questions are raised: first, what features of company's fan pages induce page subscribers

to form visiting behaviors to the pages? And second, is there any meaningful influence of media loyalty on page followers' perception of usefulness and their eventual visiting behaviors? Four constructs are used to answer these research questions: Facebook transmission capabilities, Facebook loyalty, Facebook user's perceived usefulness of companies' postings on fan pages, and continuous visiting behaviors to fan pages. To examine page followers' behaviors, the current study considered message delivery capabilities (symbol sets and transmission velocity) under the MST perspective. PLS methodology was used to analyze data collected by a web-based survey from individual Facebook users who subscribe to at least one company's Facebook fan page.

Key Findings

In reference to the relationships of Facebook transmission capabilities with perceived usefulness of companies' postings (H1a) and with Facebook loyalty (H1b), these two relationships were statistically significant ($\beta = 0.51, p < 0.01; \beta = 056, p < 0.01$, respectively). To the best of our knowledge, this is the first attempt to test Facebook transmission capabilities (immediacy of communication and message variety) as salient supporting factors for perceived usefulness of postings and for individuals' subsequent Facebook loyalty. First, research findings indicate that fast response or feedback from companies' page managers favorably influences page subscriber's perception of posting usefulness about products or services. The results imply that the use of multiple formats of postings (e.g., video clips or photos) also supplement informational cues that significantly enhance perception of usefulness of companies' postings. Facebook users' perceived usefulness of postings is explained (41 percent) by Facebook loyalty and transmission capabilities jointly together. Second, in relation to Facebook transmission

capabilities and Facebook loyalty, research findings indicate that Facebook transmission capabilities play a key role in impacting Facebook loyalty. This finding suggests that both immediate communication with Facebook users and the use of different type of messages are significant promoters of Facebook users' loyalty. Given loyalty requirements (Oliver, 1980), this relationship also can be accounted for by the fact that informational cues provided immediately and in multiple ways enhance benefit from the postings. Such perceived benefit eventually plays a role in increasing the level of loyalty. Prior literature claimed that various activities of brand association are influential factors affecting brand loyalty (e.g., Kaynak, Salman, & Tatoglu, 2008). In a similar vein, the current research findings suggest that better Facebook loyalty is created by companies' activities (prompt communication and different information cues), which reinforces Facebook user's loyalty to Facebook. Facebook transmission capabilities explain 31 percent of the total variance of Facebook loyalty. The findings of the first hypothesis testing answers the first research question in that Facebook capabilities have a significant effect on page followers' visiting behaviors to the company's fan pages; that relationship is mediated by user's perception of usefulness of postings.

Facebook loyalty served as a significant antecedent of continuous visiting behaviors to companies' Facebook fan pages (H2a) and perceived usefulness of companies' posting (H2b) ($\beta = 0.10$, $p < 0.05$; $\beta = 0.20$, $p < 0.01$). First, the finding of a significant relationship between Facebook loyalty and Facebook users' continuous visiting behaviors is noteworthy. Conventionally, loyalty is considered to be a key antecedent of intention toward repeated behaviors and follow-up behaviors (Petrick & Backman, 2002). For example, more e-loyalty of online travel agency users made them

more inclined toward transactional intention (Huang, 2008). Such intention became one of the most salient predictors of actual usage along with continuous usage behaviors. The current research findings indicate that Facebook loyalty similarly plays an important role in promoting continuous usage behaviors, which is an extension of the scope of IS loyalty research. Additionally, unlike previous testing of the influence of perceived usefulness on loyalty (e.g., Cyr, Hassanein, Head, & Ivanov, 2007), the current research found loyalty and perceived usefulness are inversely related rather than directly as might be expected. The testing results of the second set of hypothesis provide theoretical support to answer the second research question in that loyalty is a significant influential factor affecting the perception of usefulness and page followers' visiting behaviors.

The current study tested the direct relationship between continuous visiting behaviors and perception of usefulness. Empirical testing found a statistically significant relationship between those two constructs ($\beta = 0.55$, $p < 0.01$). This finding indicates that a higher degree of perceived usefulness of postings tends to lead Facebook users to have more frequent visiting behaviors than those who perceive usefulness to a lesser degree. Moreover, individual Facebook users' visiting behaviors accounted for 35 percent of total variance by the perception of usefulness alone. Such a finding is meaningful in that the extrinsic benefit from posted information is shown to play a primary motivating role in drawing subscribers' behavioral reactions.

Implication and Contributions to Theory and Practice

The current study integrates two theoretical underpinnings (media synchronicity theory and the concept of loyalty) to explain individual Facebook users' continuous

visiting behaviors to companies' Facebook fan pages. The major assumption of the current research is that MST and its foundations uphold the role of Facebook fan pages as conduits of communication affecting the perception of usefulness. The current study identified that this perception of usefulness becomes a key factor influencing individual Facebook users' continuous visiting behaviors. The current research raises theoretical and practical implications.

First, the current study tests MST core components that prior studies have rarely considered. Specifically, this research focuses on media transmission capabilities as salient antecedents of media users' perceptions and behaviors. Seminal MST research postulates that high media transmission capabilities steer a "shared pattern of coordinated behavior" by exchanging messages between communicating parties (Wells, Valacich, & Hess, 2011, p. 582). This study goes one step further in this argument in that it inserts the perception of usefulness as a mediating factor. Research findings reveal that fast responses and multiple formats of messages enhances the perceived usefulness of postings in the context of communication-based IS artifacts. It is especially worth noting that media capabilities promote the media users' perception of content, which eventually leads to media users' behaviors.

Second, the current research findings also suggest that Facebook loyalty plays a mediating role between media transmission capabilities and a media user's perception of usefulness. Loyalty partially mediated the relationship between those two, as more loyal Facebook users tend to perceive posted information as more useful than non-loyal users do. Given that loyalty is viewed as "the strength of the relationship between an individual's relative attitude toward repeat patronage" (Dick & Basu, 1994, p. 99), the

current research findings show that highly loyal Facebook users can benefit from Facebook media and its capabilities. Furthermore, in accordance with the current research findings, long-term, use-based perception of communication media (e.g., loyalty) is a crucial influencing factor on short-term recognition (e.g., perceived usefulness) in the context of communication-based IS artifacts. Thereby, these findings imply that strong belief in and attachment to communication media produce better perception of the usefulness of Facebook postings. This study extends MST research, joining together the concepts of loyalty and perceived usefulness.

The current study also gives rise to practical implications. First, the research findings imply that immediate responses and multiple formats of postings on companies' fan pages draw a deeper perception of usefulness of those postings. Ultimately these factors are identified as effective promoters of Facebook fan page subscribers' continuous visiting behaviors. Therefore, fan page managers should strive to implement immediate communication with their subscribers. For example, Facebook features are available that link to instant messaging (IM) services to support synchronous communication. The use of an IM service would be one way to respond in a timely manner. In terms of using multiple formats for postings, the use of a third-party service would be another tactic to supplement Facebook's information delivery features. For example, using other social networking services specializing in photo uploads such as Instagram (instagram.com) or Pinterest (pinterest.com) is an option for linking to a company's fan page to deliver vivid information. Embedding video clips from YouTube (youtube.com) would be a way to draw YouTube users' attention simultaneously. Overall, research findings suggest that the

use of diverse marketing strategies would immensely help Facebook fan page managers attract more potential customers.

Second, the research findings revealed the relationship link: Facebook loyalty – perceived usefulness – continuous visiting behaviors on company fan pages. Research findings suggest that Facebook loyalty eventually leads to visiting behaviors mediated by perceived usefulness, which emphasizes the importance of loyalty on Facebook. Generally, loyalty is developed by a series of beneficial transactions in a long-term, trust-based relationship. The page manager's efforts to lessen product or service uncertainty and potential risk by presenting more information consistently over time will create more loyal behavioral responses. Such responses convert motivating factors into loyalty via information delivery media (e.g., Facebook) and its users (e.g., fan page managers). Therefore, fan page managers need to furnish information under sound marketing and sales strategies to promote Facebook loyalty.

Last, active Facebook engagement supported by loyalty with a company's fans can potentially create important secondary marketing outcomes by exposing friends of fans to branding efforts. The word-of-mouth effect will be considerable as well, insofar as Facebook fan page subscribers are readers of follow-up postings. This notion is supported by the statement that "the influence of friends is highly prevalent on SNSs. Respondents react and listen to their friends' comments, which in turn affects their attitudes" (Diffley, Kearns, Bennett, & Kawalek, 2011, p. 61). Accordingly, this results in companies being able to reach potential customers without additional tangible or intangible company expenditure (Lipsman, Mudd, Rich, & Bruich, 2012). In relation to the impact exposure has on friends of fans, a prior empirical study identified that sharing of positive posts

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significantly affected the number of "likes" (de Vries et al., 2012), which is potentially linked to visiting behaviors as well.

Research Limitations

As with all studies, the current research has some limitations. First, the current study has not identified companies' fan pages by what types of products are sold or services rendered. However, the research design does not require the nature of companies' fan pages, where the products or services are posted, and does not clarify which types of products or services are featured. Second, the current research considered the communication between companies' fan page managers and individual fan page subscribers only. Last, the current study did not examine the characteristics of companies' fan page subscribers in detail.

Suggested Future Research Directions

First, it is suggested that future research design subdivide fan pages into groups of goods or services and their followers. From a marketing and sales perspective, there are three types of goods: 1) search goods (e.g., a book, which requires less physical examination before purchase), 2) experience goods (e.g., clothes, the purchase of which is highly determined by prior experience of purchase), and 3) credence goods (e.g., automobile repair, which is not easily determined regardless of prior or post experience because of the high relative cost) (Darby & Karni, 1973). It is reasonable that individuals' perception of posting usefulness differs from each other based on their prior experience or current needs (e.g., apparel versus books). Therefore, a future study can settle these

issues by either focusing on specific companies or by categorizing individual Facebook users' product preferences and then checking their followed pages.

Second, there may be positive and negative feedback or comments (e.g., bad experience) commingling in the same company's postings on fan pages. Such form of negative feedback is called 'penalty costs' (Connelly, Certo, Ireland, & Reutzel, 2011). The penalty costs are important in that they potentially damage relationships by causing immediate termination or non-renewal. Future research design is worth to consider penalty costs by followers or other page visitors when examining a page subscribers' continuous visiting behaviors. Therefore, this study suggests that more thorough consideration of such penalty cost impacts on both loyalty and behaviors would be appropriate in future studies.

Last, the current study did not consider the characteristics of companies' fan page subscribers in detail. For example, each age group may be interested in different companies or industries. College-age groups are more likely interested in physical activities (e.g., skiing or surfing) and related industries than older age groups. Also, each gender group might have different preferences toward the same industry. For example, female Facebook users may tend to have more interest in the cosmetic industry than male Facebook users do. Following companies' fan pages on Facebook significantly relies on an individual's preferences as anchored in their demographic backgrounds. Therefore, it is suggested that future research consider a more categorized and segmented research design when collecting data from Facebook users and their preferred companies' fan pages.

Chapter Summary and Concluding Remarks

The purpose of this study is to examine the salient determinants affecting individual Facebook users' continuous visiting behaviors toward the corporate Facebook fan pages to which they subscribe. With an MST underpinning, the current study examines Facebook fan pages as a communication conduit between page followers and companies. Facebook's capabilities of message transmission are regarded as key aspects affecting the perception of the usefulness of company postings. Thereby, the assumption of perceived usefulness of postings on fan pages is proposed as a factor influencing fan page subscribers' continuous visiting behaviors. One of important assumptions is the application of loyalty on Facebook, in that the current study postulated that Facebook loyalty itself significantly mediates the relationship between the capabilities of Facebook and the perception of usefulness. The target respondents of the current study were public Facebook users, whose personal backgrounds varied.

Empirical findings of the current research revealed that transmission capabilities play a significant role in the creation of a better perception of usefulness of postings on companies' Facebook fan pages. In other words, immediate responses from a company's fan page managers and multiple types of contents help improve page followers' perception of the usefulness of postings. This better perceived usefulness eventually influences Facebook users' continuous visiting behaviors on the Facebook pages. Simultaneously, Facebook loyalty partially and significantly mediated the relationship between transmission capabilities of Facebook and perceived usefulness. Additionally, research findings provide insights that overall Facebook loyalty influences specific

features of Facebook (i.e., company fan page in the current study) and its perception of usage as well.

The current theoretical research design provides a practical lens through which fan page managers can see the importance of transmission capabilities in enhancing the level of perceived usefulness on fan pages. Faster responses and the use of multiple content formats posted on fan pages improve perception of the usefulness of postings. This means that time spent on managing content and subscribers may create frequent visits to fan pages. Long-term Facebook users with a high degree of loyalty will be a crucial group in a company's marketing strategies.

Overall, the current research contributes to the theoretical and practical aspects of company fan page implementation for marketing campaigns as well as from a customer relationship perspective. Also, implications for both practical and theoretical sides extend the IS research in the context of communication-based IS artifacts.

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CHAPTER 4 : IDENTIFYING THE ROLE OF INFLUENTIAL PROCESSES ON FACEBOOK FAN PAGE VISITING BEHAVIORS

Introduction

A survey, to which 3,025 company marketers responded, indicated that over 86% of them consider social media as being an important tool for their business (Stelzner, 2013). More than 97 percent of the total respondents expressed that they consider themselves to be current participants in social media for business use. Over 23 percent of the total marketers answered that their company has over three years of experience in using social media. Most importantly, those marketers (over half of them) agreed that sales improved after using social media. Furthermore, those who spent at least six hours or more per week on social media experienced a significant reduction in marketing costs. Increased exposure (89 percent of marketers who responded) and network traffic (75 percent of respondents) were other notable effects of using social media described by the survey respondents (Stelzner, 2013). Along with company marketers' use of social media for their marketing purposes, current social media outlets offer a variety ways to facilitate business communication between those companies and individual users. That is, social media marketing directed at social media users tends to involve shifts in aims from the simple delivery of messages to pursuing customer's understanding via company's generated content (Chi, 2011; Chu, 2011). Such marketing efforts are not limited to

launching reward programs or improving public relations, as customers (fans of brand pages) become co-creators or multipliers of a company's marketing messages (Jahn & Kunz, 2012).

Among different kinds of social media outlets, the use of brand pages has become one of the most popular marketing campaigns for companies. Such brand fan-pages play a significant role in achieving good electronic word-of-mouth effect and viral advertising campaigns by sharing a company's ads, user comments, or even personal impressions with friends of fans. Among individual social media users, more than 50 percent were fans of a company or organizational brand as of 2011 (de Vries et al., 2012).

Regarding the use on the part of companies of brand pages in social media and fan page subscribers, prior literature attempts to identify factors affecting fan page subscriber's various behaviors or characteristics. For example, Dholakia and Durham (2010) conducted an experiment with Dessert Gallery (DG), a bakery and café chain, to examine customer behaviors. Their experiment demonstrated that DG's brand fans visited the café more than non-fans did. They spent more money, passed along more information through word-of-mouth, and had more favorable opinions of the company. For another example, Lin and Lu (2011) revealed that social capital dimensions (social interaction ties, trust, and shared values) play an important role in impacting Facebook users' continued intentions to use Facebook fan pages. In terms of popularity of brand posts, vividness of the posts (e.g., animation and pictures), brand position (e.g., position of banner ads), and the number of positive comments were found to be significant. Such factors increased the number of likes on postings on social networking sites (de Vries et al., 2012). Their research findings also revealed that the positioning of brand posts and

the sharing of positive/negative comments are influential factors affecting the number of comments on the posts.

In spite of researchers' efforts to identify a variety of aspects of fan page use and subscribers' characteristics, it is still arguable what factors influence brand page fans' methods of information processing and what information processes they rely on, thereby prompting them to visit brand pages. In actuality, discovering these factors and answering questions has been a challenge in the development of marketing strategies. Especially, Facebook users do not pay much attention to banners or sponsored advertising pages (de Vries et al., 2012). Based on prior literature pertaining to the study of information processing, one particular theoretical perspective is useful, called the elaboration likelihood model (ELM). The ELM involves influential mechanisms consisting of two information processing routes—central and peripheral routes—by considering an information recipient's relevance through consideration of target behaviors. The primary merit of ELM has been acknowledged as its power to expound upon which influencing processes are more impactful than others (Petty & Cacioppo, 1986).

Resting on ELM's theoretical underpinning, the current study claims that few studies have focused on influential processes of information evaluation in terms of a company's postings on its fan pages when page subscribers read the postings. The current research chooses Facebook and its fan pages as a representative of social media for two reasons: 1) of the many social media outlets available in the online marketing environment, Facebook is one of the most popular social networking sites (SNS) and 2) it is clearly a top choice for company marketers, with the survey revealing that many plan

to increase "Facebooking" activities (Stelzner, 2013). Accordingly, the current study

raises the following research questions:

RQ1: What influential processes affect a Facebook user's intention to visit a

company's fan page in Facebook?

RQ2: Does trust have an effect on forming that intention?

RQ3: Which influential processes shape the development of trust on the part of

more Facebook users?

In order to achieve such research goals, the present study employs two theoretical

backgrounds: 1) the elaboration likelihood model (ELM) to examine human cognitive

processing of information and 2) two types of trust—cognitive and emotional trust—as

antecedents affecting the intention to visit fan pages. First, the ELM claims that an

individual's attitudinal and behavioral changes rely on external information as a key

driver. It assumes that social judgment occurs as a cognitive effortful process, a non-

effortful process, or a combination of the two. The model thus offers insight into which

process is relied upon more when information is received from message senders. Second,

the current study considered two types of trust (emotional and cognitive) as antecedents

of behavioral intention. Prior information systems (IS) studies have mainly argued that

cognitive and emotional trust is a significant antecedent of IS adoption and usage

intention (e.g. Gefen, 1997; Komiak & Benbasat, 2004).

The next section of this paper reviews the theoretical background and is followed

by a presentation of the research framework and hypotheses. Thereafter, the research

methods and results of the data analysis are described, after which the implications and limitations are discussed.

Literature Review and Theoretical Background

In psychology, dual process theory has been described as the theoretical backbone that shapes an individual's attitudes and perceptions (Walther, 1992). Dual process theory currently includes two theoretical models: the heuristic systematic model (HSM) (Lai & Chang, 2011) and the elaboration likelihood model (ELM) (Dufrene, Engelland, Lehman, & Pearson, 2005). While both theoretical models are anchored in the process of shaping an individual's attitudes through information gathering, approaches of these models to attitudinal change vary. HSM focuses on the degree of involvement that drives an individual to lean toward heuristic information processing (high and low involvement leading to heuristic and systematic processes, respectively) (Angst & Agarwal, 2009; Lim & Benbasat, 2000). ELM centers on influential processes embedded in messages that impact two types of cognitive information evaluation: central and peripheral routes (see Figure 4.1). Central routes are used by information recipients who scrutinize data critically and thoroughly. On the other hand, peripheral routes are used by those who process information, relying on external reputation, professional endorsements or third party opinions.

Elaboration Likelihood Model (ELM)

The current study select ELM as a theoretical background to determine which influential processes are best in explaining Facebook users' behavioral intentions when evaluating company's fan page postings regarding products or services. To achieve the

research purpose under the ELM perspective, the current research model employs the concept of argument quality and source credibility in the context of company's fan page use and individual Facebook user (Bhattacherjee & Sanford, 2006).
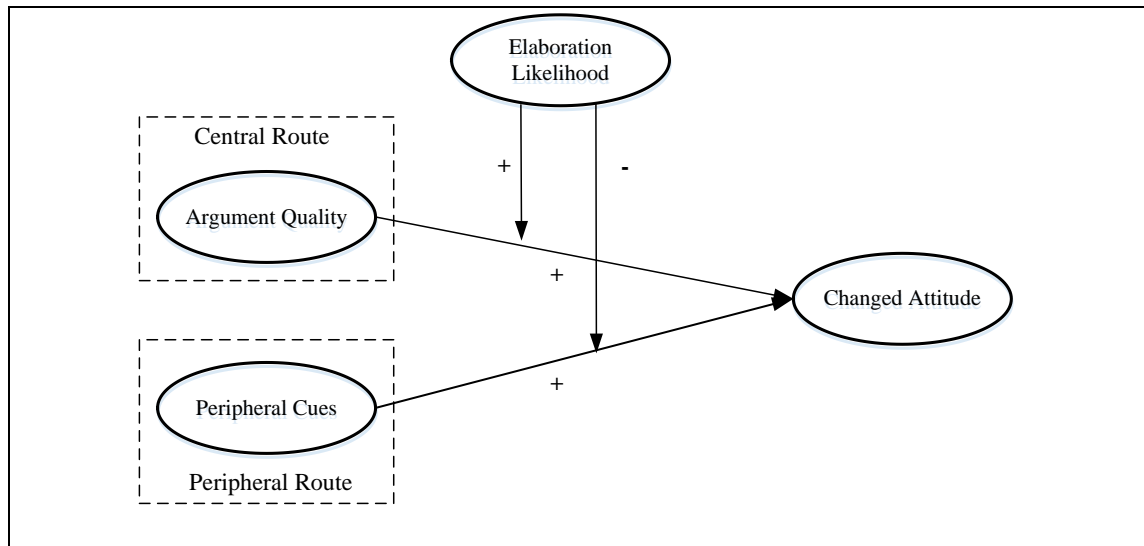
Figure 4.1 Elaboration likelihood model (ELM)

Central routes. ELM consists of two distinct cognitive evaluation processes and one moderating factor: central route, peripheral route, and elaboration likelihood. First, central routes in ELM are involved in enhanced cognitive effort and considerable thinking about message arguments (Bhattacherjee & Sanford, 2006). In the running of central routes, information recipients devote their much energy and time to processing and evaluating gathered information, which results in attitude changes. Such changes are deemed robust and long-term (not temporal) (Dufrene et al., 2005). For representing central routes, argument quality is frequently referred to "the persuasive strength of arguments embedded in an informational message" (Bhattacherjee & Sanford, 2006, p. 811). As a proxy of argument quality in ELM, the current study adapts posting quality as a core dimension of central routes.

In the context of a company's Facebook fan pages and subscribers (Facebook users), postings on fan pages play an important role in portraying impressions or delivering features of new products or services. From ELM's central routes perspective, information recipients (the page subscribers in the current research context) require significant attention to process information if there are competitive alternatives or if the information consists of complicated contents. High posting quality demands more critical thinking and a scrutinizing of any relevant merits embedded in messages. Thereby, according to the role of central routes, posting quality as an influential process causes attitude changes under supporting ELM perspective.

Peripheral routes. As an alternative core information processing route in ELM, peripheral routes rely on third party reputation, an affinity toward certain information providers, or professional opinions to shape attitudinal changes. Generally, recipients who process information via peripheral routes use less cognitive effort along with less critical thinking, and have reduced elaboration of information. Therefore, peripheral routes are frequently present in temporal and short-term decision making. For instance, in choosing goods or services, many consumers will choose well-known brands or companies because doing so does not require as much cognitive or psychological effort. ELM suggests peripheral cues such as source credibility, number of messages, and source likeability as a representative of peripheral routes. Among suggested cues, source credibility is the most frequently cited, and is defined as "the extent to which an information source is perceived to be believable, competent, and trustworthy by information recipients" (Bhattacherjee & Sanford, 2006, p. 811). Along with the concept of source credibility, the current study proposes the concept of poster credibility as a core

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dimension for peripheral routes. It deems poster credibility to be a proxy for source credibility, in that Facebook users tend to be attracted by company postings if the company is renowned throughout the market or other professional (or third party) opinions. Consequently, such credibility results in less cognitive effort attempted when Facebook users read postings and make behavioral decisions.

Based on the arguments about posting quality and poster credibility, the current study attempts to examine which influential process is more relied on by Facebook fan page subscribers, which eventually impacts their trust in company postings. Although other ELM research examines the influential processes impacting behavioral change directly, the current study adds the concept of trust as a mediating factor between influential processes and an individual's behavioral attitude.

Elaboration likelihood. According to the ELM concept, information processing yields different consequences depending on the recipient's ability and motivation to respond to the argument's cues (Bhattacherjee & Sanford, 2006). Prior literature captured these two factors – ability and motivation – in the term *elaboration likelihood*. Cacioppo and Petty (2006) defined elaboration likelihood as "the likelihood one engages in issue-relevant thinking with the aim of determining the merits of the arguments for a position rather than the total amount of thinking per se in which a person engages" (p. 674). The construct of elaboration likelihood, accordingly, plays an important role in constraining or reinforcing the impacts of attitudinal change from the central or peripheral routes. Elaboration likelihood is "not a personality trait or an individual difference, but rather a temporal state that may fluctuate with situational contexts and time, even for the same individual" (Bhattacherjee & Sanford, 2006, p. 809). A high elaboration state promotes

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engagement in the thoughtful process of argument. It leads to a more persuasive versus peripheral process in terms of motivation and ability to consider deliberately than by, for example, personal relevance or prior experience (Bhattacherjee & Sanford, 2006). In contrast, low elaboration states de-motivate thoughtful consideration, which results in relying more on the peripheral route. In terms of personal relevance expertise, relevant messages relating to target behaviors require a higher level of cognitive efforts, therefore, information recipients scrutinize information more thoroughly.

Satisfaction

The current study adopts satisfaction with Facebook usage as a proxy of elaboration likelihood which affects viewers' involvement in influential processes. Oliver (1981) defined satisfaction as "the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer's prior feelings about the consumption experience" (p. 29). Therefore, in the context of company's fan page and an individual Facebook user, the user's level of satisfaction represents the temporal emotional state that eventually influences his/her attitude and its changes (e.g., intention to visit the fan page). Furthermore, each Facebook users' level of satisfaction may vary depending on their prior experience in communicating with Facebook friends and their Facebook use skills. Therefore, the ability and motivation in terms of the degree of satisfaction associated with information processing from company's fan pages lean toward either central or peripheral routes. In the current research model, satisfaction with Facebook usage is employed as a moderating factor between posting quality (or poster quality) and cognitive trust, as the construct of elaboration likelihood does in ELM.

Cognitive and Emotional Trust

Prior literature regards trust as a key construct in explaining the relationship development and an evolvement of risk reduction from reciprocal relationships (Luo, 2002; Wu, Chen, & Chung, 2010). From information systems (IS) perspective, the concept of trust has been used to explain the adoption of information technology (IT) and reciprocal electronic communication activities among communication parties (e.g., Gefen, 2003; Liao, 2008). However, while the concept of trust represents an individual's faith in cooperative interaction, many researchers have acknowledged the complexity of the nature of trust (Komiak & Benbasat, 2006). Prior trust studies categorize the concept of trust in several ways. For example, McKnight et al. (2002) categorize trust into three types under the Theory of Reasoned Action (TRA): *trusting belief*, *trusting intention*, and *disposition to trust*. Zucker's (1986) study categorizes trust as *characteristics-based trust*, *process-based trust*, and *institution based-trust*. The key dimensions of trust development are also suggested in multiple ways. McKnight, Cummings, and Chervany (1998) suggest the following key dimensions of trust development: personal traits, personal interaction, structural assurance, initial impressions, and situational normality. Similarly, McKnight and Chervany (2001) assert that predictability, benevolence, ability, and integrity are key factors in forming trust. However, such categorizations are generally anchored in an individual's rational and cognitive-based evaluation of objects or target persons/organizations. To cover this constraint, Komiak and Benbasat (2004) propose a new trust model that consists of two dimensions of trust: emotional and cognitive, where cognitive trust mainly affects emotional trust.

Cognitive trust. Komiak and Benbasat (2004) define cognitive trust as "a customer's rational expectation that a trustee will have the necessary competence, benevolence, and integrity to be relied upon" (p. 187). Their concept of cognitive trust is different from the concept of trusting belief, because trusting belief combines cognitive (rational reasoning) and emotional dimensions (feeling) (Komiak & Benbasat, 2004). Rather, cognitive trust is the combination of trusting belief and trusting intentions, simultaneously focusing on the trustee's characteristics and the user's willingness to rely on the trustee. Cognitive trust also relies on the user's rational choice, which stems from being logically aware of advantages. Thus, it is essential for users to believe that good reasons exist in which to trust (Komiak & Benbasat, 2004).

Emotional trust. Emotional trust is defined as "the extent to which one feels secure and comfortable about relying on the trustee" (Komiak & Benbasat, 2006, p. 943). Although much of prior literature considers cognitive trust to be the primary definition, cognitive trust itself lacks the ability to account for an individual's rationale when deciding whether or not to trust. Therefore, emotional trust arises as a supplemental concept to cognitive trust. The meaning of "emotion" in emotional trust points to the user's "feeling toward the behavior of relying on the trustee" (Komiak & Benbasat, 2006, p. 944). Emotional trust is derived from the concept of "faith," which refers to "emotional security on the part of [viewer]s, which enables them to go beyond the available evidence and feel, with assurance, that their partners will be responsive to interpersonal trust in close relationships" (Komiak & Benbasat, 2004, p. 190). Because emotional trust excludes the concept of "insecure" and includes interpersonal relationships, emotional

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trust cannot be always rational. Instead, it depends on the individual's evaluation of emotional reaction, or gut feeling/faith (Komiak & Benbasat, 2004).

Following Komiak and Benbasat's (2004, 2006) model of trust, the current study adopts both emotional and cognitive concepts of trust. First, the company fan pages to which Facebook users subscribe tend to be either well-known companies or not yet familiar enough, which the degree of familiarity is a key to consider emotional trust aspect. Second, Facebook users may be aware of company credibility based on objective market reputation or industry standard at the time of subscription (cognitive trust aspect). The current study claims that a split of trust considerations will enable a more comprehensive approach to the Facebook users' trust dimension when companies post information regarding products or services via their fan pages.

Research Model and Hypotheses

Based on the theoretical perspective of ELM and the concepts of emotional and cognitive trust, this study presents the following research model (see Figure 4.2).

Role of ELM's Central and Peripheral Routes in Trust

Posting quality. ELM posits that central routes give rise to attitude changes through an individual's critical thinking and elaboration of given information. For example, argument quality plays an important role in changing attitude because it is defined as "the persuasive strength of arguments embedded in an informational message" (Bhattacherjee & Sanford, 2006, p. 811). Along with prior ELM studies and the role of central routes, the current research posits that company's posting quality acts as the role

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of argument quality to influence attitudinal changes. Company postings on fan pages tend to embed strong convincing informative messages because they aim to attract potential customers and to generate profit. Accordingly, high posting quality requires Facebook user's a great deal of cognitive effort and elaboration when processing information embedded in postings. Therefore, persuasive informative postings involves an individual Facebook user's rational judgment rather than simple emotional affect, leading to the development of strong belief in companies as information posters.
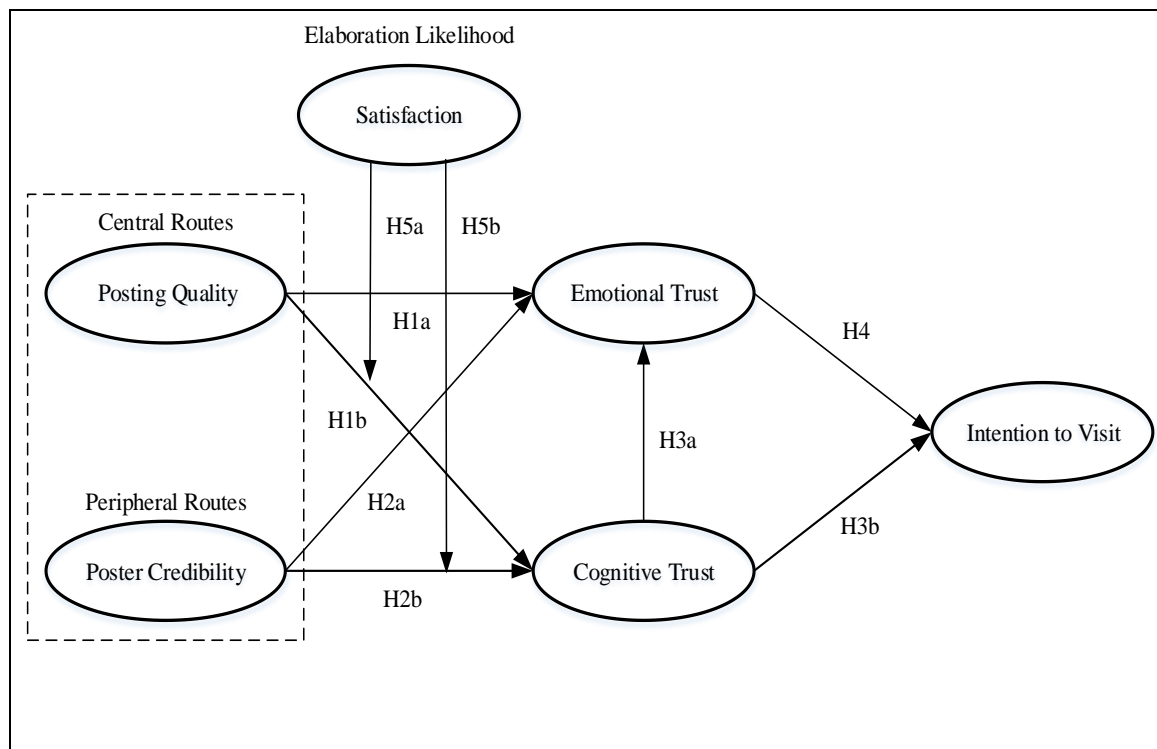

Figure 4.2 Research model and hypotheses

Based on the nature of central routes in ELM and the suggested concept of posting quality, the current study assumes a significant positive association between posting quality and two concepts of trust. Prior literature argues that trust-related cognitive signals (such as security, privacy and service quality) have been central cues to

impact trust formation (Martín, Camarero, & José, 2011). For example, in online shopping, service quality depends on a company's variety of good products, sufficient post-sale service, or detailed product information in an online transaction marketplace. Such high service quality was found to be a building block of consumer trust over time (e.g. Harris & Goode, 2004). On Facebook, vivid delineation of products or services on fan pages tend to deliver "relevancy, sufficiency, accuracy and currency" of product features to users (Zhou, 2012, p. 1519). Thereby, posting readers require a thorough evaluation of posted information, which this activity of 'central routing' focuses Facebook users' trust on postings and eventually affects their behavioral intention. Prior studies support this argument in that the nature of online information quality plays an important role in the initial formation of trust (Yang, Hung, Sung, & Farn, 2006; Zhou, 2012).

Given the definition of central route in ELM, more persuasive strength of argument through perceived information quality is able to deliver a higher degree of "awareness of known." "Awareness of known" is described as a viewer's recognition to some degree of the trustee (Komiak & Benbasat, 2004). Prior literature suggests this "awareness of known" has an influence on emotional trust, and draws better emotional feelings or faith (Komiak & Benbasat, 2004, p. 188). Therefore, in the context of Facebook usage by both company's fan pages and individual Facebook users, this study posits:

H1: An individual Facebook user's perceived posting quality from company fan pages will be positively associated with emotional (H1a) and cognitive (H1b) trust in company's postings.

Poster credibility. ELM also assumes that attitudinal changes from the peripheral routes of information processing demand less cognitive effort and comprehensive evaluation than a central route. During information processing via the peripheral route, information recipients' objects of familiarity can also be regarded as a cue because prior interactions and experiences evoke negative or positive familiarity with the targets.

In reference to the relationship between peripheral route in ELM and two concepts of trust, the current study assumes poster credibility positively associated with cognitive trust on company postings. Prior studies support credibility as a connection between peripheral route and cognitive trust in that there was a significant relationship between structural assurance of usage intention and trust formation in the context of mobile banking (Zhou, 2012). Zhou's research claims that structural assurances refer to a form of enhanced trust (such as guarantees, feedback forums, contracts, or agreements) that alleviates asymmetrical information between the parties, supporting favorable association credibility with trust formation. With similar reasoning, the current research postulates that the information released on fan pages signals formation of Facebook users' cognitive trust and high poster credibility reduces any perceived risks associated with future transactions.

The current study also posits that there is a positive association between poster credibility and emotional trust. Less cognitive effort of information processing relies on simple cues to determine target behaviors. Thereby, prior experience, reputation or opinions from the third parties, or affinity or feeling of prior satisfaction provide higher importance to users (Bhattacherjee & Sanford, 2006; Chen, Chien, Wu, & Tsai, 2010). Such a favorable emotional state stems from positive outcomes between users' prior

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expectations and post-performance during transactions, which eventually impact users'
emotional trust.

Along with the prior literature and theoretical arguments, this study assumes a
positive association between a company's credibility via Facebook fan pages and
Facebook user's cognitive and emotional trust in company postings. Therefore, this study
posits:

H2: Poster credibility will be positively associated with an individual Facebook
user's emotional (H2a) and cognitive (H2b) trust in company fan page postings.

Role of Cognitive Trust in Emotional Trust and Intention to Visit

Komiak and Benbasat (2006) reveal that cognitive trust significantly increases the
level of emotional trust in the context of recommendation-agent adoption. They claim
that similar path-fitting of belief-attitude-intention flows from the theory of reasoned
action (TRA). Any person's attitude toward behavior is anchored in "the affective
evaluation of the total effects of his or her beliefs that performing the behavior will lead
to certain consequences and subsequent evaluation of those consequences" (Komiak &
Benbasat, 2006, p. 946). Given the argument of prior literature, an individual's high level
of cognitive trust in company postings reflects individual's belief of the posting's truthful
dissemination of required and objective information. Consequently, such an individual
will retain strong beliefs in and affection toward the company's postings, and thereby will
feel secure about further relying on such posting.

With regard to cognitive trust impacting an individual's behavior, trusting belief is a key antecedent of alleviating perceived uncertainty and potential risk (Weisberg, Te'eni, & Arman, 2011). Prior literature claims that behavioral belief (i.e. trusting belief or cognitive trust) relates positively to attitudinal behavior, eventually deriving transactional intention (Chiu, Huang, & Yen, 2010). In the context of online-transactions, trusting belief heightens the level of user intention by lessening social complexity and eliminating sellers' opportunistic behaviors before initiating transactions (Gefen, 2003). Based on theoretical arguments above, therefore, this study posits:

H3: An individual Facebook user's cognitive trust in company postings will be positively associated with his/her emotional trust in company's posting (H3a) and intention to visit that company's fan page (H3b).

Role of Emotional Trust in Intention to Visit

From a social psychological perspective, attitudes toward behavior (e.g., emotional trust as a positive attitude) have a significant impact on behavioral intention (e.g., Ajzen & Fishbein, 1973). In other words, a person's emotions influence his/her cognitive perceptions as well as affective states. For example, in prior empirical studies, Huang and Farn (2009) reveal that emotional trust has a significant impact on the intention to adopt information in virtual communities. In the context of a personalized recommendation agent system, emotional trust in the system positively predicts individuals' intentions to adopt the system as a decision aid and delegated agent (Komiak & Benbasat, 2004). This study posits that an individual Facebook user's emotional trust in company postings will form follow-up behavioral intentions.

H4: An individual's emotional trust in company postings will be positively

associated with his or her intention to visit that company's fan page.

Moderating Effects of Satisfaction (Elaboration Likelihood) in Cognitive Trust

ELM describes the construct of elaboration likelihood that impacts information

recipient's reliance on information processes, which then influences attitudinal changes.

Elaboration likelihood delineates its role in information processing through two

dimensions: motivation and ability to elaborate. Both the individual's motivation and

ability to elaborate are regarded as key antecedents that are deeply involved in the extent

of leaning toward either processing routes. For instance, information recipients tend to

put more effort into scrutinizing information when they are closely related to target

behaviors or are subject experts. In such case, those who are highly motivated or have

much ability to elaborate given information activate central routes processing rather than

peripheral routes. However, non-experts will be more likely to utilize cue-based

information processes or rely on the credibility of information providers.

The current study employs individual satisfaction with Facebook usage as a proxy

of personal relevance and a construct of elaboration likelihood. A high level of

satisfaction with Facebook use means that an individual's communication performance

has been improved, thereby a high confirmation of the satisfaction state (i.e., a gap

between pre-expectation and post-performance of Facebook usage) has been achieved.

High satisfaction also aligns with the positive evaluation state of Facebook usage and

fulfillment of emotional pleasure, which lead to more attachment to Facebook usage.

Therefore, the current study postulates that a high degree of satisfaction influences

information seekers' willingness to spend time in Facebook cognitively thinking about posted messages, thereby associating less risk with the information embedded in the postings. Inversely, if Facebook users perceive less satisfaction with Facebook usage and find little personal relevance in the contents of fan pages, then such individuals are more likely to spend less time considering information thoughtfully. Instead, they will rely on peripheral cues such as third party's opinion (e.g., review) or company's credibility for alleviating any associate risk about products or services on fan page. Therefore, the current study posits:

H5a: An individual Facebook user's satisfaction with Facebook usage will positively influence the relationship between posting quality and cognitive trust in company postings.

H5b: An individual Facebook user's satisfaction with Facebook usage will negatively influence the relationship between poster credibility and cognitive trust in company postings.

Research Methodology

Selection of Measurement Items

To test the hypotheses suggested earlier, the current study measures a total of six constructs, using survey questions that are modified from prior literature to fit the current research purpose (see Table 4.1 and measurement items in Appendix A). All survey items are assessed via a 7-point Likert scale ranging from "1 (strongly disagree)" to "7 (strongly agree)."

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Table 4.1. Measurement items

Constructs	References	Number of Items	CR[*]
Demographics	N/A	4	N/A
Facebook usage	N/A	6	N/A
Posting quality	Bhattacherjee and Sanford (2006)	3	0.94
Poster credibility		3	0.91
Cognitive trust	Komiak and Benbasat (2006)	3	0.84
Emotional trust		3	0.92
Intention to visit	Bhattacherjee (2001)	3	0.83
Satisfaction	Bhattacherjee (2001)	4	0.87
	Total items	29	

*Composite Reliability

Data Collection

  Procedures and research context. This study collected data using a web-based survey that supports fast responses, lower cost and better response rates over the paper-based survey tool (Kaplowitz et al., 2004). The targeted participants are general public Facebook users who currently subscribe to at least one company fan page by clicking "Like" or "Subscribe." Using a pool of participants from the contract firm Qualtrics (Qualtrics.com), the survey link was then sent to participants who are currently engaging in Facebook activities, subscribing simultaneously to at least one company's fan pages. Survey-questions are designed to reveal the users' perceptions of emotional and cognitive trust on their subscribed or liked companies' postings, postings quality, poster credibility and their intention to visit company fan pages on Facebook. Additionally, the survey includes questions that examine fan page subscribers' overall satisfaction with Facebook use.

Pilot test. The present study recruited student participants who reside in the Southeastern U.S. to test the validity and clarity of survey questions to make apparent the researchers' purpose of study. A total of 90 university students whose ages ranged from 18 to 29 were used; each had experienced subscribing to at least one company's fan page. In the pilot test, highly correlated questions were merged together or removed from the survey, and any vague meanings of questions were restated after analyzing respondents' answers.

Data Analysis

Participant description. In the main analysis, a total of 353 general public Facebook users were invited and 178 participants answered questions completely (see Table 4.2). Sixty nine respondents were male (38.8%) and 109 respondents (61.2%) were female Facebook users. Respondents' ages ranged from 19 to 69 years. The twenties age group (19 to 29) constituted 36 percent and the thirties age group (30 to 39) made up 24.7 percent of total respondents. Following age groups were forties (40 to 49), which made up 18 percent of total respondents. Fifties (50 to 59), over sixties were 17.4 percent and 3.9 percent, respectively.

Table 4.2. Demographics (Gender and Age)

Demographics		Number of Participants	Percentage
Gender	Male	69	38.8%
	Female	109	61.2%
	Total	178	100%
Age	19 – 22	19	10.7%
	23 – 29	45	25.3%
	30 – 39	44	24.7%
	40 – 49	32	18.0%
	50 – 59	31	17.4%
	60 – 69	7	3.9%
	Total	178	100.0%

Thirty four percent of respondents' household income ranged from $50,000 to $99,999 and the next household income group ranged from $30,000 to $39,999 (14.6%). Thirteen percent of respondents' income is over $100,000, and 25 percent of respondents' income is under $30,000 (24.7%) (see Table 4.3).

Table 4.3. Participant's household income

Income Range	Number of Participants	Percent
Over $150,000	6	3.4 %
$100,000 – $150,000	17	9.6 %
$75,000 – $99,000	24	13.5 %
$50,000 – $74,999	35	19.7 %
$40,000 – $49,999	17	9.6 %
$30,000 – $39,999	26	14.6 %
$20,000 – $29,999	23	12.9 %
$10,000 – $19,999	13	7.3 %
Under $10,000	8	4.5 %
Rather not to say	9	5.1 %
Total	178	100.0%

Survey respondents indicated that they currently live in suburban (50.0%), urban (32.0%) and rural (18.0%) areas, respectively (see Table 4.4).

Table 4.4. Participant's residence area

Residence Area	Number of Participants	Percent
Urban	57	32.0%
Suburban	89	50.0%
Rural	32	18.0%
Total	178	100.0%

With regard to Facebook usage and experience (see Table 4.5), more than half of respondents (50.6%) have used Facebook for more than 5 years. Thirty three percent of the total respondents have used it for between 3 and 5 years. Overall, 83.1 percent of total respondents expressed they are more than three years Facebook users. Respondents who used Facebook for less than 6 months were just 1.7 percent of total respondents at the time of survey.

Table 4.5. Period of Facebook usage

Periods	Number of Participants	Percent
More than 5 years	90	50.6%
More than 3 years but less than 5 years	59	33.1%
More than 1 year but less than 3 years	22	12.4%
More than 6 months but less than 1 year	4	2.2%
Less than 6 months	3	1.7%
Total	178	100.0%

Thirty seven percent of respondents visit Facebook on a daily basis and 47 percent of respondents use Facebook more than once a day. Ten percent of respondents indicated using Facebook a couple of times per week. Seven percent of respondents visit Facebook less than once a week (see Table 4.6).

Table 4.6. Frequency of Facebook Log-in

Frequency	Number of Participants	Percent
More than once a day	83	46.6%
Daily	66	37.1%
2 – 3 Times a Week	17	9.6%
Once a Week	7	3.9%
2 – 3 Times a Month	3	1.7%
Once a Month	2	1.1%
Total	178	100.0%

Thirty three percent of total respondents currently "Like" between 6 and 10 company fan pages and 21.3 percent of the survey respondents subscribe to between 11 and 20 pages. Twenty two percent of respondents indicated themselves as currently subscribing to between 1 and 5 pages. Twenty three percent of total respondents clicked "Like" on 20 or more company fan pages (see Table 4.7).

Table 4.7. Number of "Liked" companies

Number of "Liked" companies	Number of Participants	Percent
1 – 5	40	22.5%
6 – 10	59	33.1%
11 – 20	38	21.3%
20 and more	41	23.0%
Total	178	100.0%

Forty one percent of total respondents read company postings sometimes and 36.5 percent of total respondents read postings often when companies post new contents on their fan pages. Only 9.0 percent of total respondents rarely read company postings on their "Liked" fan pages (see Table 4.8).

Table 4.8. Frequencies of reading postings

Frequencies of reading postings	Number of Participants	Percent
Never	3	1.7%
Rarely	16	9.0%
Sometimes	72	40.4%
Often	65	36.5%
All the time	22	12.4%
Total	178	100.0%

Results

The present study adopts partial least squares (PLS) methodology to test hypotheses using the WarpPLS 3.0 software package (Kock, 2012). In case of any possibility of inherent non-linearly related among latent variables in current research, WarpPLS 3.0 has the ability to analyze those relationships, which conventional PLS tools do not. The research model of the current study is assessed in three stages: measurement model assessment, common method bias testing and structural model assessment.

Data Structures

Table 4.9 presents a summary of descriptive measurement item statistics in each construct. The mean of all measurement items ranged from 4.93 to 5.70 and standard deviation of items ranged from 1.06 to 1.27.

Table 4.9. Summary statistics of constructs

Constructs	Items	Mean	Standard Deviation
Posting Quality	PQ1	5.60	1.13
	PQ2	5.54	1.13
	PQ3	5.41	1.10
Poster Credibility	PC1	5.06	1.14
	PC2	5.10	1.14
	PC3	5.10	1.07
Cognitive Trust	CT1	5.08	1.09
	CT2	5.20	1.06
	CT3	5.10	1.00
Emotional Trust	ET1	4.93	1.20
	ET2	5.15	1.14
	ET3	5.11	1.16
Satisfaction	SAT1	5.70	1.21
	SAT2	5.61	1.16
	SAT3	5.51	1.17
	SAT4	5.40	1.12
Intention	INT1	5.15	1.25
	INT2	5.03	1.27
	INT3	5.24	1.20

Because survey data of behavioral research tends to show linear relationships between measured constructs, the current study plots data points based on a research model and hypothesized construct relationships.

The data plots of posting quality with cognitive trust depicts a closely linear relationship with each other. Data points of posting quality place mainly above -2.22 standard deviation from the mean of cognitive trust, while the points are widely spread above -1.14 standard deviation from the mean of posting quality. The relationship between emotional trust and posting quality is shown as slightly curved S-shape but with almost linear tendency. Similar with data points from posting quality and cognitive trust, most data of posting quality is plotted above -1.53 standard deviation from the mean of emotional trust and -1.14 standard deviation from the mean of posting quality (see Figure 4.3).
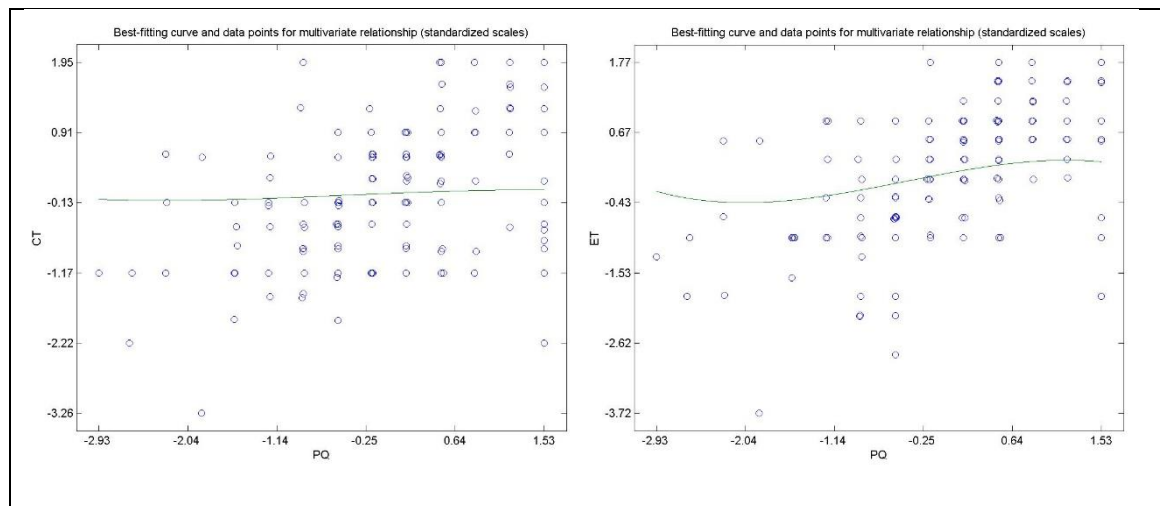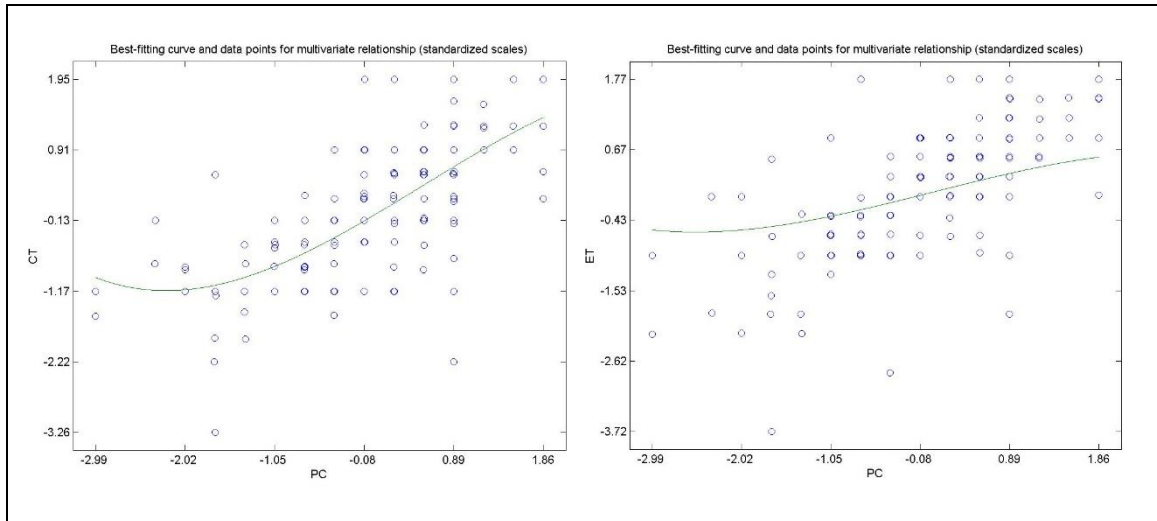

Note: PQ – Posting quality, CT – Cognitive trust, ET – Emotional trust
Figure 4.3. Latent variable relationships

The data plotting of poster credibility/cognitive trust and poster credibility/ emotional takes on different shapes. The data plots of CT – PC depicts linear tendency

between -2.90 and -1.05 standard deviation from the mean of poster credibility. However,

its appearance switches to an incremental trend, in which the relationship between two

constructs linearly plotted each other. The data plots of PC – ET appear almost linear

with each data plotting patterns similar to PC – CT plotting (see Figure 4.4).

Note: PC – Poster credibility, CT – Cognitive trust, ET – Emotional trust
Figure 4.4. Latent variable relationships

Regarding data plotting of CT – ET and CT – INT, CT – ET plotting shows a

slightly inversed U-shaped curve and CT – INT plotting is linearly depicted. Data points

of both pairs exhibit above -1.17 standard deviation from the mean of cognitive trust and

above approximately -1.5 standard deviation from the mean of ET– CT (see Figure 4.5).
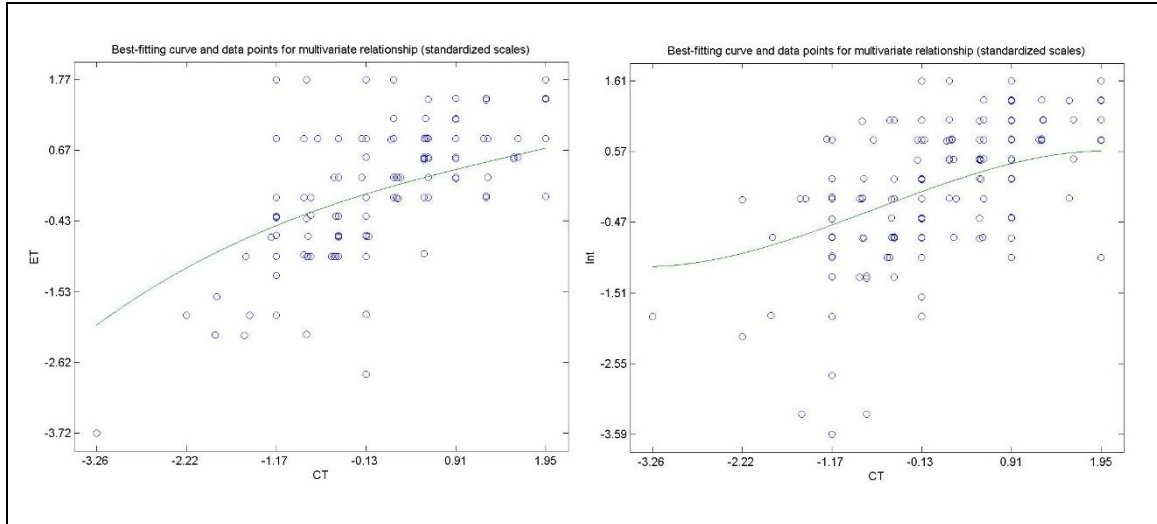
Note: CT – Cognitive trust, ET – Emotional trust, INT - Intention

Figure 4.5. Latent variable relationships

The relationship between ET and INT involves data points with trends showing a linear fashion to each other. Those points, for the most part, are plotted above -1.51 standard deviation from the mean of intention and above approximately -1.0 standard deviation from the mean of emotional trust. A few deviated data points are identified, which depict those who have little intention to visit company's fan page but still retain a neutral or agreeable state of emotional trust in company's postings (see Figure 4.6).
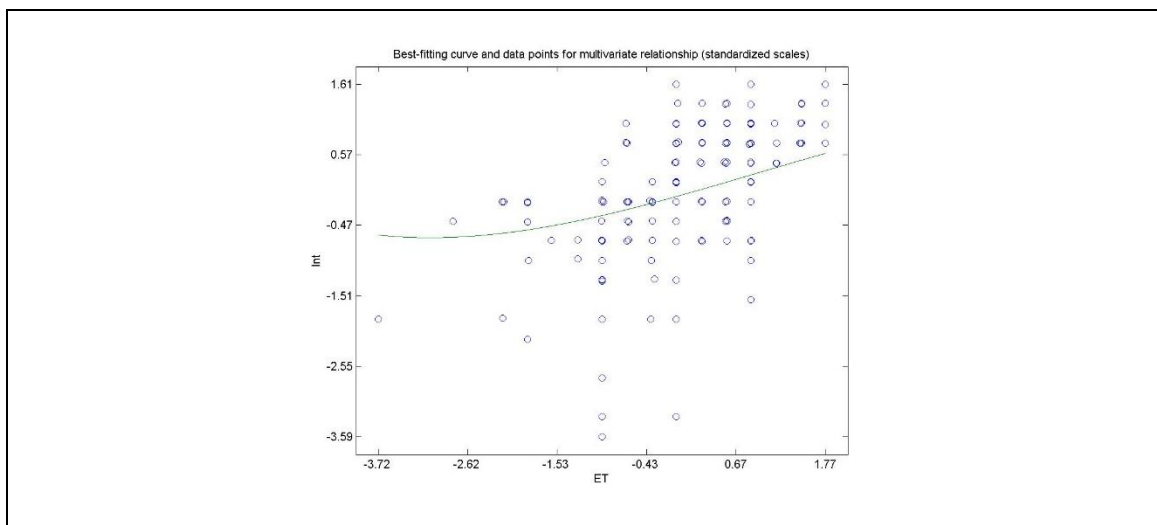
Note: ET – Emotional trust, INT - Intention

Figure 4.6. Latent variable relationships

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Regarding moderating effects, the impact of Facebook satisfaction shows a peak between -0.13 and 1.95 standard deviation from the mean of cognitive trust and between 0.89 and 1.86 standard deviation from the mean of poster credibility. However, the moderating impact between cognitive trust and posting quality shows a little wider than between cognitive trust and poster credibility. The moderating impact on between CT and PQ depicts its peak point similarly with CT – PC. However, some peak poles shows around between -0.25 and 1.53 standard deviation from the mean of PQ and between -1.17 and 1.95 standard deviation from the mean of cognitive trust (see Figure 4.7).
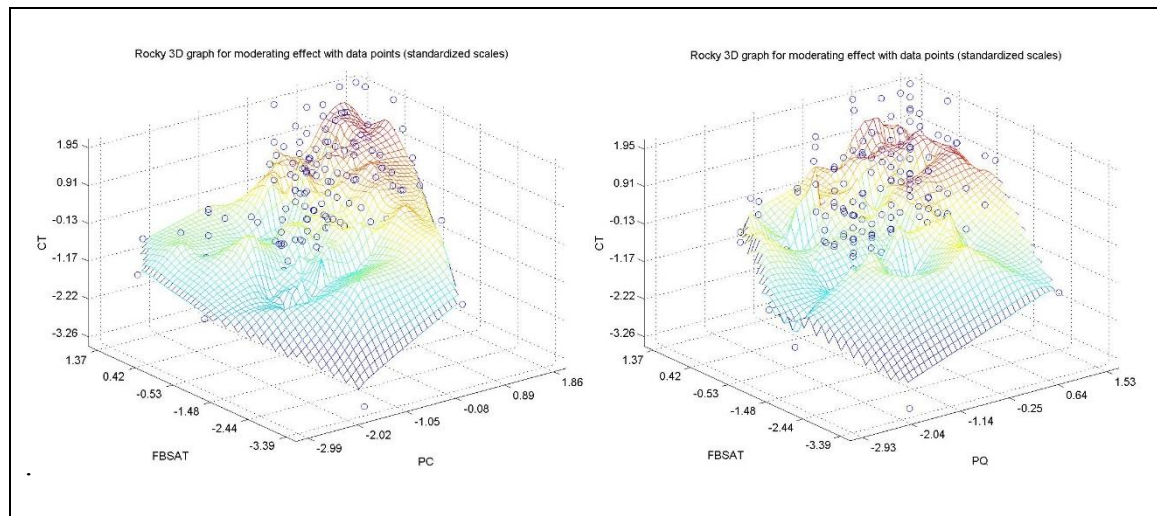
Note: CT – Cognitive trust, PC – Poster credibility, PQ – Posting quality, FBSAT – Facebook satisfaction

Figure 4.7. Latent variable relationships

Measurement Model Assessment

The measurement model is assessed in two ways: convergent validity and discriminant validity.

Convergent validity. The current study examines convergent validity in four ways: 1) composite reliability, 2) coefficient alpha (Cronbach's alpha), 3) average percentage of variance extracted (AVE) and 4) the level of standardized rotated pattern loadings.

Composite reliability should exceed 0.7 to support convergent validity (Bagozzi & Yi, 1988). The current data analysis reveals that the composite reliability of each construct ranges from 0.90 to 0.96, indicating a good convergent validity. Cronbach's alpha also range from 0.83 to 0.93, values which are higher than the minimum required value of 0.6 (Hair et al., 2006). The acceptable range of the average variance extracted (AVE) is suggested to be 0.5 and above; each construct scored between 0.75 and 0.89. Table 4.10 lists all values of composite reliability, Cronbach's alpha and AVEs.

Table 4.10. Convergent validity

Constructs	Composite Reliability	Cronbach's Alpha	AVE
Posting Quality	0.90	0.83	0.75
Poster Credibility	0.95	0.91	0.85
Emotional Trust	0.96	0.93	0.89
Cognitive Trust	0.94	0.90	0.84
Intention to Visit	0.95	0.92	0.86
Satisfaction	0.95	0.92	0.81

Last, all data was obliquely rotated by WarpPLS 3.0 (rotated pattern loadings are depicted in Table 4.11). Each factor loading supposes 0.6 (Chin, 1998) or the higher suggested 0.7 (Barclay, Higgins, & Thompson, 1995). One pattern loading is higher than

1.0 because of the nature of rotated pattern loadings, which does not affect data

interpretation (Kock & Lynn, 2012; Rencher, 1998).

Table 4.11. Pattern loadings and cross-loadings

	PQ	PC	ET	CT	INT	SAT
PQ1	**0.85**	-0.24	0.08	0.01	0.18	0.01
PQ2	**0.78**	0.19	0.06	-0.04	-0.13	0.04
PQ3	**0.97**	0.04	-0.14	0.03	-0.05	-0.05
PC1	0.01	**1.00**	0.03	-0.10	-0.02	-0.02
PC2	-0.05	**0.99**	-0.05	0.07	-0.06	0.03
PC3	0.04	**0.77**	0.03	0.03	0.08	-0.01
ET1	0.05	-0.04	**1.03**	-0.11	-0.01	0.00
ET2	0.06	0.03	**0.91**	0.00	-0.03	-0.02
ET3	-0.11	0.02	**0.88**	0.11	0.04	0.02
CT1	0.04	-0.04	0.02	**0.85**	0.04	-0.03
CT2	-0.01	-0.03	0.00	**0.92**	0.05	0.04
CT3	-0.03	0.07	-0.02	**0.97**	-0.09	-0.01
INT1	0.01	-0.06	0.08	-0.03	**0.94**	-0.01
INT2	-0.04	0.10	0.03	-0.11	**0.94**	0.02
INT3	0.03	-0.04	-0.11	0.14	**0.91**	-0.01
SAT1	0.07	-0.13	-0.03	0.13	-0.03	**0.91**
SAT2	-0.02	0.04	-0.16	0.12	-0.03	**0.97**
SAT3	-0.17	0.21	0.06	-0.06	-0.03	**0.87**
SAT4	0.12	-0.12	0.14	-0.20	0.10	**0.85**

Note: PQ – Posting Quality, PC – Poster Credibility, CT – Cognitive Trust, ET – Emotional
Trust, INT – Intention to Visit, SAT – Satisfaction

The above tests indicate convergent validity.

Discriminant validity. The current study examines discriminant validity in two

ways: 1) the comparison between the square root of AVEs and correlations among

constructs and 2) cross-loadings among items across each construct (Chin, 1998). First,

all square rooted AVEs and correlations among constructs indicate a benchmark of

discriminant validity in that correlation is less than the square root of AVEs (Fornell &

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Larcker, 1981). Second, rotated pattern loadings indicate that factor loadings of measured items are much greater than other indicators across constructs, which indicates discriminant validity (see Table 4.12).

Table 4.12. Discriminant validity

Constructs	Posting Quality	Poster Credibility	Emotional Trust	Cognitive Trust	Intention	Satisfaction
Posting Quality	**0.87**					
Poster Credibility	0.59	**0.92**				
Emotional Trust	0.57	0.73	**0.94**			
Cognitive Trust	0.49	0.73	0.74	**0.92**		
Intention	0.47	0.64	0.59	0.62	**0.93**	
Satisfaction	0.43	0.41	0.46	0.42	0.30	**0.90**

Note: Square roots of Average Variances Extracted (AVEs) shown on diagonal

Multicollinearity

The current study also examines any potential existence of multicollinearity among constructs examined by the variance inflation factors (VIFs) (see Table 4.13). The variance inflation factors (VIFs) are the most well-known indicators that identify multicollinearity by examining both horizontally (one predictor variable vs. all latent variables – a full collinearity) and vertically (measuring collinearity among predictor variables) (Kock & Lynn, 2012). The suggested minimum threshold is 3.3, where higher thresholds of 3.3 potentially indicate the existence of multicollinearity (Hair et al., 2006; Kline, 2005; Kock & Lynn, 2012). The current research analysis concludes that all values

of multicollinearity are lower that the suggested thresholds; ranging from 1.54 to 2.39 for vertical collinearity and 1.38 to 3.06 for lateral collinearity.

Table 4.13. Variance Inflation Factors (VIFs)

Constructs	Posting Quality	Poster Credibility	Emotional Trust	Cognitive Trust	Intention	Satisfaction
Posting Quality						
Poster Credibility						
Emotional Trust	1.54	2.39		2.09		
Cognitive Trust	1.66	1.59				
Intention			2.17	2.17		
Full Collinearity VIFs	1.73	3.02	3.06	2.82	2.00	1.38

Common Method Bias

To examine any existence of common method bias from the data collection, two common method bias tests were adopted. First, following Harman's one-factor test (Podsakoff et al., 2003), the current study conducted an exploratory factor analysis in the extraction option of principal component method over all measurement items. The three factors explain 76.7 percent of the total variance and the first factor solely explains 51.6 percent of the total variance indicating lack of a single factor, which indicates a good benchmark for low or no common method bias.

Second, the current study examines "the effects of a single unmeasured latent method factor" (Podsakoff et al., 2003, p. 894) by using a 'method' latent variable with all indicators of constructs from research model (see Table 4.14). By following a calculation of "each indicator's variances substantively explained by the principal

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construct and by the method" (Liang et al., 2007, p. 71), the results reveal no significant common method bias. The analysis shows that the average explained variance of the indicator is 0.83 by the method and principal construct. All 19 method factor loadings are not significant at the 1 percent confidence level. The ratio of principal indicators variance to method variance is 291.62. All examinations indicate a good benchmark for minimal concerns of common method bias in the current study.

Table 4.14. Common method bias testing

Construct	Indicators	Substantive Factor Loading (R1)	$R1^2$	Method Factor Loading (R2)	$R2^2$
Posting Quality	AR1	0.83*	0.69	0.03	0.00
	AR2	0.81*	0.66	0.09	0.01
	AR3	0.95*	0.91	-0.13	0.02
Poster Credibility	SC1	0.99*	0.99	-0.07	0.01
	SC2	0.94*	0.89	0.00	0.00
	SC3	0.83*	0.68	0.08	0.01
Cognitive Trust	CT1	0.88*	0.78	-0.01	0.00
	CT2	0.89*	0.80	0.05	0.00
	CT3	0.97*	0.94	-0.05	0.00
Emotional Trust	ET1	0.99*	0.99	-0.08	0.01
	ET2	0.92*	0.85	0.02	0.00
	ET3	0.90*	0.81	0.05	0.00
Intention	INT1	0.93*	0.86	0.01	0.00
	INT2	0.92*	0.85	0.01	0.00
	INT3	0.94*	0.88	-0.02	0.00
Satisfaction	ST1	0.90*	0.82	0.01	0.00
	ST2	0.96*	0.92	-0.03	0.00
	ST3	0.87*	0.75	0.02	0.00
	ST4	0.87*	0.76	0.00	0.00
Average			0.83		0.003

Notes: *$p < 0.01$

Structural Model Assessment and Hypothesis Testing

The hypotheses postulated in the research model were tested using PLS analysis. The main effect model was examined to identify the impact of posting quality on emotional trust (H1a) and cognitive trust (H1b). The effect of poster credibility on emotional and cognitive trust (H2a and H2b) were examined as well as association cognitive trust with emotional trust (H3a) and intention to visit to company's fan page (H3b). The relationship between emotional trust and intention to visit the company's fan page (H4) was analyzed. The moderating effects addressed in H5 were identified between posting quality and cognitive trust and between poster credibility and cognitive trust. A summary of hypotheses testing is listed in Table 4.15, and Figure 4.8 and Figure 4.9 that depict path coefficients and portion of variance explained (R^2 value, coefficient of determinant) by each construct.

The main effect model (see Figure 4.8) examines the influence of posting quality on emotional trust (H1a) and cognitive trust (H1b). The research analysis indicates that Facebook users' perceived posting quality via posted information on company fan pages has a positive influence on emotional and cognitive trust ($\beta = 0.21$, $p < 0.001$; $\beta = 0.10$, $p < 0.1$). The results of the analysis indicate Facebook users' perceived poster credibility is also significantly associated with emotional and cognitive trust ($\beta = 0.31$, $p < 0.001$; $\beta = 0.69$, $p < 0.001$, respectively). Facebook users' cognitive trust in company postings is positively associated with emotional trust in company postings and intention to visit a company's fan page ($\beta = 0.43$, $p < 0.01$; $\beta = 0.40$, $p < 0.01$). In relation to intention to visit company fan pages, research analysis revealed that emotional trust is positively

associated with Facebook users' intention to visit company fan pages ($\beta = 0.31$, $p <$ 0.001).

Table 4.15. Summary of hypotheses testing

Hypotheses		Main Effect		Moderating Effect	
		Coefficient	p value	Coefficient	p value
H1a	Posting Quality → Emotional Trust	0.21	< 0.001	0.21	< 0.001
H1b	Posting Quality → Cognitive Trust	0.10	0.06	0.05	0.22
H2a	Poster Credibility → Emotional Trust	0.31	< 0.001	0.31	< 0.001
H2b	Poster Credibility → Cognitive Trust	0.69	< 0.001	0.69	< 0.001
H3a	Cognitive Trust → Emotional Trust	0.43	< 0.001	0.43	< 0.001
H3b	Cognitive Trust → Intention to Visit	0.40	< 0.001	0.40	< 0.001
H4	Emotional Trust → Intention to Visit	0.31	< 0.001	0.31	< 0.001
Moderating Effects					
Posting Quality * Media satisfaction		–	–	-0.22	< 0.001
Poster Credibility * Media Satisfaction		–	–	0.05	0.22
R^2 **of Cognitive Trust**		0.56		0.59	
f^2 statistics for media satisfaction		0.073			

Overall, Facebook users' perceived posting quality and poster credibility explain 67 percent (adjusted $R^2 = 0.66$) of the total variance of emotional trust in company posting jointly with cognitive trust. Cognitive trust in company posting is explained 56 percent (adjusted $R^2 = 0.55$) of the total variance by combining Facebook users' posting quality and poster credibility. Both cognitive and emotional trust delineates 43 percent (adjusted $R^2 = 0.42$) of the total variance of the intention to visit company fan pages jointly.

$R^2 = 0.67$ (adjust $R^2 = 0.66$)

Posting Quality

Emotional Trust

0.21^{**}

0.10^*

0.31^{**}

0.31^{**}

$R^2 = 0.43$ (adjust $R^2 = 0.42$)

Intention to Visit

0.43^{**}

Poster Credibility

Cognitive Trust

0.40^{**}

0.69^{**}

$R^2 = 0.56$ (adjust $R^2 = 0.55$)

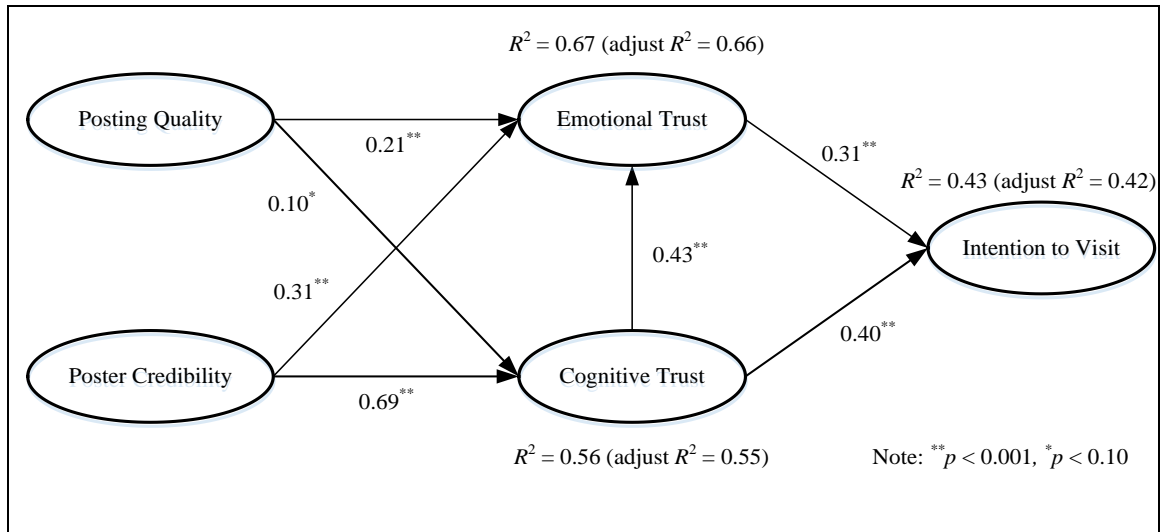Note: $^{**}p < 0.001$, $^*p < 0.10$

Figure 4.8 Hypotheses testing – Main effect

Next, the moderating effect model examines the extent of satisfaction of Facebook usage, where satisfaction moderates the main effects of H1 and H2 (see Figure 4.9).

Satisfaction

$- 0.22^*$ 0.05(ns) $R^2 = 0.67$ (adjust $R^2 = 0.66$)

Posting Quality
(Argument Quality)

Emotional Trust

0.20^*

0.31^*

$R^2 = 0.43$ (adjust $R^2 = 0.42$)

0.05(ns)

Intention to Visit

0.43^*

0.31^*

0.40^*

Poster Credibility
(Source Credibility)

Cognitive Trust

0.69^*

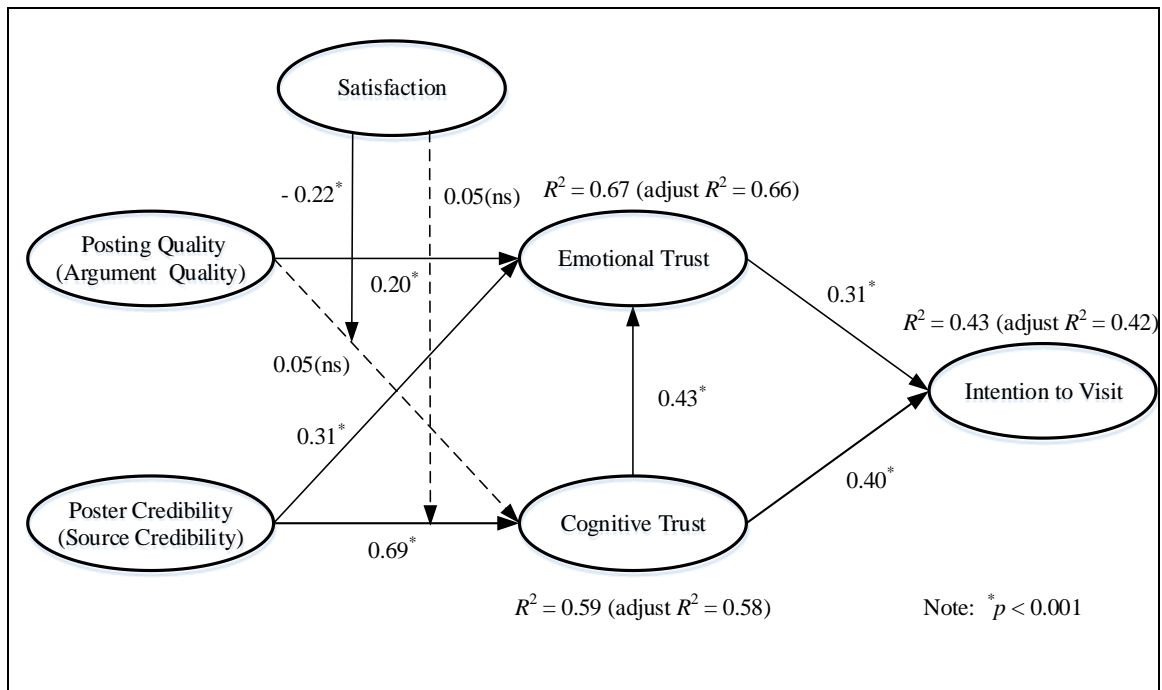$R^2 = 0.59$ (adjust $R^2 = 0.58$)

Note: $^*p < 0.001$

Figure 4.9 Hypotheses testing – Moderating effect

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As depicted in Figure 4.9 and Table 4.15, adding the moderating effect increases variance (R^2) in cognitive trust from 56 percent in the main effect model to 59 percent in the moderating effect model. This moderating model effect is assessed by comparing "the proportion of variance explained (as expressed by the determination coefficient R^2) of the main effect model (i.e. the model without moderating effect) with the R^2 of the full model (i.e. the model including the moderating effect)" (Esposito Vinzi, Chin, Henseler, & Wang, 2010, p. 732). The result shows that the moderating effect size of 7.3 percent is identified, and the significant moderating effect indeed strengthens the main effect of H1b. According to each individual path of the moderating effect model, satisfaction with Facebook usage has a negative moderating effect on the association between posting quality and cognitive trust ($\beta = -0.22$, $p < 0.001$). However, there is no significant moderating effect of satisfaction on the association between poster credibility and cognitive trust.

Discussion

Overview of Research

The current study employs an elaboration likelihood model (ELM) to examine the factors impacting both the user's emotional and cognitive trust in company postings, which then influences the user's intention to visit the company fan page. The elaboration likelihood model (ELM) consists of two processes 1) central route and 2) peripheral route. As central routes rely much on cognitive evaluation of information processing, the current study adopts posting quality as a primary central route. On the other hand, peripheral routes depend on third party opinions to process information; poster credibility

acts as a proxy of peripheral routes in the current research. The current study proposes

four hypotheses and one moderating effect that are validated by the analysis of data

gathered from survey respondents from Facebook users using PLS methodology.

Key Findings

In reference to the relationship between posting quality and both emotional and

cognitive trust, all relationships are viable and significantly associated with each other

(H1a and H1b). From ELM's central routes perspective in which deliberative

comprehension is essential, research findings indicate that critically scrutinized merits or

advantages of company postings about product or services account for the formation of

trust in company postings both rationally and emotionally. Additionally, research findings

signify that posting quality influences both cognitive and emotional trust, being non-

temporal and persistent when company postings are processed in the central routes. This

reasonably supports the concept of information processing in the central route that

supports stable and long-term behaviors anchored in thoughtful evaluation of posted

arguments (Bhattacherjee & Sanford, 2006). According to the hypotheses testing, posting

quality has a stronger effect on emotional trust than cognitive trust ($\beta = 0.21$, $p < 0.001$; β

$= 0.10$, $p < 0.1$, respectively). This finding suggests that rational consideration and critical

deliberation of company postings tend to result in more positive emotional trust in

postings. Such cognitively processed company messages have less impact on cognitive

trust, as posting quality leans more toward irrational aspects of evaluation such as faith or

feelings (Komiak & Benbasat, 2004). Accordingly, research findings further indicate that

once Facebook users regard company postings (processed information by Facebook user)

as a good reason to believe, they then develop more emotional trust in the information posted via company fan pages.

Another set of hypotheses in current study examined any association between poster credibility and both emotional and cognitive trust (H2a and H2b). The findings revealed that poster credibility has more impact on the user's cognitive trust in a company's posting than his/her emotional trust ($\beta = 0.69$, $p < 0.001$; $\beta = 0.31$, $p < 0.001$, respectively). This result was not expected because peripheral routes usually depend on the characteristics of likeability, affinity or leaning toward an expert, so that poster credibility would more likely be associated with emotional trust than cognitive trust. However, the findings suggest that Facebook users' perceived credibility in message posters motivates their rational trusting belief in company postings. Accordingly, the findings indicate that poster credibility (credibility of message posters) affects Facebook users' cognitive belief and rational expectation, outweighing emotional evaluation of faith or gut feelings.

The next set of hypotheses examine cognitive trust in company postings as it impacts both emotional trust and the user's intention to visit company fan pages (H3a and H3b). First, the research findings identify that cognitive trust in company postings have a positive effect on the development of emotional trust (H3a: $\beta = 0.43$, $p < 0.001$). The hypothesis testing suggests that Facebook users' cognitive trust in company information fulfillment via fan pages influences users' emotional aspects of belief toward the posting. This results aligns with Komiak and Benbasat's (2006) research findings in the context of recommendation agents adoption. However, such a relationship is extended in the context

of a communication-based IS artifact by the fact that company postings play an important role in evolving cognitive trust to emotional trust.

Second, Facebook users' intention to visit company fan pages is significantly accounted for by Facebook users' cognitive trust in company postings (H3b: $\beta = 0.40$, $p < 0.001$). Prior literature suggests that significant relationships between trusting belief and behavioral intention, where behavioral intention is confirmed through the elimination of any involved risks (that degrade the trusting belief between parties) (Luo, Li, Zhang, & Shim, 2010). Aligning with other IS research contexts (e.g., Malhotra et al., 2006), the current research findings suggest that Facebook also brings forth the salient relationship between trusting belief and intentional behaviors; Facebook users' high cognitive trust in company postings directly produces more intention to visit to company fan pages.

The research findings reveal statistical significance in the relationship between emotional trust in company postings and intention to visit company fan pages (H4). Facebook users' increased emotional trust in company postings lead to a higher likelihood of visiting company fan pages ($\beta = 0.31$, $p < 0.001$). Differently from the concept of affective trust (that focuses more on the trustee's affection for the user (Kanawattanachai & Yoo, 2002), the concept of emotional trust highlights the user's behavior rather than affection. Accordingly, the current research findings show that such characteristics of emotional trust are a contributing factor in Facebook users' intention regarding higher visiting behavior. Additionally, behaviors themselves are affected by the nature of emotional trust originates from an individual user's credible feelings about company-provided information rather than simply likeable or attractive feelings to companies themselves.

Research findings from the moderating model suggest that Facebook users' satisfaction with Facebook usage negatively moderates the interactions between posting quality and cognitive trust (β = - 0.22, p < 0.001). Given significant existence of the strong main effects, the assumption of positive (H5a) and negative (H5b) moderating impacts is interesting. In terms of IS users' positive emotional evaluation, using the term 'satisfaction' toward the IS artifact, the current research findings emphasize different aspects of Facebook users' satisfaction via information perception and rational expectation. Satisfaction with Facebook use significantly improves the explained variance of cognitive trust with an effect size of 7.3 percent. However, the results indicate that less overall satisfaction with Facebook use results in a higher interaction between posting quality and cognitive trust. Such unexpected outcomes may be explained by the fact that high satisfaction with Facebook use over the long-term more likely describes Facebook users' who view contents posted on company fan pages with less elaboration and cognitive thinking. Thereby, thoughtful elaboration of contents postings decreases cognitive trust when Facebook usage itself is high. However, no significant moderating effects are identified in the interaction between poster credibility and cognitive trust. Such findings suggest that favorable emotional evaluation or satisfaction does not play a salient role in magnifying (or lessening) the impacts on the positive relationship between cognitive trust in postings and credibility of posting providers.

Research Contribution and Implications

The present study contributes theoretical implications. This study is one of the few examining how individual Facebook users process information from company fan

pages and which type is more impactful on the development of trust (both cognitive and emotional aspects). The current study focuses on two aspects of information processing: 1) company's use of fan pages whereby Facebook users handle obtained information in an elaborate and cognitive way, and 2) the use of influential processing routes under ELM. The research results supporting both routes are significantly influential in shaping an intentional behavior mediated by trust formation. This implies that Facebook users' pursuit of the high elaboration route may consist of factors including not only quality of arguments embedded in postings which needed cognitive attention, but also credibility of message resources. Overall, the current research extends the ELM perspective in the context of communication-based IS artifact for both individual and company use.

Second, incorporating both the concept of trust and ELM, the current study builds a theoretical framework of the link: influential processes of information – trust development – behavioral intention. The current research findings suggest two sub-routes in the context of communication-based IS artifact; 1) influential processes – cognitive trust – behavioral intention and 2) influential processes – emotional trust – behavioral intention. The importance of the influential process is important because prior literature acknowledges that antecedents of the trust formation have not been easily identified, thereby diverse perspectives on the trust view have been attempted. In this sense, the current research findings support new perspectives of antecedents of trust, explaining how to initiate user belief in the trustee's attributes in the context of a communication-based IS artifact. Further, the findings suggest that behavioral intentions gain advantages from the jointly affected rational, cognitive processing of information and reliance on source providers' credibility cues. Generally, dual process theories (such as ELM)

emphasize that "external information is the primary driver of attitude change and consequent behavior change" (Bhattacherjee & Sanford, 2006, p. 808). This inspires the possibility of changing belief, attitude and behaviors. Prior literature applies the concept of dual process theories in the IS discipline to examine IS acceptance and IS user behaviors (e.g., Angst & Agarwal, 2009). Noticeably, ELM as one of the dual process theoretical underpinnings is found to be well suited to online communication in the current research context, and this extends the application of information processing in electronic communication media.

The influential relationships between emotional and cognitive trust was originally inspired from the queues of belief (e.g., trusting belief) – attitude (e.g., emotional trust) – intention (Komiak & Benbasat, 2004). Similar with the sequencing relationship but differently from the above queues, the current research model postulates the existence of the effect chain: cognitive trust – emotional trust – intention, regarding emotional trust as a partial mediator between cognitive trust and intention in the Facebook fan page context. This partial mediating effect among those constructs stems from the nature of emotional trust – that it comprises both rational and irrational evaluation of the target trustee (Komiak & Benbasat, 2006). The current research findings support the notion that Facebook users' cognitive belief affects emotional attitude (emotional trust) in company postings and thus enhances intentional behaviors (visiting companies' fan pages). At the same time, emotional attitude (emotional trust) partially mediates the relationship between trusting belief (cognitive trust) and behavioral intention (intention to visit company fan pages).

The current study has two implications for IS practice. First, the research findings emphasize the importance of both emotional and cognitive trust in company postings to attract Facebook users. Because emotional trust relies on faith or gut feelings such as comfortableness, company fan page managers should be able to assure the high quality of products or services over the long-term period and to settle any conflicts and negative postings in the comments section. For example, showing managers' instant response to negative feedback would make a favorable impression to those who are dissatisfied (potential customers). Cognitive trust in a company's posting is another salient antecedent of behavioral intention in the current research context, which has an equal impact on emotional trust and intention. Because cognitive belief and trust are rooted in the rational expectation that companies will fulfill their products or services, fan pages should post accurate features of products, detailed service information, or any messages differentiating competitors' specification and dominating advantages. For example, different from other search-based information that demonstrates the product specification monotonously by plain text or photos, posting video clips or a series of pictures embedded in voice story would promote the favorable cognitive belief toward products or services.

Second, research findings imply that both cognitive information processes and cue dependent processes are equally important to derive two different types of trust simultaneously. However, between these two routes of elaboration, poster credibility has greater influence on two constructs of trust than posting quality in the context of a Facebook fan page. This implies the peripheral route (poster credibility in current study) plays a more important role in forming Facebook users' trust in company postings, where

third parties' opinion, reputation or endorsement are more important than their cognitive comprehension of message delivery. Equivalent to marketing discipline perspective, this suggests that company effort in boosting their brand value or inviting referrals on fan pages will help fan page subscribers build trust emotionally and rationally. Perceptions from central route are more persistent and stable than those from peripheral routes because central routes aim toward deliberation and comprehensive consideration of given information. Therefore, for a long-term behavioral perspective, companies should draw Facebook users' attention to the use of central route, resulting in Facebook users being more persistent and predictable in their visiting behaviors.

Research Limitations

Like all other empirical studies, this study is not free of research limitations. First, the research design of the current study does not differentiate between prior-intention and post-intention when Facebook users consider company postings on fan pages. Second, the current study adopts poster credibility as a representative of peripheral routes that influence Facebook users' visiting behaviors. While source credibility has been frequently cited on peripheral cues, ELM literature suggests other cues such as number of messages or information provider's likeability for a benchmark of peripheral cues (Bhattacherjee & Sanford, 2006). Lastly, the current study examines various perceptions under the cross-sectional research design. Eighty four percent of the total respondents reported themselves as Facebook users of more than three years, which implies their perception has been created longitudinally, not over a short period of time.

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Suggested Future Research Direction

It is possible that all Facebook users' experiences of prior communication or transactions with subscribed companies differ from each other. Therefore, the different experiences may lead Facebook users to utilize central or peripheral routes with varying intensity of influence. Thus, the future studies may examine an individual's prior experience when administering influence processes. Second, because of the nature of online communication media, the number of message postings on company fan pages is not limited. Furthermore, use of fan pages and uploading media contents save monetary marketing cost as well as human efforts comparing to other traditional media. Consequently, Facebook subscribers' frequent exposure to company messages, regardless of their interests in reading or watching posts, may change their mental preference. Thereby, subscribers may behave favorably toward company postings. Therefore, future research should examine other factors of peripheral cues from various perspectives that may affect Facebook users' attitudes and behaviors. Last, the intensity of each influential process between the central route and the peripheral route may vary depending on the length of communication tool usage. Therefore, future studies should examine potential effects of time of Facebook usage to determine the impact on influential processes toward intentional behaviors.

Chapter Summary and Concluding Remarks

The purpose of this study is to examine factors that affect intention to visit behaviors of subscribers of companies' fan page in the context of Facebook use by both company and individual users. Two theoretical underpinnings were employed—trust

(cognitive and emotional) and the elaboration likelihood model. Applying an ELM perspective that consists of central and peripheral routes, the current study seeks to identify which of the influential processes has more of an impact when Facebook users read postings and process information embedded in postings about products or services. Two concepts of trust were adopted to explain any mediating effect of behavioral intention that is accounted for by one or both information processing routes.

The data was collected from general public Facebook users who currently subscribe to at least one company's new postings via Facebook. Research findings indicated two influential routes jointly affected Facebook users' trusting formation; peripheral routes influenced Facebook users' behavioral intention more than central routes. Both concepts of trust also play a significant role in explaining company page subscribers' intentional behaviors. The current study suggests the importance of companies' credibility to fan page followers, with research findings supporting the idea that high credibility is more likely to increase followers' visiting behaviors. Simultaneously, the current study emphasizes the role of emotional and cognitive trust in individuals' degree of trust of postings directly related to future behaviors.

Overall, the current study contributes to both ELM and trust studies. Theoretically, the ELM perspective has been extended in the context of communication-based IS artifact. Practically, the current study reminds readers of the importance of trust and the credibility of companies when pursuing social media marketing strategies from public respondents.

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CHAPTER 5 : DISSERTATION SUMMARY AND CONCLUSION

In this dissertation, the research idea begins with considering how company's fan page subscribers perceive company's page activities and what motivational factors exist to form visiting intent to the pages and actual visit behaviors. To answer the research questions, the author provides theoretical and practical arguments of a company's use of Facebook fan pages and page followers' perceptions of the page. To support theoretical arguments, social behavior and media theories are employed: uncertainty reduction theory, media richness theory, media synchronicity theory and elaboration likelihood model. The total of three research models and testing of hypotheses provide meaningful insights based on survey method. 178 survey participants responded to questions that asked various perceptions of company's use of Facebook fan pages.

First, research findings reveal that Facebook users who follow at least one company's fan page reduce their uncertainty of products or services by interactive or passive ways. Between these two ways, interactive uncertainty reduction strategies are more influential on reduction of uncertainty than passive strategies, in which direct communication with page managers is more satisfactory than simply reading information posted. Furthermore, page subscribers' perceived Facebook richness significantly mediates the relationship between reduced uncertainty and their intention to visit pages. Perceived richness plays an important role in shaping behavioral intention as well. Practically, page managers are advised to open ways of direct communication with page

followers more often and to provide detailed specifications of products or services as much as possible. Theoretically, this study extends the application of uncertainty reduction theory in the context of a communication-based IS artifact, especially, the use of brand pages in Facebook.

Second, the author of this dissertation attempts to explain company page followers' actual visiting behaviors under media synchronicity theory. The empirical testing of hypothesizing relationship between Facebook capabilities and perceived usefulness of postings on pages are identified as significant. That is, Facebook's capabilities of message delivery that supports well-flowing communication processes achieves better perception of posting usefulness on a company's fan pages. Facebook loyalty itself is identified as a significant influential factor affecting not only perceived usefulness of company's postings regarding products or services but also page subscribers' actual visiting behaviors. Theoretically, this study supports that communication media capabilities of message delivery is an important influential component affecting media user's cognitive perception of content posted in Facebook fan page. In addition, research findings reveal the role of media loyalty itself (e.g., Facebook) becoming a mediating factor on a sub-component of media (e.g., Facebook fan page) between subscribers' usefulness perception and behavioral intention. Practically, immediate responses and multiple formats of content posting promote page subscribers' visiting behaviors by enhancing the perceived usefulness of information about products or service posted in the page.

Last, the third study of the current dissertation examined impactful influential information processes that have effect on either emotional or cognitive trust of company

postings. The research assumes the existence of favorable influence of both cognitive and emotional trust on page subscribers' intention to visit the pages. To identify research assumptions, ELM is employed to implement the routes of cognitive processes in the research model, represented by the constructs of posting quality and poster credibility. Posting quality deals with the degree of information quality in pages, in which page subscribers elaborate the quality of postings cognitively. On the other hand, posting readers decide follow-up actions (e.g., post-purchase that products) based on a poster's reputation or third party opinion when they read postings on pages. The findings suggest that poster credibility has superior influential impact on both emotional and cognitive trust of company's postings. This implies that page subscribers tend to rely on a company's prior reputation or other party's opinion about the company rather than cognitively elaborating the quality of postings. Both emotional and cognitive trust play a significant role in stepping up page subscribers' visiting intention. This series of empirical findings denote that overall company's market reputation empowers content trust to attract page followers as well as the quality of posting itself. Additionally, significance of cognitive trust on emotional trust of postings indicates subscribers' strong cognitive belief turns into favorable emotion or gut feelings on postings. Such transition ultimately benefits the company because emotional reliance on content requires less cognitive effort, so that there would be immediate responses possible.

Overall, the author of this dissertation makes a contribution both practically and theoretically under a series of theoretical underpinnings. However, it should be noted that this research is not exhaustive. This is important because of the importance of social media and its ability to reach potential customers more closely and even faster than any

other media outlet in terms of marketing campaigns. Therefore, company managers who take the position of page administrator should continue their effort to understand page followers by implementing not only updated but also the best quality and most accessible contents on the pages.

APPENDIX A. SURVEY MEASUREMENT ITEMS

❖ **Facebook Usage**

1. How long have you used Facebook?

- ❖ More than five years
- ❖ More than three years but less than five years.
- ❖ More than one year but less than three years.
- ❖ More than six months but less than one year.
- ❖ Less than six months.

2. How often do you log in to Facebook?

- ❖ Less than Once a Month
- ❖ Once a Month
- ❖ 2-3 Times a Month
- ❖ Once a Week
- ❖ 2-3 Times a Week
- ❖ Daily
- ❖ More than once a day

3. How many companies have you selected "Like (or Subscribe)" to support on Facebook?

- ❖ 1 - 5
- ❖ 6 - 10
- ❖ 11 - 20
- ❖ 20 and more

4. How many times do you read postings from your "Liked (or Subscribed)" companies when they update information (i.e. posting product or service information or daily briefings) on their Facebook fan pages?

- ❖ Never
- ❖ Rarely
- ❖ Sometimes
- ❖ Often
- ❖ All of the Time

5. For what type of companies do you usually click "Like (or Subscribe)" ?

- ❖ Food and Dining
- ❖ Education
- ❖ Entertainment
- ❖ Shopping
- ❖ Travel
- ❖ Financial Services (i.e. Bank, Credit Card)
- ❖ Housing
- ❖ Others
- ❖ Government, Non-profit organization

Interactive Uncertainty Reduction Strategy

When you are reading (or watching, listening to) companies' postings regarding their products, services or promotional events on their Facebook fan pages, how often have you…

1) Commented your opinion regarding their posts? (e.g., mentioning feedback, etc.)

2) Asked for further information regarding their products, services or promotional events on postings?

3) Added your opinions on other's comments regarding products, services or promotional events?

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Passive Uncertainty Reduction Strategy

When you are on Facebook, how often have you…............on their Facebook fan pages?

1) Looked at their pictures or photos of products (or services)

2) Read their social activities (i.e., daily briefings or yearly greetings)

3) Read other members' feedback on postings regarding products, services or promotional events?

Perceived Reduced Uncertainty

After reading a description of products, services or promotional events on companies' Facebook fan pages (that I "Liked or Subscribed") .... regarding products, services or promotional events.

1) I feel uncertainty associated with the contents on postings is low

2) There is a low degree of uncertainty when I actually purchase products or contract for services by relying on companies' Facebook page postings

3) I am exposed to little transaction uncertainties if I purchase products or render services after reading (or watching, listening to) companies' postings regarding such products, services or promotional events on their Facebook fan pages (that I "Liked or Subscribed")

Perceived Media Richness

While corresponding on companies' Facebook fan pages (that I "Liked or Subscribed")......

1) I can tailor comments to the needs of the companies' postings.

2) I am able to customize comments to meet the current situation of companies' postings.

3) I can express my ideas through stories, metaphors, or similes.

Intention to Visit

1) I intend to visit my "Liked or Subscribed" companies' fan pages on Facebook to get more information regarding products, promotional events or services when I need.

2) I plan to visit companies' fan pages I "Liked or Subscribed" on Facebook to get more information regarding products, promotional events or services when I need.

3) I predict myself that I will visit "Liked or Subscribed" companies' fan pages on Facebook in future when I need.

Transmission Capabilities

Immediacy of Communication (Carswell, Agarwal, and Sambamurthy, 2001)

1) The quick responses I receive to my new message postings or comments on my "Liked or Subscribed" companies' Facebook fan pages help me make purchase decisions or use of service.

2) I receive responses to my contributions (i.e., new message postings or additional comments) from companies' Facebook fan pages that I "Liked or Subscribed" in a timely manner.

Message Variety (Tang and Wang, 2011)

3) The companies' fan pages I "Liked or (Subscribed)" message delivery types (i.e., video clips, photos) allow me to communicate in a normal fashion (e.g., I can understand what they want to convey via the message).

4) My "Liked (or Subscribed)" companies' postings on their Facebook fan pages utilize a large pool of different message types (i.e., video clips, photos, graphs) to communicate or deliver information.

Perceived Usefulness (Jin et al., 2010)

Reading postings regarding products or service from my "Liked or (Subscribed)" companies' Facebook fan pages.....

1) Enables me to acquire more information.

2) Improves my ability to make good decisions.

3) Allows me to get my work done more quickly.

Facebook Loyalty (Gupta & Kabadayi, 2010)

1) I enjoy using Facebook

2) To me, Facebook is the best social networking site to communicate with my friends.

3) I believe that Facebook is my favorite social networking site.

Continuous Behavior (Bhattacherjee et al., 2008)

Please, choose one…..(total seven points between None and A lot) (questions 1 and 2)

1) Number of times you currently visit "Liked (or Subscribed)" companies' Facebook fan pages per week?

2) In general, how much time do you spend on your "Liked (or Subscribed)" companies' Facebook pages per week?

3) On average, how frequently do you use Facebook to communicate with your "Liked (or Subscribed)" companies' fan pages?

Posting Quality (Bhattacherjee and Sanford, 2006)

The information provided from companies' Facebook fan pages that I "Liked or Subscribed" is…..

1) Incomplete : Complete

2) Inconsistent : Consistent

3) Inaccurate : Accurate

Poster Credibility (Bhattacherjee and Sanford, 2006)

My "Liked or Subscribed" companies' Facebook fan pages providing the information…..

1) Are trustworthy

2) Are credible

3) Appears to be an expert on the products or services

Cognitive Trust (Komiak and Benbasat, 2006)

The companies' postings on their Facebook fan pages that I "Liked or Subscribed" regarding products or services.....

1) Are sincere.

2) Are competent in providing relevant information.

3) Perform their role of giving information very well.

Emotional Trust (Komiak and Benbasat, 2006)

I feel ------------ about relying on my "Liked or Subscribed" companies' postings on their Facebook fan pages regarding products or services for my purchase decision or interests….

1) Secure

2) Comfortable

3) Content

Satisfaction (Spreng et al. 1996)

How do you feel about your overall experience of using Facebook?

1) Very dissatisfied : Very satisfied.

2) Very displeased : Very pleased.

3) Very frustrated : Very contented.

4) Absolutely terrible : Absolutely delighted.

Intention to Visit (Pavlou and Fygenson, 2006)

1) I intend to visit my "Liked or Subscribed" companies' fan pages on Facebook to get more information regarding products, promotional events or services when I need.

2) I will visit my "Liked or Subscribed" companies' fan pages on Facebook to see what other information they posted or provided.

3) I predict myself that I will visit "Liked or Subscribed" companies' fan pages on Facebook in future when I need.

Demographic Information

1) What is your gender?

  ❖ Male
  ❖ Female

2) What is your age?

- ❖ 19 - 22
- ❖ 23 - 29
- ❖ 30 - 39
- ❖ 40 - 49
- ❖ 50 - 59
- ❖ 60 - 69
- ❖ 70 - over

3) Which of the following best describes the area you live in?

- ❖ Urban
- ❖ Suburban
- ❖ Rural

4) Please indicate your current household income in U.S. dollars

- Rather not say
- Under $10,000
- $10,000 - $19,999
- $20,000 - $29,999
- $30,000 - $39,999
- $40,000 - $49,999
- $50,000 - $74,999
- $75,000 - $99,999
- $100,000 - $150,000
- Over $150,000