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## An Integrated Framework for Self-disclosure on Social Networking Sites

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AN INTEGRATED FRAMEWORK FOR SELF-DISCLOSURE ON SOCIAL  
NETWORKING SITES

A Dissertation

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy

in

The Department of Information Systems and Decision Sciences

by  
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May 2017

Dedicated to my loving parents,  
Narayan and Padma

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## **ABSTRACT**

Social networking sites usage has shown a meteoric rise over the past decade. Social networking sites survive and thrive based on the information that users disclose. The willingness of users to disclose their information lies at the core and is the driving force of the economies of these sites. This study proposed and tested an integrated theoretical framework for self-disclosure on social networking sites. Drawing from three different theoretical perspectives viz. self-congruency theory, privacy calculus theory, and extension of unified theory of acceptance and use of technology (UTAUT2), a research model was formulated. The model was tested using survey data of 380 university students. Facebook was used as a prototype for this research. This study examined the effects of the variables emanating from the three different theoretical perspectives mentioned above on the attitudinal, intentional, and behavioral aspects of self-disclosure on social networking sites. Further, the effects of self-congruency and perceived control on trust in social networking sites and its members were evaluated. The contributions to theory and practical implications of the findings are discussed.

# CHAPTER 1: INTRODUCTION

## 1.1 Background of the problem

Over the past decade, social networking sites have become an integral part of our lives. As communications media, information sources, and platforms that connect people, the usage of social networking sites has become the most popular activity on the Internet among American consumers, surpassing emails, online videos, online search, and online games (Richter, 2013). People use social networking sites for various reasons. Studies have been carried out to explore the factors that motivate the usage of social networking sites. Social utility, directory function, voyeurism, herd instincts, the organization of friends, personal expression, and the initiation of friendships has been identified as the factors motivating people to use social networking sites (Bumgarner, 2007). Similarly, another study found social connection, shared identities, content, social investigation, social network surfing, and status updating as the motivating factors for usage (A. N. Joinson, 2008). The motives for the creation and maintenance of social networking sites are social in nature where the focus is to connect to offline contacts, disclose personal information, and to strengthen offline contacts using online self-disclosure and communication (Li-Barber, 2012).

Fundamentally, an online social network is a community of individuals on the Internet where the interaction among individuals takes place via the profiles that represent their public persona and their networks of connections to others (Acquisti & Gross, 2006). Social networking sites have been defined as web-based services that allow its user to perform the following functions:

- Construct a public or semi-public profile within a bounded system
- Articulate a list of other users with whom they share a connection

- View and traverse their list of connections and those made by others within the system  
(Ellison, 2007)

With the rapidly evolving structure and salience of profiles, connection lists, and traversing in social networking sites, Ellison and boyd (2013) revised the previous definition to describe a social networking site as a networked communication platform in which participants:

- Have uniquely identified profiles that consist of user-supplied content, content provided by other users, and/or system-provided data
- Can publicly articulate connections that can be viewed and traversed by others
- Can consume, produce, and/or interact with streams of user-generated content provided by their connections on the site

The revised definition takes into account that over time, an individual profile has shifted from a self-descriptive static text to a dynamic combination of content provided by the user, activity reports, content provided by others, and/or system-provided content. Most social networking sites now have a stream of recently updated content. This stream is popularly known as the newsfeed. The newsfeed shows pictures, video, text etc. shared by the user's friends or the accounts that they follow. Apart from user-generated content the newsfeed also consist of branded content. This is because brands utilize social media marketing as an integrated component in their marketing communications campaign, both as an ongoing corporate communications channel, and/or as a series of micro-campaigns designed for digital exposure (Ashley & Tuten, 2015). The connection list or the social graph of the social networking sites is utilized beyond the bounded space of the social networking site. Also, traversing the connections to view profiles is no longer the sole or primary way of participation.

Due to the speed at which technology is expanding and evolving, the effort to conceptualize social networking sites has been an ongoing process. Obar and Wildman (2015) synthesized the definitions in the literature and came up with the following commonalities among social networking sites.

- Social networking sites are (currently) Web 2.0 internet-based applications.
- User generated content is the lifeblood of social networking sites.
- Individuals and groups create user-specific profiles for a site or app designed and maintained by a social networking site.
- Social networking sites facilitate the development of social networks online by connecting a profile with those of other individuals and/or groups.

Users share their personal information through their profiles, status updates, group and private chats to other members of the social networking sites. Hence, the information content that is consumed in the social networking sites is the product of self-disclosure by individuals using the services. Although research on self-disclosure is not a new phenomenon, research that focuses on self-disclosure in the context of social networking sites is a relatively recent development (Varnali & Toker, 2015). Different forms of activities on social networking sites such as displaying pictures, posting personal information, updating statuses, revealing personal preferences and experiences lead to self-disclosure (Cheung, Lee, & Chan, 2015).

With origins in verbal communication research, self-disclosure has been defined as “the process of making self known to others” (Jourard & Lasakow, 1958). It is an act of revealing personal information including thoughts, feelings, and experiences to others (Derlega, Metts, Petronio, & Margulis, 1993). It has been viewed as any information about him or herself that person A communicates to person B, and the three basic parameters of self-disclosure have been

summarized as breadth or amount of the information disclosed, depth or intimacy of the information disclosed, and the duration or time spent describing each item of information (Cozby, 1973). Similarly, intent to disclose, amount of disclosure (including both frequency and time), positive-negative nature of disclosure, honesty-accuracy of disclosure, and general depth-control of disclosure has been extracted as five independent dimensions of self-disclosure (Wheless & Grotz, 1976). There are two different perspectives through which self-disclosure has been examined. One perspective views self-disclosure as a personality trait like construct that varies across individuals (Berg & Derlega, 1987) while another perspective views self-disclosure as an interpersonal process that occurs when individuals interact with each other (Dindia, Allen, Preiss, Gayle, & Burrell, 2002).

## **1.2 Importance of the study**

Apart from being platforms for connecting people, social networking sites also bring businesses and their targeted consumers together. Most social networking sites do not charge a membership fee for their services. Revenue is generated through the advertisements of businesses, products, and services on these sites. Worldwide trends have shown that spending on advertisements on social networking sites is accelerating faster than expectations. Global spending on advertising on social networking sites was \$17.85 billion in 2014. It is estimated to reach \$25.14 billion in 2015, \$32.91 billion in 2016, and climb to \$41 billion in 2017 ("Social Network Ad Revenues Accelerate Worldwide," 2015). Advertisers are showing an ever-increasing presence on social networking sites as various types of data like age, interests, and consumption patterns of users can be gathered and used to generate customized advertisements that are fine tuned to each individual ("Marketing in the digital age. A brand new game.," 2015). Thus, it is the willingness of users to disclose and consume personal information that drives the economies of the social

networking sites (A. Joinson, Houghton, Vasalou, & Marder, 2011). The functioning of social networking sites is built around the premise that people disclose information about themselves in the form of profiles, photographs, status updates, location etc. and they would cease to exist if this disclosure does not happen (Burke, Marlow, & Lento, 2009). Targeted ads, the main revenue for social networking sites are simply not possible without users' self-disclosure on social networking sites.

Thus, it is not an over-statement to assert that a good understanding of the self-disclosure behavior is fundamental for social networking sites to survive and thrive. Social media managers as well as advertisers need to know the factors, motivations, and theoretical underpinnings about the online self-disclosure phenomenon so as to make better decision to sustain or promote their business.

While a greater amount of self-disclosure will most likely benefit social networking sites and their affiliate advertisers, pressurizing users to share more of their personal information may not always be a good idea. Social networking sites' users have people from different cross-sections of their lives in the same network. There may be information that they want to share with one of their social sphere while they want to hide it from other social sphere. If users feel that social space is too 'crowded' or too much of information is being demanded, they might engage less with or withdraw from the site (A. Joinson et al., 2011). Therefore, it is crucial to understand all different aspects behind self-disclosure on social networking sites so as to know the right balance between asking too little or too much of user information. A solid understanding of the self-disclosure intention and behavior; the purpose of this study, is likely to provide key insight on finding this balance.

### **1.3 Statement of the Problem**

Self-disclosure on social networking sites has different attributes that make it different than conventional forms of personal information sharing. Self-disclosed information on social networking sites just like elsewhere on the Internet is persistent, replicable, scalable, searchable, and shareable (boyd, 2008), (Papacharissi & Gibson, 2011). It can be argued that both the potential risks and benefits of self-disclosure gets elevated due to a wider audience as well as persistent and easily accessible nature of online information.

Extant literature has mainly focused on the exploration of motivations and risks involving self-disclosure on social networking sites. Researchers have looked into privacy (Acquisti & Gross, 2006), risk awareness (Olivero & Lunt, 2004), trust, perceived control, perceived cost and benefits (Krasnova, Spiekermann, Koroleva, & Hildebrand, 2010), privacy policy consumption (Stutzman, Capra, & Thompson, 2011), psychological traits, attitudes towards the social web (Taddicken, 2014), and social influence (Cheung et al., 2015) as factors influencing the self-disclosure of individuals on social networking sites. Levels of self-disclosure were found to be positively associated with the levels of satisfaction with social networking site (Li-Barber, 2012). Self-disclosure was found to have a mediating role on the relationship between communication-based personality characteristics of the individual and the use of social networking sites (Varnali & Toker, 2015).

Although it could be attributed to the infancy of the field, the extant literature on self-disclosure on social networking sites is incoherent and diffuse. Empirical findings regarding the predictors of self-disclosure behavior on social networking sites are sparse and equivocal (Varnali & Toker, 2015). Most research has looked into the self-disclosing behavior as subjective evaluation of

benefits and costs in an exchange relationship, building upon social exchange theory (Blau, 1964) and privacy calculus theory (Culnan & Armstrong, 1999).

Research on self-disclosure behavior on social networking sites is a new field, and this means various perspectives have to be brought in to fully understand the phenomenon. Researchers who have explored this topic through the privacy calculus lens admit that in doing so, they might have left out various other factors potentially impacting self-disclosure on social networking sites (Krasnova et al., 2010). Instead of expanding the present knowledge on self-disclosure on a factor-by-factor basis, it would be desirable to integrate different theories that explain the self-disclosure behavior on social networking sites. This will lead a better and more comprehensive understanding and explanation of the topic. On this note, I argue here that self-congruency theory can be applied as a new lens to analyze and understand the self-disclosure behavior on social networking sites. To the best of the author's knowledge, self-disclosure phenomenon on social networking sites has not been examined from a self-congruency perspective.

#### **1.4 Theoretical Framework**

Self-congruency theory has been used to study consumer behavior, attitude, and preference. Self-congruency is the level of match or mismatch between the self-concept of an individual and the image of a product, brand, or service that the individual consumes or has an intention of consuming. Self-concept lies at the center of this theory. Self-theorists have defined self-concept as an attitude that an individual holds about or towards him or herself. This attitude consists of cognitive components such as knowledge and beliefs, affective components like evaluations, and behavioral motivational components such as predispositions or tendencies to respond (Rogers, 1951). Rogers argued that there is a symbolic value attached with products, and this interacts with the self-concept. This is in line with "symbolic interactionism"; a school of thought in



sociology which argues that the self arises in social interaction with others through symbolic communication. Depending on whether the symbol conveyed by the product enhances, distorts, or has no effect on the individual's self-concept, the individual is motivated to approach, avoid, or remain apathetic to the product.

The application of self-concept in consumer research started with a call for shift in marketing research from a purely economic and utilitarian perspective (Gardner & Levy, 1955), (Newman, 1957), (Levy, 1959). These authors suggested that an effort needs to be applied to understand consumer needs and buying decisions by using behavioral science rather than just economic rationality and sales statistics. These works tapped into the social and psychological dimensions of a product image and challenged the traditional view of looking at a product only through its economic and functional aspects.

Researchers have investigated and empirically established the predictive nature of self-congruency. Self-congruency has been shown to predict product preference (Ross, 1971), (Hughes, 1976), purchase intention (Landon, 1974), (Belch & Landon, 1977), (Oliver & Seung-Hee, 2010), (Hung & Petrick, 2011), loyalty (Bellenger, Steinberg, & Stanton, 1976), (Kressmann et al., 2006), (M. Joseph Sirgy, Lee, Johar, & Tidwell, 2008), (Zhang, Fu, Cai, & Lu, 2014). In the context of information systems, self-congruency with a high volume user differentiated the high and low volume users of Management Information System (MIS) (Schewe & Dillon, 1978). Self-congruency has been shown to have a positive effect on perceived usefulness, perceived enjoyment, and continuance of usage of a social networking site (Kang, Hong, & Lee, 2009). They extended their work further and showed that self-congruency had a positive effect on Information Systems (IS) habit as well (Kang, Min, Kim, & Lee, 2013). Research have explored how users present different self-concepts; namely actual self (how a

person sees oneself), and ideal self (how the person would like to be) on Facebook and how a congruency or conflict between the two self-concepts leads to different presentations of self on a social networking site (Hollenbeck & Kaikati, 2012). Self-congruency had a positive effect on enduring involvement in social media consumption, and motivation to consume social media (Khaldi, 2014). Users with high self-congruency were loyal to a social networking site even when they experience low satisfaction levels (Kourouthanassis, Lekakos, & Gerakis, 2015).

One can expect that an individual's self-congruency with a social networking site will have a positive effect on self-disclosure on the social networking site. Multiple studies have shown that trust in a social networking sites and other members of the social networking site is a risk-mitigating factor that encourages self-disclosure (Krasnova et al., 2010), (Lo & Riemenschneider, 2010), (Cheung et al., 2015). A higher level of trust can be expected when the individual user perceives high self-congruence with the social networking site and its other members.

Self-congruency with a product, service, or activity influences the attitude towards that product, service, or activity (Pratt & Sparks, 2014), (Schoenmueller, Bruhn, Walther, & Schaefer, 2013), (Anton, Camarero, & Rodriguez, 2013). Hence, it is argued that self-congruency with a social networking site will affect an individual's attitude towards self-disclosure on the site. Similarly, the positive relationship of self-congruency with intention to purchase a product (M. J. Sirgy, 2015) or share word of mouth about a service (D. Kim, Jang, & Adler, 2015) has been empirically established. Self-congruency with an event has been linked to several behavioral intentions such as word of mouth, repeat visit intention, and willingness to pay more (Ryu & Lee, 2013). Thus, it is expected that self-congruency with a social networking site will positively influence self-disclosure intention on that site. Apart from consumer attitude and intention, the

relationship between self-congruency and consumer behavior has also been thoroughly established (Ying & Hailin, 2015), (M. Joseph Sirgy, 1982). One can expect that if users can relate highly to a social networking site, i.e. have a high self-congruency with it, they will disclose more information about themselves on the site.

An individual partakes in an assessment of the benefits and risks of disclosing personal information. This aspect of information management is described as the “calculus of behavior” (Laufer & Wolfe, 1977). Laufer and Wolfe argued that individuals are ready to disclose information about them if they perceive that doing so is beneficial to them. Similarly, they will avoid disclosure if they believe that their ability to manage the information disclosed at some point in future is unpredictable or if they do not have an understanding of the private or public nature of the disclosure at the present moment. So, the self-disclosure behavior is driven by the perceived benefits and potential consequences of the act. In the context of electronic transactions, consumers were willing to disclose personal information when their concerns about privacy are addressed by fair procedures (Culnan & Armstrong, 1999). Culnan and Armstrong argued that the decision processes of an individual before disclosing personal information involves a privacy calculus, i.e. an assessment that their personal information will subsequently be used fairly and they will not suffer negative consequences. Thus, procedural fairness was a mechanism for the mitigation of perceived risks through trust-building measure that increased consumers’ willingness to disclose personal information.

Perceived benefits positively influence self-disclosure on social networking sites while perceive risks have a negative effect (Krasnova et al., 2010), (Cheung et al., 2015). Their studies also showed that trust in social networking sites and perceived control over disclosed information mitigated the perceived risk. In the current study, perceived risks and perceived benefits are

posited to affect the self-disclosure intention. Perceived control and self-congruency are expected to positively influence trust in social networking sites, which in turn is expected to reduce the perceived risk associated with the disclosure of personal information.

The theory of planned behavior (Ajzen, 1991) posits that an individual's intention towards a behavior is influenced by the individual's attitude towards the behavior, the subjective norm, and the perceived behavioral control. The intention towards the behavior along with the perceived control in turn affects the actual behavior. The unified theory of acceptance and use of technology (UTAUT) (V. Venkatesh, M. Morris, G. Davis, & F. Davis, 2003) uses four key constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions to explain the intention to use an information system and subsequent usage behavior. An extension of this model (Venkatesh, Thong, & Xu, 2012) takes into account three additional constructs: hedonic motivation, price value, and habit as the antecedents of the behavioral intention and usage behavior. In line with these theories, I argue here that self-disclosure behavior on a social networking site can be partially explained by perceived control, habit, social influence, and attitude towards self-disclosure. Based on theory of planned behavior, perceived control is posited to influence self-disclosure intention and behavior through attitude towards self-disclosure.

Thus, the current study aims to integrate three different perspectives: a) self-congruency theory, b) privacy calculus theory, and c) extension of unified theory of acceptance and use of technology into a single framework to explain self-disclosure on social networking sites.

## **1.5 Research Questions**

This study seeks a better understanding of self-disclosure behavior on social networking sites.

The goals of this study are expressed in terms of following research questions:

RQ1: What is the role of self-congruency on self-disclosure on social networking sites? How does it affect attitude, intention towards and actual self-disclosure behavior?

RQ2: What is the effect of self-congruency and perceived control on trust in the social networking site and its members?

RQ3: What are the roles of perceived costs and benefits of self-disclosure on the attitude, intention towards and actual self-disclosure behavior?

RQ4: How does perceived control, social influence, hedonic motivation, and habit affect the attitude, intention towards and actual self-disclosure behavior?

## CHAPTER 2: REVIEW OF LITERATURE

### 2.1 Self congruency

Self-congruency is the level of match or mismatch between the self-concept of an individual and the image of the product, brand, or service that the individual consumes or has the intention of consuming. A product-user image interacts with the consumer's self-concept and generates a subjective experience referred to as self-image/product image congruency or self-image congruency or self-congruency for short (M. Joseph Sirgy et al., 1997). Product and services have personality images just as people do (M. Joseph Sirgy, 1985), (Aaker, 1999). A variety of factors may contribute to the construction of these images including the physical characteristics of the products, advertising, price, and stereotypes of a generalized user of that product or service (M. Joseph Sirgy, 1982), (M. Joseph Sirgy, Grewal, & Mangleburg, 2000).

Self-congruency theory proposes that consumer behavior is partially determined by the congruency resulting from the psychological comparison involving the product-user image and the consumer's self-concept. The cause for this effect is explained by the consumer's self-concept motives of self-esteem and self-consistency, i.e. a desire to enhance or maintain one's self-concept (M Joseph Sirgy, 1986). The concept of self-congruency is based on the self-concept of the individual. Self-theorists have defined self-concept as an attitude one holds about or towards one's person (self). This attitude consists of the following components:

- Cognitive components: knowledge, belief
- Affective components: evaluations
- Behavioral-motivational components: predispositions or tendencies to respond (Ross, 1971).

Self-concept has been defined as all that we call our own, and with who or with which we share a bond of identity (James, 1890). In his propositions towards a theory for personality and behavior, Rogers (1951) argued that each individual lives in a continuously changing world in which he or she is the center. The individual reacts to this private world that can be described as a phenomenal field. The individual reacts to the field as it is experienced or perceived, and for them it is the “reality.” The individual has one basic tendency and striving—to actualize, maintain, and enhance the experiencing individual. Rogers goes forward to postulate that behavior is basically the goal-directed attempt of the individual to satisfy its experienced needs in the perceived field.

Rogers has theorized the self and its behavior as:

A portion of the total perceived field gradually becomes differentiated as the self. As a result of interaction with the environment, and particularly as a result of evaluational interaction with others, the structure of self is formed—an organized, fluid, but consistent conceptual pattern of perceptions of characteristics and relationships of the “I” or the “me,” together with values attached to these concepts.

Rogers goes on to say that as experiences occur in the life of the individual, they are either (a) symbolized, perceived, and organized into some relationship to the self, (b) ignored because there is no perceived relationship to the self-structure, (c) denied symbolization or given a distorted symbolization because the experience is inconsistent with the structure of the self. Most of the ways of behaving adopted by the individual are those that are consistent with the concept of the self. Self-concept is the totality of the individual’s thoughts and feelings having reference to him or herself as an object (Rosenberg, 1979).

Rogers’ theory is coherent with “symbolic interactionism;” a school of thought in sociology, the central premise of which is that the self arises in social interaction with others through symbolic communication. There is a symbolic value attached with products, and this interacts with the

self-concept of the individual. Depending on whether the symbol conveyed by the product enhances, distorts, or has no effect on the individual's self-concept, the individual is motivated to approach, avoid, or remain apathetic to the product. In other words, the self-congruency of an individual with a brand, product, or service serves as a predictor of the consumer behavior and attitude of the individual. Based upon this premise, a partial theory of consumer behavior was developed by linking the psychological construct of an individual's self-concept with the symbolic value of goods purchased in the marketplace (Grubb & Harrison, 1967). Grubb and Harrison proposed a theoretical model that viewed consumption of symbols (as conveyed by products) as a means to self-enhancement. They argued that individual does have a self-concept, which is of value to him or her, and hence the individual's behavior will be directed toward the furtherance and enhancement of this self-concept. Products serve as social symbols, and thus they are communication devices for the individual. Through the use of these goods or symbols, the individual communicates meaning to him or herself and to others as well. Thus, the consuming behavior of an individual is viewed as the furthering and enhancing of the self-concept.

### **2.1.1 Types of self-concept**

There are many different ways in which the self-concept has been defined and operationalized in the literature. This plethora of definitions has been attributed as a problem in the self-congruency research (Claiborne & Sirgy, 1990). The four most widely used types of self-concept in the literature are the following (M Joseph Sirgy, 1982):

- i) Actual self-concept: This refers to the actual self-image that a person has about oneself.



- ii) Ideal self-concept: This refers to the self-image that an individual would like to be. This is desired self of the individual.
- iii) Social self-concept: This refers to the self-image that an individual believes others have of him or her. It has also been referred to as looking glass self or presenting self.
- iv) Ideal social self-concept: This refers to the self-image that the individual desires others to have about him or herself.

### **2.1.2 Existing Work**

Some of the earlier works that shifted the focus in marketing research from a purely economic and utilitarian perspective were (Gardner & Levy, 1955), (Newman, 1957), and (Levy, 1959). They suggested that an effort needs to be applied to understand the consumer needs and buying decisions by using behavioral science rather than just the economic rationality and sales statistics. This was a call for a broader understanding of relationship between the product and the consumer; an understanding that will entail not just the functional but the symbolic aspect of the product and its meaning to the consumer. Gardner and Levy (1955) emphasized a greater awareness of the social and psychological nature of the product whether it be a brand, media, company, institutional figure, service, industry, or an idea. They argued brand as a complex symbol that represents a variety of ideas and attributes. So, the advertisement of a brand or product should be thought as a contribution to this complex symbol that represents the brand image. In a similar notion, Newman (1957) argued the product as symbol by virtue of its form, size, color, and functions whose significance as a symbol varies according to its level of association with individual needs and social interaction. Product therefore, is a sum of meanings conveyed to the user him or herself as well as to others who look at it. It was suggested that people buy things not only for what they can do, but also for what they mean (Levy, 1959).

Products have a symbolic character and consumers make an implicit or explicit assessment of this symbolism when they make a purchase. People act consistent with their self-concept and this is reflected in the type of products they purchase—products that have an image consistent with that of their own. The works discussed here tapped into the social and psychological dimensions of a product image. This marks a shift in the traditional view of looking at a product only through its economic and functional aspects.

Researchers have explored the relationship between the self-concept of individuals and the products they consume. It was empirically shown that an automobile owner's perception of his car (product image) is essentially congruent with the perception of his or her self-concept (Birdwell, 1968). Similarly, a difference in self-concept of owners of different brands of cars was found (Grubb & Hupp, 1968). Also, there was similarity in the self-concept among owners of same brands of cars while there was a difference in concept with which individuals perceived owners of the same brands of cars and owners of other brands. Other research has found congruence between the self-concept of the individual and the image of the product that he or she consumes (Dolich, 1969), (Grubb & Stern, 1971).

The research that followed has explored the predictive nature of the self-congruency rather than showing just the presence of it. Individual preferred brands of products which were similar to their own self-concept, i.e. self-congruence could predict product preference (Ross, 1971). By using several different products ranging from sun tan lotion to imported wine, mouthwash to beer, it was shown that purchase intention correlated with the self-concept (Landon, 1974). Landon used two different types of self-concept, the actual-self and the ideal-self in his study. By the comparison of shoppers' actual and ideal self-images to patronized and other store images, he found that shoppers shop at stores whose images are similar to their own self-images (Stern,

Bush, & Hair, 1977). Also, the self-images of the shoppers were different from the non-patronized stores.

An elaborate list of studies involving self-congruency has been presented in Table 2.1. The list contains the type of self-concept used in the research, type of scale used to measure the self-concept, the congruency model, the dependent variables, and the context of the research, i.e. type of product or service.

Table 2.1: List of Self-Congruency Studies

Authors	Type of Self-concept	Type of Scale to measure Self-concept, Product-image	Congruency Model	Dependent Variables	Type of Product/Service
(Birdwell, 1968)	Actual-self	Semantic Differential	Difference Score	Brand ownership	Automobile
(Grubb & Hupp, 1968)	Actual-self	Semantic Differential		Brand ownership	Automobile
(Dolich, 1969)	Actual-self, Ideal-self	Semantic Differential	Difference Score	Brand preference	Various products
(Ross, 1971)	Actual-self, Ideal-self	Semantic Differential	Difference Score	Brand preference	Automobile, Magazine
(Landon, 1974)	Actual-self, Ideal-self		Direct Score	Purchase intention	Various products
(Bellenger et al., 1976)	Actual-self	Semantic Differential	Correlation Score	Loyalty	Store
(Hughes, 1976)	Actual-self, Ideal-self	Semantic Differential	Difference Score	Brand preference	Automobile, Toothpaste
(Belch & Landon, 1977)	Actual-self, Ideal-self		Direct Score	Purchase intention	Various products
(Schewe & Dillon, 1978)	Actual-self, Ideal-self	Semantic Differential	Difference Score	User type	Management Information Systems
(Keon, Latack, & Wanous, 1982)	Actual-self	Semantic Differential	Difference Score	School attractiveness, Effort put	Graduate School
(M. Joseph Sirgy, 1985)	Actual-self, Ideal-self	Semantic Differential	Difference Score	Purchase motivation	Magazine, Automobile

Table 2.1 continued

Authors	Type of Self-concept	Type of Scale to measure Self-concept, Product-image	Congruency Model	Dependent Variables	Type of Product/Service
(Naresh K. Malhotra, 1988)	Actual-self, Ideal-self, Social-self	Semantic Differential	Difference Score	Product choice	House
(Chon, 1992)	Actual-self, Ideal-self		Direct Score	Satisfaction	Tourist destination
(Ericksen & Sirgy, 1992)	Actual-self, Ideal-self	Semantic Differential	Difference score	Clothing preference	Clothing
(Hong & Zinkhan, 1995)	Actual-self, Ideal-self	Semantic Differential	Difference Score	Advertisement Effectiveness ( Brand memory, Attitude towards product, Purchase intention)	Product Advertisement
(Graeff, 1997)	Actual-self, Ideal-self	Semantic Differential	Difference Score	Brand evaluation	Beer
(M. Joseph Sirgy et al., 1997)	Actual-self	Semantic Differential (1 of 3 studies)	Difference Score/ Direct Score	Attitude, Preference, Satisfaction, Choice	Various products and services
(Ahmad & Mark, 2001)	Actual-self		Direct Score	Brand preference, Satisfaction	Jewelry
(Joon-Ho, 2002)	Actual-self, Ideal-self		Direct Score	Participation Decision	Sports, Exercise
(Ekinici & Riley, 2003)	Actual-self, Ideal-self	Semantic Differential (for difference score)	Difference Score/ Direct Score	Attitude, satisfaction, Perceived service quality, Behavioral intention	Restaurant
(Diaz, Beerli, & Martin, 2004)	Actual-self, Ideal-self, Social-self, Ideal social-self	Semantic Differential	Difference Score	Choice of volunteer organization	Volunteer organization

Table 2.1 continued

Authors	Type of Self-concept	Type of Scale to measure Self-concept, Product-image	Congruency Model	Dependent Variables	Type of Product/Service
(Govers & Schoormans, 2005)	Actual-self		Direct Score	Consumer preference	Various products
(Kleijnen, de Ruyter, & Andreassen, 2005)	Actual-self, Ideal-self	Semantic Differential	Difference Score	Attitude, Adoption intention	Mobile Services
(Kressmann et al., 2006)	Actual-self	Likert score	Difference Score	Brand relationship quality, Brand loyalty	Automobile
(Beerli, Meneses, & Gil, 2007)	Actual-self, Ideal-self	Semantic Differential	Difference Score	Motivation to visit, Destination choice	Tourist Destination
(C. Chang, 2007)	Ideal-self	Semantic Differential	Difference Score	Attitude towards smoking	Cigarettes
(Hohenstein, Sirgy, Herrmann, & Heitmann, 2007)	Actual-self		Direct Score	Satisfaction, Attitude, Loyalty	Automobile, Railroad service
(Yim, Chan, & Hung, 2007)	Actual-self		Direct Score	Customer satisfaction, Customer commitment	Hair-styling service
(Cowart, Fox, & Wilson, 2008)	Actual-self		Direct Score	Satisfaction	Handheld devices, Home entertainment, Music product
(Ekinci, Dawes, & Massey, 2008)	Actual-self, Ideal-self		Direct Score	Satisfaction	Hospitality services
(M. Joseph Sirgy et al., 2008)	Actual-self		Direct Score	Sponsor brand loyalty	Sponsored event

Table 2.1 continued

Authors	Type of Self-concept	Type of Scale to measure Self-concept, Product-image	Congruency Model	Dependent Variables	Type of Product/Service
(Chebat, El Hedhli, & Sirgy, 2009)	Actual-self		Direct Score	Commitment, Loyalty	Shopping Mall
(Close, Krishen, & Latour, 2009)	Actual-self		Direct Score	Event entertainment, Event persuasiveness, Shopping likelihood	Store sponsored event
(Dae Hee & Joon-Ho, 2009)	Actual-self, Ideal-self		Direct Score	Purchase intention, Perceived quality	Basketball team merchandise
(Kang et al., 2009)	Actual-self		Direct Score	Perceived usefulness, Perceived enjoyment, Continuance intention	Social networking site
(Huber, Vollhardt, Matthes, & Vogel, 2010)	Actual-self, Ideal-self		Direct Score	Brand relationship quality	Jeans brand
(Oliver & Seung-Hee, 2010)	Actual-self		Direct Score	Purchase intention	Hybrid car
(Bosnjak, Sirgy, Hellriegel, & Maurer, 2011)	Actual-self, Ideal-self, Social-self, Ideal social-self		Direct Score	Post visit loyalty	Tourist destination
(Kil-Soo, Hongki, & Eung Kyo, 2011)	Actual-self		Direct Score	Avatar identification	Avatar (Virtual world)

Table 2.1 continued

Authors	Type of Self-concept	Type of Scale to measure Self-concept, Product-image	Congruency Model	Dependent Variables	Type of Product/Service
(Malar, Krohmer, Hoyer, & Nyffenegger, 2011)	Actual-self, Ideal-self		Direct Score	Emotional brand attachment	Various brands
(Nam, Ekinici, & Whyatt, 2011)	Ideal-self		Direct Score	Satisfaction, Brand loyalty	Hotel, Restaurant
(Hosany & Martin, 2012)	Actual-self, Ideal-self	Semantic Differential	Difference Score	Satisfaction, Perceived experience	Cruise trip
(Mazodier & Merunka, 2012)	Actual-self		Direct Score	Event affect, Brand affect	Sports event
(Anton et al., 2013)	Actual-self		Direct Score	Attitude, Adoption intention	e-books
(Ekinici, Sirakaya-Turk, & Preciado, 2013)	Actual-self		Direct Score	Destination brand loyalty	Tourist destination
(Hyun Ju & Mira, 2013)	Ideal social-self	Unipolar Semantic Differential	Difference Score	Intention to join a cause	Cause
(Kang et al., 2013)	Actual-self		Direct Score	Continuance intention, IS Habit	Social networking site
(Ryu & Lee, 2013)	Actual-self		Direct Score	Perceived quality, Perceived value, Behavioral intentions	Academic convention
(Das, 2014)	Actual-self		Direct Score	Store loyalty	Retail store
(Pratt & Sparks, 2014)	Actual-self		Direct Score	Attitude, Intention to visit	Wine tourism destination

Table 2.1 continued

Authors	Type of Self-concept	Type of Scale to measure Self-concept, Product-image	Congruency Model	Dependent Variables	Type of Product/Service
(D. Kim et al., 2015)	Actual-self		Direct Score	Electronic word of mouth (eWOM)	Upscale café
(Nyffenegger, Krohmer, Hoyer, & Malaer, 2015)	Actual-self		Direct Score	Brand relationship quality	Frequent flyer program
(Roy & Rabbanee, 2015)	Actual-self		Direct Score	Self-perception	Jewelry brand

## 2.2 Self-disclosure

With origins in verbal communication research, self-disclosure has been defined as the process of making the self known to others (Jourard & Lasakow, 1958). It is an act of revealing personal information including thoughts, feelings, and experiences to others (Derlega et al., 1993). Another definition given is self-disclosure as “any information about himself that Person A communicates to Person B” (Cozby, 1973). Different factors that may potentially vary self-disclosure include the duration, accuracy, intimacy, intent of disclosure, positive or negative information, and relevance to other topics under discussion (Wheless & Grotz, 1976). Three basic dimensions of self-disclosure has been suggested as the following:

- i) Breadth: the amount of information disclosed
- ii) Depth: the intimacy of information disclosed
- iii) Duration: the amount of time spent disclosing (Cozby, 1973)



Other dimension namely honesty of the disclosure has been suggested (Jourard & Lasakow, 1958). Similarly, conscious deliberate intent to disclose as well as honesty or authenticity has also been suggested as basic dimensions of self-disclosure (Pearce & Sharp, 1973). Five different dimensions of self-disclosure were extracted by Wheelless and Grotz (1976) namely: intention to disclose, amount of disclosure including both frequency and duration of time, the positive-negative nature of disclosure, the honesty or accuracy of disclosure, and the general depth of disclosure. Self-disclosure has been viewed both as a personality trait like construct that varies across individuals (Berg & Derlega, 1987) and also as an interpersonal process that occurs when individuals interact with each other (Dindia et al., 2002).

While self-disclosure has been studied to a greater extent in the context of verbal communication, research that focuses on self-disclosure on social networking sites is a recent development (Varnali & Toker, 2015). In the context of electronic transactions, it was found that the influence of internet trust and personal internet outweigh the privacy risk perceptions in individual's decision to disclose personal information (Dinev & Hart, 2006). Perceived publicness of a social networking site has been shown to be negatively associated with self-disclosure (Pike, Bateman, & Butler, 2009), (Sawyer et al., 2011). Users are primarily motivated towards self-disclosure by the convenience of maintaining and developing relationships and platform enjoyment. While privacy risk imposes a barrier to self-disclosure, it can be mitigated by trust and perceived control in the social networking site (Krasnova et al., 2010). The negative role of perceived risk and the positive role of trust in social networking site upon self-disclosure has been shown in other studies as well (Lo, 2010), (Lo & Riemenschneider, 2010).

In online communities, positive social influence towards usage, reciprocity, and trust in the online community has been shown to increase self-disclosure whereas privacy risk decreases it

(Posey, Lowry, Roberts, & Ellis, 2010). Posey et al.'s study showed that a tendency towards collectivism increases self-disclosure. Privacy policy consumption and privacy behaviors have been found to control the relationship between privacy attitudes and self-disclosure (Stutzman et al., 2011). Levels of self-disclosure has been shown to be associated with greater levels of satisfaction in social networking sites (Li-Barber, 2012).

In their study about the effect of “Big Five” personal characteristics: extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness on self-disclosure behavior on social networking sites, Loiacono, Carey, Misch, Spencer, and Speranza (2012) found that all five factors are relevant in a user's decision to disclose personal information. Yang and Tan (2012) identified three leading motives: relationship development, social validation, and self-expression, for self-disclosure on social networking sites. An indirect positive effect of extroversion and perceived critical mass, and indirect negative effect of perceived internet risk was found on self-disclosure through the attitude towards social networking site, whereas privacy value was found to moderate the direct relationship between attitude and self-disclosure (Chen, 2013). Social networking site user commitment, trust, and use gratifications were identified as three antecedents of self-disclosure (Xu, Visinescu, & Kim, 2013).

Contrary to the findings of many studies, Taddicken (2014) did not find privacy concerns to have an impact on self-disclosure. The study found that perceived social relevance, the number of different social web applications used, and the general willingness to disclose are the important determinants of self-disclosure. In a study conducted among youth of South Africa, trust in the social networking site and concerns about the access of personal information were found to predict the member trust.

This trust consequently determined the levels of self-disclosure on the social networking site (Bevan-Dye & Akpojivi, 2015). Along with the perceived benefits, social influence has been found to affect self-disclosure on social networking sites (Cheung et al., 2015).

### **2.3 Privacy Calculus Theory**

Privacy calculus theory argues that an assessment of the costs and benefits involved with disclosure of information is performed before an individual makes a decision whether or not to disclose information. A decision to disclose information is made if the benefits associated with the disclosure outweigh its costs. A calculus of behavior, accounting for situational constraints such as institutional norms of appropriate behavior, anticipated benefits, and unpredictable consequences are important predictors of whether an individual would disclose personal information (Laufer & Wolfe, 1977). Laufer and Wolfe further argued that individuals are often unable to predict the nature or outcome of their behavior, and this suggests the importance of personal beliefs in swaying behavioral intention. This is a crucial element of the calculus of behavior.

Laufer and Wolfe (1977) have mentioned three significant aspects to the calculus of behavior. First, individuals may engage in various behaviors believing that they can manage the information in new and later situations and thus minimize the potential consequences. Second, individuals may not do certain things because the ability to manage the information at some later, even distant point is unpredictable, or because even at the present moment the public or private nature of the act is ambiguously defined. Third, the calculus of behavior is related to the emergence of new technologies and the stages of their life cycle. The person has to decide the probable future consequences of current behavior in terms of how the disclosure is going to be saved or recorded and whether others will have access to it.

Stone and Stone (1990) made a comprehensive assessment of costs and benefits of information disclosure in a range of different settings. Applying the privacy calculus perspective in electronic data transactions, Culnan and Armstrong (1999) found that consumers are willing to disclose personal information that is subsequently used to create profiles for marketing use, when their concerns about privacy are addressed by fair procedures. When the consumers are informed about the vendor's information practices and when they perceive the business as fair to them, they are more willing to consent to personal information disclosure. Thus, individuals' processing of information before the disclosure of personal information was shown to involve a privacy calculus assessment.

Equating a cost-benefit analysis with the privacy calculus, Culnan and Bies (2003) argued that individuals will disclose personal information if they perceive that the overall benefits of disclosure are greater or equal to the assessed risks of disclosure. Culnan and Bies further suggested that a positive net outcome should mean that people are more likely to accept the loss of privacy that accompanies any disclosure of personal information as long as an acceptable level of benefits accompanies the risks.

In an extended privacy calculus model for e-commerce transactions, Dinev and Hart (2006) found that although internet privacy concerns inhibit e-commerce transactions, the cumulative influence of internet trust and personal internet were important factors that can outweigh privacy risk perceptions in the decision to disclose personal information when an individual uses the internet.

In the context of social networking sites, Krasnova et al. (2010) applied the privacy calculus theory to show that users are likely to disclose information on these sites if the perceived benefits such as the convenience of maintaining relationships, opportunities to build new relationships,

self-presentation, and enjoyment outweigh the perceived privacy risk. The study also found that perceived control and trust in a social networking site as well as its members would mitigate the perceived privacy risk. The privacy calculus model in the study was extended by adding social influence, which was shown to affect self-disclosure (Cheung et al., 2015).

## **2.4 Theory of planned behavior**

The theory of planned behavior has its origins in the theory of reasoned action. The theory of reasoned action proposes behavioral intention as the most important determinant of an individual's behavior. Behavioral intention is caused by two factors: attitude and subjective norm (Fishbein & Ajzen, 1977) (Ajzen & Fishbein, 1980). The theory posits that attitude has two components namely evaluation and strength of a belief. Subjective norm also has two components: normative beliefs and motivation to comply. The theory of planned behavior (Ajzen, 1991) was developed as an extension to the theory of reasoned action by adding an additional construct of perceived behavioral control that predicts behavioral intention and the actual behavior. As shown in Fig. 2.1, attitude toward the behavior, subjective norm, and the perceived behavioral control are the three antecedents to the behavioral intention that leads to the actual behavior. A direct effect from perceived behavioral control to behavior is expected to emerge when there is some agreement between perceptions of control and the individual's actual control over the behavior.

Attitude refers to the individual's positive or negative beliefs about performing a certain behavior. An individual will intend to perform a certain behavior when it is evaluated positively. Individuals have pre-existing beliefs about the consequence of performing a behavior according to their evaluation of the outcome. These beliefs termed as behavioral beliefs determine the attitude towards the behavior.

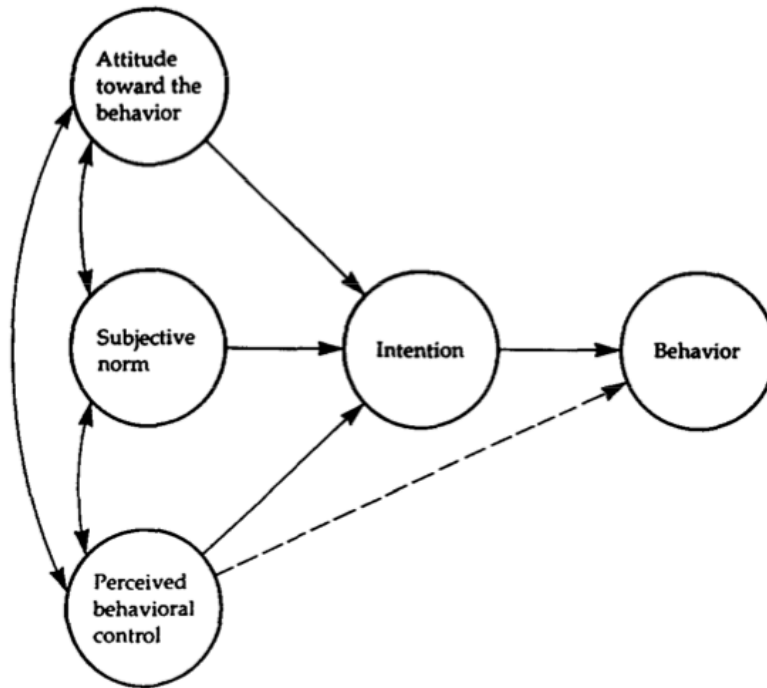


Fig. 2.1: Theory of Planned Behavior. Source: (Ajzen, 1991)

Subjective norms are also determined by the individuals' beliefs regarding the approval or disapproval of performing the behavior. These beliefs are known as normative beliefs and represent the perception of an individual regarding how a behavior would be approved or disapproved by people who are important to the individual like their friends, spouses, doctors, or members of their community. Perceived control refers to the degree to which an individual feels that performance or non-performance of the behavior is under her volitional control. The more control an individual feels she has over a behavior, the stronger the intention she is likely to develop for the behavior. Perceived control directly affects the behavior when there is agreement between the perceived and actual control that an individual has over the behavior.

The theory of planned behavior has been used to predict and understand motivational influences on behavior that is not under the individual's volitional control, to identify how and where to target strategies for changing behavior, and to explain a wide range of human behaviors. Ajzen

and Driver (1992) used the theory to predict leisure intentions and behavior among college students for activities such as spending time at the beach, jogging or running, mountain climbing, boating, and biking. Parker, Manstead, Stradling, Reason, and Baxter (1992) assessed the ability of the theory to account for drivers' intention to commit driving violations such as drinking and driving, speeding, close following, and overtaking in risky circumstances. An application of the theory was illustrated in the study of water saving technology adoption and technology investment behavior for strawberry farmers in Florida (Lynne, Casey, Hodges, & Rahmani, 1995). Theory of planned behavior was applied in the context of moral behavior, namely, illegal copying of software and was shown to be more explanatory than the theory of reasoned action (M. K. Chang, 1998). Behavioral preferences of environmental managers were analyzed with their pollution prevention attitudes, their perception of norms for environmental regulations, and their perceived behavioral control, and the past source reduction activity of their facilities (Cordano & Frieze, 2000). Using the theory of planned behavior as a basis, in the context of online purchase, it was found that individuals who believed in trustworthiness of the internet and in their own abilities to buy online, were more likely to make internet purchases than those without such beliefs (George, 2004). Online consumer behavior of getting information and purchasing a product from a web vendor was modeled by using the theory of planned behavior which explained and predicted the process of e-commerce adoption (Pavlou & Fygenon, 2006). The theory of planned behavior has been used to study intrinsic and extrinsic motivations that affect users' acceptance of instant messaging service (Lu, Zhou, & Wang, 2009), young people's use of social networking sites (Pelling & White, 2009), mobile learning readiness in higher education (Cheon, Lee, Crooks, & Song, 2012), and impact of electronic word of mouth on a tourism destination choice (Jalilvand & Samiei, 2012). While a complete illustration of all the

applications of theory or planned behavior is not the intent of this discussion, it should be noted that the theory has been widely influential in a very diverse set of fields to predict and explain human behavior.

### 2.5 Technology Acceptance Model(s)

The technology acceptance model represents a theory in information systems that explains users' acceptance and usage of a technology. It was first proposed by Fred Davis in his doctoral dissertation (Davis Jr, 1986). The theory regards the perceived usefulness and perceived ease of use of an information system as antecedents of the attitude towards and usage of the system.

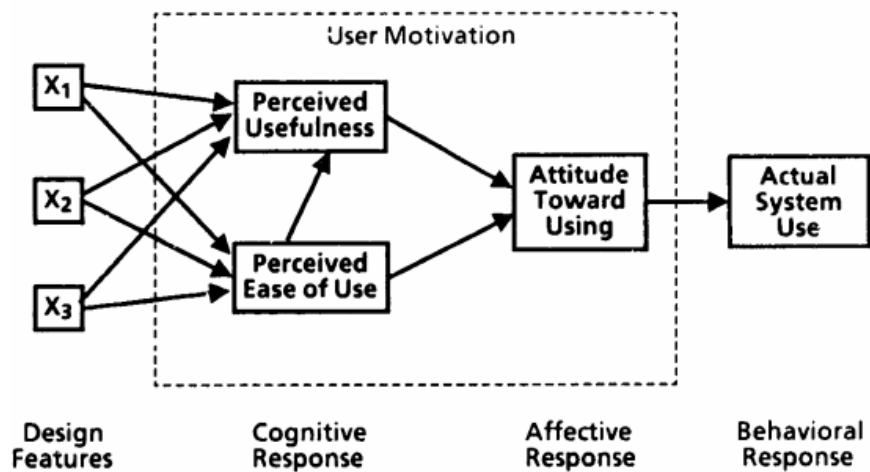


Fig. 2.2: Technology Acceptance Model. Source: (Davis Jr, 1986)

The technology acceptance model is based on the theory of reasoned action, i.e., beliefs with regard to information systems usage determine the attitude towards usage. The attitude towards the information systems usage then determines the actual system use. As shown in Fig. 2.2, in addition to external variables, the attitude towards usage of the information system is determined by two main factors:

Perceived usefulness: It is defined as the degree to which an individual believes that using a particular system would enhance her performance.



Perceived ease-of-use: It is defined as the degree to which an individual believes that using a particular system would be free from effort.

The goal of the technology acceptance model has been to explain the determinants of computer acceptance, to be capable of explaining user behavior across a broad range of end-user computing technologies and user populations, while being theoretically justified as well as parsimonious (Davis, Bagozzi, & Warshaw, 1989).

Venkatesh and Davis (2000) developed an extension to the technology acceptance model that explains perceived usefulness and usage intentions in terms of social influence and cognitive instrumental processes. This model, also referred to as Technology Acceptance Model 2 (TAM2) adds the social influence processes of subjective norm, voluntariness, and image, and the cognitive instrumental processes of job relevance, output quality, result demonstrability to the initial technology acceptance model.

The TAM2 model as shown in Fig. 2.3 reflects the impact of three interrelated social variables: subjective norm, voluntariness, and image that impact the perceived usefulness which eventually effects the intention to use a system and the actual usage. Subjective norm is the individual's perception that most people who are important to her think that she should or should not perform the behavior. Voluntariness which is posited as a moderating variable between subjective norm and intention is defined as the extent to which potential adopters perceive the adoption decisions to be non-mandatory. Image is defined as the degree to which use of a system is perceived to enhance one's status in their social system.

The model also theorizes three additional cognitive instrumental variables: job relevance, output quality, and result demonstrability that affects the perceived ease of use. Job relevance is defined as the individual's perception regarding the degree to which the target system is applicable to her

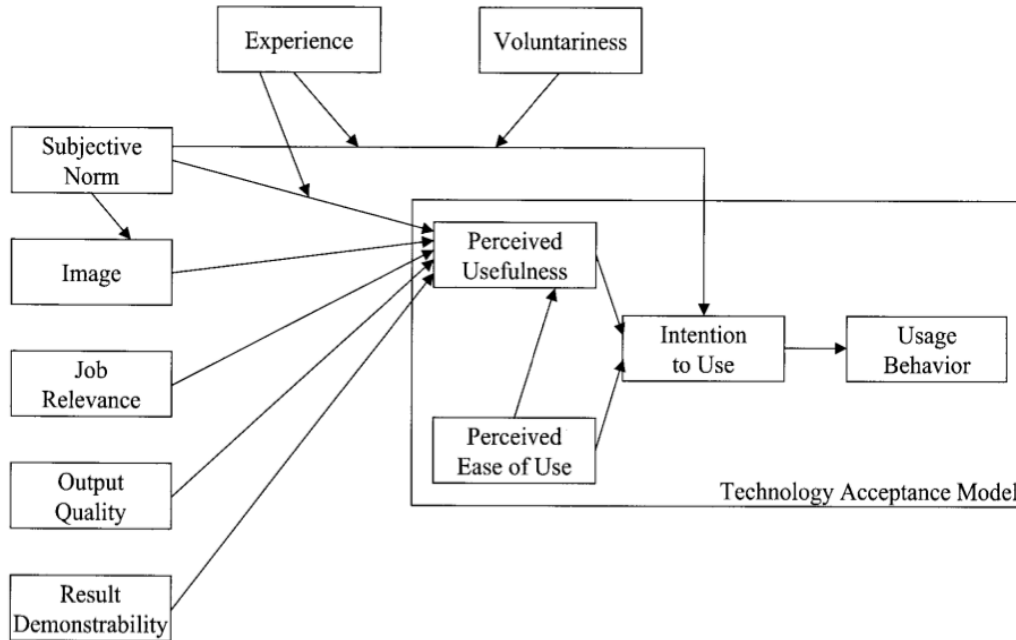


Fig. 2.3: Technology Acceptance Model 2 (TAM2). Source: (Venkatesh & Davis, 2000)

job. Output quality refers to the perceived degree of how well the system performance matches the job goals of the individual. Result demonstrability is defined as the tangibility of the results of using the system. The model posits that experience over time with the system moderates the effects of social influence processes on perceived usefulness and intentions to use.

Combining eight different models of user acceptance, the unified theory of acceptance and use of technology (UTAUT) was proposed (V. Venkatesh, M. G. Morris, G. B. Davis, & F. D. Davis, 2003). This model is a synthesis of the theory of reasoned action, the technology acceptance model, the motivational model, the theory of planned behavior, a model combining the technology acceptance model and the theory of planned behavior, the model of PC utilization, the innovation diffusion theory, and the social cognitive theory.

As shown in Fig. 2.4, the model includes performance expectancy, effort expectancy, and social influence as the antecedents of the intention to use a system, and facilitating condition as the antecedent to system usage. Gender, age, experience, and voluntariness are posited to moderate

the relationship between the intention and its antecedents. Performance expectancy is defined as the degree to which an individual believes that using the system will help her attain gains in job performance. Effort expectancy is defined as the degree of ease associated with the use of the system. Social influence is defined as the degree to which an individual perceives that important others believe she should use the system. Facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system.

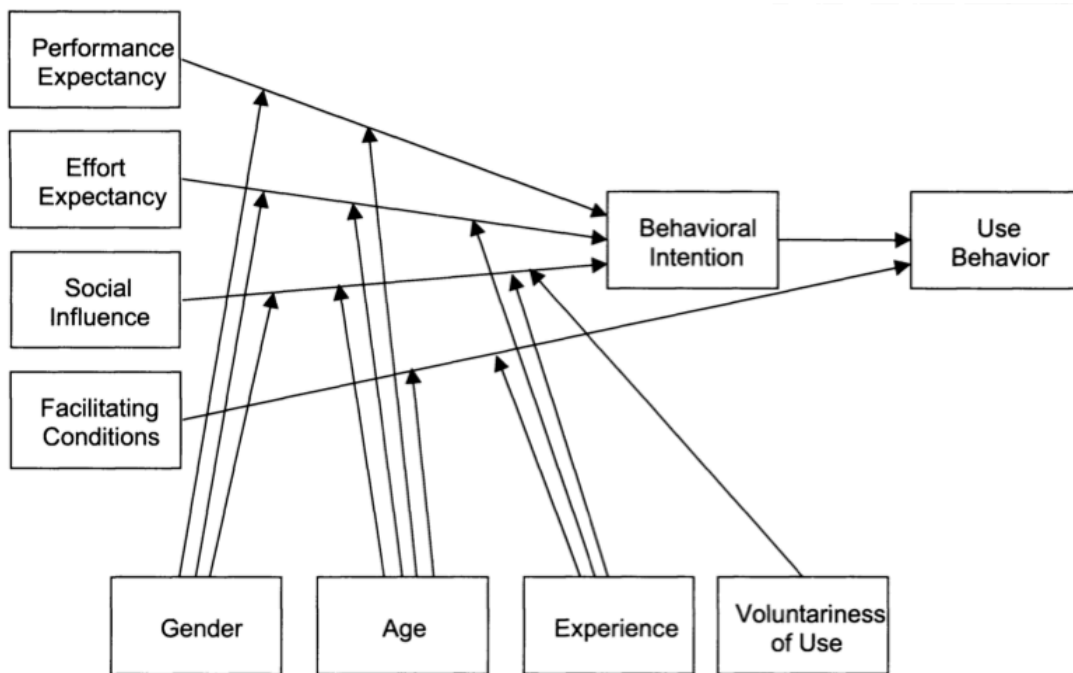


Fig. 2.4: Unified Theory of Acceptance and Use of Technology (UTAUT). Source: (Viswanath Venkatesh et al., 2003)

The unified theory of acceptance and use of technology has been extended in a consumer context (Venkatesh et al., 2012). The model also referred to as UTAUT2 includes three additional constructs into the previous model. Hedonic motivation, price value, and habit are added as additional predictors of behavioral intention and usage.

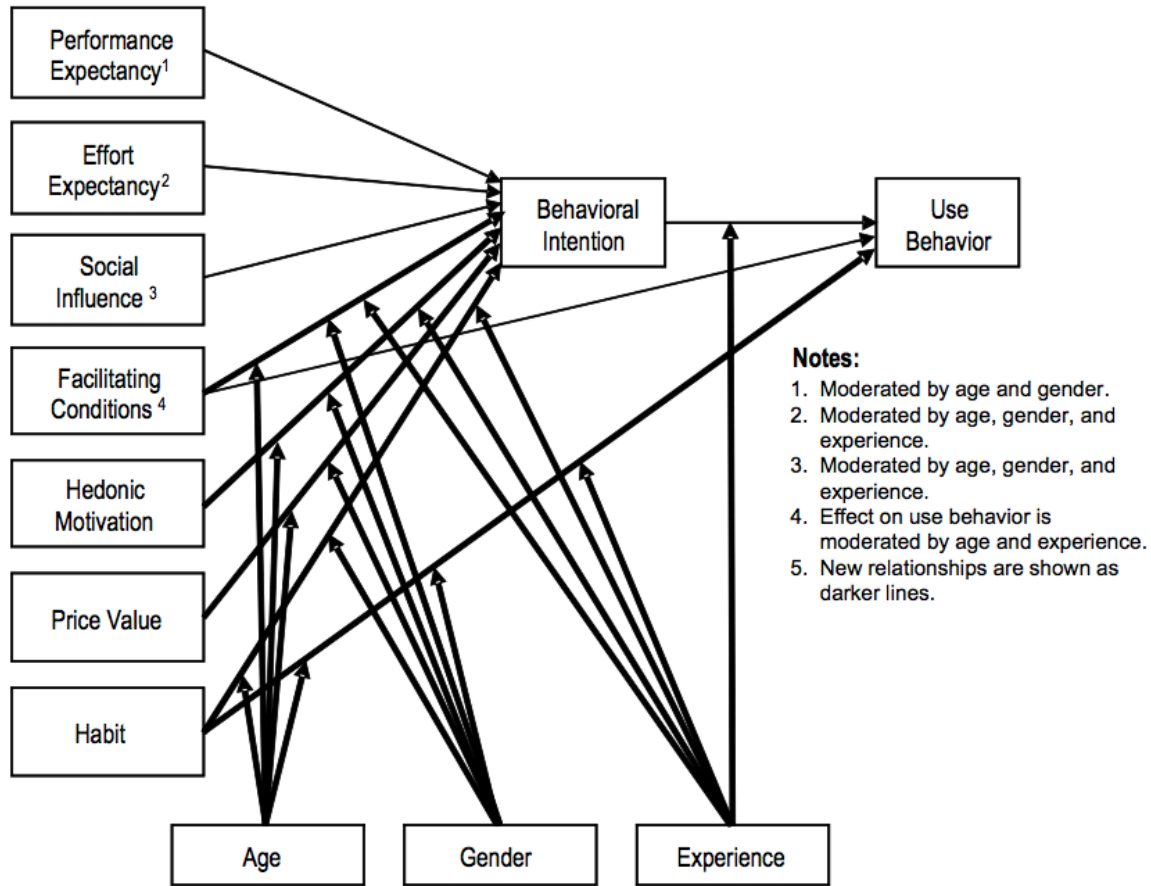


Fig. 2.5: Extension of Unified Theory of Acceptance and Use of Technology (UTAUT2). Source (Venkatesh et al., 2012)

As illustrated in Fig. 2.5, the UTAUT2 takes into consideration hedonic motivation, price value, and habit as additional antecedents of behavioral intention that leads to usage behavior. Individual differences of age, gender, and experience are posited to moderate the effect of all the antecedents on behavioral intention and use. Hedonic motivation is defined as the fun or pleasure derived from using a technology. Price value is defined as consumers’ cognitive tradeoff between the perceived benefits of the application and the monetary cost for using them. Habit is defined as the extent to which people tend to perform behaviors automatically because of learning.

UTAUT models have been applied to study consumer technology usage behavior in various fields. It has been applied to explain behavior intention and usage behavior of internet banking (Martins, Oliveira, & Popovič, 2014). The determinants of purchasing flights from low cost carrier were examined and the key determinants were found as trust, habit, cost saving, ease of use, performance and expended effort, hedonic motivation, and social factors which are in line with UTAUT (Escobar-Rodríguez & Carvajal-Trujillo, 2014). A study on mobile users' engagement using the UTAUT model found that users' engagement motivations influence the perceived value, satisfaction, and mobile engagement intention (Y. H. Kim, Kim, & Wachter, 2013). Similarly, UTAUT has been applied to study purchasing behavior in social virtual worlds (Mäntymäki & Salo, 2013), customer usage intention of mobile commerce (Goyal, Maity, Thakur, & Srivastava, 2013), faculty use of established and emerging technologies in higher education (Lewis, Fretwell, Ryan, & Parham, 2013), pre-service teachers' acceptance of learning management software (Raman & Don, 2013), educational technology acceptance (Nistor, Göğüş, & Lerche, 2013), mobile banking (Baptista & Oliveira, 2015), cloud based e-invoice service adoption (Lian, 2015), and social networking site adoption (Kaba & Touré, 2014).

## CHAPTER 3: RESEARCH METHODS

### 3.1 Proposed Research Model

An integrated framework for self-disclosure in social networking sites is proposed as the research model. The model combines three different perspectives and aims for a holistic explanation of self-disclosure behavior on social networking sites. The model proposes three different set of predictors of attitude towards self-disclosure, self-disclosure intention, and self-disclosure behavior that can be categorized based upon the theories that they emanate from. The first of these three categories is self-congruency based upon self-congruency theory. Self-congruency is shown to affect attitude towards self-disclosure, self-disclosure intention as well as the actual self-disclosure behavior. The second set of predictors is derived from the privacy calculus theory. This includes the perceived cost of self-disclosure in the form of privacy risk, perceived benefits as new relationship building, social capital, and social validation. These perceived costs and benefits are shown to affect the attitude towards, intention, and actual self-disclosure behavior. The third category of predictors originates from the extended unified theory of acceptance and use of technology (UTAUT2). Perceived control, social influence, hedonic motivation, and habit are the factors that belong to this category. The predictors in this category are hypothesized to affect attitude towards, intention, and actual self-disclosure behavior.

Trust, both in social networking sites as well as in social networking sites members are included in the model. Self-congruency and perceived control are hypothesized to affect the trust factors.

The causal direction of the model is in line with the theory of planned behavior and technology acceptance models as in the attitude towards self-disclosure is shown to be the predictor of self-disclosure intention and the self-disclosure intention is shown to be the predictor of actual self-disclosure behavior.

All the relationships to attitude towards self-disclosure, self-disclosure intention, and self-disclosure behavior in the model are hypothesized to be moderated by age, gender, number of connections in the social networking site, social networking site experience, and Facebook (social networking site used in the research) experience. The proposed research model is presented in Fig. 3.1.

### **3.2 Hypotheses**

Self-congruency with a social networking site is the match between the users' self-concept and the image of the social networking site. It has been shown that self-congruency with a product, service, or activity has an effect on the attitude, intention, as well as behavior associated with the usage of that product, service, or activity (M. J. Sirgy, 2015), (Pratt & Sparks, 2014), (Schoenmueller et al., 2013), (Anton et al., 2013), (D. Kim et al., 2015), (Ryu & Lee, 2013), (Ying & Hailin, 2015). Accordingly, it is argued that self-congruency with a social networking site will have a direct positive effect on the attitude towards self-disclosure, self-disclosure intention, and self-disclosure behavior on the social networking site. This is represented by Hypothesis 1 (a), 1 (b), and 1 (c) below.

H1 (a): Self-congruency with a social networking site has a positive effect on attitude towards self-disclosure on the social networking site.

H1 (b): Self-congruency with a social networking site has a positive effect on self-disclosure intention on the social networking site.

H1 (c): Self-congruency with a social networking site has a positive effect on self-disclosure on the social networking site.

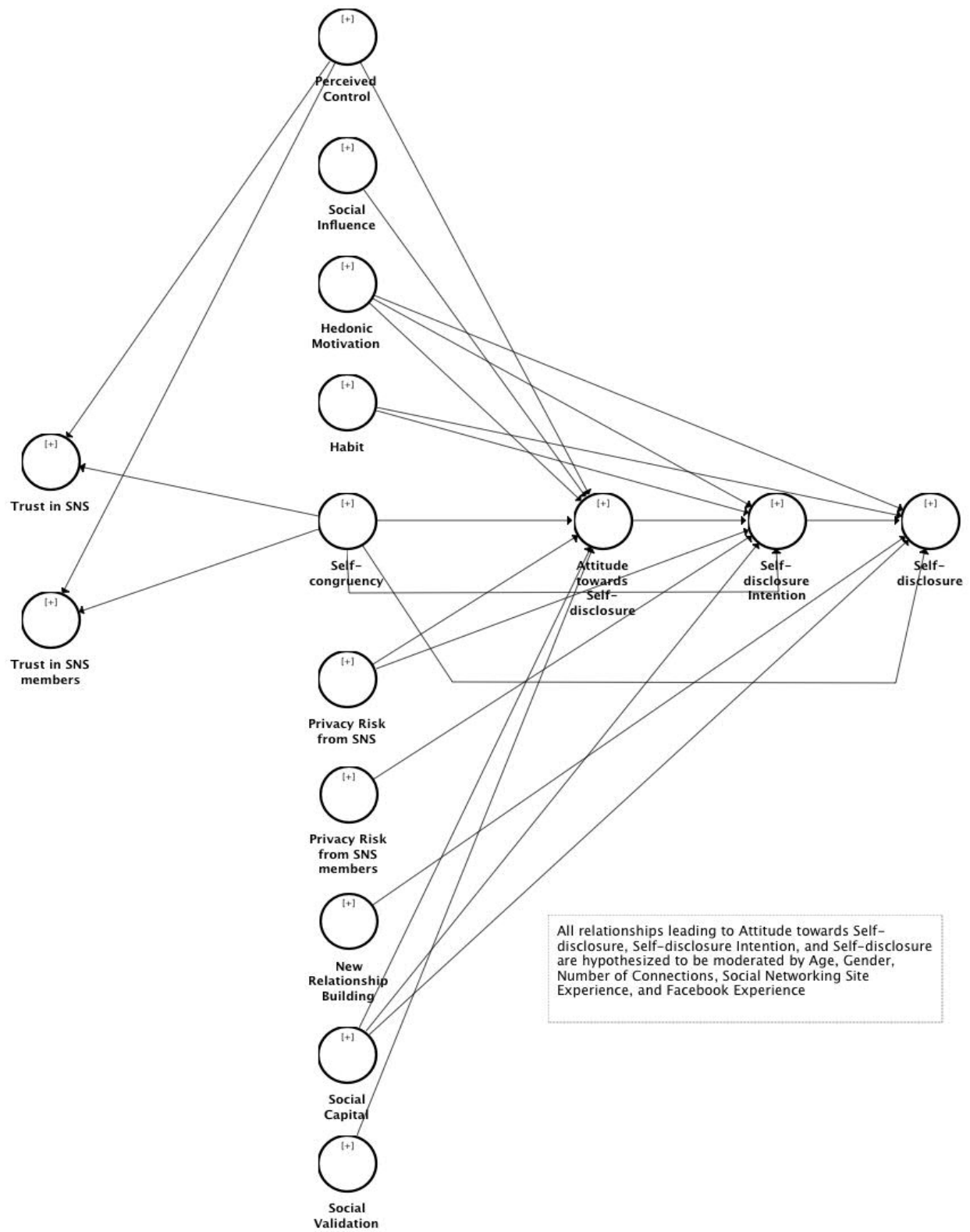


Fig. 3.1: Proposed Research Model: Integrated Framework for Self-disclosure on Social Networking Sites



Self-congruency taps into the notion of similarity. The degree of self-congruency is dependent on the degree of similarity that a user perceives the social networking site and its stereotypical users to his or her self-concept. Similarity is a key element in binding together different network ties such as friendship, work, advice, information transfer, exchange, co-membership, and other types of relationship (McPherson, Smith-Lovin, & Cook, 2001). It has been empirically shown that user similarity leads to a greater degree of trust in online communities (Ziegler & Lausen, 2004). Based on these arguments, it is posited that self-congruency will have direct positive effect on the trust the social networking site as well as on the trust in the members of the social networking site. Hypothesis 1 (d) and 1 (e) represent these postulated effects.

H1 (d): Self-congruency with a social networking site has a positive effect on trust in social networking site.

H1 (e): Self-congruency with a social networking site has a positive effect on trust in other members of social networking site.

Privacy risk is defined as the expectation of losses related to self-disclosure of information on a social networking site. Dinev and Hart (2006) showed that a higher level of perceived privacy risk is related to a lower level of willingness to provide personal information on Internet transactions. Krasnova et al. (2010) argued privacy risk as the cost associated with self-disclosure and found evidence of the negative effect of perceived privacy risk on self-disclosure on social networking sites. Later, Cheung et al. (2015) replicated this finding. Privacy risk in social networking can be the privacy risk from the social networking site as well as from the social networking site members. Hypothesis 6 (a), (b), and (c) are presented to postulate this negative effect of perceived privacy risk on the attitude towards self-disclosure and self-disclosure intention.

H2 (a): Privacy risk from social networking site has a negative effect on attitude towards self-disclosure on a social networking site.

H2 (b): Privacy risk from social networking site has a negative effect on self-disclosure intention on social networking site.

H2 (c): Privacy risk from social networking site members has a negative effect of self-disclosure intention.

Individuals are ready to disclose information about them if they perceive that it is beneficial to them (Laufer & Wolfe, 1977). Krasnova et al. (2010) explored and empirically showed that the perceived benefits of self-disclosure viz. convenience—the ability to conveniently maintain relationships, new relationship building—the perceived opportunity to build new relationships, enjoyment—the extent to which the activity of using the social networking sites is enjoyable had direct positive effects on self-disclosure on social networking sites. Social capital has been defined as the resources accumulated through the relationships among people. The usage of social networking site has been associated with social capital citing this as a benefit of the usage (Ellison, Steinfield, & Lampe, 2007). Similarly, social validation is defined as people's tendency to seek the opinions of other individuals in order to validate their own opinions, attitudes, and beliefs (Graham, 1997). Social validation can be argued as a perceived benefit of social networking sites as they provide platform where users can get feedback for their thoughts and beliefs. In line with this discussion, Hypotheses 3, 4, and 5 are presented to postulate the effect of the perceived benefits on the attitude towards, intention and actual self-disclosure behavior.

H3: Perceived benefit of building new relationships has a positive effect on self-disclosure on social networking site.

H4 (a): Perceived benefit of social capital has a positive effect on attitude towards self-disclosure on social networking site.

H4 (b): Perceived benefit of social capital has a positive effect on self-disclosure intention on social networking site.

H4 (c): Perceived benefit of social capital has a positive effect on self-disclosure on social networking site.

H5: Perceived benefit of social validation has a positive effect on attitude towards self-disclosure on social networking site.

Perceived control in this study has been defined as the level of control that the user perceives to have over the self-disclosed information on the social networking site. According to the theory of planned behavior, perceived control over a behavior influences an individual's attitude and intention towards the behavior as well as the actual behavior (Ajzen, 1991). The behavioral control for self-disclosure has been operationalized as the control over the self-disclosed information, i.e. a greater control over one's self-disclosed information can be used as a measure of the perceived control over the self-disclosure behavior. Hypothesis 6 (a) represents the postulated effect of perceived control on the attitude towards self-disclosure behavior.

H6 (a): Perceived control over self-disclosed information on a social networking site has a positive effect on attitude towards self-disclosure on social networking site.

Past research has shown that companies can build trust relationships with consumers by providing them control over their information (Culnan & Armstrong, 1999), (Milne, 2000). I argue here that the user will trust the social networking site and its members more if there is a greater perceived control over one's self-disclosed information. Hypothesis 6 (b) and (c) represent this postulated effect of perceived control on trust.

H6 (b): Perceived control over self-disclosed information on social networking site has a positive effect on trust in the social networking site.

H6 (c): Perceived control over self-disclosed information on social networking site has a positive effect on trust in the social networking site members.

Social influence in the context of this research is defined as the degree to which an individual perceives that important others believe he or she should disclose information on the social networking site. Following the extended version of unified theory of acceptance and use of technology (UTAUT2) that posits social influence as one of the antecedents of the behavior regarding the usage of information system (Venkatesh et al., 2012), it is postulated as represented by Hypothesis H7 that social influence will have a positive effect on the attitude towards self-disclosure.

H7: Social influence towards self-disclosure on a social networking site has a positive effect on attitude towards self-disclosure on social networking site.

Hedonic motivation is defined as the extent to which the activity of using the social networking site is enjoyable. Hedonic motivation has been posited as one of the antecedents of usage behavior in the extended unified theory of acceptance and use of technology (UTAUT2) (Venkatesh et al., 2012). It is argued through Hypothesis H8 (a), (b), and (c) that hedonic motivation is a driver for the attitude towards, intention, and actual self-disclosure on social networking site.

H8 (a): Hedonic motivation has a positive effect on attitude towards self-disclosure on social networking site.

H8 (b): Hedonic motivation has a positive effect on self-disclosure intention on social networking site.

H8 (c): Hedonic motivation has a positive effect on self-disclosure on social networking site.

Habit in the context of this research is defined as the extent to which people tend to disclose information on social networking sites automatically because of learning (Limayem & Hirt, 2003). The extended version of unified theory of acceptance and use of technology (UTAUT2) posits habit as one of the antecedents of the behavioral intention regarding the usage of information system (Venkatesh et al., 2012). Subsequently, through Hypothesis 9 (a) and (b), it is proposed that habit has positive effect on self-disclosure intention and actual self-disclosure on social networking site.

H9 (a): Habit of self-disclosure on social networking site has a positive effect on self-disclosure intention on the social networking site.

H9 (b): Habit of self-disclosure on social networking site has a positive effect on self-disclosure on a social networking site.

Attitude represents user's favorable or unfavorable feelings of disclosing information on the social networking site. Theory of planned behavior suggests that attitude towards a behavior directly influences the behavioral intention (Ajzen, 1991). It is hereby postulated through Hypothesis 10 that attitude towards self-disclosure has a direct positive effect on the self-disclosure intention.

H10: Attitude towards self-disclosure on a social networking site has a positive effect on self-disclosure intention on the social networking site.

The theory of planned behavior suggests that behavioral intention is directly linked to the actual behavior (Ajzen, 1991). I argue here that self-disclosure intention has direct positive effect on the actual self-disclosure. Hypothesis 11 states the postulated relationship.

H11: Self-disclosure intention has a positive effect on self-disclosure on a social networking site.

### **3.3 Participants**

For the statistical analysis of the model, I administered a survey among undergraduate students at E. J. Ourso College of Business, Louisiana State University, Baton Rouge, Louisiana. The students were enrolled in various undergraduate level courses. Students were awarded extra credits for taking part in the survey. The university student population is ideal for conducting research on social networking sites. University students fall into the age group that is most likely to be users of social networking sites (Perrin, 2015). They are also likely to be early adopters of social networking sites (Quan-Haase & Young, 2010).

I chose Facebook as the prototype social networking site for this study. With 72% of online adults using Facebook, it is the most popular social networking site, way ahead of LinkedIn (25%), Twitter (23%), Pinterest (31%), Instagram (28%), and Tumblr (10%) ("Social Networking Use," 2015). It was convenient to choose Facebook as most of the university students are its active users (Perrin, 2015).

A total of 380 students took part in the survey. Among the participants, 53.3% (199) were female and 47.6% (181) were male. The average age of the students taking part in the survey was 20.73 years. The average number of connections, i.e., number of Facebook friends of the participants was 853.77. The average number of years that these participants have been using Facebook was 6.5 years and they had used some sort of social networking site for an average of 7.6 years. I conducted the survey in Spring 2016.

### **3.4 Instrumentation**

I adopted all the scales used to measure the constructs in the proposed research model from previous studies. Some adaptations have been made to make the items suitable to the context of

this study. The list of constructs with their definitions, items for measuring them, and the source of the items are presented in the Table 3.1.

Table 3.1: List of Constructs and Items

Construct	Construct Definition	Items	Source
Self-congruency	The congruence resulting from a psychological comparison involving the product-user image and the consumer's self-concept.	Think about the kind of person who typically uses Facebook. Imagine this user in your mind and describe this person using one or more personal adjectives such as classy, poor, stylish, masculine, sexy, old, athletic, or whatever personal adjectives you can use to describe the typical user of Facebook. Once you've done this, indicate your agreement or disagreement to the following statements: SC1. The image of the typical user of Facebook is consistent with how I am. SC2. The image of the typical user of Facebook is consistent with how I see myself. SC3. The image of the typical user of Facebook is consistent with my self-image. SC4. The image of the typical user of Facebook is consistent with how I would like to be. SC5. The image of the typical user of Facebook is consistent with how I would like to see myself. SC6. The image of the typical user of Facebook is consistent with my ideal self-image. SC7. The image of the typical user of Facebook is consistent with how others believe I am. SC8. The image of the typical user of Facebook is consistent with how others see me. SC9. The image of the typical user of Facebook is consistent with how others perceive my self-image. SC10. The image of the typical user of Facebook is consistent with how I would like others to see me. SC11. The image of the typical user of Facebook is consistent with how I ideally like to be seen by others. SC12. The image of the typical user of Facebook is consistent with how I want others to perceive my self-image.	(M. Joseph Sirgy et al., 1997) (M. Joseph Sirgy & Su, 2000)

Table 3.1 continued

Construct	Construct Definition	Items	Source
Self-disclosure intention	The behavioral intention to disclose personal information on the social networking site.	SDI1. I feel comfortable sharing my personal information to my Facebook friends. SDI2. I do not hesitate supplying my personal information to my Facebook friends. SDI3. I feel secure in disclosing my personal information to my Facebook friends.	(Beldad, van der Geest, de Jong, & Steehouder, 2012)
Self-disclosure	The extent to which information about the self is disclosed on the social networking site.	SD1. I have a comprehensive profile on Facebook. SD2. When I have something to say, I like to share it on Facebook. SD3. I often post about myself on Facebook. SD4. I often discuss feelings about myself on Facebook. SD5. I intimately disclose who I really am, openly and fully in my posts on Facebook. SD6. I often disclose intimate, personal things about myself on Facebook. SD7. My statements of my feelings would usually be brief on Facebook. (R) SD8. I express my personal beliefs and opinions on Facebook only infrequently. (R)	(Krasnova et al., 2010) (Sawyer et al., 2011)
Privacy Risk from SNS	The expected losses related to self-disclosure due to SNS.	PRSNS1. In general, it would be risky to give information to Facebook. PRSNS2. There would be high potential for loss associated with giving information to Facebook. PRSNS3. There would be too much uncertainty associated with giving information to Facebook. PRSNS4. Providing Facebook with information would involve many unexpected problems. PRSNS5. I would not feel safe giving information to Facebook.	(Jarvenpaa, Tractinsky, & Saarinen, 1999) (Naresh K Malhotra, Kim, & Agarwal, 2004)



Table 3.1 continued

Construct	Construct Definition	Items	Source
Privacy Risk from SNS members	The expected losses related to self-disclosure due to SNS members.	<p>PRSNSM1. In general, it would be risky to give information to my Facebook friends.</p> <p>PRSNSM2. There would be high potential for loss associated with giving information to my Facebook friends.</p> <p>PRSNSM3. There would be too much uncertainty associated with giving information to my Facebook friends.</p> <p>PRSNSM4. Providing my Facebook friends with information would involve many unexpected problems.</p> <p>PRSNSM5. I would not feel safe giving information to my Facebook friends.</p>	(Jarvenpaa et al., 1999) (Naresh K Malhotra et al., 2004)
New Relationship Building	The perceived opportunity to build new relationships.	<p>NRB1. Through Facebook I get connected to new people who share my interests.</p> <p>NRB2. Facebook helps me to expand my network.</p> <p>NRB3. I get to know new people through Facebook.</p>	(Krasnova et al., 2010)
Hedonic Motivation	The extent to which the activity of using the social networking site is enjoyable.	<p>HM1. Sharing information about myself on Facebook is fun.</p> <p>HM2. Sharing information about myself on Facebook is enjoyable.</p> <p>HM3. Sharing information about myself on Facebook is very entertaining.</p>	(Venkatesh et al., 2012)
Social Capital	The resources accumulated through the relationships among people.	<p>SCAP1. I feel I am part of my Facebook community.</p> <p>SCAP2. I am interested in what goes on in my Facebook feed.</p> <p>SCAP3. There is someone on Facebook I can turn to for advice about making important decisions.</p> <p>SCAP4. I do not know people on Facebook well enough to get them to do anything important. (R)</p> <p>SCAP5. If I needed to, I could ask a Facebook friend to do a small favor for me.</p>	(Ellison et al., 2007)

Table 3.1 continued

Construct	Construct Definition	Items	Source
Social Validation	People's tendency to seek the opinions of other individuals in order to validate their own opinions, attitudes, and beliefs.	SV1. I like to know what other people are thinking before I form my own opinion on an issue. SV2. I often worry about what others will think of my opinions. SV3. I don't like to tell people how I feel about controversial issues until I've heard what they have to say. SV4. I often disagree with other people's opinions and tell them so. I SV5. I find it important to express my opinions even if I know that other people don't feel the same way that I do. I	(Graham, 1997)
Trust in SNS	User's trust on the social networking site.	TRSNS1. Facebook is open and receptive to the needs of its members. TRSNS2. Facebook makes good-faith to address most member concerns. TRSNS3. Facebook is also interested in the well being of its members, not just its own. TRSNS4. Facebook is honest in its dealings with me. TRSNS5. Facebook keeps its commitments to its members. TRSNS6. Facebook is trustworthy.	(McKnight, Choudhury, & Kacmar, 2002) (Jarvenpaa et al., 1999)
Trust in SNS members	User's trust on his/her connections on the social networking site.	TRNSM1. My Facebook friends will do their best to help me. TRNSM2. My Facebook friends do care about the well being of others. TRNSM3. My Facebook friends are honest in dealing with each other. TRNSM4. My Facebook friends keep their promises. TRNSM5. My Facebook friends are trustworthy.	(Chiu, Hsu, & Wang, 2006) (McKnight et al., 2002)
Percieved Control	The level of control user perceives to have over self-disclosed information.	PC1. I feel in control over the information I disclose to my Facebook friends. PC2. Privacy settings allow me to have full control over the information I provide to my Facebook friends. PC3. I feel in control of who can view what I disclose to my Facebook friends.	(Krasnova et al., 2010)

Table 3.1 continued

Construct	Construct Definition	Items	Source
Habit	Learned sequences of acts that have become automatic responses to specific cues, and are functional in obtaining certain goals or end-states.	<p>HAB1. Whenever I need to share information about myself, I choose to use Facebook without even being aware of (making) the choice.</p> <p>HAB2. Whenever I need to share information about myself, I unconsciously start using Facebook.</p> <p>HAB3. Choosing Facebook when I want to share information about myself is something I do without being aware.</p> <p>HAB4. Choosing Facebook to share information about myself is something I do unconsciously.</p> <p>HAB5. I find it difficult to overrule my impulse to use Facebook to share information about myself.</p> <p>HAB6. I find it difficult to overcome my tendency to use Facebook to share information about myself.</p> <p>HAB7. It is difficult to control my tendency to use Facebook to share information about myself.</p> <p>HAB8. It is hard to restrain my urge to use Facebook to share information about myself.</p> <p>HAB9. I do not need to devote a lot of mental effort to decide that I will use Facebook to share information about myself.</p> <p>HAB10. Selecting Facebook to share information about myself does not involve much thinking.</p> <p>HAB11. Choosing Facebook to share information about myself requires little mental energy.</p>	(Polites & Karahanna, 2012)
Social Influence	The degree to which an individual perceives that important others believe he or she should disclose information on the social networking site.	<p>SI1. People who influence my behavior think that I should disclose my information on Facebook.</p> <p>SI2. People who are important to me think that I should disclose my information on Facebook.</p> <p>SI3. People whose opinions that I value prefer that I disclose my information on Facebook.</p>	(V Venkatesh et al., 2003) (Venkatesh et al., 2012)

Table 3.1 continued

Construct	Construct Definition	Items	Source
Attitude towards self-disclosure	User's favorable or unfavorable feelings of disclosing information on the social networking site.	ATT1. I think disclosing my information on Facebook is good for me. ATT2. I think disclosing my information on Facebook is appropriate for me. ATT3. I think disclosing my information on Facebook is beneficial for me. ATT4. I have a positive opinion about disclosing information on Facebook.	(Hsu, Yen, Chiu, & Chang, 2006)

### 3.5 Research Procedures

The research procedures started with the specification of the measurement model and the structural model of the proposed research model. I estimated both the models using the survey data.

In the first step, I used the collected data to estimate the measurement model. The outer loadings of the measurement items, the construct reliability and validity measures, and discriminant validity measure were checked. I refined initial model in order to get satisfactory levels on these metrics. I dropped items with weak loadings on their associated constructs for the refinement of the model.

Next, I estimated the structural model. This yielded the path estimates of the hypothesized relationships of the structural model. This also estimated the  $R^2$  values of the dependent constructs in the model. After this, I performed bootstrapping to assess the significance of the path estimates. This enabled me to test all the hypotheses proposed in the research.

After assessing the measurement and structural models, I performed a multi-group analysis to evaluate if the specified model differed significantly for males and females. Finally, I performed moderation analysis for the variables: age, gender, number of connections, social networking site

experience, and Facebook experience, to assess the moderating role of these variables on the relationships between attitude towards self-disclosure, self-disclosure intention, and self-disclosure, and their hypothesized antecedents.

I analyzed the research model using Partial Least Squares - Structured Equation Modeling (PLS-SEM). PLS-SEM is preferred over the more popular Covariance Based – Structured Equation Modeling (CB-SEM) when the main research objective is theory development and prediction of key target constructs or identification of key driver constructs. PLS-SEM is more robust with fewer identification issues and works with much smaller as well as much larger samples. Experts of the field suggest PLS-SEM when the research is an extension of an existing structural theory (Hair, Ringle, & Sarstedt, 2011). Ringle, Sarstedt, and Straub (2012)'s review of the use of PLS-SEM in Information Systems literature reveals that researchers have preferred to use PLS-SEM for various reasons such as small sample size, non-normal data, formative measures, focus on prediction, model complexity, exploratory research, theory development, use of categorical variables, convergence ensured, theory testing, and interaction terms.

The current research aims to explore the role of self-congruency in the self-disclosure behavior in the context of social networking sites. To the best of the author's knowledge, this relationship has not been explored before. This makes the study exploratory in nature. It intends to understand how much of self-disclosure behavior in social networking sites is driven by the self-congruency with the social networking site. Further, the research model is an extension and integration of different behavioral theories viz. unified theory of acceptance and use of technology, privacy calculus theory, and self-congruency theory. PLS-SEM is recommended when structural model is complex with too many constructs and indicators as is the case with the proposed research model (Hair et al., 2011). Thus, PLS-SEM is better suited to the analysis of

the research model for this study. I performed the analysis on SmartPLS 3; the leading software tool for PLS-SEM.

### **3.6 Data Analysis**

Data analysis included the estimation and assessment of measurement model and structural model, establishment of validity and reliability measures, estimation and significance testing of path coefficients, calculation of coefficient of determination of dependent constructs, multi-group analysis, and moderation analysis.

#### **3.6.1 Measurement Model**

First of all I observed the internal consistency reliability of the constructs. Internal consistency reliability is a measure of how well the items on the test measure the same construct. It is usually measured through the Cronbach's alpha value that provides an estimate of the reliability based on the inter-correlations of the observed indicator variables. Cronbach's alpha generally tends to underestimate the internal consistency reliability. For this reason, composite reliability is also used as a measure for internal consistency reliability for a less conservative measure. The values of Cronbach's alpha and composite reliability between 0.7 and 0.9 are considered satisfactory (Nunnally & Bernstein, 1994).

Next step was the assessment of convergent validity, which is the extent to which a measure correlates positively with alternative measure of the same construct. To have convergent validity, the indicators or the items that measure a construct should converge or share a high proportion of variance. The average variance extracted (AVE) is used as a measure of convergent validity. This criterion is defined as the grand mean value of the squared loadings of the indicators associated with the construct (Hair Jr, Hult, Ringle, & Sarstedt, 2016). AVE values of 0.5 or

higher indicate that on average, the construct explains more than half of the variance of its indicators and are considered satisfactory values for convergent validity (Hair Jr et al., 2016).

The results of the estimation of measurement model showed that some constructs (shown in Table 3.2) had unsatisfactory values for internal consistency reliability (Cronbach's alpha and Composite reliability), convergent validity (AVE), or both.

Table 3.2: Constructs with Unsatisfactory Reliability and Validity Measures

Construct	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
SCAP	<b>0.687</b>	0.793	<b>0.467</b>
SD	<b>0.693</b>	0.789	<b>0.448</b>
SV	<b>0.590</b>	<b>0.324</b>	<b>0.374</b>

Discriminant validity is the extent to which a construct is fully distinct from other constructs. When a construct has discriminant validity, it means that that construct is unique and captures the phenomena not represented by any other constructs in the model. Two different methods are usually used to measure discriminant validity. The first method is by assessing the cross loadings of the indicators. Any given indicator's loading on the associated construct should be higher than its loadings on any other construct of the model, i.e. loadings on the associated construct should be greater than all the cross loadings.

A more strict measure of discriminant validity is the Fornell-Larcker criterion. It compares the square root of the AVE values with the latent variable's correlations. In order to have discriminant validity, the square root of AVE of each construct should be greater than its correlations with any other constructs.

To establish discriminant validity, I first checked the cross loadings of the indicators. The loadings on the associated construct of all the indicators were found to be higher than the

loadings on other constructs. A table showing all the cross loadings can be found on Appendix A of this document.

As another step of establishing discriminant validity, I checked whether the Fornell-Larcker criterion was met. The square roots of AVE for each construct as shown in the diagonal cells of Table 3.3 were all higher than the correlations with all other constructs. Thus, I found that the discriminant validity of the measurement model was satisfactory.

Since, the internal consistency reliability and convergent validity were found unsatisfactory for some constructs in the model, I examined the outer loadings of the indicators on those constructs. An outer loading of 0.7 and above is considered satisfactory for the validity of the construct (Hair Jr et al., 2016). The items shown in Table 3.4 had loadings less than this value and were removed before the next round of estimation of the measurement model.

After the removal of the items in Table 3.4, the measurement model was estimated again. The internal consistency reliability and convergent validity measures were now satisfactory for all the constructs. Table 3.5 shows the values for Cronbach's alpha, composite reliability, and average variance extracted (AVE) for all the constructs.

The outer loadings for all the items on their associated constructs were higher than the recommended satisfactory value of 0.7. Thus, the internal consistency reliability (measured by Cronbach's alpha and composite reliability), convergent validity (measured by outer loadings of the items and AVE), and discriminant validity (measured by cross loadings and Fornell-Larcker criterion) of the measurement model were established.



Table 3.3: Fornell-Larcker Criterion for Assessment of Discriminant Validity

	ATT	HAB	HM	NRB	PC	PRSNS	PRSNSM	SC	SCAP	SD	SDI	SI	SV	TRSNS	TRSNSM	
ATT	<b>0.90</b>															
HAB	0.38	<b>0.81</b>														
HM	0.32	0.38	<b>0.95</b>													
NRB	0.19	0.29	0.46	<b>0.87</b>												
PC	0.12	0.00	0.11	0.10	<b>0.90</b>											
PRSNS	-0.18	-0.03	-0.12	0.00	-0.15	<b>0.82</b>										
PRSNSM	-0.10	0.03	-0.13	0.00	-0.12	0.70	<b>0.89</b>									
SC	0.17	0.33	0.32	0.23	0.12	0.11	0.05	<b>0.86</b>								
SCAP	0.24	0.34	0.44	0.33	0.20	-0.11	-	0.13	0.39	<b>0.68</b>						
SD	0.36	0.45	0.40	0.27	0.10	-0.10	-	0.14	0.35	0.37	<b>0.67</b>					
SDI	0.32	0.29	0.33	0.12	0.13	-0.32	-	0.33	0.28	0.26	0.43	<b>0.88</b>				
SI	0.66	0.44	0.27	0.20	-0.01	-0.08	-	0.01	0.16	0.20	0.35	0.24	<b>0.93</b>			
SV	0.27	0.37	0.27	0.33	0.12	0.03	0.05	0.17	0.27	0.24	0.15	0.32	<b>0.61</b>			
TRSNS	0.21	0.17	0.29	0.29	0.39	-0.06	-	0.08	0.23	0.33	0.2	0.23	0.15	0.16	<b>0.80</b>	
TRSNSM	0.19	0.19	0.30	0.23	0.33	-0.12	-	0.21	0.29	0.46	0.27	0.27	0.15	0.12	0.46	<b>0.84</b>

Table 3.4: Items with Weak Outer Loadings

Construct	Items	Outer Loadings
SD	SD1	0.542
	SD7_R	-0.306
	SD8_R	-0.159
SCAP	SCAP4_R	0.166
	SCAP5	0.698
SV	SV4_R	-0.350
	SV5_R	-0.522
HAB	HAB9	0.608
	HAB10	0.643
	HAB11	0.551

Table 3.5: Reliability and validity measures for all constructs

Construct	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
ATT	0.927	0.948	0.821
HAB	0.965	0.97	0.802
HM	0.952	0.969	0.913
NRB	0.847	0.906	0.763
PC	0.89	0.931	0.819
PRSNS	0.888	0.916	0.685
PRSNSM	0.94	0.954	0.806
SC	0.97	0.974	0.754
SCAP	0.718	0.841	0.638
SD	0.878	0.911	0.671
SDI	0.858	0.913	0.779
SI	0.929	0.955	0.876
SV	0.771	0.863	0.679
TRSNS	0.891	0.917	0.649
TRSNSM	0.897	0.924	0.708

### 3.6.2 Structural Model

After the evaluation and refinement of the measurement model, I estimated the structural model.

This included evaluation of all the path coefficients of the relationships hypothesized in the

model, evaluation of  $R^2$  values for the dependent variables of the model, and bootstrapping performed to assess the significance of the path coefficients.

Fig 3.2 shows the path coefficients of all the hypothesized relationships and coefficients of determination i.e.,  $R^2$  values for the dependent variables. The  $R^2$  values for the dependent variables of interest to this study viz. Attitude towards self-disclosure, Self-disclosure intention, and Self-disclosure are 0.489, 0.307, and 0.304 respectively.  $R^2$  values represent the total variance of the dependent variables that is explained by the model. Since,  $R^2$  values do not adjust for the number of independent variables in the model, adjusted  $R^2$  values are used as better measure of the coefficients of determination. Table 3.6 contains the  $R^2$  and adjusted  $R^2$  values of the dependent variables of interest in the model.

Table 3.6:  $R^2$  and Adjusted  $R^2$  Values of Dependent Variables

Construct	$R^2$	Adjusted $R^2$
ATT	0.489	0.479
SDI	0.307	0.294
SD	0.304	0.293

As per the adjusted  $R^2$  values, the research model explains 47.9% of the variance in Attitude towards self-disclosure. Similarly, 29.4% of variance in Self-disclosure intention and 29.3% of variance in Self-disclosure is explained.

Since, PLS-SEM does not assume the normality of data distribution, the parametric significant tests used in regression analyses cannot be applied to assess whether path coefficients are significant or not. So, a non-parametric procedure known as bootstrapping is applied to assess the significance of path coefficients in PLS-SEM.

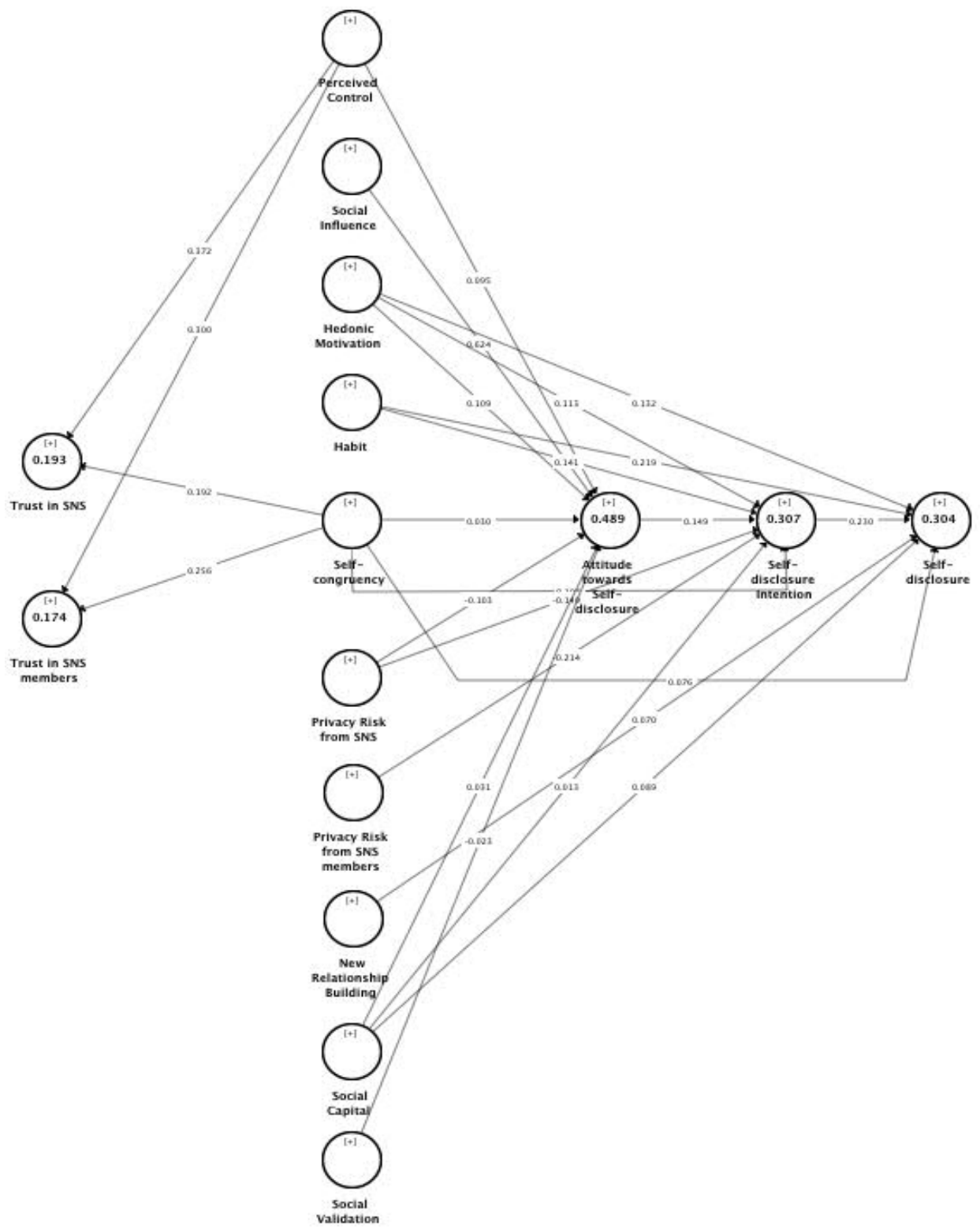


Fig. 3.2. Path Coefficients and R<sup>2</sup> Values of the Structural Model

In bootstrapping, a large number of bootstrap samples are drawn from the original sample with replacement, i.e. each observation drawn from the sampling population is returned before the next observation is drawn. The number of bootstrap samples should be at least equal to the number of valid observations but for accurate estimation, bootstrap samples size of 5000 is recommended (Hair Jr et al., 2016).

I ran the bootstrapping procedure with no sign changes and 5000 subsamples. Fig. 3.3 shows the results of the bootstrapping, i.e. estimated path coefficients and their significance. Table 3.7 includes the estimated path coefficients, t statistics and p values of the path coefficients.

From the results of the significance test of the path coefficients, we can deduce the following conclusions regarding the hypotheses proposed.

The path coefficient between self-congruency and attitude towards self-disclosure is not significant. Therefore, Hypothesis H1 (a) is not supported. Self-congruency has a significant positive path coefficient leading unto self-disclosure intention. Thus, Hypothesis H1 (b) is supported. The path coefficient leading from self-congruency to self-disclosure is not significant. This means that Hypothesis H1 (c) is rejected. The path coefficients from self-congruency to trust in social networking site as well as trust in social networking site members are significant. This means self-congruency contributes positively to trust in social networking site as well as its members. Both the Hypotheses H1 (d) and H1 (e) are supported.

Privacy risk from social networking site has a negative and significant effect on the attitude towards self-disclosure. This supports Hypothesis H2 (a). A negative and significant path coefficient from privacy risk from social networking site to self-disclosure intention suggests support for Hypothesis H2 (b). Similarly, there is a negative significant path coefficient leading from privacy risk into self-disclosure, supporting Hypothesis H2 (c).

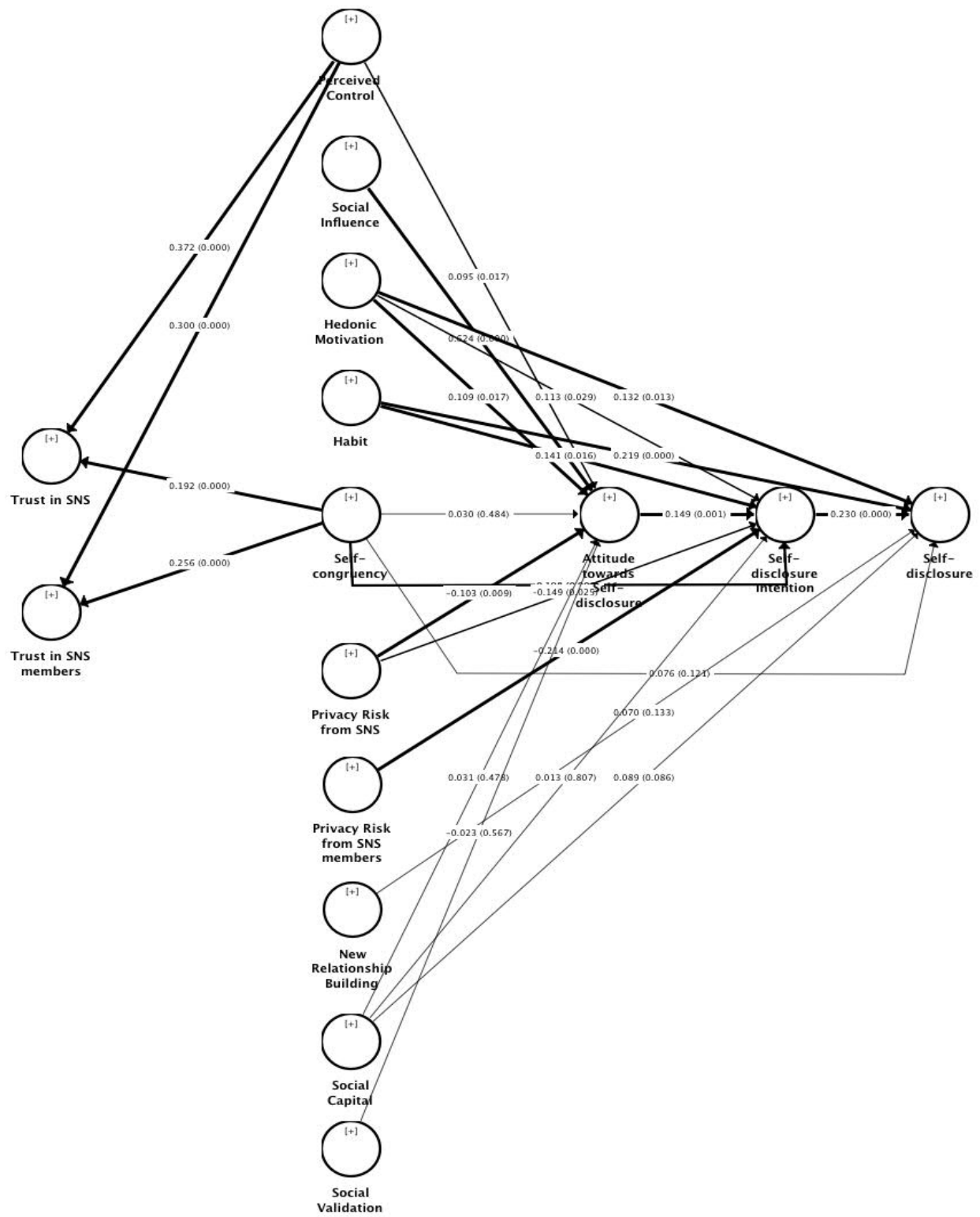


Fig. 3.3: Significance of Path Coefficients

Table 3.7: Significance of path coefficients and support for hypotheses

	Path coefficient	T Statistic	P Value	Hypothesis	Support
SC -> ATT	0.030	0.700	0.484	H1 (a)	No
SC -> SDI	0.198**	4.303	0.000	H1 (b)	Yes
SC -> SD	0.076	1.549	0.121	H1 (c)	No
SC -> TRSNS	0.192**	3.525	0.000	H1 (d)	Yes
SC -> TRSNSM	0.256**	5.219	0.000	H1 (e)	Yes
PRSNS -> ATT	-0.103**	2.606	0.009	H2 (a)	Yes
PRSNS -> SDI	-0.149*	2.246	0.025	H2 (b)	Yes
PRSNSM -> SDI	-0.214**	3.586	0.000	H2 (c)	Yes
NRB -> SD	0.070	1.503	0.133	H3	No
SCAP -> ATT	0.031	0.710	0.478	H4 (a)	No
SCAP -> SDI	0.013	0.244	0.807	H4 (b)	No
SCAP -> SD	0.089	1.719	0.086	H4 (c)	No
SV -> ATT	-0.023	0.572	0.567	H5	No
PC -> ATT	0.095*	2.380	0.017	H6 (a)	Yes
PC -> TRSNS	0.372**	7.583	0.000	H6 (b)	Yes
PC -> TRSNSM	0.300**	6.149	0.000	H6 (c)	Yes
SI -> ATT	0.624**	15.252	0.000	H7	Yes
HM -> ATT	0.109**	2.395	0.017	H8 (a)	Yes
HM -> SDI	0.113*	2.188	0.029	H8 (b)	Yes
HM -> SD	0.132**	2.495	0.013	H8 (c)	Yes
HAB -> SDI	0.141**	2.412	0.016	H9 (a)	Yes
HAB -> SD	0.219**	4.152	0.000	H9 (b)	Yes
ATT -> SDI	0.149**	3.255	0.001	H10	Yes
SDI -> SD	0.230**	4.678	0.000	H11	Yes
** Significant at $p < 0.01$ ; * Significant at $p < 0.05$					

The path coefficient from the perceived benefit of new relationship building to self-disclosure on social networking site is not significant. Thus, Hypothesis H3 is rejected.

All the path coefficients leading from social capital to attitude towards self-disclosure, self-disclosure intention, and self-disclosure are insignificant. Thus, Hypotheses H4 (a), H4 (b), and H4 (c) are rejected.

The effect of social validation on attitude towards self-disclosure is not significant as observed in the insignificant path coefficient between these two constructs. Hence, Hypothesis H5 is rejected.

Perceived control has a positive and significant path coefficient leading onto attitude towards self-disclosure supporting Hypothesis H6 (a). Similarly, the path coefficient of the relationship from perceived control to self-disclosure is also positive and significant. This supports Hypothesis H6 (b). The positive and significant effect of perceived control on self-disclosure can be realized from the positive and significant path coefficient from perceived control to self-disclosure. This supports Hypothesis H6 (c).

Social influence has a positive and significant effect on attitude towards self-disclosure on social networking site as the path coefficient connecting these constructs is positive and significant. This supports Hypothesis H7.

The path coefficient of the path leading from hedonic motivation to attitude towards self-disclosure is positive and significant. This supports Hypothesis H8 (a). Hedonic motivation also has a positive and significant effect on self-disclosure intention as represented by the positive significant path coefficient leading from hedonic motivation to self-disclosure intention. This supports Hypothesis H9 (b). Similarly, the path coefficient of the path leading from hedonic motivation to self-disclosure is also positive and significant supporting Hypothesis H8 (c) that reflects a positive effect of hedonic motivation on self-disclosure.

Habit has a positive and significant effect of the self-disclosure intention as represented by the positive and significant path coefficient leading from habit onto self-disclosure intention. This supports Hypothesis H9 (a). Similarly, the path coefficient of the path from habit to self-disclosure is also positive and significant which supports Hypothesis H9 (b).



Attitude towards self-disclosure has a positive and significant effect on self-disclosure intention as represented by the positive and significant path coefficient for the relationship leading from attitude towards self-disclosure onto self-disclosure intention. This supports Hypothesis H10.

The path coefficient of the path leading from self-disclosure intention onto self-disclosure is positive and significant. Thus, self-disclosure intention has a positive and significant effect of self-disclosure that supports Hypothesis H11.

### **3.6.3 Multi-group Analysis**

There have been studies that have looked into the gender differences in internet and social media usage. A study at the start of the millennium noted that while the gender gap in use of internet has nearly closed, there were differences in regard to how male and female use the internet (Odell, Korgen, Schumacher, & Delucchi, 2000). Another study found that females were more likely to report high positive collective self-esteem and greater overall use of social networking sites while males were more likely to report negative collective self-esteem and usage for social compensation and social identity (Barker, 2009). A study based on personality and gender differences found that extraverted males and females were both likely to be frequent users of social networking sites but only men with greater degrees of emotional stability were more regular users (Correa, Hinsley, & De Zuniga, 2010).

Multi-group analysis enables to test the differences between identical models estimated for different groups of respondents. The general objective is to see if there are statistically significant differences between individual group models. The same model is compared across different samples of respondents. A multi-group analysis was performed to find out if the model for self-disclosure was different for males and females. The multi-group analysis involved the estimation of the model for males that gave a set of path coefficients, estimation of the model for

females that generated another set of path coefficients, and the test of significance of the difference in path coefficients for the two groups. Table 3.8 shows the results of the multi-group analysis.

Table 3.8: Multi-group Analysis

Path	Path coefficients difference (Male - Female)	P value
ATT -> SDI	0.047	0.312
HAB -> SD	0.079	0.770
HAB -> SDI	0.015	0.457
HM -> ATT	0.036	0.651
HM -> SD	0.035	0.623
HM -> SDI	0.043	0.342
NRB -> SD	0.148	0.937
PC -> ATT	0.031	0.651
PC -> TRSNS	0.088	0.193
PC -> TRSNSM	0.058	0.269
PRSNS -> ATT	0.002	0.511
PRSNS -> SDI	0.04	0.385
PRSNSM -> SDI	0.156	0.092
SC -> ATT	0.117	0.087
SC -> SD	0.138	0.090
SC -> SDI	0.048	0.686
SC -> TRSNS	0.122	0.131
SC -> TRSNSM	0.037	0.356
SCAP -> ATT	0.078	0.192
SCAP -> SD	0.093	0.180
SCAP -> SDI	0.042	0.658
SDI -> SD	0.022	0.587
SI -> ATT	0.042	0.701
SV -> ATT	0.063	0.776

The results of the multi-group analysis show that none of the differences in path-coefficients for male and female are significant at p value of 0.05. This means that the proposed research model is not significantly different based on gender. The conclusion here is that all the relationships

between the antecedents variables and attitude towards self-disclosure, self-disclosure intention, and actual self-disclosure applies the same way for males and females.

### 3.6.4 Moderation Analysis

Moderation occurs when the effect of an independent variable on a dependent variable depends on the values of another variable that moderates the relationship. In this research, five different variables were chosen that were supposed to moderate the relationship between attitude towards self-disclosure, self-disclosure intention, self-disclosure, and their antecedents. These variables were age, gender, number of connections, social networking site experience, and Facebook experience. In the moderation analysis, the moderating variable was added to the model and the moderating effect was added on the dependent variable. Bootstrapping procedure was then run to assess the path coefficient and the significance of the moderating effect. Table 3.9 shows the results of the moderation analysis for the hypothesized moderating variable Age.

Table 3.9: Moderation Analysis for Age

Moderating Effect	Path coefficient	P Value
PRNSM*AGE -> SDI	-0.225	0.096
HAB*AGE -> SDI	-0.049	0.735
SCAP*AGE -> SDI	-0.025	0.865
HAB*AGE -> SD	-0.138	0.149
HM*AGE -> ATT	-0.088	0.272
SC*AGE -> ATT	-0.019	0.835
SC*AGE -> SD	0.007	0.936
PRSNS*AGE -> ATT	0.010	0.915
SI*AGE -> ATT	-0.002	0.984
PC*AGE -> ATT	-0.007	0.920
NRB*AGE -> SD	-0.006	0.927
HM*AGE -> SD	-0.021	0.792
HM*AGE -> SDI	-0.007	0.958
SC*AGE -> SDI	0.016	0.843
SV*AGE -> ATT	0.078	0.415

Table 3.9 continued

Moderating Effect	Path coefficient	P Value
SCAP*AGE -> SD	0.108	0.336
SCAP*AGE -> ATT	0.071	0.464
PRSNS*AGE -> SDI	0.229	0.143
Independent variable*Moderator variable -> Dependent variable represents the moderating effect.		

As can be seen from Table 3.9 moderating effect of age is not significant at  $p = 0.05$  for any of the relationships. Age does not moderate any of the relationships between attitude towards self-disclosure, self-disclosure intention and self-disclosure, and their antecedents.

The moderation analyses for gender, number of connections, and social networking site experience also showed that these variables did not have any significant moderating effect on the relationships between attitude towards self-disclosure, self-disclosure intention, and self-disclosure, and their antecedents. The only variable that showed a moderation effect on any of the relationships was Facebook experience. Table 3.10 shows the results of moderation analysis for Facebook experience.

Table 3.10: Moderation Analysis for Facebook Experience

	Path coefficient	P Value
HM*FBEXP -> SDI	0.118	0.023
PRSNS*FBEXP -> SDI	0.071	0.301
SC*FBEXP -> SDI	0.013	0.810
SCAP*FBEXP -> SDI	-0.022	0.676
HAB*FBEXP -> SD	-0.01	0.871
HM*FBEXP -> SD	-0.005	0.925
SC*FBEXP -> SD	0.032	0.572
SCAP*FBEXP -> SD	-0.018	0.764
HAB*FBEXP -> SDI	-0.055	0.359
HM*FBEXP -> ATT	-0.025	0.640
NRB*FBEXP -> SD	-0.111	0.061

Table 3.10 continued

	Path coefficient	P Value
PC*FBEXP -> ATT	-0.012	0.784
PRSNS*FBEXP -> ATT	0.004	0.921
PRSNSM*FBEXP -> SDI	-0.094	0.121
SC*FBEXP -> ATT	-0.009	0.853
SCAP*FBEXP -> ATT	0.066	0.253
SI*FBEXP -> ATT	-0.014	0.743
SV*FBEXP -> ATT	-0.042	0.362
Independent variable*Moderator variable -> Dependent variable represents the moderating effect.		

Table 3.10 shows a moderating effect of Facebook experience on the relationship between hedonic motivation and self-disclosure intention. The effect is positive and significant at  $p = 0.05$ . This means that the effect of hedonic motivation upon self-disclosure intention will be stronger for users who have been using Facebook for a longer period of time compared to users who have been using it for a short period of time.

### 3.7 Summary

Drawing from self-congruency theory, privacy calculus theory, and extended unified theory of acceptance and use of technology (UTAUT2), an integrated framework for self-disclosure on social networking sites was proposed. Hypotheses representing the relationships between the constructs in the model were specified. The instruments used to measure the constructs in the model were specified. The measurement model was estimated and refined until the validity and reliability measures of the constructs were satisfactory. Internal consistency reliability, convergent validity, and discriminant validity of the measurement model were established. Next, the structural model was estimated. Path coefficients of the relationships among constructs in the model were calculated. The significance of these path coefficients was assessed using

bootstrapping procedure. Hypotheses were tested based upon the sign and significance of the path coefficients of the relationships that they represented. Multi-group analysis was performed to evaluate if the model was significantly different for males and females. The difference was found to be insignificant. Moderation analysis was performed to evaluate if the hypothesized moderating effects of variables: age, gender, number of connections, social networking site experience, and Facebook experience on the relationships of the model. Facebook experience was found to moderate the relationship between hedonic motivation and self-disclosure intention. No other moderating effects were found to be significant.

## CHAPTER 4: RESEARCH FINDINGS

### 4.1 Effect of Self-congruency

Self-congruency is the match between the self-concept of the user with the typical user of Facebook. Four different types of self-concept viz. actual self-concept, ideal self-concept, social self-concept, and ideal social self-concept were combined to measure the holistic self-congruency with a typical user. The self-congruency thus measured had a significant positive effect on self-disclosure intention. While no direct effect on actual self-disclosure was found, self-congruency had an indirect effect on it through self-disclosure intention.

The result is consistent with earlier studies that have found that self-congruency affects the purchasing intention towards a brand, product, or service (M. Joseph Sirgy, 1982). Self-congruency has been found to affect the intention to adopt or use mobile services (Kleijnen et al., 2005), automobile and railroad services (Hohenstein et al., 2007), hospitality services (Ekinci et al., 2008), entertainment events (Close et al., 2009), and e-books (Anton et al., 2013) among others.

The positive effect of self-congruency on self-disclosure intention has different implications. First, users of social networking sites make a mental comparison between the other users of the social networking sites and themselves. The more similar they find themselves including their actual, ideal, social, and ideal social selves, similar to the other users, the more likely it is that they will have a positive feeling towards disclosing information on social networking sites. Second, social networking sites can lead users to have a positive self-disclosure intention that ultimately leads users to disclosing more information about them by framing their service for a certain type of user group. While this may not be good tactic for social networking sites that target all different demographics, sites that want to start with a solid base of users willing to

disclose more about them can do so by projecting their service for a more homogenous group of users.

Another effect of self-congruency was found to be on trust that users have on social networking site as well as its users. Self-congruency had a direct positive effect on both of these. Trust reflects the willingness to assume the risks of disclosure (Mayer, Davis, & Schoorman, 1995). It plays central role in helping consumers overcome perceptions of risk and insecurity (McKnight et al., 2002). The positive contribution of self-congruency on trust in social networking site means that the closer the image of a typical user is to self-concept of an individual user, the more she is likely to trust the social networking site. The increase in trust with the increase in self-congruency with a typical user's image is not limited just to the social networking site but also towards its members. In other words, the more congruent the self-concept of an individual is with the typical user's image, the more she is likely to trust the users of the social networking site. Since trust alleviates users from a sense of risk or insecurity, the role of self-congruency is important for social networking sites to give their users a sense of confidence in using those sites.

#### **4.2 Effects of Privacy Calculus Variables**

Privacy calculus variables in this study were the perceived costs and benefits of self-disclosure on social networking sites. Privacy risk from social networking site and privacy risk from social networking site members were the perceived costs of self-disclosure whereas the benefits that were studied were new relationship building opportunities, social capital, and social validation. Hedonic motivation, which was borrowed from UTAUT2, can also be argued as a perceived benefit of self-disclosure.



Privacy risk is the expectation of losses related to self-disclosure. Whenever a user puts some information about her, there is always a risk that the information will be exploited or misused for personal or financial gains by the social networking site itself or other members of the site. Therefore, it is natural that if a user perceives a high degree of privacy risk from either social networking site or other members, she is reluctant to put personal information about her. As hypothesized, it was found that the perceived privacy risk from social networking site has a negative attitude towards self-disclosure. Social networking sites have found to breach the privacy of individuals by different acts such as keeping the users' data forever even if they leave, telling other friends what users buy online, tracking users' movements across the web, using users' reaction to posts ('likes') in ads, forcing users to make their data searchable, using facial recognition software to spot users in photos, and giving users' data to the government (Luckerson, 2014). According to the findings of the study, the more a user thinks that the social networking site is acting against her privacy, the more likely she is to have a negative attitude towards disclosing her personal information on that social networking site. The negative effect of perceived privacy risk from social networking site is not just limited to the attitude towards self-disclosure. The study has shown a direct negative effect of privacy risk from social networking site on the intention to disclose information as well. The higher the amount of privacy risk that a user perceives from social networking site, the lower is the intention of the user to disclose personal information on that site.

Privacy risk is not limited to the social networking site. Since there are other members on the site as well, they could also be potential threat to the privacy of an individual on the site. In Facebook, these other members are known as 'friends'. The friends one has on Facebook may or may not be friends in real life with the user. Even if they are, there is always a chance that they

could misuse the personal information of an individual on the social networking site. Users do feel a sense of insecurity from the other members on the same site whether or not they have a direct or indirect connection to them. This study has shown a negative effect of the perceived privacy risk from social networking site members on the intention to disclose personal information. If a user feels threatened by other members of the social networking site that her information will be abused, then she is likely to have a lower intention to post her personal information out there.

One of the perceived benefits that was examined in this study was the opportunity of building new relationships. I made the hypothesis that the perceived opportunity of building relationships has a positive effect on self-disclosure on social networking sites. But contrary to expectation, this relationship was not significant. An explanation to this could be the fact that people have been using Facebook for a long time now (average of 6.5 years for the sample) and the opportunities of making new friends are less as all of whom could be added as friends have almost all been added. The average number of friends for a user in this study sample is 853.77. Such a high number of friends mean that users have almost saturated the number of people they could add in their network. Hence, the opportunity to build new relationship as a benefit of using Facebook may not be that relevant anymore, at least for the studied sample.

Another perceived benefit of using social networking site as a potential antecedent of self-disclosure was social capital. Social capital has been defined as the resources accumulated through the relationships among people. The usage of social networking site has been associated with social capital (Ellison et al., 2007). Following this, I hypothesized that social capital has a positive effect on attitude towards self-disclosure, self-disclosure intention, and actual self-disclosure. However, none of these relationships were found to be significant. An explanation to

this could be similar to the one given for the case of new relationships building. It has been a long time now that people have been on Facebook. As a result, the social capital that they could accumulate has also saturated. As such, gaining social capital is no longer a motivation to disclose personal information on Facebook and thus the insignificant effect on attitude towards self-disclosure, self-disclosure intention, and actual self-disclosure.

Social validation was tested as a perceived benefit of using social networking site that could affect the attitude towards self-disclosure. Social validation is defined as people's tendency to seek the opinions of other individuals in order to validate their own opinions, attitudes, and beliefs (Graham, 1997). On a social networking site people can post their views, opinions, values, and beliefs that can be seen by other members of the site. With comments and likes, other user can express their approval or disapproval to what has been posted. This provides the opportunity to a user to seek validation on the social networking site, which is a perceived benefit of using the site. As a perceived benefit, I hypothesized social validation to have a positive effect on the attitude towards self-disclosure. The analysis did not find this relationship to be significant. One possible explanation for this could be that even though social validation is a benefit of using social networking sites, users differentiate their opinions, views, and beliefs from themselves. Users may think that they are exposing their views and not their personal information when they post things seeking validation from others.

Hedonic motivation, borrowed from UTAUT2, can also be regarded as a perceived benefit. While other perceived benefits as discussed above did not show a significant effect on different aspects of self-disclosure, hedonic motivation had a significant and positive effect on attitude towards self-disclosure, self-disclosure intention, and actual self-disclosure behavior. It is further discussed in the next section that explains the effect of UTAUT2 variables.

### **4.3 Effects of UTAUT2 Variables**

UTAUT2 variables are the constructs that were derived from the extension of unified theory of acceptance and use of technology (Venkatesh et al., 2012). This includes perceived control, social influence, hedonic motivation, and habit. These were used as the antecedents of attitude towards self-disclosure, self-disclosure intention, and actual self-disclosure behavior on social networking sites.

Perceived control in this study was defined as the level of control that the user perceives to have over the self-disclosed information on social networking site. It was argued that a greater degree of perceived control would entail a positive attitude towards self-disclosure. This hypothesis was supported. This suggests that if users of social networking site feel like they are in control of the information that they post, they are likely to feel positively about the self-disclosure process in that site. As attitude leads to intention and intention leads to actual disclosure behavior, social networking sites managers can use this fact to increase self-disclosure on their sites. They can modify existing features, amend policies, or add new services, that puts the users in control of their information or at least gives them a sense that they are. As social networking sites are driven by user-generated data, this will result in users disclosing more about themselves on these sites and ultimately benefiting the sites.

Apart from the effect on attitude towards self-disclosure, perceived control was found to affect the levels of trust in social networking site and its members. The positive effect of perceived control on trust in social networking site means that if users have a greater sense of control over the information they post, they are likely to trust the site more. In other words, a social networking site is likely to gain more trust from its users if it provides them with features or has policies that increase the users' perceived sense of control over self-disclosed information. The

positive effect of perceived control is not just limited to the trust in the social networking site but expands to its members as well. If a social networking site provides more control to the users over their data, then an individual user is more likely to trust other members of the site. The relationship between perceived risk and trust is important as trust plays a key role in eliminating risks and insecurities of using the social networking site or disclosing information on it.

The research found that social influence is a positive contributor to attitude towards self-disclosure on social networking sites. Social influence was defined as the degree to which an individual perceives that important others believe he or she should disclose information on the social networking site. The important others could be their friends, spouse, parents, boss, or any other person whose views are important to the user. So, if these people have a favorable view and think that a user should disclose information on social networking site the user is likely to have a more positive attitude towards disclosing information on the site.

Hedonic motivation was another construct derived from UTAUT2. It is defined as the extent to which the activity of using the social networking site is enjoyable. It was found to have a positive effect on the attitude towards self-disclosure on social networking site. In other words, the more enjoyment or pleasure that a user derives from using a social networking site, the more likely she is to have a positive attitude about disclosing her information. Hedonic motivation was also hypothesized to positively affect the self-disclosure intention. This relationship was found to be significant. A sense of pleasure or enjoyment derived by using social networking site raises the level of intention to disclose more information. The relationship between hedonic motivation and actual self-disclosure on social networking site was also found to be significant. This implies that not only the perceived enjoyment or pleasure of using social networking site affect the attitude and intention of self-disclosure, but also results in users disclosing behavior, i.e. the more they

enjoy using the site, the more they disclose information about themselves. The role of hedonic motivation with self-disclosure was found to be of high importance as it had a positive effect on all three facets of self-disclosure studied in this research, i.e. attitude, intention, and behavior. Social networking site managers can gain from this finding to increase user-generated information on their sites. They can do so by focusing on the enjoyment factor on their sites. Surveys can be performed to find out which aspects on the sites that user find most enjoyable and what other services like games and applications could be added to increase user gratification. This will result in users putting out more information about themselves; something that social networking sites are always looking for.

The last variable from UTAUT2 that was tested in this study was habit. It is defined as the extent to which people tend to disclose information on social networking site automatically because of learning. Habits are learned sequences of acts that have become automatic responses to specific cues, and are functional in obtaining certain goals or end-states. In this study, habit was measured as how automatic the process of disclosing the information about self was for the users. It was found that habit had a positive effect on the intention to disclose information on social networking site. Habit also had a positive effect on the actual self-disclosure. This suggests that the more habitual the process of self-disclosure has become to the user, the higher will be the level of self-disclosure intention and the amount of information disclosed.

#### **4.5 Relationship Between Attitude, Intention, and Behavior**

The theory of planned behavior posits that the attitude towards a behavior positively affects the behavioral intention and the intention has a positive effect on the actual behavior (Ajzen, 1991). This relationship of attitude leading into intention and intention leading into behavior was a key component of the proposed research model. As expected, the attitude towards self-disclosure was

found to have a positive effect on self-disclosure intention. Similarly, self-disclosure intention was found to have a positive effect on the actual self-disclosure behavior. Almost all of the hypotheses tested in this study involved examining the relationship between a variable and one of these three constructs. The significant relationships between attitude with intention, and intention with behavior suggest that a direct effect on attitude implies indirect effects on intention and behavior. Similarly, a direct effect on intention implies an indirect effect on behavior. In the context of the current research, if a user has favorable view regarding the activity of disclosing personal information on social networking site, then she is likely to have a strong intention of disclosing. Similarly, a strong intention to disclose personal information implies a high likelihood that the user will actually disclose information about her.

## **CHAPTER 5: DISCUSSION, CONCLUSIONS, AND SUGGESTIONS FOR FUTURE RESEARCH**

### **5.1 Discussion**

This study synthesized three different theoretical perspectives to form and evaluate an integrated framework for self-disclosure on social networking sites. A research model conceptually based on self-congruency theory, privacy calculus theory, and extension of unified theory of acceptance and use of technology was proposed and tested. The effects of the variables emanating from the mentioned theories on attitudinal, intentional, and behavioral aspects of self-disclosure on social networking sites were examined.

The study found self-congruency to affect the self-disclosure intention. This finding is important, as the role of self-congruency in the context of self-disclosure on social networking sites has not been studied before. The finding suggest that if users find similarity between their self-concept and the typical user of social networking site, then they are likely to have a positive intention towards disclosing personal information on that site. Thus, similarity of users leads to positive intention of self-disclosure on social networking site. Previous research has shown that people's personal networks are homogeneous with regard to socio-demographic, behavioral, and intrapersonal characteristics (McPherson et al., 2001). This research has shed more light on the effect of homogeneity in that it affects the intention about certain activity on the personal network.

The test of effects of privacy calculus variables, i.e. perceived costs and benefits of using social networking sites showed mixed results. While the perceived cost of privacy risk from social networking sites and its members was found to negatively affect self-disclosure, the effect of the perceived benefits namely new relationships building opportunity, social capital, and social



validation were found to be insignificant. Past research have found support for the negative effect of perceived privacy risk on self-disclosure on social networking sites (Krasnova et al., 2010),(Cheung et al., 2015), (Chen, 2013). The finding of this research with respect to privacy risk draws the same conclusion. However, the results did not support the role of perceived benefits as positive contributors of self-disclosure. The sample surveyed has a lot of friends (average number of friends = 853.7) on Facebook and they have been using Facebook for a long time (average number of years used = 6.5) as well. As such, it can be argued that the opportunity of making new friends do not excite the sampled users anymore or they are not willing to disclose more information about them for this reason. The same argument applies for the insignificance of social capital's effect on self-disclosure. The sampled users have already accumulated social capital to the point of saturation and they are not willing to disclose more information about them to garner more. The effect of social validation on self-disclosure was insignificant. Social validation mainly works through the feedback on the posts that users make on Facebook. These posts may not be users' personal information or users may not differentiate the posts in which they express their thoughts and beliefs as their personal information. This could be a reason for the insignificance of the relationship between social validation and self-disclosure.

The four variables borrowed from extension of unified theory of acceptance and use of technology all had significant effects on one or more aspects of self-disclosure. These variables were perceived control, social influence, hedonic motivation, and habit. This suggests technology acceptance theory as a good lens to study self-disclosure phenomenon on social networking sites.

Studies show that when users are provided with privacy controls, it mitigates their concerns about disclosure (Stutzman et al., 2011). Internet users in general who are risk aware demand for more control (Olivero & Lunt, 2004). This study found that perceived control affects the attitude of users towards self-disclosure. This highlights the importance of users having a feeling of control over the information that they put on social networking sites. The more control they have, the more favorable view they will have about disclosing their information. This study also found social influence as a predictor of attitude towards self-disclosure. Users will have positive attitude towards putting their information on social networking sites when other people who are important to them think that they should do so. Similarly, habit of self-disclosure was found to affect the intention to disclose personal information as well as the actual disclosing behavior. When users are accustomed to disclosing personal information, they will keep doing so. Social networking sites can make the process of disclosure easier to learn and operate so as users become habitual to it. This will result in users putting out more information about them. The study found that hedonic motivation affects attitudinal, intentional as well as behavioral aspects of self-disclosure. This highlights how important it is for social networking sites to be enjoyable in general if they want users to put more information about them. Users are willing to disclose more if they derive pleasure from their activities on the social networking sites.

The study also examined how different variables affect trust in social networking sites and its members. Self-congruency and perceived control were found to have positive effect on trust in social networking site as well as trust in social networking site members. Trust is an important factor as people are likely to engage in any kind of activity on social networking sites only when they can trust it. They also need to trust other members of the sites if they are to disclose their personal information. This study has shown that trust in social networking sites and its members

can be increased if users feel that there are other members who are similar to them, i.e. they feel higher self-congruency. Also, if users feel that they are in control of the information that they share in social networking sites, they are likely to have more trust in both the social networking site and its members.

The proposed model was found to be valid for both males and females. Multi-group analysis suggested that none of the relationships explored in the model were significantly different for the two groups. This suggests that phenomenon of self-disclosure on social networking sites cannot be differentiated based on gender. Another finding of this research was the moderating role of Facebook experience in the relationship between hedonic motivation and self-disclosure intention. This means higher the number of years that an individual has been using Facebook, greater is the effect of hedonic motivation on self-disclosure intention and vice versa.

## **5.2 Contributions to Theory**

This study has made several theoretical contributions to research about self-disclosure on social networking sites, which are mentioned below.

First, this study formulated and tested an integrated framework for self-disclosure on social networking sites. Drawing from self-congruency theory, privacy calculus theory, and extension of unified theory of acceptance and use of technology, a holistic model that examined attitudinal, intentional, and behavioral aspects of self-disclosure was developed and tested.

Second, this study established self-congruency as an important factor for research in self-disclosure on social networking sites. The role of self-congruency was not studied in the realm of self-disclosure on social networking sites before. The role of self-congruency as a positive contributor to self-disclosure intention and trust in social networking sites and its members is a novel contribution to theory.

Third, a new item for measuring self-congruency was devised and added to the existing instrument. The following new items were added to measure actual, ideal, social, and ideal social self-congruency.

SC3: The image of the typical user of Facebook is consistent with my self-image.

SC6. The image of the typical user of Facebook is consistent with my ideal self-image.

SC9 The image of the typical user of Facebook is consistent with how others perceive my self-image.

SC12. The image of the typical user of Facebook is consistent with how I want others to perceive my self-image.

These items loaded well on the self-congruency construct, and the construct was found to be reliable and valid. Thus, a theoretical contribution towards measurement of self-congruency was made.

Fourth, this study shed light on the relationship between perceived costs and benefits of using social networking sites and different aspects of self-disclosure. The most noticeable finding was the insignificance of the perceived benefits on self-disclosure. One explanation for this is that once users are on social networking site for a long time (as the sample in this study was), the perceived benefits proposed in this study do not entice them to disclose more information.

Fifth, this study proposed and tested the relationship between variables adopted from technology acceptance literature on different aspects of self-disclosure. All the variables were found to affect one or more aspects of self-disclosure.

Finally, this study proposed and tested the effect of self-congruency and perceived control on trust in social networking sites and its members. It was found that levels of trust increased with the increase in self-congruency and perceived control.

### **5.3 Implications for Practice**

The findings of this study have practical implications for those who maintain and operate social networking sites, which are discussed below.

This study has shown that self-congruency affects the intention of self-disclosure on social networking sites. The more similar a user finds the typical user of the site to her, the more likely she is to have a positive intention towards disclosing her information there. Newly launched social networking sites can benefit from this by branding themselves to a specified audience so that a high level of self-congruency is maintained. This was how many social networking sites started out. MySpace was aimed at teenagers and music lovers, LinkedIn at professionals in high-tech industries, and Facebook at university students (A. Joinson et al., 2011). The high level of self-congruency resulting by targeting a specific crowd will result in the users having a positive intention of self-disclosure on the social networking site and it will ultimately lead to users disclosing more about them on the site. Apart, from the effect on self-disclosure intention, this study shows that a higher level of self-congruency will also increase the trust of users in the social networking site and its members. Trust has been shown to predict the level of self-disclosure on social networking sites in earlier study as well (Bevan-Dye & Akpojivi, 2015). Hence, it is recommended to new social networking sites to start out with a targeted audience so as users disclose more and also have a higher level of trust in the site and its members.

The findings of this study show that perceived control positively affects attitude towards self-disclosure and trust in social networking sites and its users. If social networking sites want to raise the trust level of users and want them to disclose more, then they should form policies and add features so as to give users more control over the information that they share on the sites. Some of the ways that it can be done are by allowing the users to select the members of the site

who they want to disclose to, select the time duration for which their posts remain active, and make it easier for them to access and delete what they have disclosed over time.

Hedonic motivation was found to have a positive effect on attitudinal, intentional as well as behavioral aspects of self-disclosure. Social networking site managers need to set high priority to the playfulness of their sites in order to increase the willingness of their users to disclose more information. Games and plugins can be added that make it more fun to spend time on the social networking site. Network games, ability to watch videos and listen to music, and recommendations for videos and music are different features that can make a social networking site more enjoyable to the user. Once users perceive a sense of pleasure by performing these activities, they will be motivated to disclose more information on the social networking site.

#### **5.4 Limitations of the Study**

As with all research, this study has a number of limitations, which are discussed below.

First, this study makes use of the survey method. Consequently, it inherits the limitations of the survey method. Individual surveys are not good at following trends in real time. Unless multiple surveys are performed at different points in time, it is difficult to measure changes in population. Self-disclosure on social networking sites is a phenomenon that would be best studied over time. But due to constraints imposed by time and resources, this study included only a single survey and hence the changes in parameters of the research model could not be captured. Another limitation of the survey method is that it cannot provide strong evidence of cause and effect. This is because both the independent and dependent variables are measured at the same time so that a temporal distinction between the two is absent. It cannot be argued with full confidence that the causal relationships assessed in this study have the same direction as postulated in the research model.

Second, the study was performed on a single social networking site, i.e. Facebook. While, Facebook is the most popular social networking site ("Social Networking Use," 2015), it cannot be argued that the self-disclosure phenomenon in Facebook and other social networking sites is the same. Every social networking site is unique and caters a set of functionalities and features to its users. Twitter has a 140 characters limit on individual post, Instagram is focused on posting pictures and short videos only, and posts on Snapchat last only for a certain time before it gets deleted. The point here is that the differences that exist among social networking sites raise questions on any attempts towards generalization of the results of this study. It would be only after multiple studies across multiple platforms that a convincing finding applicable to all social networking sites could be expected.

Third, a convenient sample of undergraduate students was used in this study. Thereby, the findings of this study cannot be applied to the general population. Students are different from the general population when it comes to social networking sites usage (Quan-Haase & Young, 2010). University students fall in the age group that is most likely to use social networking sites (Perrin, 2015). Thus, the findings of this study are limited by the sample used for the study. Other studies across different groups of users based on age and education need to be conducted before coming to a more generalizable conclusion.

## **5.5 Conclusions**

Social networking sites survive and thrive based on the information that users disclose. It is the willingness of users to disclose their information that drives the economies of these sites (A. Joinson et al., 2011). An in-depth understanding of self-disclosure process is of immense importance for the maintenance, promotion, and growth of social networking sites. This was the

purpose of this study; to provide a holistic perspective to the phenomenon of self-disclosure on social networking sites. This study examined the relationships of variables inherited from three different perspectives (self-congruency theory, privacy calculus theory, and extension of unified theory of acceptance and use of technology) and the attitudinal, intentional, and behavioral aspects of self-disclosure. The findings suggest that self-disclosure on social networking sites is a complex phenomenon with many antecedents predicting one or more of its different aspects. The holistic approach adopted in this study addresses the inadequacies of the attempts to study self-disclosure through a single perspective.

Social networking sites usage has shown a meteoric rise over the past decade. Ten years ago only 7 percentage of the US population used one or more social networking sites. The usage has now increased by almost tenfold to 65% (Perrin, 2015). This trend can only be expected to continue in the future as well. With so many social networking sites out there, ready to gain from this huge market, there is bound to be stiff competition. Only those sites that can engage its audience and have them share their information will survive. This puts the understanding of self-disclosure at the center stage for a successful social networking venture. The functioning of social networking sites is built around the premise that users disclose information about themselves and these sites would cease to exist if this disclosure does not happen (Burke et al., 2009). The findings from this study are crucial to the success of social networking sites. They recommend which variables to work on so that users have a positive attitude and intention towards self-disclosure and are likely to disclose more information. The findings also suggest how to increase the level of trust of users in social networking sites and its members.

The evolution of social networking sites can be considered as one of the outstanding technological phenomena of the 21<sup>st</sup> century (Berger, Klier, Klier, & Probst, 2014). Self-disclosure from



users forms the backbone of this phenomenon. This study attempted and succeeded in developing an integrated framework for the understanding of self-disclosure on social networking sites, which will benefit academicians and practitioners alike.

### **5.6 Suggestions for Future Research**

While this study has provided key insights about self-disclosure on social networking sites, it has also opened up avenues for future research. The future directions that could be followed are discussed below.

This study uses a single social networking site, i.e. Facebook. Research in the future needs to include multiple platforms. All social networking sites are unique and there may be significant differences in the self-disclosure phenomena across these sites that can be explored.

A single survey method was adopted for this research. To overcome the limitations of this method, future research could use longitudinal research methods involving more than one survey. Also qualitative methods such as case studies and ethnographic research could be used. Findings from multiple research methods would either challenge or strengthen the validity of the causal relationships assessed in this study.

The effects of perceived benefits of using social networking sites such as new relationships building opportunity, social capital, and social validation on self-disclosure were not significant. One possible indication from this is that the benefits that users perceive could have changed over time. It is suggested that future research explore new benefits that may have emerged and test their relationships with self-disclosure.

A convenient sample of university students was used in this study. Future studies could involve other different groups such as older adults, non-students, professionals and so on. Similar

findings from different groups would help in generalizing the findings about the self-disclosure process on social networking sites.

Although this study followed a holistic approach to examine self-disclosure, there might be other factors that affect self-disclosure on social networking sites that have not been explored. Dark sides of using social networking sites such as addiction, envy of others, social pressure, conflict on these sites have not been included as factors affecting self-disclosure in the current study. These can be explored in future studies.

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## APPENDIX A: CROSS LOADINGS OF THE INDICATORS

Table A: Cross Loadings

	ATT	HAB	HM	NRB	PC	PRSNS	PRSNSM	SC	SCAP	SD	SDI	SI	SV	TRSNS	TRSNSM
ATT1	0.912	0.365	0.282	0.227	0.065	-0.12	-0.05	0.18	0.23	0.349	0.292	0.69	0.28	0.205	0.178
ATT2	0.916	0.346	0.326	0.144	0.075	-0.203	-0.138	0.146	0.24	0.337	0.313	0.595	0.238	0.161	0.15
ATT3	0.922	0.343	0.258	0.153	0.144	-0.152	-0.089	0.133	0.179	0.311	0.276	0.594	0.265	0.208	0.183
ATT4	0.873	0.349	0.297	0.189	0.167	-0.188	-0.12	0.183	0.237	0.34	0.296	0.523	0.189	0.208	0.215
HAB1	0.346	0.842	0.362	0.302	0.075	-0.03	-0.033	0.271	0.353	0.39	0.279	0.367	0.31	0.278	0.238
HAB1 0	0.304	0.643	0.268	0.147	-0.013	-0.061	-0.005	0.246	0.208	0.336	0.179	0.308	0.308	0.088	0.148
HAB1 1	0.255	0.551	0.25	0.137	-0.009	-0.06	-0.012	0.149	0.171	0.24	0.106	0.262	0.25	0.03	0.129
HAB2	0.364	0.889	0.379	0.289	0.031	-0.054	0.012	0.287	0.361	0.389	0.298	0.376	0.327	0.203	0.215
HAB3	0.342	0.89	0.343	0.272	0.026	-0.025	0.023	0.317	0.351	0.413	0.257	0.414	0.319	0.162	0.194
HAB4	0.348	0.887	0.336	0.263	0.013	-0.031	0.027	0.322	0.321	0.418	0.272	0.367	0.322	0.181	0.207
HAB5	0.309	0.878	0.286	0.243	-0.023	-0.011	0.062	0.295	0.274	0.359	0.244	0.368	0.325	0.137	0.14
HAB6	0.312	0.889	0.301	0.215	-0.025	0.018	0.087	0.303	0.266	0.354	0.255	0.402	0.332	0.115	0.119
HAB7	0.283	0.887	0.316	0.22	-0.024	-0.013	0.064	0.299	0.26	0.362	0.273	0.382	0.328	0.078	0.101
HAB8	0.28	0.862	0.319	0.252	-0.038	0.002	0.058	0.252	0.264	0.408	0.266	0.383	0.321	0.09	0.111
HAB9	0.317	0.608	0.281	0.196	-0.023	-0.051	-0.026	0.227	0.18	0.344	0.149	0.281	0.192	0.116	0.117
HM1	0.309	0.363	0.953	0.447	0.076	-0.126	-0.153	0.309	0.417	0.391	0.308	0.276	0.251	0.279	0.269
HM2	0.306	0.358	0.968	0.428	0.132	-0.132	-0.142	0.316	0.415	0.383	0.325	0.262	0.239	0.287	0.308
HM3	0.305	0.39	0.945	0.458	0.11	-0.11	-0.103	0.314	0.429	0.386	0.319	0.25	0.304	0.274	0.293
NRB1	0.161	0.252	0.432	0.898	0.113	-0.046	-0.06	0.213	0.298	0.255	0.107	0.192	0.291	0.247	0.209
NRB2	0.157	0.182	0.419	0.856	0.098	0.016	-0.026	0.196	0.329	0.195	0.082	0.185	0.27	0.235	0.194
NRB3	0.196	0.31	0.374	0.867	0.067	0.038	0.059	0.205	0.268	0.258	0.131	0.164	0.315	0.296	0.219
PC1	0.083	-0.066	0.055	-0.002	0.849	-0.083	-0.078	0.079	0.16	0.058	0.033	-0.025	0.063	0.277	0.278
PC2	0.134	0.025	0.084	0.096	0.937	-0.187	-0.139	0.098	0.199	0.134	0.153	0.007	0.132	0.353	0.311
PC3	0.11	0.029	0.15	0.168	0.927	-0.134	-0.117	0.142	0.2	0.092	0.163	-0.016	0.137	0.425	0.309
PRSN S1	-0.2	-0.058	-0.12	-0.013	-0.098	0.86	0.566	0.064	-0.077	-0.128	-0.312	-0.124	0.001	-0.057	-0.059
PRSN S2	-0.115	0.019	0.019	0.088	-0.136	0.807	0.538	0.19	-0.031	0.012	-0.187	-0.045	0.049	-0.032	-0.091
PRSN S3	-0.138	-0.044	-0.098	0.007	-0.17	0.846	0.551	0.152	-0.096	-0.065	-0.234	-0.04	0.012	-0.036	-0.075
PRSN S4	-0.092	0.062	0.002	0.011	-0.135	0.781	0.62	0.142	-0.055	-0.055	-0.169	-0.007	0.051	-0.002	-0.114
PRSN S5	-0.164	-0.056	-0.226	-0.041	-0.113	0.843	0.654	0.002	-0.176	-0.145	-0.352	-0.074	0.03	-0.097	-0.164
PRSN SM1	-0.121	0.002	-0.172	-0.022	-0.153	0.629	0.897	-0.025	-0.138	-0.167	-0.32	-0.06	0.038	-0.089	-0.221
PRSN SM2	-0.074	0.091	-0.068	0.022	-0.081	0.64	0.913	0.096	-0.086	-0.09	-0.254	0.047	0.076	-0.048	-0.139
PRSN SM3	-0.08	0.042	-0.112	-0.017	-0.083	0.62	0.887	0.066	-0.095	-0.109	-0.288	0.025	0.017	-0.03	-0.151
PRSN SM4	-0.076	0.032	-0.058	0	-0.157	0.679	0.891	0.107	-0.142	-0.104	-0.271	-0.014	0.038	-0.081	-0.191

Table A continued

	ATT	HAB	HM	NRB	PC	PRSNS	PRNSNM	SC	SCAP	SD	SDI	SI	SV	TRSNS	TRNSNM
PRSN SM5	-0.123	-0.01	-0.184	-0.013	-0.088	0.613	0.901	0.035	-0.139	-0.161	-0.349	-0.036	0.056	-0.106	-0.222
SC1	0.156	0.271	0.36	0.222	0.124	0.1	0.049	0.825	0.403	0.287	0.254	0.129	0.136	0.209	0.263
SC10	0.152	0.27	0.255	0.218	0.095	0.117	0.049	0.898	0.333	0.315	0.237	0.138	0.165	0.199	0.226
SC11	0.146	0.266	0.246	0.209	0.108	0.108	0.054	0.881	0.367	0.285	0.205	0.112	0.177	0.199	0.227
SC12	0.152	0.265	0.241	0.216	0.062	0.151	0.104	0.899	0.35	0.27	0.209	0.145	0.181	0.168	0.224
SC2	0.112	0.293	0.318	0.202	0.143	0.048	0.054	0.851	0.383	0.316	0.263	0.115	0.105	0.202	0.26
SC3	0.156	0.293	0.301	0.203	0.122	0.073	0.022	0.87	0.344	0.321	0.306	0.141	0.109	0.216	0.293
SC4	0.165	0.328	0.266	0.216	0.073	0.07	0.058	0.87	0.341	0.308	0.273	0.192	0.2	0.204	0.245
SC5	0.178	0.368	0.286	0.229	0.087	0.072	0.047	0.875	0.369	0.326	0.281	0.179	0.211	0.218	0.243
SC6	0.161	0.298	0.298	0.232	0.13	0.073	0.063	0.869	0.359	0.323	0.236	0.156	0.19	0.233	0.285
SC7	0.151	0.246	0.244	0.15	0.101	0.132	0.043	0.858	0.286	0.288	0.211	0.111	0.087	0.185	0.241
SC8	0.155	0.313	0.278	0.155	0.101	0.123	0.031	0.866	0.293	0.332	0.236	0.159	0.146	0.229	0.264
SC9	0.161	0.279	0.304	0.19	0.1	0.119	0.032	0.855	0.308	0.301	0.216	0.151	0.132	0.193	0.257
SCAP 1	0.214	0.365	0.442	0.366	0.161	-0.057	-0.067	0.402	0.814	0.361	0.215	0.215	0.234	0.311	0.345
SCAP 2	0.181	0.223	0.318	0.231	0.165	-0.049	-0.05	0.26	0.748	0.236	0.187	0.126	0.212	0.236	0.255
SCAP 3	0.209	0.267	0.254	0.217	0.175	-0.108	-0.078	0.301	0.773	0.315	0.225	0.192	0.205	0.234	0.396
SCAP 4_R	0.024	-0.148	0.026	-0.123	0.05	-0.13	-0.288	0.047	0.166	0.033	0.031	-0.063	-0.209	0.027	0.161
SCAP 5	0.122	0.18	0.325	0.212	0.121	-0.142	-0.22	0.209	0.698	0.199	0.182	0.056	0.203	0.212	0.408
SD1	0.293	0.299	0.254	0.15	0.187	-0.033	-0.113	0.334	0.348	0.542	0.388	0.255	0.19	0.202	0.224
SD2	0.279	0.361	0.325	0.278	0.078	-0.099	-0.095	0.266	0.307	0.798	0.317	0.211	0.214	0.133	0.195
SD3	0.3	0.331	0.33	0.171	0.051	-0.095	-0.125	0.238	0.281	0.817	0.24	0.298	0.161	0.108	0.174
SD4	0.297	0.356	0.335	0.199	0.052	-0.101	-0.125	0.224	0.282	0.82	0.23	0.301	0.173	0.118	0.192
SD5	0.246	0.346	0.298	0.202	0.09	-0.119	-0.122	0.287	0.243	0.785	0.415	0.228	0.158	0.135	0.225
SD6	0.276	0.368	0.288	0.245	0.009	-0.061	-0.086	0.239	0.226	0.762	0.376	0.307	0.185	0.203	0.223
SD7_ R	-0.052	-0.102	-0.131	-0.035	-0.047	-0.031	0.01	-0.106	-0.155	-0.306	-0.047	-0.075	-0.095	-0.044	-0.115
SD8_ R	0.062	0.036	-0.045	-0.012	-0.04	-0.067	-0.009	-0.054	-0.068	-0.159	0.003	0.029	-0.059	-0.019	-0.126
SDI1	0.225	0.233	0.298	0.079	0.09	-0.223	-0.289	0.249	0.196	0.314	0.841	0.19	0.115	0.181	0.212
SDI2	0.31	0.29	0.294	0.12	0.102	-0.298	-0.293	0.255	0.242	0.418	0.91	0.223	0.152	0.198	0.233
SDI3	0.315	0.259	0.29	0.126	0.162	-0.327	-0.304	0.246	0.265	0.412	0.895	0.238	0.148	0.236	0.285
SI1	0.591	0.431	0.265	0.219	-0.043	-0.089	-0.045	0.157	0.183	0.336	0.222	0.921	0.344	0.112	0.148
SI2	0.64	0.389	0.267	0.182	0.024	-0.09	-0.02	0.13	0.199	0.364	0.261	0.953	0.273	0.149	0.132
SI3	0.638	0.42	0.24	0.177	-0.018	-0.048	0.028	0.181	0.187	0.283	0.21	0.934	0.293	0.167	0.141
SV1	0.22	0.243	0.196	0.301	0.174	0.032	-0.001	0.214	0.27	0.162	0.085	0.229	0.777	0.247	0.172
SV2	0.152	0.302	0.242	0.191	-0.011	0.034	0.092	0.104	0.238	0.13	0.086	0.295	0.696	0.074	0.038
SV3	0.129	0.191	0.22	0.242	0.114	0.003	0.061	0.126	0.198	0.09	0.096	0.208	0.623	0.127	0.099
SV4_ R	-0.103	-0.15	-0.045	-0.127	0.046	-0.009	-0.031	0.07	0.013	-0.105	-0.073	-0.13	-0.35	0.073	-0.003

Table A continued

	ATT	HAB	HM	NRB	PC	PRSNS	PRSNSM	SC	SCAP	SD	SDI	SI	SV	TRSNS	TRSNSM
SV5_ R	-0.181	-0.238	-0.122	-0.134	-0.082	-0.006	0.003	-0.079	-0.067	-0.221	-0.14	-0.122	-0.522	-0.04	-0.027
TRSN S1	0.151	0.069	0.247	0.216	0.32	-0.013	-0.048	0.231	0.293	0.109	0.135	0.125	0.125	0.78	0.36
TRSN S2	0.162	0.15	0.206	0.221	0.32	-0.014	-0.078	0.226	0.276	0.158	0.184	0.097	0.152	0.846	0.341
TRSN S3	0.166	0.186	0.209	0.271	0.256	-0.007	-0.009	0.179	0.23	0.152	0.172	0.136	0.169	0.823	0.31
TRSN S4	0.137	0.112	0.259	0.252	0.295	-0.031	-0.062	0.178	0.259	0.152	0.189	0.067	0.086	0.798	0.41
TRSN S5	0.157	0.094	0.192	0.223	0.378	-0.032	-0.018	0.114	0.259	0.16	0.174	0.128	0.157	0.846	0.352
TRSN S6	0.262	0.229	0.297	0.267	0.323	-0.199	-0.167	0.211	0.267	0.234	0.269	0.182	0.119	0.735	0.472
TRSN SM1	0.237	0.176	0.238	0.204	0.321	-0.119	-0.209	0.251	0.433	0.282	0.264	0.126	0.124	0.391	0.822
TRSN SM2	0.15	0.095	0.215	0.159	0.282	-0.119	-0.207	0.204	0.367	0.234	0.183	0.108	0.084	0.331	0.797
TRSN SM3	0.101	0.153	0.23	0.205	0.299	-0.05	-0.089	0.245	0.341	0.166	0.222	0.108	0.128	0.431	0.856
TRSN SM4	0.151	0.21	0.276	0.23	0.202	-0.099	-0.167	0.28	0.365	0.238	0.224	0.122	0.076	0.404	0.868
TRSN SM5	0.191	0.184	0.32	0.202	0.278	-0.131	-0.212	0.248	0.432	0.246	0.266	0.165	0.112	0.402	0.862

## APPENDIX B: IRB APPROVAL FORM



### ACTION ON EXEMPTION APPROVAL REQUEST

**TO:** Asim Shrestha  
ISDS

**FROM:** Dennis Landin  
Chair, Institutional Review Board

**DATE:** April 12, 2016

**RE:** **IRB#** E9893

**TITLE:** An integrated framework for self-disclosure on social networking sites

Institutional Review Board  
Dr. Dennis Landin, Chair  
130 David Boyd Hall  
Baton Rouge, LA 70803  
P: 225.578.8692  
F: 225.578.5983  
[irb@lsu.edu](mailto:irb@lsu.edu) | [lsu.edu/irb](http://lsu.edu/irb)

**New Protocol/Modification/Continuation:** New Protocol

**Review Date:** 4/11/2016

**Approved**  **Disapproved**

**Approval Date:** 4/11/2016 **Approval Expiration Date:** 4/10/2019

**Exemption Category/Paragraph:** 2a

**Signed Consent Waived?:** Yes

**Re-review frequency:** (three years unless otherwise stated)

**LSU Proposal Number** (if applicable):

**Protocol Matches Scope of Work in Grant proposal:** (if applicable)

**By:** Dennis Landin, Chairman 

#### **PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –**

##### **Continuing approval is CONDITIONAL on:**

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects\*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. **SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.**

*\*All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at <http://www.lsu.edu/irb>*

## **VITA**

Asim Shrestha was born in Kathmandu, Nepal. He received Bachelor's degree in Computer Engineering from Tribhuvan University in 2005. He worked in software industry and academia after college. He got his Master's degree in Systems Science from Louisiana State University in 2010. He joined the doctoral program in Information Systems and Decision Science at Louisiana State University and expects to get his PhD degree on May 2017. Shrestha has taught various courses at different levels including System Analysis and Design, Multimedia Systems, Database Management System, Business Statistics, and Management Information Systems. His research interest is focused on topics related to social media and online communities.