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## Article

# The effect of social influence, trust, and entertainment value on social media use: Evidence from Pakistan

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## OPERATIONS, INFORMATION & TECHNOLOGY | RESEARCH ARTICLE

# The effect of social influence, trust, and entertainment value on social media use: Evidence from Pakistan

Muhammad Hasnain Abbas Naqvi<sup>1\*</sup>, Yushi Jiang<sup>1</sup>, Miao Miao<sup>1</sup> and Mishal Hasnain Naqvi<sup>2#</sup>

**Abstract:** The rise of social networking sites (SNS) has changed our ways of communicating and conducting business all over the world. The present study explored the factors affecting the pervasive adoption of SNS by employing the use and gratification theory in considering their entertainment value, social influence, process of compliance, internalization, identification, and trust to investigate the sustainability of intentions to use SNS. This study also focused on the mediating effect of the relationship between trust and intentions to use SNS through users' attitudes which were significantly correlated with positive responses towards intention. Responses were gathered through a questionnaire survey, and PLS-SEM was used for the analysis of data. Seven out of eight hypotheses were supported and meaningful information was obtained in this study, which operators and designers can use as a guide for the development of sustainable SNS.



Muhammad Hasnain Abbas Naqvi

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### PUBLIC INTEREST STATEMENT

More people than ever are attracted to social networking sites (SNS) nowadays, especially the younger generation who spend a lot of time on platforms like Facebook, Twitter, and Instagram. There have been numerous studies aimed at understanding what attracts users to a certain social media platform and what sustains their interest. The purpose of this study was to discover the important factors behind an individual's intentions to use social networking technology and their motives for choosing one site over another. The use and gratification theory was applied to weigh the effects of social influences, entertainment value, online shopping opportunities, brand trust, and loyalty and general attitudes, which were all considered in this study to investigate the intentions for using SNS.

**Subjects: Technology; Consumer Psychology; Media & Communications**

**Keywords: sustainable user generated content; social influence process; uses and gratification theory; online technologies; trust; Instagram; attitude; sustainable intention to use SNS; social media communication and interaction**

## 1. Introduction

Social Networking Sites (SNS) have emerged as the predominant online platforms for marketing and networking at the global level. They are viewed as the most useful, cost-effective, and popular internet technology for reaching consumers (Duggan, Ellison, Lampe, Lenhart, & Madden, 2015; Nooijen & Broda, 2016). Initially, the SNS were perceived simply as a way to socialize online, but since that time the opportunities for commercialization were quickly recognized and social networking has undergone immense development and innovation not only from the interaction perspective, but also for business and marketing operations. Numerous studies have revealed how SNS can be an attractive and profitable venue for businesses to generate sales, and for innovative marketing and promotion campaigns. There is no single definition of what constitutes an SNS but it is comprised of an online community in which users with common interests and needs share information, improve productivity, exchange insights, and maintain a multichannel platform for retailing goods and services (Hashimzade, Myles, Page, & Rablen, 2014; Shin, 2010). The social fabric developed by e-commerce enhances a sense of belonging (Yushi, Naqvi, & Naqvi, 2018), provides entertainment value (Ifinedo, 2016), and creates new relationships. SNS have made unprecedented advances in the communication sector by empowering people as stakeholders of social media. With their familiar, convenient and user-friendly interfaces, people prefer to use SNS as their primary means of communication.

There were numerous factors that led researchers to investigate why so many people adopted SNS as well as the effect of social influences on their intentions to continue using them (Sledgianowski & Kulviwat, 2009). Moreover, the significance of SNS to both businesses and their customers and the way these sites ensure trust and deliver goods, services, and entertainment to end user is another primary focus of research. SNS developers and operators want to know what drives people's intentions to continue with a particular social site and to keep on using specific goods or services (Phua, Jin, & Kim, 2017). The purchasing behavior of an individual is based on their lifetime experience of using goods and services, and the ability to reach these individuals ultimately decides the success or failure of an online firm (He, Wang, Chen, & Zha, 2017). Through the wise use of SNS, a company can quickly generate an increase in sales of goods and services. Consequently, knowing the factors that affect the sustainable usage intention of customers is essential and gives businesses the opportunity to effectively increase operations. Sustainability is defined as the goal of creating a business structure through which the utilization of commodities is ensured against permanent failure, and customers' needs are focused on to sustain their intentions for adopting and using specific product brands and services. Thus, with the goal in mind of catering to customers' current and future demands, it is important to have a long-term sustainable social environment that will provide an element of trust and create positive attitudes towards SNS.

The main goal of this study was to measure the impact of social influence processes on the sustainable intentions to use Instagram as a prime example of SNS. We also examined the users' motives for the sustainable pervasive adoption of a particular SNS through the perspective of attitude and intention. We approached the question by classifying social influence processes according to internalization, identification, and compliance. This research provides valuable insights into the ways social influence processes can affect communication and interactions in an SNS context. To the best of our knowledge, no previous research has used such a framework to measure the sustainable pervasive intentions to use Instagram. Studying SNS provides the knowledge base for website operators and businesses to learn about the social and individual needs that

propel people toward these technologies (Jackson & Wang, 2013; O'Leary, 2015; Ryan, Chester, Reece, & Xenos, 2014).

The prime motive of the present study was to measure the affective states of users regarding their usage of social media. Thus, in order to ground this purpose more firmly, this research applied the use and gratification theory which lists five categories of motivators: personal integrative, social integrative, tension release, cognitive, and affective (Katz, Blumler, & Gurevitch, 1974). Much of the research in the context of social media has focused on the effective part only by collecting responses from Facebook, which produced similar outcomes and were difficult to generalize. Hence, to deal with such concerns there is a need to examine other SNS to get more diversified information about their influence on individuals' affective desires. To fill this gap, this study selected Instagram, which is one of the most powerful social media and is used by 700 million people around the world (Instagram Press, 2017).

Though it is obvious that SNS have received recognition around the world, there has been only a limited investigation of South Asian markets (Goodrich and De Mooij, 2014; Naqvi, Li, Jiang, & Naqvi, 2019). For example, Pakistan, which is an emerging economy has had little exposure in the social media and e-commerce sector (Tariq, Sajjad, Usman, & Amjad, 2017). As of now, there are 5,199,000 active users of Instagram in Pakistan. The existing literature has mostly concentrated on the frequency of use and popularity of SNS in the U.S. and European markets, as these countries have high IT literacy compared to Pakistan and other South Asian countries (Sheldon, 2017). Therefore, this study's objective was to obtain a similar range of data about SNS use and users' lifestyles and states of mind in Pakistan, to fill the gap in the current literature which is biased towards the U.S. and Europe markets.

Generally, individuals adopt SNS because of a need for self-expression, to obtain knowledge about products and services, as an outlet for personal creativity, and to develop new relationships (Koc et al., 2013; Nadkarni et al., 2012; Yang et al., 2017). To identify these factors and assess which are most important in the sustainable pervasive adoption of SNS, we used a classification approach for social influence processes, including internalization, identification, and compliance and uses and gratification theory.

### **1.1. Uses and gratification theory**

The uses and gratification theory (UGT) is a sociological paradigm that describes why people select a specific medium of communication to fulfill their shopping and communication activities (Katz et al., 1974). In general, the application of UGT is based on the perspective of a conventional medium, such as newspapers, radio and television (Luo, Chea, & Chen, 2011; McQuail, 2010; Pai & Arnott, 2013), whereas studies utilizing this theory are based on the perspective of computer-based sites (Cheung, Chiu, & Lee, 2011; Luo et al., 2011; McQuail, 2010; Pai & Arnott, 2013). Ideally, the aim of both traditional and online types of communication medium is to attract customer attention and disseminate a positive message about the features of a product or service to engender a desire for gratification in the end user. This study accepts the UGT as an accurate framework for measuring the sustainable pervasive adoption of SNS and proposes that consumers will be motivated to continue purchasing a company's products and services when their needs and gratifications are met (Ku et al., 2013a). The categories of UGT are information, enhanced social interaction, entertainment, and escapism (Katz et al., 1974; Tankard & Werner, 2010), which have a strong effect on consumer behavior. In this study, we used entertainment value as the gratification feature that would motivate a consumer to adopt Instagram as their online social medium service and maintain sustainable pervasive contact with the provider.

## **2. Literature review and hypothesis development**

### **2.1. Social influence processes**

Social influence processes is the framework introduced by Kelman (1958) in which customers choose a specific online service based on the recommendations of others, especially those who

regularly use it and have a positive perception of it (Aronson, Timothy, & Akert, 2010; Chiu, Cheng, Huang, & Chen, 2013). To better understand this approach, Kelmen presented three broad categories of social influence processes: identification, internalization, and compliance. These are considered to be the most relevant constructs of social influence processes applicable to diverse service industries (Graf-Vlachy, Buhtz, & König, 2018; Ifinedo, 2016). Researchers have investigated the impact of the social influence processes framework in different areas such as web-based communication (Ifinedo, 2016; Yushi et al., 2018) and network externalities (Chiu et al., 2013; Sarkar et al., 2019).

Customers choose a certain type of technology based on personal preference and the opinions and recommendations of users (Wokke & Rodenrijs, 2018; Bagozzi et al., 2002a; Cheung et al., 2009; Dholakia, Bagozzi, & Pearo, 2004). More broadly, the process of social influence occurs when customers' attitudes and actions are influenced by social groups (Aronson et al., 2010; Chiu et al., 2013). Kelman's (1958, 2017) three kinds of social influence process—compliance, identification, and internalization—are the core of the theory. Kelman (1958) considered compliance as reflecting partiality towards a certain action, while Aronson et al. (2010) asserted that compliance was a means of providing a favorable response to the requests made by others. Identification explains how individual behavior is affected by the social community (Cheung et al., 2011; Kelmen, 1958, 2017). Internalization is the state of adopting a behavior parallel with your family norms (Cheung et al., 2011, 2010; Kelman, 1958, 2017). Identification is a process that enables customers to embrace specific technology as they desire to retain a meaningful relationship with society (Bagozzi et al., 2002b; Cheung et al., 2011). In an internalization process, people appreciate and adopt specific technology compatible with their belief systems (Cheung & Lee, 2010; Malhotra et al., 1999). Studies have revealed that identification and internalization are the main players in shaping the attitudes of consumers to sustain their use of online platforms such as SNS (Cheung et al., 2011; Cheung & Lee, 2010; Malhotra & Galletta, 1999).

## 2.2. Compliance

When new technology is launched in the market, potential users depend on secondary information from their peer group before making a decision to use that technology (Cheung et al., 2011; Huang, 2019). Conformity with group dynamics is achieved through a customer's agreement about group behavior and values (Aronson et al., 2010; Cheung & Lee, 2010). Research has shown that compliance can be expected in the virtual environment (Egebark et al., 2011; Vasalou, Joinson, & Courvoisier, 2010). Many studies have proved that the normative impact associated with compliance is highly correlated with consumers' sustainable intentions to use SNS (Al-Debei et al., 2014; Ku et al., 2013b; Sledgianowski et al., 2009). In parallel with the preceding discussion, it was assumed that compliance favorably influenced a consumer's sustainable intention to use SNS. Hence, we propose the following hypothesis:

**H1.** *Compliance has a significant association with sustainable intention to use social networking sites.*

## 2.3. Identification

The literature indicates that identification is an essential factor for creating cohesiveness within a group and to preserve its customs (Cheung, Chiu, et al. 2011). Users may choose certain technologies because they want to maintain a strong network and gratify the expectations of their peer group (Kelman, 1958). Thus, social influence among individuals is experienced through identification with specific regard for goal achievement (Qin, Kim, Hsu, & Tan, 2011). Similarly, a social networking site user who already agrees on the defined group norms will also have positive intentions toward these tools (Huang, 2019; Yushi et al., 2018). The exchange of information is more likely to happen among individuals who have similar abilities. Therefore, it can be rationally posited that consumers demonstrate a stronger intention to develop an online relationship when they recognize that their peers are already using such a social network. Studies have confirmed a

significant relationship between the process of identification and the sustainable intention to use social networking sites. Hence, we proposed the following hypothesis:

**H2.** *Identification has a significant effect on sustainable intention to use social networking sites.*

#### **2.4. Internalization**

Kelman (1958, 2017) stated that internalization refers to the influence a consumer feels when they observe that the views of others are in agreement with their own. Davis, Bagozzi, and Warshaw (1989) found that internalization could be influenced by consumer's social behavior. In a virtual communication environment such as Instagram, internalization may occur when consumers realize that other users of the social networking site have similar beliefs, interests, and goals and they want to be a part of that community. Venkatesh et al. (2000) showed that when internalization was combined with social influence, it significantly affected the sustainable intention to use a particular SNS. The internalization of information and opinions from outside sources can increase a user's confidence in the usefulness and entertainment value of an SNS, and the more trust a person has in a belief, the more likely it is that the belief will encourage them to sustain their use of an SNS. A number of researchers (Cheung et al., 2011; Li, 2011; Yushi et al., 2018) has concluded that internalization affirmatively affected a person's intention to continue using a certain social networking site.

**H3.** *Internalization significantly affects sustainable intentions to use a social networking site.*

#### **2.5. Concept of uses and gratification**

The uses and gratification theory (UGT) posits that individuals are conscious of the usefulness and entertainment possibilities when selecting a social medium and that they attribute value to media content that satisfies their social needs and gives them pleasure (Katz et al., 1974; West, Turner, & Zhao, 2010). The UGT is considered to be the most appropriate framework for exploring the sustainable pervasive adoption of SNS. The theory suggests that if social needs and pleasures are achieved through using the online platform, the individual will be more likely to continue with a particular SNS (Ku et al., 2013a; Liu, Min, & Han, 2019).

In the past, the constructs of the UGT have been used according to the requirements of a specific study, so we selected entertainment value as the most appropriate construct for the requirements of our current study (Cheung et al., 2011; Ku et al., 2013b; Pai & Arnott, 2013). Entertainment value refers to the pleasure people experience when communicating with others through online social networks (Chen, Teo, & Nguyen, 2019; Ku et al., 2013a; Pai & Arnott, 2013). One of the main goals behind the use of SNS is to have fun and good experiences while interacting with others in an online community (Hsu, Tien, Lin, & Chang, 2015; Jackson & Wang, 2013; Ryan et al., 2014; Zolkepli et al., 2015). It has been demonstrated that joyless individuals are very unlikely to participate in a social networking community and online communication environment. The literature has confirmed that individuals enjoy themselves while using online media. This fact does much to explain why so many people all around the world have embraced social networking so quickly and completely (Pew Research, 2015). Moreover, scholars (Hsu et al., 2007; Ku et al., 2013b; Lin et al., 2011) have revealed that users look for sensory stimulation while using social networking sites both for social interactions and when seeking information about products or services (Chen, 2018). The gratification of using a pleasing social networking site often helps a person overcome a bad mood and reduce stress. Based on the existing literature, we propose the following hypothesis:

**H4.** *Entertainment value significantly affects the sustainable intention to use social networking site.*

## 2.6. Trust

Trust exists “when one partner has confidence on other partner’s reliability and integrity” (Morgan et al., 1994). In daily life and one-on-one communication, trust has been considered one of the most important aspects in business dealings, message sharing and establishing new connections (Coppola, Hiltz, & Rotter, 2004; Ejdays, 2018; Piccoli et al., 2003), and it is deemed critical for SNS (Metzger, 2004). Trust has a very important role in the online service sector because it is a strong predictor of the consumer’s actual behavior. A high degree of trust will sustain a long-term association between online service providers and users (Suh et al., 2003). Papadopoulou (2007) provided evidence for a significant relationship between trust and motivation toward sustainable intention to use an SNS and it clearly influences a consumer’s choice to use a particular SNS (Shih, Lai, & Cheng, 2013; Shin, 2010). In addition, Shih et al. (2013) conducted a survey to investigate online communication, and their results showed that trust in the integrity of an online platform significantly affected users’ attitudes toward communications. Others (Shin, 2010; Warner-Søderholm et al., 2018) have investigated aspects of social media and the results indicated that trust had an affirmative influence on users’ attitudes toward the sustainable use of SNS. Suh et al. (2003) demonstrated that trust significantly affected consumer attitudes towards the use of internet browsing for business affairs. Based on these findings, the following hypothesis was proposed:

*H4. Trust significantly affects user attitudes toward social networking sites.*

## 2.7. Pervasive adoption

The sustainable pervasive adoption of new technology is associated with positive responses from potential users, which means that users’ engagement with technology is an important area of concern. (Ifinedo, 2016; Yushi et al., 2018) suggested that the outcome of sustainable pervasive adoption is highly favorable because such users accept and care about social networking sites. The perspective of pervasive adoption is similar to the notion asserted by (Espinoze et al., 2011; Turel et al., 2012) and can help to explain an individual’s behavior regarding the use of social networking sites without the need of scientific intervention (Brody, 2018). The benefits of the sustainable pervasive adoption of SNS were also described by (Brody, 2018; Turel & Serenko, 2012). The users of online social networks experience satisfaction because they are socially connected with like-minded members of a virtual community. They also enjoy opportunities for accessing market information about products and services, which increases their self-esteem and social capital (Valenzuela, Park, & Kee, 2009). The terms “embracement and embedment” have been used in past studies and have been adapted to describe the sustainable pervasive adoption of SNS. These constructs are also appropriate for describing the use of online technologies (Ifinedo, 2016; Vannoy & Palvia, 2010; Yushi et al., 2018). Embedment is a state provided by technology in which messages are understandable to the user, and users accept this tool as a critical part of their lives. Embracement is a condition in which technology is willingly recognized and interpreted from an optimistic perspective (Vannoy & Palvia, 2010).

## 2.8. Sustainable intention to use

The sustainable intention to use is a vital concept in the literature that describes a consumer’s willingness to continue using a specific product or service (Ifinedo, 2016; Sheeran, 2002; Yushi et al., 2018). Numerous studies demonstrated the relationship between actual usage behavior and sustainable intention to use SNS (Al-Debei, Al-Lozi, & Papazafeiropoulou, 2013; Sledgianowski & Kulviwat, 2009). Based on this evidence, it is assumed that people with optimistic attitudes towards sustained use of SNS may have a stronger probability for sustainable pervasive adoption and acceptance of a social networking site, which further increases the social advantage integrated with these technologies (Ifinedo, 2016). Consumers with little intention to use SNS will have a passive attitude with regard to participation in these online services and experience no social benefits (Valenzuela et al., 2009). Based on this information, we hypothesized the following:



*H6. Sustainable intention to use social networking sites significantly affects the sustainable pervasive adoption of social networking sites.*

### **2.9. Attitude**

Ajzen and Fishbein (1980) described attitude as the outward expression of pleasant or unpleasant behavior and a feeling of positive or negative regard toward accomplishment of an action. In other words, human actions can be predicted by observing attitudes. When an individual exhibits an affirmative attitude toward SNS, they are expected to respond in a positive manner. Studies have revealed that attitude is significantly correlated with sustainable intention to use SNS, and these associations have been discussed in many research frameworks, such as the Technology acceptance model (TAM), theory of reasoned action (TRA), and theory of planned behavior (TPB). Consumer attitudes about SNS can be a meaningful determinant for considering the worth of a product or service online (Bailey, Bonifield, & Arias, 2018). Various studies found a direct effect of consumers' attitudes about SNS on their sustainable intention to use such online technologies. Hence, it is clear from the literature that positive influence of attitude on the sites will have a strong effect on sustainable pervasive adoption of (Al-Debei et al., 2013; Lin et al., 2000). Most studies have suggested that the sustainable intention of using the social networking site, Instagram, can be observed through consumer motivations (Lin and Judy, 2007; Lin & Lu, 2000). Hence, we proposed the following hypotheses:

*H7. Attitude significantly affects sustainable intention to use social networking sites.*

*H8. Attitude mediates the relationship between trust and intention to use social networking sites.*

### **3. Proposed conceptual framework**

Based on the existing literature on social networking, this study utilized a conceptual framework constructed with regard to social influence processes and uses and gratification theory. Our goal was to measure the effects of internalization, identification, and compliance on sustainable intentions to use a social networking site (Huang, 2019) and specifically how the perceived entertainment value and trust work in tandem to increase users' sustainable intentions (Ejdys, 2018; Warner-Søderholm et al., 2018). In addition, we also investigated the mediating effect of attitude with reference to trust and sustainable intention to use social networking. Lastly, to further ensure the model's fitness, this study also measured the direct effects of sustainable intentions to use social networking sites on the pervasive adoption of a particular site. Figure 1 illustrates the proposed research and describes the formulated hypotheses and Figure 2 shows the mediation effect.

### **4. Methods and data analysis**

#### **4.1. Procedures and participants**

The research was conducted in Lahore, the capital city of Punjab province, and the second-largest city in Pakistan, selected because of its cultural and ethnic heterogeneity. (Tariq et al., 2017). The number of educational institutions is also higher here than in other regions of Pakistan (Zahra, 2013). We collected data from the University of Punjab, Lahore, as it is the best-recognized university. This university not only has students from Lahore but also from other Pakistani cities. In order to ensure that the responses were accurate and reliable, the questionnaire contained some filter questions which helped in gathering correct information and retaining the data set more appropriately. These filter questions were asked before moving towards the main theme of the survey which was basically composed of asking respondents about their Instagram use, their association with this social networking site, the duration, and purpose of usage. We accepted the responses of those participants who confirmed that they were regular users of Instagram and rejected those responses that failed to provide satisfactory answers to the filter questions.

Figure 1. Research model.

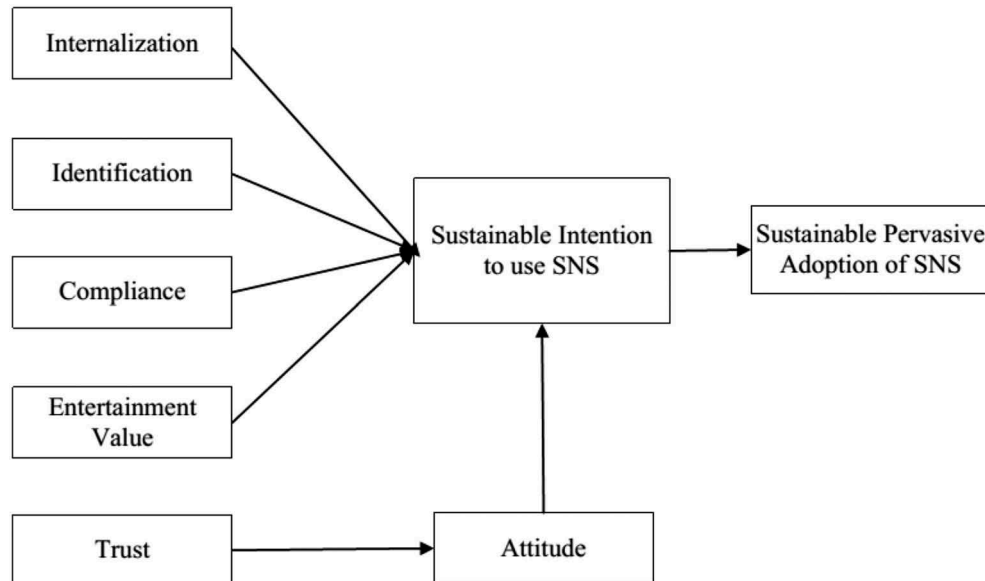
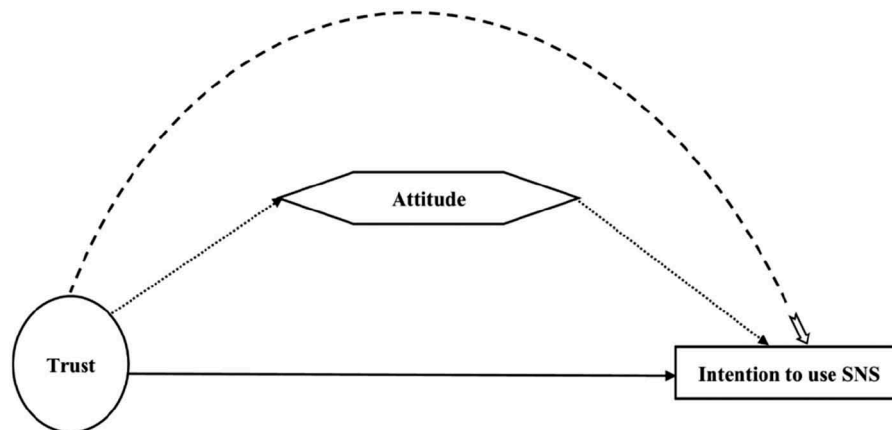


Figure 2. Conceptual model of mediation.



The hypotheses were tested through the data collected from survey questionnaires. A convenient sample technique was used and active Instagram users were selected as participants. The survey was conducted at different malls in Lahore, Pakistan in August 2018. Four researchers were hired to collect information from Instagram users. They were given appropriate training about the collection methods and to ensure that all communications from respondents will be recorded anonymously. We chose this method to get valuable insights about the variables used in the present research. To increase the response rate, we offered respondents incentives for their time and for accurately completing the questionnaire. Since they were the actual users and knew a lot about this SNS, it was expected that they would be able to answer all the inquiries about research constructs. Unfilled and poorly completed questionnaires were excluded. In the end, 353 complete, usable questionnaires were obtained for analysis and interpretation. The quality of the questionnaire was assessed by conducting a pilot study with pretesting, which provided an opportunity for fine-tuning the questions. Convenience sampling was used because it permits the researcher to acquire basic data and trends regarding a particular study without the difficulty of using a randomized sample. This sampling technique is also helpful in documenting that a particular quality of a phenomenon occurs within a given sample. It is also very useful for detecting relationships among different phenomena (Etikan, Musa, & Alkassim, 2016).

All the answers were expressed using a 5-point Likert scale, ranging from 1 = strongly disagree, to 5 = strongly agree. The scales used for this research were acquired from validated studies and modified according to the nature of this study. The scale used to measure internalization, compliance, identification, and entertainment value was adapted from (Bagozzi et al., 2002b; Dholakia et al., 2004). The items in the sustainable intention to use social networking sites scale were adapted from (Cheung & Lee, 2010). Sustainable pervasive adoption was measured through embracement and embedment by using a scale adapted from (Yushi et al., 2018). Attitude was measured through the scale adapted from (Hsu & Lu, 2007). The items to measure trust were from (De Matos et al., 2008; Fogel et al., 2009).

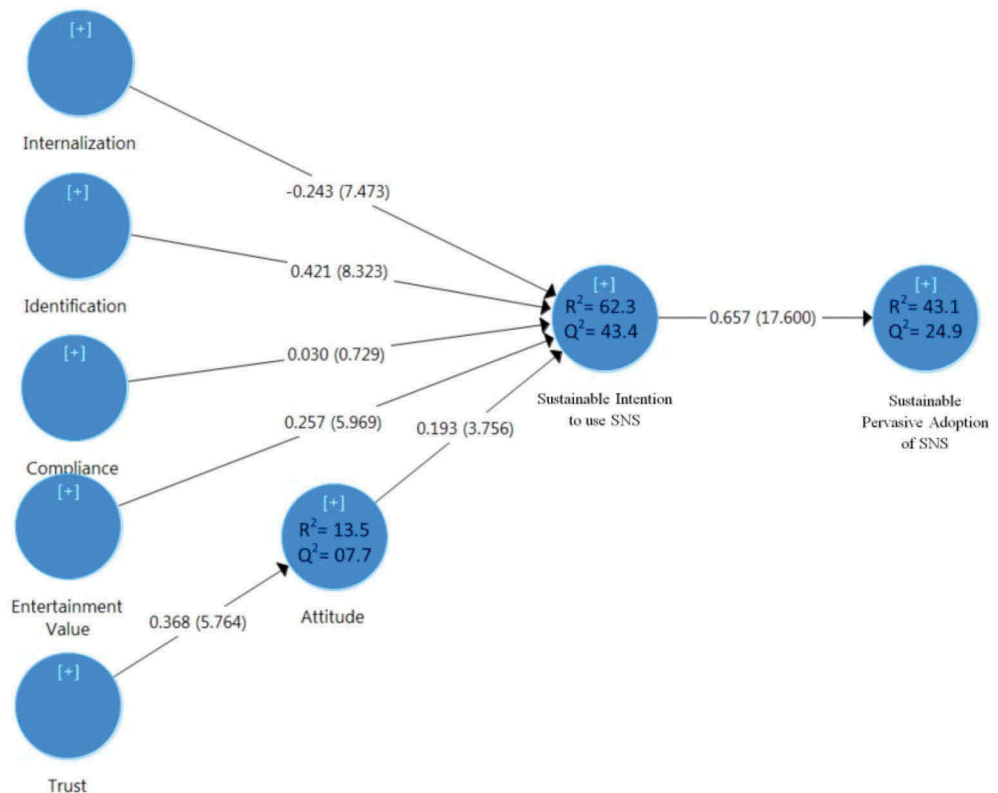
**4.2. Validity and reliability of scales**

The partial least squares (PLS) technique is a module-based assessment for enhancing the deviation described in dependent factors employed to calculate the proposed predictions (Ringle, Wende, & Becker, 2015). Although PLS and regression are similar, PLS allows the use of latent constructs and applies minimum restrictions on the residual distribution and number of respondents. PLS is the most suitable technique for exploratory studies (Hair et al., 2017a; Sarstedt, Ringle, & Hair, 2017), and considering the nature of this research, PLS was considered to be the best method for analysis. For this study, SmartPLS 3 was used to estimate the model's fitness (Figure 3).

Table 1 shows the results of the statistical tests used to analyze the data. The Cronbach's alpha test for validity and reliability of the scales confirmed that the variables were above the threshold value of 0.70: sustainable intention to use SNS  $\alpha = 0.829$ , sustainable pervasive adoption of SNS  $\alpha = 0.739$ , compliance  $\alpha = 0.710$ , identification  $\alpha = 0.770$ , internalization  $\alpha = 0.844$ , trust  $\alpha = 0.739$ , attitude  $\alpha = 0.706$ , entertainment value  $\alpha = 0.820$ . The AVE statistical test exceeded the threshold value of 0.5, thus affirming the validity of the factors (Hair, Ringle, & Sarstedt, 2011; Chin, 2010): sustainable intention to use SNS AVE = 0.746, sustainable pervasive

**Figure 3. Overview of the structured model along with values of R-squared.**

Note: Confidence value (t value)



**Table 1. Validity and reliability of measurement scales**

Constructs	Items	Mean	SD	Factor loading	p value	Cronbach alpha ( $\alpha$ )	Composite reliability	AVE
Intention to use SNS	Q4	3.453	1.211	0.887	0.000	0.829	0.898	0.746
	Q5	3.657	1.103	0.872	0.000			
	Q6	3.47	1.106	0.831	0.000			
Pervasive adoption of SNS	Q7	3.255	1.138	0.810	0.000	0.793	0.865	0.616
	Q8	3.402	1.118	0.779	0.000			
	Q9	3.244	1.036	0.787	0.000			
	Q10	3.113	0.992	0.764	0.000			
Compliance	Q11	3.408	1.05	0.832	0.000	0.710	0.838	0.633
	Q12	3.496	1.038	0.806	0.000			
	Q13	3.337	1.052	0.746	0.000			
Identification	Q14	3.283	0.998	0.835	0.000	0.770	0.867	0.685
	Q15	3.473	0.987	0.830	0.000			
	Q16	3.374	0.965	0.818	0.000			
Internalization	Q17	2.992	1.300	0.895	0.000	0.844	0.905	0.760
	Q18	2.969	1.228	0.88	0.000			
	Q19	2.952	1.205	0.839	0.000			
Trust	Q20	3.159	1.045	0.813	0.000	0.739	0.852	0.657
	Q21	3.13	1.091	0.819	0.000			
	Q22	3.142	1.138	0.80	0.000			
Attitude	Q23	3.278	1.063	0.816	0.000	0.706	0.836	0.629
	Q24	3.17	1.114	0.781	0.000			
	Q25	3.289	1.052	0.781	0.000			

(Continued)

**Table 1. (Continued)**

Constructs	Items	Mean	SD	Factor loading	p value	Cronbach alpha ( $\alpha$ )	Composite reliability	AVE
Entertainment value	Q26	3.365	1.116	0.794	0.000	0.820	0.881	0.649
	Q27	3.425	1.159	0.839	0.000			
	Q28	3.368	1.096	0.810	0.000			
	Q29	3.422	1.176	0.779	0.000			

Note:  $\chi^2$ , SRMR, d\_U.L.S, d\_G, and NFI refer to  $\chi^2$ , standardized root-mean-square residual, squared Euclidean distance, geodesic distance, and normed fit index, respectively.

adoption of SNS AVE = 0.616, compliance AVE = 0.633, identification AVE = 0.685, internalization AVE = 0.760, trust  $\alpha$  = 0.657, attitude  $\alpha$  = 0.629, entertainment value  $\alpha$  = 0.649. The *t* values of every item employed to calculate the hypotheses were also values of standardized factor loading (Hair et al., 2011). The CR was >0.7 (Hair et al., 2017b). The *d*\_ULS, *d*\_G, SRMR, and NFI were above the threshold, which means that the findings support convergent validity. The  $\chi^2$  was positive as well, indicating satisfactory discriminant validity. Thus, the statistical analysis proved the reliability and internal consistency of the measurement scales and the convergent validity of each latent variable.

### 5. Data analysis

Table 2 shows the demographics of the 353 respondents used for data collection: female 27%, male 73%; 84% from 15 to 24 years old, 10% from 25 to 34 years old, 4% from 35 to 44 years old, and 2% from 45 to 54; 79% had an undergraduate degree and 24% had a master's degree.

The Table 3 shows the results of the bivariate analysis indicate the strength of the correlation among the variables. Pearson's correlation coefficient, *r*, showed a significant pairwise relationship between COMP and ATT (*r* = .42), EV and ATT (*r* = .51), EV and COMP (*r* = .42), IDN and ATT (*r* = .61), IDN and COMP (*r* = .54), IDN and EV (*r* = .47), sustainable intention to use SNS and ATT (*r* = .60), sustainable intention to use SNS and COMP (*r* = .46), sustainable intention to use SNS and EV (*r* = .53), sustainable intention to use SNS and IDN (*r* = .69), INT and ATT (*r* = -0.019), INT and COMP (*r* = -0.068), INT and EV (*r* = 0.128), INT and IDN (*r* = -0.087), INT and sustainable intention to use SNS (*r* = -0.253), sustainable PA adoption of SNS and ATT (*r* = .64), sustainable PA adoption of SNS and COMP (*r* = .52), sustainable PA adoption of SNS and EV (*r* = .54), sustainable PA adoption of SNS and IDN (*r* = .70), sustainable PA of SNS and sustainable intention to use SNS (*r* = .65), sustainable PA of SNS and INT (*r* = -0.039), trust and ATT (*r* = .36), trust and COM (*r* = -0.039), trust and EV (*r* = .47), trust and IDN (*r* = .30), trust and sustainable intention to use SNS (*r* = .30), Trust and INT (*r* = 0.251), and trust and sustainable PA of SNS (*r* = 0.345). All the pairwise correlations were significant at the 0.01 level (two-tailed).

The results supported the acceptance of six hypotheses, and one was rejected. H1 was significantly accepted (estimate = 0.37, *t* = 5.764). H3 also showed a positive result (estimate = 0.415, *t* = 8.323). The findings demonstrated that H4 was positively significant (estimate = -0.245, *t* = 7.473). The data revealed that H5, entertainment value, had a significant effect on the sustainable intention to use SNS (estimate = 0.26, *t* = 5.969). Moreover, attitude significantly influenced the sustainable intention to use SNS, and H6 was also supported (estimate = 0.195, *t* = 3.756). The data affirmed H7, that the sustainable intention to use SNS significantly affected sustainable pervasive adoption of SNS estimate = 0.657, *t* = 17.600). Notably, H2 had nonsignificant results, which

Category		Frequency	Percent
Gender	Male	257	73
	Female	96	27
Age	15-24	297	84
	25-34	34	10
	35-44	14	4
	More than 45	8	2
Education	Undergraduate degree	270	76
	Master's degree	83	24

**Table 3. Descriptive statistics and correlation analyses**

	Attitude	Compliance	Entertain-ment value	Identifi-cation	Intention to use SNS	Internali-zation	Pervasive adoption of SNS	Trust
Attitude	<b>(0.793)</b>							
Compliance	0.428	<b>(0.796)</b>						
Entertainment Value	0.515	0.427	<b>(0.806)</b>					
Identification	0.614	0.543	0.473	<b>(0.828)</b>				
Intention to use SNS	0.601	0.468	0.537	0.698	<b>(0.864)</b>			
Internalization	-0.019	-0.068	0.128	-0.087	-0.253	<b>(0.872)</b>		
Pervasive Adoption of SNS	0.645	0.522	0.547	0.702	0.657	-0.039	<b>(0.785)</b>	
Trust	0.368	0.291	0.474	0.304	0.304	0.251	0.345	<b>(0.811)</b>

Correlation is significant at the 0.01 level (two-tailed).

**Table 4. Hypothesis testing**

Parameter	Estimate	SD	T Statistics	P Values	Decision
Attitude -> Intention to use SNS	0.195	0.051	3.756	0.000	supported
Compliance -> Intention to use SNS	0.032	0.041	0.729	0.466	not supported
Entertainment Value -> Intention to use SNS	0.26	0.043	5.969	0.000	supported
Identification -> Intention to use SNS	0.415	0.051	8.323	0.000	supported
Intention to use SNS -> Pervasive Adoption of SNS	0.657	0.037	17.600	0.000	supported
Internalization -> Intention to use SNS	-0.245	0.033	7.473	0.000	supported
Trust -> Attitude	0.37	0.064	5.764	0.000	supported

**Quality criteria of model (fit indices of measurement model)**

	Calculated values	Cutoff Values
Probability level	0.000	< 0.05
Comparative Fit Index (CFI)	0.96	> 0.900
Normed Fit Index (NFI)	0.90	> 0.900
Good Fit Index (GFI)	0.91	> 0.900
Root Mean Square Error of Approximation (RMSEA)	0.04	> 0.06

Note: \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.  $\chi^2$ , SRMR, d\_ULS, d\_G, RMS, and NFI refer to Chi<sup>2</sup>, standardized root-mean-square residual, squared Euclidean distance, geodesic distance, root mean squared, and normed fit index, respectively.

predicted that compliance had a negative effect on sustainable intention to use SNS (estimate = 0.032,  $t = 0.729$ ,  $p > 0.05$ ). Table 4 lists the results of hypothesis testing.

Table 5 and Figure 4 show that attitude is a positive mediator between trust and intention to use SNS which indicates partially mediation between the two variables.

**6. Discussion**

Recent advancements in technology have spurred the development and improvement of social networking sites that empower users to create multiple connections, interact with others and exert a wide range of influences. Users have various socio-psychological motives for sustainable use of such sites. Considering the pervasiveness and world-wide adoption of these SNS, this study aimed to study users' attitudes and behavior towards SNS and adopted a comprehensive approach to investigate how social influence processes and UGT dimensions combined to support a sustainable pervasive adoption of Instagram. In order to build users trust, an SNS needs to deliver accurate information, give users timely feedback about their queries and provide customized advertising based on their communication and search history. To further enhance the users' gratification level, SNS developers should continually modify interfaces and update them frequently with user-friendly tools and attractive layouts.

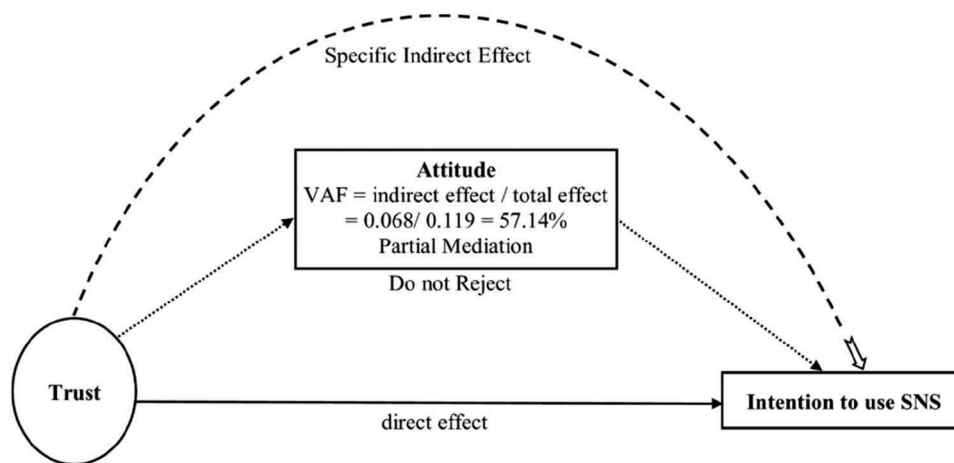


**Table 5. Mediation analysis**

	Mediation Paths	Specific Indirect Effect	t values	p values	Remarks
H8	Trust -> Attitude -> Intention to use SNS	0.068	3.162	0.002	Do not reject

Note: Hair et al. (2017a) mentioned that the VAF would be smaller than 0.2 in the presence of a significant indirect effect (VAF < 0.2, no mediation; 0.2 ≤ VAF ≤ 0.8, partial mediation; VAF > 0.8, full mediation).

**Figure 4. Strength of mediation path.**



This study’s findings revealed that internalization and identification of social influence processes have a significant impact on sustainable intention to use SNS and are congruent with the findings of a number of other researchers (Chiu et al., 2013; Ifinedo, 2016; Li, 2011; Naqvi et al., 2019; Yushi et al., 2018) who reported that internalization and identification improved the sustainable usage of SNS. Our analyses showed that users preferred to use social networking sites that expressed values consistent with their own. This attitude naturally led to self-marketing campaigns aimed at creating and sustaining a positive brand loyalty for a particular SNS (Bagozzi et al., 2002b; Malhotra & Galletta, 1999). Users have a marked tendency to develop strong relations with an online community through continued interaction with members and satisfying experiences (Bagozzi et al., 2002a; Li, 2011). Compared with internalization and identification, compliance has a negative influence on users sustainable’ intention to use SNS, and that is similar to the results of several studies (Aronson et al., 2010; Chang, Hung, Cheng, & Wu, 2015; Cheung et al., 2011; Cheung & Lee, 2010; Chiu et al., 2013; Ifinedo, 2016). When people failed to conform to the societal values and comply with the individual rules and regulations they suffered loss of satisfaction and greater stress (Aronson et al., 2010; Kelman, 1958). Our results are in agreement with the findings of Cheung et al. (2010), Herrman et al. (2008), and Ifinedo (2016) that individuals who are already active users of SNS needed the feedback and approval of others for the acceptance of specific SNS. Moreover, the concept of compliance has been widely studied in economic games. SNS users often took part in online activities for personal financial gain, and whenever they received monetary benefit, they tended to share their positive perceptions about the SNS service (Herrman et al., 2008; Spitzer, Fischbacher, Herrnberger, Grön, & Fehr, 2007). Similarly, whenever a new user joined an SNS he or she had to obey the rules and comply with the policies enforced by the service provider. In many instances, however, the decision to sustainably comply with a site’s regulations is dependent on one’s peer group. Because peers are such an important part of the

social networking society, they are the ones who practice and promote the norms to build a culture according to the regulations, and these peer groups become the role models for new SNS users. Thus, in order to convey about the website policy peers can be the best and most appropriate channel. According to the evidence of human psychology, people learn mostly as children do by interacting with their surroundings and the key members of their social order. This mechanism of learning the norms and values of society and complying with societal laws is, for most people, the path of least resistance and easier than choosing an alternative method (Cialdini et al., 2004). So when applying the same ideas in the context of SNS, we need some building blocks in the form of peers and other group members that influence new users to comply with the policies and procedures. Expediting this is one way that SNS operators can ensure the smooth and sustainable delivery of the service.

Social media are significant providers of entertainment and this has a substantial impact on consumers' sustainable intention to continue using a particular SNS. The findings are supported by the existing literature (Chang et al., 2015; Hsu et al., 2015; Ku et al., 2013b; Ifinedo, 2016; Zolkepli & Kamarulzaman, 2015). One major reason for using SNS service is to have fun and spend time pleasurable by participating in activities such as product discussions, chatting, and seeking business opportunities. Thus, entertainment is an important value factor that promotes the sustainable use of SNS. Our findings that trust has a direct positive effect on attitude and a valuable role in determining customer behavior is consistent with the literature (Lien et al., 2014; Shin, 2010). The more positive a user's attitude, the more likely they will be to sustainably use an SNS and also recommend it to others (Kwon, Park, & Kim, 2014). The literature (Al-Debei et al., 2013; Lin, 2007) has confirmed that users' positive attitudes towards Instagram had a decided effect on the sustainable intention to use the platform for communication, blogging, e-business opportunities, and entertainment. A substantial body of data supports the idea that the sustainable intention to use SNS explicitly influenced the sustainable pervasive adoption of SNS (Al-Debei et al., 2013; Ifinedo, 2016; Naqvi et al., 2019; Sledgianowski & Kulviwat, 2009; Yushi et al., 2018). Lastly, our results also revealed that attitude not only had a direct positive effect on the intention to use SNS but it also partially mediated the relationship between trust and intention to use SNS (Abduljalil & Zainuddin, 2015).

## 7. Implications

This research has made noteworthy additions to the investigation of the psychology and motivations behind the use of SNS. First, no study has considered the effects of social influence processes, the uses and gratification theory, and the incorporation of trust and attitude to measure the pervasive adoption of SNS in such a framework. Second, the literature on the pervasive adoption of SNS has mainly focused on social influence processes and uses and gratification theory (Ifinedo, 2016). This inquiry revealed how social influence processes and entertainment value strongly influenced the pervasive adoption of SNS. Third, this study integrated trust and attitude, which are strongly connected, and determined that they can increase the intention to use SNS. Fourth, the literature has highlighted the theory of reasoned action and technology acceptance model of personality characteristics to measure students' behavior regarding SNS and this study broadens the understanding of such technologies. Finally, published models have not been used to assess the effects on Instagram in prior research. This study offers meaningful and practical insights for experts. Through enhanced understanding of the importance of the uses and gratification connectivity paradigm, the significance of trust, and the relevance of social influence process, it is strongly suggested that social networking site designers remain attentive about the development of functions and services of these sites to increase community bonding and cooperation among users. Additionally, practitioners should make their intentions clear to the users that the platform is trustworthy and that user content will not be exploited for monetary benefit.

## 8. Limitations and future research

This study has limitations that must be considered. Firstly, the data was collected from a single country, Pakistan. Thus, the findings are limited and cannot be generalized at macro level. To broaden the understanding of the relationship between social influence processes, UGT, and sustainable pervasive adoption to use social networking site service, future research should include a more

diverse sample. Secondly, this study focused on only one social networking site, Instagram. Future research can produce a comparative analysis by incorporating more than one site. Thirdly, more potential constructs can be added in the research model to measure its effect on customer behavior that might provide more holistic insights for social networking sites developers to improve service. Fourthly, future research should utilize a comparative analysis technique considering more than one country, and the ways their cultural values might influence the use of SNS. Further research is also needed to measure the indirect effect of trust on the intention to use SNS and to determine how these sites could improve the balance between work and social life of employees.

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#### Competing Interests

The authors declare no competing interest.

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**Appendix A is the questionnaire of the conducted research.**

<b>Construct</b>	<b>Items</b>	<b>Source</b>
Intention to Use SNS.	My interaction with SNSs (e.g. Instagram) is clear and understandable.	Cheung & Lee, 2010
	It is easy for me to use SNSs.	
	I find it easy to get SNSs do what I want them to do.	
Pervasive Adoption of SNS	I accept that SNS (e.g. Instagram) is an integral part of my social life.	Ifinedo, 2016
	My group of friends accepts that SNS is an integral part of our social lives.	
	I foresee no difficulty in embracing, i.e. adopting willingly SNSs (e.g. Instagram) use.	
	Adopting SNSs willingly or eagerly is important to me.	
Compliance	My group of friends' views of SNSs (e.g. instagram) use is similar to mine.	Dholakia et al., 2004; Cheung et al., 2011
	It is necessary for my group of friends to use SNSs to be accepted among peers.	
	Unless my group of friends sees the benefits of using SNSs, they would see no reason to spend extra effort in using such tools.	
Identification	In our interactions, my group of friends feels a sense of ownership about the use of SNSs (e.g. instagram).	Dholakia et al., 2004; Cheung et al., 2011
	My group of friends talks up the use of SNSs to other friends that have not joined.	
	My groups of friends are proud of using SNSs (e.g. instagram).	
Internalization	SNSs (e.g. Instagram) are important to my group of friends.	Dholakia et al., 2004; Cheung et al., 2011
	The reason my group of friends use SNSs is that such tools provide some underlying social benefits.	
	My groups of friends like to use SNSs primarily because of the similarity between our values and the benefits that such tools provide.	

(Continued)

<b>(Continued)</b>		
<b>Construct</b>	<b>Items</b>	<b>Source</b>
Trust	The comments of products/ services on instagram are correct.	Matos and Rossi, 2008; Fogel & Nehmad, 2009
	Comments on instagram are reliable.	
	I am confident on the comments of products/services posted on instagram.	
Attitude	I think using instagram is beneficial to me.	Davis, 1989; Hsu & Lu, 2007; Lin, 2007
	I think using instagram is a nice idea.	
	I think instagram is helpful to our society.	
Entertainment Value	Using SNSs (e.g. Instagram) provides me with a lot of fun.	Dholakia et al., 2004; Cheung et al., 2011
	I have fun using SNSs.	
	The process of using SNSs is pleasant.	
	SNSs (e.g. Instagram) do not bore me.	





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