

## INTENTION TO USE SOCIAL NETWORKING SITES: IMPACT OF PERSONAL INNOVATIVENESS

*A intenção de usar sites de redes sociais: impacto da inovação pessoal*

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**Abstract:** This study empirically investigates the impact of personal innovativeness on Intention to Use (IU) Social Networking Sites (SNS). The theoretical perspective of Technological Acceptance Model (TAM) and Personal Innovativeness of Information Technology (PIIT) were used to explain the relationships developed in the study. This research is descriptive in nature and based on primary data collected through a self-administered questionnaire, administered to a sample of 216 undergraduates in Sri Lanka. Findings reconfirmed the relationships in original TAM, enabling to use TAM in SNS context. Further, we found PIIT is significant in predicting IU SNS. Theoretical and practical implications of these findings and directions for further research are discussed.

**Key Words:** Social Networking Sites (SNS); Personal Innovativeness of Information Technology (PIIT)

**Resumo:** Este estudo investiga empiricamente o impacto da inovação pessoal na intenção de usar (IU) sites de redes sociais (SNS). A perspectiva teórica do Modelo de Aceitação Tecnológica (TAM) e a vontade pessoal de utilizar Tecnologia de Informação Inovadora (PIIT) foram utilizadas para explicar as relações desenvolvidas no estudo. A pesquisa é de natureza descritiva e baseia-se em dados primários coletados através de um questionário auto-administrado, utilizando uma amostra de 216 estudantes de graduação no Sri Lanka. Os resultados confirmaram as relações no TAM original, permitindo usar a TAM no contexto SNS. Além disso, mostrou que o PIIT é significativo na previsão IU SNS. As implicações teóricas e práticas destes achados e orientações para futuras pesquisas foram também avaliadas.

**Palavras-chave:** Sites de redes sociais (SNS); vontade pessoal de utilizar Tecnologia de Informação Inovadora (PIIT).

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## INTRODUCTION

The recent revolution of Information technology has diffused Social Media widely among the human beings. This has created ample of opportunities to marketers, to communicate with their global customers while provoking researchers to do research on social media. Kaplan and Haenlein (2010) have categorized social media into six categories by considering social presence/media richness and self-presentation/self-disclosure as follows. Blogs, collective projects (Wikipedia), social networking sites (Facebook), content communities (You Tube), virtual social worlds (Second Life) and virtual game worlds (Word of Warcraft). Current study focuses only on SNS.

TAM is one of the well-researched models and was developed to predict how individuals adopt and use new ITs. This model explains that, intention to use IT depends on two beliefs: Perceived Usefulness (PU) and Perceived Ease Of Use (PEOU) (Venkatesh & Bala, 2008). Since SNS is a new technology, scholars have used TAM to understand the acceptance of SNS by individuals (Acarli & Sağ lam, 2015; Choi & Chung, 2013; Rauniar, Rawski, Yang, & Johnson, 2014). User will consider how easy it is to use SNS and to what extent it supports to achieve their SNS related needs when accessing the SNS (Rauniar et al., 2014). Therefore, we use TAM as the main theoretical framework to describe the IU of SNS. Consumer innovativeness is significant in accepting internet based new technologies (Aldás-Manzano, Lassala-Navarre, Ruiz-Mafe, & Sanz-Blas, 2009; Ratten, 2014). Therefore, current study incorporates PIIT to the TAM. We have selected only one SNS called Facebook, since it is the largest multilingual SNS (Grosbeck, Bran, & Tiru, 2011) and most interested SNS among researchers due to its high usage and technological feasibility (Ellison, Steinfield, & Lampe, 2007). Further, it is the most famous SNS among young Sri Lankans who will be the next generation of mass consumers.

A momentous body of research in technology acceptance has gathered evidence, supporting the importance of PEOU and PU in acceptance of SNS. Although there is a large body of research on these constructs, very little work has been done to understand the impact of PIIT on acceptance of SNS. Social media is one of the most powerful innovative media in the century (Lee & Ma, 2012) and PIIT is significant in accepting innovative technologies. Thus, we argue that there should be a considerable impact of PIIT on SNS acceptance and this will be worth exploring.

This study attempts to present an in-depth study with the objective of developing comprehensive model to understand the IU, SNS based on TAM. In order to achieve above objective, we incorporate a new construct to TAM called PIIT and examine the impact of PIIT on IU, SNS.

The rest of the paper is organized as follows. Section I is the development of the conceptual framework by focusing on the rationale of the constructs and hypotheses development. Section II includes the methods used in the study. Validity and the reliability of the constructs are discussed in this section. Following methodology, data analysis and findings are presented with the answers to the research questions. Finally, discussion and conclusion are presented with the managerial implications and directions for future research.

## **THEORY, HYPOTHESIS DEVELOPMENT AND CONCEPTUAL FRAMEWORK**

### **1. SNS**

SNS are “Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system”(Boyd & Ellison, 2007, p. 211). According to Kim, Jeong, and Lee (2010, p. 216) SNS are “Web sites that make it possible for people to form online communities, and share user-created contents” . Further, it can be identified as “online communities that focus on bringing together people with similar interests or who are interested in exploring the interests and activities of others”(Marcus & Krishnamurthi, 2009, p.59). These online networks have different objectives such as friendship-oriented SNSs (Facebook) ,professional- oriented SNSs (LinkedIn)(Shneor & Efrat, 2014) and they do not rely upon face to face encounter as it was in traditional social networks. In SNS some friends are second-order friends (friends of friends) or more than that, sometimes they have never met or not have any idea to meet(Clemons, 2009).

### **2. TAM**

There are a number of theoretical models used by scholars to study user acceptance and usage behavior of new technologies. However, TAM is the most widely applied model in this regard (Venkatesh, 2000) and it is a valuable instrument for predicting intention to use information systems(Szajna, 1996). TAM model was developed by Davis (1986) based on the theoretical foundation of the theory of reasoned action (TRA) (Fishbein & Ajzen, 1975). TRA explains general human behavior while, TAM particularly explains the determinants of computer acceptance (Davis, Bagozzi, & Warshaw, 1989). According to TAM PEOU, PU are the basic antecedents for developing Attitudes toward technology (A) , Intention to Use (IU) and finally actual usage (AU) of technology(Choi & Chung, 2013). PU is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance(Davis, 1989, p. 320) and PEOU, in contrast, refers to “the degree to which a person believes that using a particular system would be free of effort”(Davis, 1989, p. 320). Venkatesh and Davis (1996) analyzed the antecedents of PEOU, without A (Rondan-Cataluña, Arenas-Gaitán, & Ramírez-Correa, 2015)

Over time, the TAM model has been changed twice as TAM2 (Venkatesh & Davis, 2000) and TAM 3 (Venkatesh & Bala, 2008). TAM 2 includes social influence processes and cognitive instrumental processes (Rondan-Cataluña et al., 2015). TAM 3 came up with antecedents of PEOU. Rauniar et al. (2014) have modified the TAM to explain the acceptance of social media technology and came up with a model called revised TAM. It includes more constructs relevant to social media acceptance (critical mass, capability, perceived playfulness and trustworthiness).

**3. TAM and SNS acceptance**

In order to be compatible with social media, general definitions given to the constructs in TAM changes as follows. PU can be defined as the “extent to which the social media user believes that using a particular social media site helps to meet the related goal-driven needs of the individual”(Rauniar et al., 2014, p. 10) and PEOU as the “degree to which the social media site is free of effort”(Rauniar et al., 2014, p. 11). PEOU is a leading antecedent in explaining PU in accepting personal computers (Igbaria, Zinatelli, Cragg, & Cavaye, 1997).Liu (2010)added empirical evidence to prove positive relationship between PEOU and PU of wikis usage.The higher the consumer PEOU, the greater the PU of SNS (Pinho & Soares, 2011). According to Qin, Kim, Hsu, and Tan (2011)PEOU has a significant positive influence on the PU of SNS.Rauniar et al. (2014) also highlighted that PEOU of social media site is positivelyrelatedtoPU.AsperChoiandChung(2013)PEOUwasafundamentaldeterminanttoPUofSNS.

PU is a key determinant of user’s IU computers(Davis et al., 1989). Liu (2010) concluded that PU of wikis has significant direct impact on IU. PU of social media is positively related to the IU of the social media site(Rauniar et al., 2014). Choi and Chung (2013) mentioned that PU has robust effects on IU of SNS .PU has a significant positive influence on the IU of SNS(Qin et al., 2011). However, a contrasting finding was introduced by Pinho and Soares (2011) that, there is no such relationship between PU of SNS and IU of SNS.

As per best of our knowledge, very few studies have examined the acceptance of SNS from TAM point of view. Based on the associations proved in the TAM for social media model, we propose the following hypothesis for SNS.

Hypothesis 1: PEOU of SNS is positively related to PU of SNS

Hypothesis 2: PU of SNS is positively related to IU the SNS

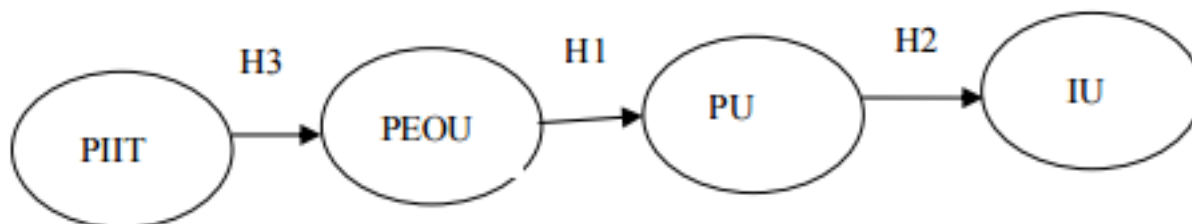
**4. Personal innovativeness and technology acceptance**

PIIT is a vital concept for understanding the acceptance of information technology, and it can be defined as the , “the willingness of an individual to try out any new information technology” (Agarwal & Prasad, 1998, p. 206).Parasuraman (2000, p. 311) Identified it as a “tendency to be a technology pioneer and thought leader”. As per Schillewaert, Ahearne, Frambach, and Moenaert (2005, p. 326), it is predisposition or attitude describing a person’s learned and enduring cognitive evaluations,

emotional feelings and action tendencies towards adopting new information technologies. Based on previous definitions, willingness of users to try SNS as a new media will be considered as “PIIT” in this study.

Joo, Lee, and Ham (2014) pointed out that PIIT has significant effects on PEOU of the technology. According to van Raaij and Schepers (2008), it has a positive impact on PEOU of the system.Lewis, Agarwal, and Sambamurthy (2003)reported that PIIT has a significant positive influence on individual beliefs about the ease of use of a technology. Further, Schillewaert et al. (2005) provide evidence to prove same relationship with a sample of salespersons

Hypothesis 3: **PIIT is positively related to PEOU of SNS**



**Figure 1 Conceptual Framework**

## **METHODOLOGY**

### **1. Data collection and participants**

For the empirical study, 400 questionnaires were distributed among selected students in the lecture rooms and completed questionnaires were collected on the following day. These students were full-time students at a state university in Sri Lanka. Self – Administered questionnaire, containing closed ended questions, was used as the data collection tool. First section consisted questions to measure the main constructs with Likert type scale questions where respondents had to make their level of agreement such as, Strongly Agree, Agree, no idea, Disagree and Strongly Disagree. Scores of 5, 4, 3, 2, and 1 were assigned respectively for above mentioned categories. Questionnaires were in English. However, only 251 questionnaires were submitted and 35 questionnaires were dropped due to the incomplete answers. Finally, 216 questionnaires were used in analysis resulting in a response rate of 54% (217/400). Next section of the questionnaire consisted of questions related to demographic factors.

From total sample 42.4% were male and 57.7 % were female students. Majority of the students (46.3%) are using Internet less than one hour per day. Further, 51.4% respondents have more than 3 years' experience with the social media sites. Moreover, 25.5% have 101- 250 social media friends and 35.2 % respondents use social media 0-2 hours per week.

### **2. Measures**

All constructs in the study involved multiple items. Content validity of the study was assured thorough literature review and expert opinion (academics, industry researches). Further, a pilot survey was conducted to test the questionnaire. All items included in the questionnaire were suitable for further proceeding. Measurement scales used in the current study were adopted from past studies including PEOU (Rauniar et al., 2014), PU (Choi & Chung, 2013; Rauniar et al., 2014), IU (Choi & Chung, 2013) and IU(Agarwal & Prasad, 1998) . Since the study adopted scales from number of previous studies, factor analysis was done to verify the underlying structure of the variables before it proceeds with further analysis.

## **RESULTS**

PLS was used with SmartPLS 3 software to test hypothesis and estimate path models involving latent variables which is observed through multiple indicators. Reliability and validity were ensured by cronbach's alpha, composite reliability (CR), factor analysis, and average variance extracted (AVE). Coefficient alpha is the widely used reliability coefficient in social-science research (Green, 200335). As shown in Table 1 all alpha values are above 0.7 for all constructs indicating good internal consistency of the items in the scale (Gliem & Gliem,2003). Further; composite reliabilities of the five scales are higher than 0.7 which is satisfactory level.



**Table 1 Properties of Measurement Constructs.**

Construct	Items	Measurement Variables	Loadings	Mean	SD	AVE	CR	$\alpha$
PEOU				3.45	0.67	0.562	0.793	0.716
	PEOU1	Facebook is flexible to interact with	0.793					
	PEOU 2	I find it easy to get Face Book to do what I want to do	0.745					
	PEOU 4	I find Face Book easy to use	0.708					
PU				3.50	0.66	0.551	0.786	0.794
	PU2	I find Facebook useful in my personal life	0.772					
	PU3	Using Facebook enhances my effectiveness to stay in touch with others	0.695					
	PU4	Using Facebook makes it easier to stay informed with my friends and family	0.757					
IU				3.32	0.76	0.570	0.797	0.729
	IU1	I will continue to use Facebook in the future	0.875					
	IU2	I will continue to increase my use of Facebook	0.730					
	IU2	I will continue to use Facebook whenever possible	0.642					
PIIT				3.38	0.70	0.605	0.820	0.795
	PIIT1	If I heard about a new information technology, I would look for ways to experiment with it	0.856					
	PIIT2	Among my peers, I am usually the first to try out new information technologies	0.69					
	PIIT4	I like to experiment with new information technologies	0.779					

Note: All items shared a common prompt: "Indicate how much you agree with each option by marking the appropriate response" and were measured with a 5-point Likert-type scale ranging from "Strongly Disagree" to "Strongly Agree."

Convergent and discriminate validity were ensured by factor analysis since it is widely used method for this purpose. Factor analysis provides the tools for analyzing the structure of the correlations with many variables and highly correlated variables are called as factors (Hair, 2006) Kaiser-Meyer-Olkin (KMO) value measures the sampling adequacy for factor analysis. If it is in the .90s— marvelous, in the .80s — meritorious, in the .70s — middling, in the .60s — mediocre, in the .50s — miserable, below .50 — unacceptable (Dziuban, Charles & Shirkey, Edwin, 1974). Bartlett test of sphericity is “statistical test for the overall significance of all correlations within a correlation matrix factors” (Hair, 2006). KMO value was .815 and Bartlett’s Test of Sphericity was significant in giving evidence that the data were generally appropriate for factor analysis. Table 1 shows all factor loadings are at a higher level and lowest value was 0.642 which is higher than satisfactory level. Further, AVE for all scales were higher than 0.5 (Table 1) which is the minimum level recommended by Fornell & Larcker (1981).

Standardized parameters for the research which were obtained by bootstrap simulation were used to test the hypothesis. The results from the PLS indicate that three hypotheses were supported by empirical evidence, at  $p < 0.05$  significant level (Table 2). The first hypothesis suggested that there is a positive relationship between PEOU and PU. The Path coefficient of 0.501 was found to be statistically significant at  $p < 0.05$ . Second hypothesis was PU of SNS is positively related to IU the SNS, which was supported at 0.05 significant level ( $\beta.401$ ) at  $p < 0.05$ . Third hypotheses were supported with standardized coefficient values of 0.254.

**Table 2 Summary of Hypotheses Testing Result**

\* Significant at 5% for the two-tailed test ( $>1.96$ ).

Relationship	Hypotheses	t-Value	Path coefficients	Conclusion
PEOU → PU	H1	8.944*	0.501	Supported
PU → IU	H2	6.691*	0.401	Supported
PIIT → PEOU	H3	3.060*	0.254	Supported

## DISCUSSION

This research examines the impact of PIIT in IU of SNS among undergraduates. As explained, the TAM by itself may not be good in explaining the SNS acceptance that became a revolution in past decade. Revised TAM for social media developed by Rauniar (2014) has not considered PIIT despite the fact that it is an essential human feature in accepting new technology. As such, this study incorporates PIIT to the main constructs in TAM based on revised TAM for social media.

Our first hypothesis which assumes that there is a positive relationship between PEOU of SNS and PU of SNS has been proved by empirical evidence. This finding is concurring with Rauniar (2014) which assume same relationship in revised social media model and number of other scholars such as Liu (2010), Qin et al., (2011) proved with different technologies. Then we assume positive relationship between PU of SNS and IU SNS. There was sufficient evidence to accept this hypothesis supporting Rauniar (2014) in a developing context. Further, this finding is in agreement with some previous studies (Davis et., al 1989, Liu ,2010, Choi & Chung 2013). Our third hypothesis assume positive relationship between PIIT and PEOU that originally incorporate to the social media acceptance model was proved supporting Joo et., al (2014), Van Raaij & Schepers (2008) and Lewis et., al (2003).

## CONCLUSIONS

Based on empirical evidence, current study contributes for the development of social media literature in the area of SNS acceptance. As explained earlier data were collected in new context which is a lower middle income country with a 20,639,000 population<sup>1</sup>. Currently there are 4.79 million internet users and 2.80 million active social media accounts and its penetration is 14%<sup>2</sup>.

This is the first study which incorporates PIIT to the social media acceptance model through adopting scales from existing literature. Indicators were validated through proper validity and reliability techniques providing an opportunity to replicate them in future studies. This is a significant contribution for social media theory and future researches. Result reconfirmed relationship in original TAM (H1, H2, and H3) and revised TAM for social media (Rauniar, et.al (2014) enabling to use TAM in social media context. However, we found that PIIT is significant in predicting PEOU of SNS. If users are less in PIIT then they will not perceive SNS as an easy medium for their communication activities. This means they still rely on traditional communication mediums.

In this study, we developed a comprehensive model to understand the acceptance of social media among young adults (undergraduates) in a developing context. Along with the development of technology, most Sri Lankan companies tend to use social media marketing strategies to communicate with their customers. In order to get maximum benefits from social media, marketing managers should have a clearer idea about the advantages and disadvantages of it. For these reasons, we hope that findings of this study will be a useful guideline for both academics and practitioners.

Though, the findings include valuable insights about SNS acceptance, there are some limitations. The participants of this study were students from a single faculty which represents a sub-culture; therefore, they may hold similar norms and beliefs. It is important to study norms and beliefs of that group to conduct a deep study. This will help to get an understanding of how it affects their SNS acceptance. Even though SNS is a global phenomenon, it is constrained by local conditions such as culture (wijesundara, 2014). As such future, researchers' can use this model for cross cultural comparison. There are many SNS such as LinkedIn, Twitter, we chat and Face Book. However, in this study, we selected only the Facebook. In order to get deeper knowledge about SNS, it better to study this model with other SNS. Only young adults were recruited as our respondents although other demographic groups are also growing fast. Future studies should take in to account of more age groups since age can be important factor in accepting SNS.

<sup>1</sup>Ease of Doing Business in Sri Lanka[I]. Retrieved on 24th May 2016 from <http://www.doingbusiness.org/data/explore/economies/sri-lanka,2016> 2

<sup>2</sup>Wearesocial, [I]. Retrieved on 12th March 2016 from <http://wearesocial.com>, 2016



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