

Youths' Social Media Adoption: Theoretical Model and Empirical Evidence

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Abstract

Social media has become a major source of communication and collaboration between individuals and among groups. The current paper investigates the underlying motives of social media adoption. The research identifies various determinants such as perceived connectedness, perceived enjoyment, perceived usefulness and perceived ease of use as the major influencers of social media adoption intention. Using the sample from Saudi Arabia an online survey is conducted. Structural equation modeling has been used to test the proposed relationships. The results reveal that individuals' perceived connectedness and perceived enjoyment act as stimuli for their social media adoption intention. Moreover, perceived ease of use and perceived usefulness mediate these stimuli and the individuals' social media adoption intention. The paper concludes with the recommendations for the academicians and the social media designers/developers.

Keywords: connectedness, enjoyment, ease of use, usefulness and social media adoption

1. Introduction

The popularity of social media websites have skyrocketed in recent years attracting high traffic (Nielsen, 2012). The number of internet users is increasing exponentially and it has crossed over 3 billion users globally (Internet World Stats, 2015). Saudi Arabia has the second largest internet users in the Middle East. More than 18 Million people have access to the internet, with penetration of about 66%, in Saudi Arabia (Internet World Stats, 2015). According to ministry of communications and information technology (<http://www.mcit.gov.sa/>) 80% of the Saudi internet users own a smart phone. Further statistics revealed by MCIT show high interest of Saudi citizens in the social media websites as well. According to which, in Saudi Arabia, there are more than 7.6 million Facebook users; more than 5 million Twitter users, more than 1 million LinkedIn users and over 290 million daily views on YouTube. Moreover, on average a Saudi spends about 8 hours daily on various social media sites. Thus social media has become a part of the everyday life for most of the Saudis. All these statistics indicate high penetration of internet and other social media in Saudi Arabia.

With more and more people using social media, the ways of communication and collaboration have entirely changed. It has also impacted the communication between the businesses and other consumers. Basically social media has devised a whole new set of rules and completely different mechanism for exchange of information among the individuals (Alikilic & Atabek, 2012). Although a comprehensive literature on social media acceptance and adoption (Cheung, Chiu, & Lee, 2011; Cheung et al., 2011; Gruzd, Staves, & Wilk, 2012; Hrastinski & Aghae, 2011; Kaplan & Haenlein, 2010a; Kwon, Park, & Kim, 2014; Lee & Kim, 2014; Li & Tsai, 2015; Michikyan, Subrahmanyam, & Dennis, 2015; D. Shin, 2010; Zolkepli & Kamarulzaman, 2015) is quite extensive yet most of the studies are conducted in the advanced countries. Even though social media penetration in Saudi Arabia is one of highest in the world yet we don't find significant research explaining the underlying motives of the users' acceptance and adoption of internet and social media in this part of the world. Keeping in mind this increased usage of social media by the Saudis, especially by the youth, the rationale of this article is to explore the mechanism and the determinants explaining their adoption behavior.

2. Literature Review

For the purpose of this paper, the term "social media" includes all internet based applications and tools that enable users to create and share content such as pictures, videos and messages and includes various activity

platforms such as blogs, message boards, forums and wikis (Kaplan & Haenlein, 2010b). It can be argued that social media tools and applications involve variations of web 2.0 technologies to allow the activity platforms to work effectively. These technologies encompass certain tools or web services that allow users to establish their profiles which can be seen by the public partially or fully. These profiles can be tallied to individuals who match or have some interests in common with each other and hence allow for a personalized social interaction (Boyd & Ellison, 2007). Based on these definitions, the social media tools can be viewed as both information systems and technology that involve a message to be discussed, media used and an interface. With the advancement of social media tools and applications, now virtual communities are also being made to assist the continuing conversations. These communities enable users to form extrinsic and intrinsic connections and bonds with other users. These virtual social networking mediums require a continuous participation by users to keep them going on.

The technology adoption by the users and their reactions to new technology are consistently related (Viswanath Venkatesh, Morris, Davis, & Davis, 2003). In particular, the acceptance and adoption of new technologies are derived from the “uses and gratifications” perspective. The perceived ease of use and perceived usefulness are two factors that determine adoption of technologies (Hong & Tam, 2006, p. 165). The Theory of Reasoned Action (TRA) and its derivative, the Technology Acceptance Model (TAM) predict the acceptance of technology by users (Davis, 1989). Davis (1989) argues that beliefs about a certain technology affect the attitudes which ultimately lead to intentions (Lederer, Maupin, Sena, & Zhuang, 2000).

The Innovation Diffusion Theory (IDT) by Rogers (1995) proposes that if certain innovations (idea or product) are considered valuable by individuals of a social system, then these will be accepted and applied. Those innovations that have a higher relative usefulness face a higher rate of adoption. While the main focus of the adoption models has been on organizations, where the acceptance of new technologies are crucial to improve performance, Hong and Tam (2006) concentrated on the Multipurpose Information Appliances Adoption Model to see how individuals adopt innovations. Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003) considers three factors as affecting the adoption (1) Users' reactions to using information technology (2) intention to use the technology and (3) actual usage of the technology.

3. Conceptual Framework and Hypotheses

3.1 Perceived Usefulness

This construct has been derived from the Technology Acceptance Model (TAM). Technology acceptance literature bears the evidence that perceived usefulness and perceived ease of use are the dominating factors explaining the users' attitude and intention towards technology usage. Perceived usefulness can be described as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989). Generally the users' thoughts about the usefulness have a great impact on the eventual adoption of the system. This may mean that perceived usefulness of the system is a significant predictor of the users' adoption of technology (Lee, 2009; Lin & Lu, 2011; Lu, Zhou, & Wang, 2009; Yen, Wu, Cheng, & Huang, 2010). An individual's perceived usefulness of social networking sites positively influence his intention to use these sites (Kang & Lee, 2010; O. Kwon & Wen, 2010; Lin & Lu, 2011). We encompass perceived usefulness to be a substantial predictor in our theoretical model, hence we hypothesize:

Hypothesis 1: Perceived usefulness positively affects social media usage intention.

3.2 Perceived Ease of Use

Perceived ease of use can be defined as a level of ease to which the use of a specific system will make the task easier for an individual or perception of individual that using technology will ease him from mental exertion (Davis, 1989). It is one of the eminent behavioral beliefs affecting a user's intention towards technology acceptance (Lu, Yao, & Yu, 2005). Most of researchers have distinct perception regarding this concept where Venkatesh (2000) posits this construct as a “vital element in determining users behavior” towards technology. Moreover, according to technology acceptance model perceived ease of use may have an indirect effect on systems usage through perceived usefulness (Davis, 1989). Many previous studies has use perceived ease of use to explain individuals acceptance /adoption of social media (Kwon, Park, & Kim, 2014; Lin & Lu, 2011; Loo, Yeow, & Chong, 2009; Pookulangara & Koesler, 2011; Shin, 2010). Moreover, it is believed that perceived usefulness of the system will mediate the relationship between its perceived ease of use and actual usage (Davis, 1989). Hence we hypothesize:

Hypothesis 2: Perceived ease of use positively affects social media usage intention.

Hypothesis 2: Perceived ease of use positively affects perceived usefulness of the social media.

3.3 Perceived Connectedness

Perceived connectedness is “the degree to which individuals feel emotionally connected with the world around them” (Shin, 2010). Individuals enjoy the interactions with friends and other likeminded people through online information sharing. Social networking sites provide the platform of such interactions and are available 24/7, hence compared to other forms of communications, these offer a higher sense of connectedness to individuals (Kwon et al., 2014; Shin, 2010). Individuals having a high degree of perceived connectedness to a social media also feel a continuous presence in that media. The social media allows a continued interaction between people and an ongoing connection formed (Boyd & Ellison, 2007). Based on this discussion we propose the following hypotheses:

Hypothesis 3a: Perceived connectedness positively affects perceived usefulness.

Hypothesis 3b: Perceived connectedness positively affects perceived ease of use.

Hypothesis 3c: Perceived connectedness positively affects social media usage intention.

3.4 Perceived Enjoyment

Enjoyment is the pleasure a person feels by engaging in or continuing an activity (Moon & Kim, 2001). Davis et al. (1992) categorize enjoyment as a type of intrinsic motivation while perceived usefulness to be a type of extrinsic motivation. They define enjoyment derived from using a computer system to be personally enjoyable on its own aside from the contributory value of using the technology. The intrinsic enjoyment that a user derives from using information technology promote the intentions and behavior behind adoption. The enjoyment derived is an important factor in predicting the intentions to use a pleasure oriented information system (Heijden, 2004). Social networking sites can be categorized as a pleasure-oriented information system (Kang & Lee, 2010) as the users will continue using them only if these sites successfully render perceived enjoyment. Perceived enjoyment as a hedonic purpose (Shin, 2010) affects online use for entertainment. We can hypothesize that people use social media to satisfy their entertainment purposes, so our hypotheses are:

Hypothesis 4a: Perceived enjoyment positively affects perceived usefulness.

Hypothesis 4b: Perceived enjoyment positively affects perceived ease of use.

Hypothesis 4c: Perceived enjoyment positively affects social media usage intention.

4. Conceptual Model

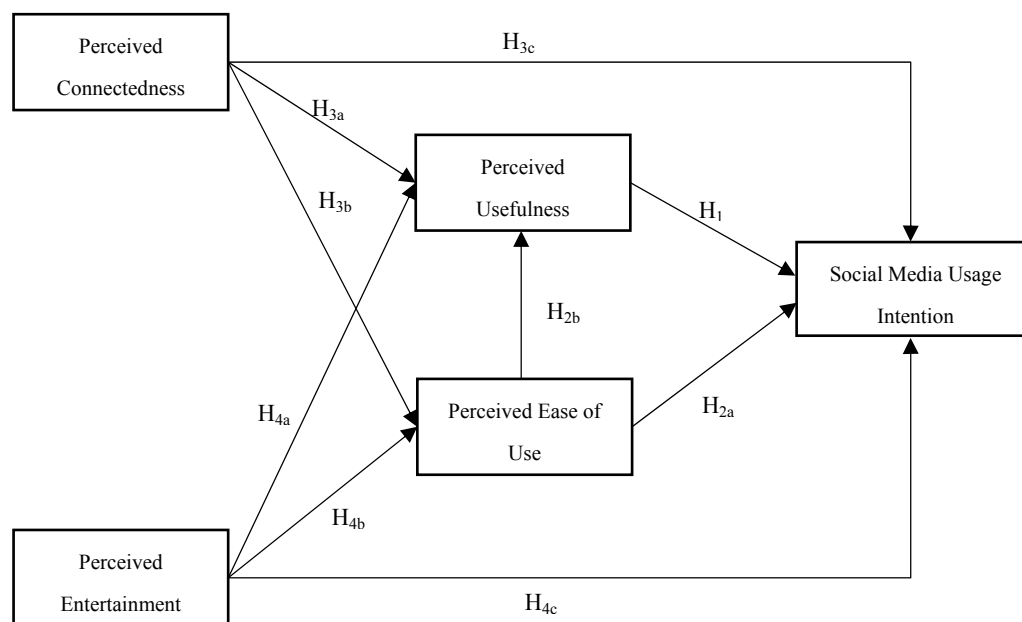


Figure 1. Conceptual model

Figure 1 presents the conceptual model reflecting the hypothesized relationships between the above discussed constructs. In this model perceived ease of use and perceived usefulness are hypothesized to mediate the

relationship among two predictors (perceived connectedness and perceived enjoyment) and the outcome i.e., social media usage intention.

5. Methodology

5.1 Measures

All the items used in the instrument have been adapted from the established scales. The instrument consists of two parts; first part contains questions related to demographics and the second part is dedicated to the multiple items for each construct. Each item is measured on 5 point Likert scale (1= Strongly Disagree, 5= Strongly Agree). The items adopted to measure 'perceived usefulness' and 'perceived ease of use' were taken from Davis (1989) and Venkatesh and Davis (2000). Three items each are used to measure perceived connectedness, perceived enjoyment and social media usage intention; these items have been adopted Shin (2010).

5.2 Sample and Procedure

As the objective of the survey is to understand the motives behind Saudi students' social media usage so only those respondents are considered who are users of the social media. In total 550, filled questionnaire are received out of which 88 are discarded after the preliminary analysis due to invalid or non-pertinent responses and remaining 462 have been used for the model testing. The sample consists of 68% males and 32% female; majority of the respondents are below 30 years of age and have a college degree. 67% of the respondents are having foreign qualification from the advanced countries. Majority of the respondent reported that they have an intermediate (38.5%) or expert (53%) level of computer experience. The most common social media platforms used by the respondents are Twitter, Facebook, WhatsApp, YouTube and LinkedIn. Further details of the respondents' demographics are reported in Table 1.

Table 1. Sample demographics

Measure	Item	Frequency	Percentage
Gender	Male	313	67.7
	Female	149	32.3
Age	Under 19 years	15	3.2
	19-24 years	151	32.7
	25-30 years	148	32.0
	Above 30 years	148	32.0
Education level	High School	138	29.9
	Undergraduate	187	40.5
	Master	124	26.8
	PhD	13	2.8
Study inside or outside KSA	Indigenous Saudi Student	177	38.3
	Saudi Student Abroad	285	61.7
Computer experience	No experience	10	2.2
	Novice	29	6.3
	Intermediate	178	38.5
	Expert	245	53.0
Daily internet usage	Less than an hour	18	3.9
	Between 1hrs and 3 hrs	131	28.4
	Between 3hrs and 5 hrs	141	30.5
	Between 5hrs and 7 hrs	100	21.6
	More than 7 hrs	72	15.6
Network Size (Friends/Followers)	1-50	92	19.9
	51 to 100	104	22.5
	101 to 500	171	37.0
	501 to 1000	55	11.9
	1001 to 5000	27	5.8
	More than 5000	13	2.8

6. Results

Two step approach proposed by Anderson and Gerbing (1988) has been followed for the data analysis. In the

first step reliability and validity of the instrument have been assessed and in the second step the proposed hypotheses have been tested through structural regression model.

6.1 Confirmatory Factor Analysis

Confirmatory factor analysis, using AMOS 21, has been used to test the psychometric properties of the scale. After achieving an adequate model fit ($\chi^2 = 160.887$, $df = 81$, $\chi^2 / df = 2.011$, $GFI = 0.956$, $AGFI = 0.934$, $CFI = 0.986$, $TLI = 0.981$, $RMSEA = 0.047$) of the measurement model, the psychometric properties of the scale have been tested in terms of reliability and convergent/discriminant validity. Internal consistency (Cronbach alpha > 0.7) and composite reliability ($\rho > 0.7$) measures have been used to test the reliability of the underlying scales and each of these values meet the minimum criteria.

In order to test the convergent and discriminant validity of the scale Fornell and Larcker (1981) criterion has been used. According to Fornell and Larcker (1981), to establish convergent validity the average variance extracted (AVE) for each construct should be greater than 0.5 and for the discriminant validity the AVE of each construct should be greater than the shared variance. Table 2 shows that the AVE for each construct is well above 0.5, thus convergent validity occurs for each construct. Moreover, Table 2 shows that the diagonal elements which are the square root of the AVE are greater than the off diagonal which are the correlations among constructs, this provides the evidence for reliability of each adopted measure.

Table 2. Convergent and discriminant validity

Construct	AVE and Correlations				
	PC	PEN	PEU	PU	UI
Perceived Connectedness (PC)	0.90				
Perceived Enjoyment (PEN)	0.63	0.91			
Perceived Ease of Use (PEU)	0.42	0.53	0.85		
Perceived Usefulness (PU)	0.60	0.57	0.61	0.82	
Social Media Usage Intention (UI)	0.57	0.59	0.61	0.69	0.87

Note. Diagonal elements are square root of AVE's and off-diagonal elements correlations.

6.2 Structural Equation Model

Structural regression model served the purpose of model testing. The fit indices of the structural regression model ($\chi^2 = 160.887$, $df = 81$, $\chi^2 / df = 2.011$, $GFI = 0.956$, $AGFI = 0.934$, $CFI = 0.986$, $TLI = 0.981$, $RMSEA = 0.047$) indicate an acceptable model fit with the data. The following section discusses the direct and indirect effects separately.

6.2.1 Direct Effects

Table 3 summarizes all the direct relationships among the variable in the conceptual model. The results indicate that the perceived usefulness and perceived ease of use have significant positive effect on social media usage. Perceived connectedness and perceived enjoyment have positive influence on perceived usefulness, perceived ease of use and social media usage. Moreover, perceived ease of use is found to have strong positive effect on perceived usefulness which in turn has a positive influence on social media usage.

H1 hypothesizing that individuals' perceived usefulness (PU) is positively related to their social media usage intention is supported as the standardized regression estimate (0.36) is significant at $p < 0.001$. This shows that perceived usefulness of social media is a strong motivator for individuals to adopt it. Perceived ease of use of social media is found to have a positive effect on social media adoption (estimate = 0.24, $p < 0.001$), supporting H2a. This indicates that if users find social media without complexities and easy to use then it will help them adopt it. Perceived connectedness and perceived enjoyment are also found to have significant positive effect on social media adoption supporting H3a and H3b.

Table 3. Direct effects

Relationship	Estimates	T-value
PU→UI	0.36***	4.71
PEU→UI	0.24***	3.66
PEU→PU	0.39***	7.13
PC→PU	0.35***	5.48
PC→PEU	0.15*	2.01
PC→UI	0.16*	2.26
PEN→PU	0.14*	2.12
PEN→PEU	0.43***	5.17
PEN→UI	0.17**	2.78

*p<0.05, **p<0.01, ***p<0.001.

6.2.2 Mediated Effects

It has been posited in the conceptual model that perceived connectedness and perceived entertainment act as a stimuli to the social media usage whereas perceived usefulness and perceived ease of use have been hypothesized as mediators in the relationship among these stimuli and the social media usage. Both the single and double mediation proposed in the conceptual model are tested by structural regression model. In order to explore the specific mediating effects, indirect effects have been estimated using phantom model approach proposed by Macho and Ledermann (2011). The indirect effects of perceived connectedness, through each of the mediators: perceived usefulness ($\beta = 0.11$, $p < 0.01$) and perceived ease of use ($\beta = 0.03$, $p < 0.05$), on social media usage have been significant. Similarly, the indirect effects of perceived enjoyment, through each of the mediators: perceived usefulness ($\beta = 0.04$, $p < 0.05$) and perceived ease of use ($\beta = 0.09$, $p < 0.05$), on social media usage are also significant. As the direct effects of perceived connectedness and perceived enjoyment on social media usage were also significant. Table 4 implies that the relationship between both the predictors (PC & PE) and the proposed mediators (PU & PEU) are partially mediated by the perceived ease of use and perceived usefulness. Table 4 summarizes all the mediated effects.

Table 4. Mediated effects

Hypotheses	Relationship	Unstandardized Estimates
Single mediation	PC→PU→UI	0.11**
	PC→PEU→UI	0.03*
	PEN→PU→UI	0.04*
	PEN→PEU→UI	0.09**
	PU→PEU→UI	0.13**
Double Mediation	PC→PEU→PU→UI	0.02*
	PEN→PEU→PU→UI	0.05**

Note. significance levels are two tailed, *p<0.05, **p<0.01.

7. Discussion

The current study focuses on exploring the motives behind social media usage by students. After a comprehensive technology acceptance literature review and live sessions with the students on social media usage, a conceptual model has been proposed and empirically tested with the actual users of social media. The target population mainly includes Saudi students studying at university level within and outside the country. The SEM results provide an evidence that the technology acceptance constructs such as perceived ease of use and perceived usefulness play definitive roles in students' social media adoption. It can be inferred that the users perceiving social media sites to be useful and easy to use show a positive attitude towards their usage.

The results indicate that the individuals' motivations for social media usage depend upon both the intrinsic (such as perceived enjoyment) and extrinsic factors (such as perceived connected). Further, our results indicate that those individuals who find social media to be a source of enjoyment are more likely to engage themselves in the

social media usage as compared to the ones who don't find it entertaining. (Crook, 2008) predicted the use of technology as a source of entertainment for learners and students rather than a medium of educational learning and knowledge seeking.

The relationship between perceived enjoyment and social media usage is mediated by the perceived usefulness and ease of use of the systems. It means that the factors such as perceived usefulness and perceived ease of use may lead to enhanced enjoyment which is the main source of social media adoption.

Moreover, the results indicate that the users' perceived connectedness with their network affects their usage intention of social media both directly and indirectly through each of the mediating variables; perceived ease of use and perceived usefulness. That's why the main motivator to use social media websites include social interaction (Shin & Kim, 2008). Thus people finding social media helpful in network building have more positive attitude toward its continuous usage.

The ease of use and usefulness of the social media help in strengthening this relationship. The results depict that the intention to use social media is rising due to its ease in use and perceived usefulness. This finding coincides with the literature as (Mazman & Usluel, 2010) found that Social Networking Sites are adopted by people owing to their perception of usefulness and ease.

7.1 Implications

We've explored the role of collaboration, sharing and communication in the social media adoption intention, through mediated role of perceived ease of use and perceived usefulness. Social media tools'/applications' usage is rising. The need of hour is to facilitate proper administration, provision of infrastructure, learning perspectives, change management and awareness to ensure success of the Information and Communication technology. The organizations need to understand the effect of the different factors influencing/moderating social media usage intention.

The developers/managers of social media tools/applications should increase users' level of involvement and enjoyment. The current study implies that these managers should also keep in mind the country/culture they are working within. Different cultures may require creating a secure and trusting environment. While others may emphasize on ensuring enjoyment as it is a key determinant for social media usage intention.

7.2 Limitations and Future Research

The current study contributes to the literature by validating TAM to predict social media usage intention and provides useful information for social media developers. However, it suffers from certain limitations and some of the findings require further exploration. Through the conceptual model specific relationships have been tested. Although the attempt was effective and successful yet there may be other possible links which might influence the findings of the model. Thus future studies may explore other possible relationships and study them in detail.

The sample drawn was a convenience sample of university students. Although most Social Networking Sites users are young people (Shin, 2008; Kim & Yun, 2007) a convenience sample limits the validity of findings. Methodologically it would have been better to examine motivations of different groups of users with a longitudinal investigation.

We've not factored the individual differences present in the sample. The Unified Theory of Acceptance and Use of Technology (UTAUT) alludes to the individual differences such as age, gender, and experience exerting the moderating effects on the technology adoption process. Future research may cater to this limitation. Furthermore, the model developed in the present research can also be utilized in various cultures or countries to verify the distinct types of relationships among these variables.

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