



## Exploring Mobile SNS Continuance Intention from the Perspective of Network Externalities and Mobile Value

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### ABSTRACT

Key shifts in the nature and characteristics of technology have led to evolutions in social media usage. For the first time in history, the internet is being accessed from more mobile devices than desktop computers. This revolution is especially felt among social networking sites, many of whom have presciently developed and released mobile applications of their platforms. Drawing from the Perceived Value Theory, Network Externalities and the Expectation Confirmation Theory of IS Continuance, we tested a model that sought to explain the effect of Network Externalities on Perceived Value and in turn Continuance Intention. Data was collected from 452 students from a university in Ghana and analyzed using the Partial Least Square approach to Structural Equation Modeling. Results from the current study showed that Referent Network Size and Perceived Complementarity had significant effects on both Utilitarian and Hedonic Value as well as Satisfaction. Hedonic Value, Utilitarian Value and Satisfaction in turn were found to be significant predictors of Continuance Intention. In all, the model accounted for 58.0% of the variance in continuance intention. The implications and limitations of the current study are discussed, and directions for future research proposed.

**Keywords:** network externalities, hedonic value, utilitarian value, continuance intention, social networking sites.

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### 1. INTRODUCTION

Over the past few years, social media as a technological phenomenon has overwhelmed the world. Usage statistics establish that billions of people are actively engaged in sharing and consuming the information available on social media platforms (Correa, Hinsley, & de Zúñiga, 2010). This sharing and consumption of information generate billions in revenue for technology companies that have succeeded in capturing consumer's hearts and attention. Marketers have also successfully exploited the new platforms to access target audiences for advertising (Trusov, Bucklin, & Pauwels, 2009). Scholars, in their turn, have paid particular attention to antecedents of social media usage (Bolton et al., 2013; Hughes, Rowe, Batey & Lee, 2012), how exactly relationships are built and maintained on these platforms, and even the effect of social media usage on real-life relationships, jobs, emotions, and society as a whole (Gil de Zúñiga, Jung, & Valenzuela, 2012; Kaplan & Haenlein, 2010).

Key shifts in the nature and characteristics of technology have led to evolutions in social media usage that require deeper study. The first issue is that of the mobile revolution, Etherington (2016) reported in 2016 that for the first time in history, the internet was accessed from more mobile devices than desktop computers. By 2017, almost half of all web page views were from mobile devices rather than fixed computers. This revolution was especially felt among social networking sites, many of whom had presciently developed and released mobile applications of their platforms. Subsequently, major SNS platforms like Facebook and Twitter reported an increase in the number of people accessing their services using mobile devices. The increase in access has led scholars to examine whether there are major differences in user behavior and attitude on mobile SNSs as against traditional computer-based SNSs. The research remains largely inconclusive (Zhou, Li, & Liu, 2010). Again, a second concern that has emerged has been that of continued usage. The survival of social networking sites depends on the persistent usage of subscribers who base their connections with one another on the platform and its added services (Lin & Bhattacharjee, 2008).



Without this bond of networks, the site becomes an irrelevant relic and soon ceases to be profitable to stakeholders. Scholars and practitioners are therefore interested in identifying what factors can influence and predict continuance (Kim, 2011). These realities as discussed have presented gaps in the literature on social networking sites that remain to be filled by relevant empirical research from as many different contexts as possible.

Notably, academics have identified the fact that the networks built and maintained on social networking sites – a form of social media -- have characteristics that in themselves affect the perceived usefulness and enjoyment of the site to the users. These network effects influence the value that a consumer attaches to the site, and may, in turn, affect his/her satisfaction with the site, and his/her intention to continue usage of the site. These relationships have been put forth in the literature (e.g. Lin & Bhattacharjee, 2008), but remain in dire need of testing across various geographical locations. For instance, a majority of the research questioning the impact of network effects on SNS usage and continuance intention have come from Eastern nations like China. Few have been situated within the African context, where social networks are a strongly influential part of daily life, business, politics, and relationships (Meagher, 2005). Indeed, although some scholars have posited that user behavior online is not location-dependent, other researchers support the possibility that the offline setting of an online user could have an impact on their behavior online (Benevenuto, Rodrigues, Cha, & Almeida, 2009; McHugh, 2014; Yee, Bailenson, Urbanek, Chang, & Merget, 2007). The current study, therefore, sought to examine the interplay between network externalities, mobile SNS user's hedonic and utilitarian value, satisfaction and continuance intention

## **2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **2.1 Network Externalities**

An important perspective in understanding the workings of social networking sites is dependent on the considerations of network externalities. Katz & Shapiro (1986) made seminal headway on the issue by establishing that network effects can stimulate both direct and indirect value for the participants of a network. An insightful study by Lin & Lu (2011) found that the number of peers and the perceived complementarity of the social networking site under study served as an even greater motivation for people to adopt the SNS than their perceived value of the site for usefulness and enjoyment. Moreover, when it came to continuance intention, it was found that women considered the network size of the SNS although men did not. Additionally, Zhao and Lu (2012) found that network externalities also positively influenced users' perceived interactivity of the site, which led to their greater satisfaction and also continuance intention. Network externalities are also of use to marketers. For instance, Trusov, Bucklin, and Pauwels (2009) attributed the spread of electronic word of mouth to strong network externalities on social networking sites.

### **2.2 Network Externalities and Value**

The importance of perceived value in instigating the adoption and continued usage of a particular technological system has been studied severally in the literature (Curran & Meuter, 2005; Jurison, 2000; Kim, Chan, & Gupta, 2007; Turel, Serenko, & Bontis, 2007). However, the predictors of customer value are still yet to be well-established with empirical studies. It is the contention of the current study that network-related factors like the number of participants, and perceived complementarity can affect the value which the user ascribes to the social networking site.

### **2.3 Network size and value**

The size of a network has been found to be an important element in discussions about network effects because users determine the value of any social networking site, and the more of a consumer's acquaintances, friends, colleagues, and family that use the site, the more the consumer can get a lot done when they participate on the SNS (Lin & Lu, 2011). There are instances where a large network size can rather result in a reduction of overall value to the user in question (Lin & Bhattacharjee, 2008). For instance, the more users who are connected to an internet network at a time, the slower the network is for each user. In such a case, a large network size has a negative effect. On social networking sites, however, large networks are more often than not a benefit to users because they enhance the experience of using the site.

It is interesting to note that some researchers specify that referent network size, or peer network externality, should be distinguished from the general network size (e.g. Zhou & Lu, 2011; Gao & Bai, 2014), explaining that a consumer's utility is only increased by a large network size on the SNS if those within their sphere of influence can also be found there. Thus, while it may be well and good for the SNS to have a billion network participants, if the consumer in question cannot find many of his/her personal or referent social network there, s/he will not derive any value from the network size. Indeed, research has substantiated that a majority of people who engage and are active on social networking sites do so because they are, in a sense, recreating their offline networks in a digital setting (Dunbar, Arnaboldi, Conti, & Passarella, 2015; Subrahmanyam, Reich, Waechter, & Espinoza, 2008).



As to what kind of value is gained from a large network size, empirical evidence exists to suggest that both hedonic and utilitarian value can be obtained from a large network size. Hedonic value is increased for consumers who gain entertainment, joy, and fulfillment from experiencing the lives of those within their referent network. In fact, (Sledgianowski & Kulviwat, 2009) assert that one of the greatest reasons individuals adopt SNS usage is for the perceived playfulness of the site. Additionally, (Okazaki, Rubio, & Campo, 2013) observed that online gossipers perform most effectively among a large network, and are then able to provide information, entertainment, and friendship value on the SNS. However, (Xu, Ryan, Prybutok, & Victor, 2012) explain that many people also use SNS platforms for more than fun: many business connections and professional communications and linkages are carried out on social networking sites. These are supported by research from the likes of (Ernst, Pfeiffer, & Rothlauf, 2013), whose study focuses on how both hedonic and utilitarian value can be derived from social networking sites. As mobile social networking sites are largely a microcosm of what happens on desktop-accessed social networking sites, the current study proposes that based on the evidence presented above, the following hypotheses will hold in mobile SNSs:

- H1: Network size significantly predicts hedonic value
- H2: Network size significantly predicts utilitarian value

#### **2.4 Network perceived complementarity and value**

The second prong of network externalities deals with the perceived complementarity of the mobile SNS platform. It has been explained that an example of network effects within such systems is that as the network gains participants and credence, a significant number of compatible systems, platforms, goods, and services are also enabled, all contributing to increased overall value for the user. Within the social network context, (Lin & Lu, 2011) illuminate that social applications both on the website and on the general world wide web can be enjoyed based on membership of the more popular SNSs. Moreover, other social media tools and capabilities can be taken advantage of, such as messaging, sharing photos and videos, connecting with celebrities or businesses, etc. All these extra services add value to the usage of the site and make it more attractive to users. Incidentally, the perception of enticing-enough value encourages users to continue engaging with the SNS.

From the above, it can be understood that perceived complementarity of the social networking site can lead to hedonic value, as it provides an opportunity for the user to engage in fun, de-stressing, and enjoyable experiences which are indirect effects of belonging to the network for which s/he has subscribed. (Zhang, Li, Wu, & Li, 2017), for example, observe in their study on the Chinese SNS WeChat, that greater perceived complementarity enhances the user's sense of enjoyment on the platform and their subsequent continuance intentions. Moreover, as well, when the SNS can provide many complementary services, the users also benefit from utilitarian value. For instance, many web services now allow users to log in to external sites using their SNS identities and details, thus proving to be more convenient and less time- and energy-consuming for the consumer. Again, the provision of capabilities like messaging, sharing of multimedia content, and connecting with business colleagues and partners allow users to fulfill some functional obligations while on the SNS, apart from enjoying the hedonic value of the site. Still again, (Kang & Namkung, 2016) found that perceived complementarity was an important predictor of the perceived usefulness of the site, and this, in turn, made users more likely to share information about restaurants to their social network. These kinds of enablements enhance usage of the SNS for the user and provide greater utility in being a participant of the network.

Thus, we posit that:

- H3: Perceived complementarity significantly predicts hedonic value
- H4: Perceived complementarity significantly predicts utilitarian value

#### **2.5 Network Externalities and Satisfaction**

A second key relationship observed in practice, and the literature is that of the influence of network externalities on the satisfaction of users. It is well understood that satisfaction is one of the most important things a business or brand can aim for because it is the foundation for almost all desirable consumer behaviors (Cronin, Brady, & Hult, 2000). In the most elementary understanding of it, satisfaction consists of the consumer's perception of how the product or service that has been provided either falls below, is equal to or exceeds their expectations of how it would be. Thus, satisfaction is always closely linked with customer value in the literature (Eggert & Ulaga, 2002; Kuo, Yen, Wu, & Deng, 2009; Yang & Peterson, 2004) because it is only when the consumer believes that the value that s/he has enjoyed is at least equivalent to the expected value proposition that s/he can be satisfied with the service.



Within the social networking site literature, user satisfaction has been studied to be dependent on a variety of factors. For instance, (Ogara, Koh, & Prybutok, 2014) posit that user satisfaction with mobile services is predicted by the user's experience, social influence, and the perceived medium richness of the platform. Zhao and Lu (2012) also identify that the perceived interactivity of the platform determines satisfaction with a micro-blogging SNS. According to them, perceived interactivity consists of users' perceptions of control, playfulness, connectedness, and responsiveness. Interestingly, again, although (Lien, Cao, & Zhou, 2017) find that user satisfaction with WeChat is reliant on environmental quality and outcome quality, they did not establish a significant relationship between interaction quality and satisfaction. These all indicate that the antecedents of satisfaction in an SNS can be varied and come from a multiplicity of sources. The literature is, however, less developed on the role of network externalities in predicting satisfaction.

There is, however, sufficient grounds to believe that network size and perceived complementarity of the SNS can yield greater satisfaction for a consumer. It is evident that as more and more people are added to the network, especially those who are known to the consumer, the user experiences greater satisfaction in interacting with them and being a part of their lives. Moreover, perceived complementarity and the flexibility that it ensures users in using the site and other web resources also enhances user satisfaction with the SNS and with their experience. We, therefore, proffer that:

- H5: Network size significantly predicts satisfaction
- H6: Perceived complementarity significantly predicts satisfaction

## 2.6 Value and Satisfaction

The role of value in yielding satisfaction is not a new topic to the literature. Perceived value has been acknowledged as one of the more common antecedents of satisfaction (e.g. Kuo et al., 2009) since satisfaction as a concept in itself is dependent on consumer perceptions of value. Among South Korean audiences, Kim (2011) found that perceived usefulness and perceived enjoyment were significant predictors of customer satisfaction. Research is however ambiguous on whether hedonic or utilitarian value provides greater motivation towards user satisfaction. Illustratively, Eroglu, Machleit, & Barr (2005) found that hedonic value is a stronger predictor of satisfaction than utilitarian value.

Thus, the current study puts forth that:

- H7: Hedonic value significantly predicts satisfaction
- H8: Utilitarian value significantly predicts satisfaction

## 2.7 Value and Continuance Intention

Again, both types of perceived value can lead to continuance intention on the side of the consumer. Chiu, Wang, Fang, & Huang (2014) posited that hedonic value is a significant indicator of consumer continuance intention, establishing that when the consumer perceives that whenever they log on to the platform, they can experience an enjoyable time and be joyfully fulfilled, they will keep wanting to come back. Moreover, utilitarian value can also motivate continuance intention. Ryu et al. (2010) especially found this to be true within the restaurant sector, but there exists space in the literature to examine the impact of perceived value on continuance intention in mobile SNSs. We, therefore, propose that:

- H9: Hedonic value significantly predicts continuance intention
- H10: Utilitarian value significantly predicts continuance intention

## 2.8 Satisfaction and Continuance Intention

It is the contention of the current study that it is when the consumer is satisfied with the services of the mobile SNS platform that they can make this decision. Our stance is substantiated by research in the literature which provides the same conclusions within some different contexts. For one, Zhao & Lu (2012) found that when microbloggers were satisfied with the site, their intention to continue usage of the site was greater. In the same way, this has been found true within the restaurant industry (Kang & Namkung, 2016; Namkung & Jang, 2007; Ryu et al., 2010). Lien et al. (2017) found this to be applicable within social networking sites as well, explaining that the relationship between satisfaction and usage intentions is also mediated by the stickiness, or addictiveness, of the site. Kim (2011), whose study focused on Cyworld, another Asian-originated social networking site, also found satisfaction to be a strong predictor of continuance intention.

Thus, there is sufficient basis to believe that within the context:

- H11: Satisfaction significantly predicts continuance intention



### 3. METHODOLOGY

The items for the latent variables used in this study were drawn from previous studies, and the questions were reworded to fit the mobile social networking sites' context. Items for referent network size and perceived complementarity were derived from Gao and Bai (2014) while those for hedonic value and utilitarian value were derived from Lin and Lu (2015). Satisfaction and continuance intention, on the other hand, were derived from Bhattacharjee (2001). The measurement instrument had 24 items in all and items were presented in English. Items were measured using a 5-point Likert scale anchored between 1 (Strongly Disagree) and 5 (Strongly Agree).

To test the hypothesized research model, the researchers adopted a survey research methodology to collect data. Data were collected from students in three private universities in Ghana. Students in these universities were sampled based on convenience and handed a paper-based questionnaire. Research assistants were each sent with 250 questionnaires to collect data from three private universities in the Greater Accra Region of Ghana. The data were collected over a period of five days. In all, 523 questionnaires were returned, out of which 71 had to be discarded because significant portions of the questionnaires were not filled out. A total of 452 were therefore used for the analysis. From the valid responses, 209 were male, and 243 were females.

### 4. RESULTS AND ANALYSIS

#### 4.1 Measurement Model Assessment

Reliability of the constructs was assessed using Cronbach's alpha and composite reliability. For the items to be seen to reliably measure the constructs, Henseler, Hubona, and Ray (2016) recommends that reliability statistic must be greater than 0.7. From Table 1 it can be seen that the reliability statistics for all constructs are compellingly higher than the threshold recommended by Henseler et al. (2016).

**Table 1 Results of reliability and convergent validity testing**

	INT	HV	RNS	PCC	SAT	UV	CA	CR	AVE
INT1	<b>0.902</b>	0.582	0.671	0.641	0.548	0.616			
INT2	<b>0.927</b>	0.515	0.713	0.675	0.552	0.610	0.922	0.924	0.81
INT3	<b>0.905</b>	0.425	0.695	0.642	0.544	0.553			
INT4	<b>0.865</b>	0.425	0.682	0.659	0.506	0.509			
HV1	0.459	<b>0.874</b>	0.417	0.388	0.256	0.494			
HV2	0.471	<b>0.886</b>	0.411	0.412	0.280	0.477	0.913	0.939	0.793
HV3	0.531	<b>0.913</b>	0.433	0.440	0.306	0.501			
HV4	0.477	<b>0.889</b>	0.389	0.382	0.287	0.465			
RNS1	0.733	0.437	<b>0.950</b>	0.650	0.475	0.497	0.892	0.949	0.902
RNS2	0.723	0.443	<b>0.950</b>	0.657	0.448	0.522			
PCC1	0.684	0.387	0.663	<b>0.888</b>	0.484	0.456			
PCC2	0.634	0.417	0.630	<b>0.902</b>	0.420	0.423	0.916	0.941	0.799
PCC3	0.626	0.417	0.590	<b>0.905</b>	0.477	0.453			
PCC4	0.653	0.411	0.577	<b>0.882</b>	0.451	0.469			
SAT1	0.446	0.251	0.361	0.420	<b>0.855</b>	0.299			
SAT2	0.518	0.326	0.416	0.378	<b>0.854</b>	0.390			
SAT3	0.529	0.246	0.438	0.463	<b>0.877</b>	0.353	0.922	939	0.72
SAT4	0.521	0.255	0.421	0.413	<b>0.826</b>	0.331			
SAT5	0.496	0.238	0.387	0.455	<b>0.838</b>	0.343			
SAT6	0.525	0.298	0.442	0.478	<b>0.840</b>	0.360			
UV1	0.563	0.455	0.443	0.462	0.359	<b>0.892</b>			
UV2	0.569	0.488	0.497	0.436	0.367	<b>0.916</b>	0.929	0.95	0.825
UV3	0.584	0.506	0.505	0.452	0.362	<b>0.918</b>			
UV4	0.601	0.526	0.500	0.482	0.398	<b>0.906</b>			

Note: INT- Continuance Intention, HV-Hedonic Motivation, RNS-Referent Network Size, PCC-Perceived Complementarity, SAT-Satisfaction, UV- Utilitarian Value, CA-Cronbach's alpha, CR-Composite Reliability, AVE-Average Variance Extracted





The assessment of convergent validity was also done using the average variance extracted AVE. For the measurement model to exhibit sufficient convergent validity, Henseler et al. (2009) recommend that the AVE of all constructs in the model must be above 0.5. Evidence for convergent validity is provided in Table 1 as AVE for all constructs are above 0.5. Finally, discriminant was assessed using the following rules: (1) The Fornell-Larcker criterion; which states that the average variance extracted (AVE) of each latent construct should be greater than the highest squared correlations between any other construct (Fornell and Larcker, 1981), (2) the loadings of each indicator should be greater than all its cross-loadings (Chin, 1998; Gotz et al., 2010; Henseler et al., 2009) and (3) the heterotrait-monotrait ratio of correlations (HTMT) values must be less than 0.85 (Henseler, Ringle, & Sarstedt, 2015). Table 1. reveals that all indicators load their highest on their respective construct. Again, from Table 2 it is evident that the square root of the AVEs for each construct is greater than the cross-correlation with other constructs. Table 3 also reveals that the HTMT criterion has been met since all HTMT values are less than 0.85. Based on these results we conclude that the psychometric properties of the measures used in the study are adequate.

**Table 2. Test of discriminant validity using Fornell-Larcker Criterion.**

	INT	HV	RNS	PCC	SAT	UV
INT	<b>0.900</b>					
HV	0.545	<b>0.891</b>				
RNS	0.767	0.463	<b>0.950</b>			
PCC	0.726	0.456	0.688	<b>0.894</b>		
SAT	0.598	0.318	0.486	0.513	<b>0.848</b>	
UV	0.638	0.544	0.536	0.504	0.409	<b>0.908</b>

Note: Square roots of average variance extracted (AVEs) shown on diagonal while off-diagonals are inter-construct correlations.

**Table 3 Test of discriminant validity using the heterotrait-monotrait ratio of correlations (HTMT) ratios.**

	INT	HV	RNS	PCC	SAT	UV
INT						
HV	0.588					
RNS	0.846	0.513				
PCC	0.791	0.498	0.761			
SAT	0.646	0.345	0.534	0.556		
UV	0.686	0.590	0.588	0.546	0.440	

#### 4.2 Structural Model Assessment

In support of H1 and H3, Referent Network Size was found to be a significant predictor of Hedonic Value ( $\beta = 0.284$ ,  $p = 0.001$ ) and Utilitarian Value ( $\beta = 0.359$ ,  $p = 0.000$ ) respectively. Referent Network Size was also found to be a significant predictor of Satisfaction. Perceived Complementarity was found to have significant effect on Hedonic Value ( $\beta = 0.261$ ,  $p = 0.003$ ) and Utilitarian Value ( $\beta = 0.258$ ,  $p = 0.004$ ) respectively. Perceived Complementarity was also found to significantly affect Satisfaction ( $\beta = 0.299$ ,  $p = 0.000$ )

**Table 4**

Hypotheses	Path	Path Coefficient	T Statistics	P Values	Results
H1	RNS → HV	0.284	3.435	0.001	Supported
H2	RNS → SAT	0.197	2.498	0.013	Supported
H3	RNS → UV	0.359	4.449	0.000	Supported
H4	PCC → HV	0.261	3.002	0.003	Supported
H5	PCC → SAT	0.299	4.236	0.000	Supported
H6	PCC → UV	0.258	2.889	0.004	Supported
H7	HV → SAT	0.010	0.179	0.858	Not Supported
H8	HV → INT	0.230	3.884	0.000	Supported
H9	UV → SAT	0.148	2.369	0.018	Supported
H10	UV → INT	0.358	5.943	0.000	Supported
H11	SAT → INT	0.378	8.641	0.000	Supported

Model Fit

SRMR	0.039
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Contrary to expectations, Hedonic Value was found not to significantly predict Satisfaction ( $\beta = 0.010$ ,  $p = 0.179$ ). It was however found to be a significant predictor of continuance intention ( $\beta = 0.230$ ,  $p = 0.000$ ). Utilitarian Value was found to have a significant effect on both Satisfaction ( $\beta = 0.148$ ,  $p = 0.018$ ) and Continuance Intention ( $\beta = 0.358$ ,  $p = 0.000$ ). Finally, in support of H11, Satisfaction was found to have the strongest effect on Continuance Intention ( $\beta = 0.378$ ,  $p = 0.000$ ). In all, the validated model accounts for 58% of the variance in Continuance Intention. The overall fitness of the model was assessed using the SRMR composite factor model. The composite model SRMR value for the model was 0.039, below the 0.08 threshold recommended by Hu and Bentler (1999). The results indicate that the proposed model presents a good model fit.

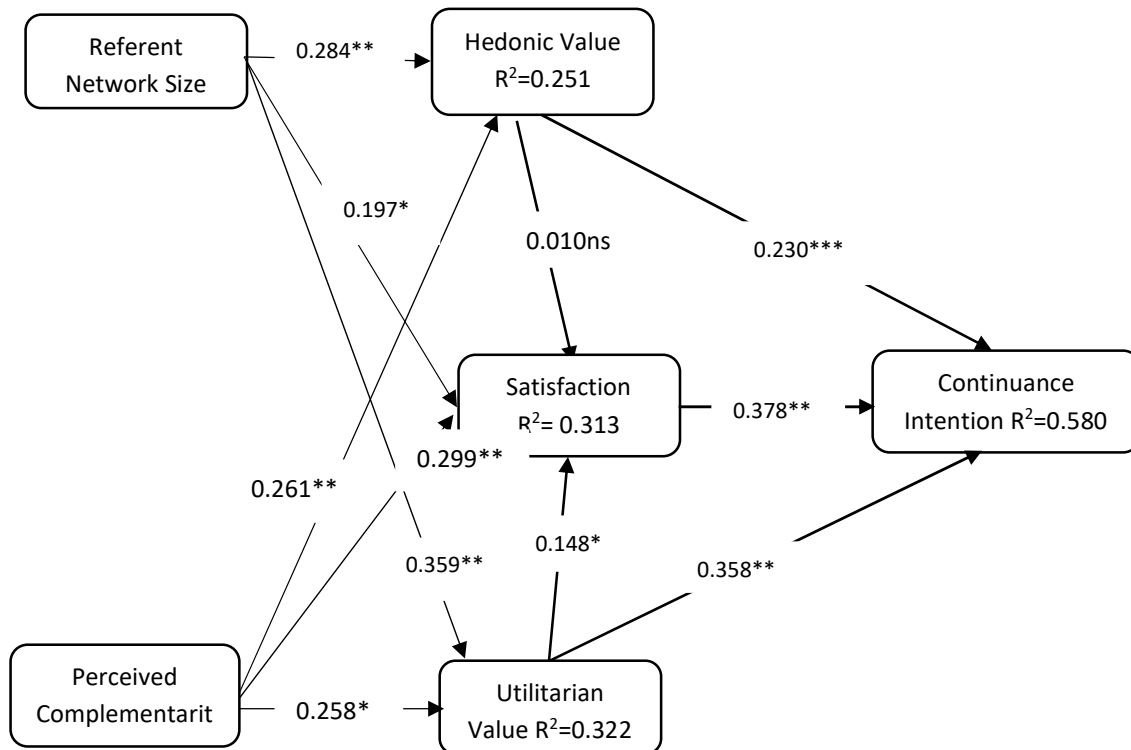


Figure 1: Structural model

## 5. DISCUSSIONS AND IMPLICATIONS

As evidenced by the results of the study presented above, almost all of the hypotheses of the study were found to be significant, except the relationship between hedonic value and satisfaction. The results of the current study serve as a support for many of the previous studies in the literature and also contributes useful insights from the context. First of all, the relationship between the two-pronged network externalities and consumer value was investigated. Extant research has set the foundations for a positive relationship between the constructs, with scholars like Lin & Bhattacharjee (2008) finding a strong correlation. In the current study, also, both referent network size and perceived complementarity were found to influence both utilitarian and hedonic value. Of the four interrelationships, the link between referent network size and utilitarian value was found to be the largest and most significant. This result is interesting as previous literature has generally placed greater emphasis on the role of large network size on hedonic value more than utilitarian value (Ernst et al., 2013; Sledgianowski & Kulviwat, 2009). However, it is aligned with literature that explains how a large referent network size can enhance the functional usage of the site for consumers (Xu et al., 2012). Again, the study considered the effects of network externalities on the satisfaction of the consumer with the mobile SNS. Luo & Lee (2015) identified earlier that such a relationship existed, and that perceived complementarity was a greater predictor of satisfaction than network size; however, their study was situated in the mobile instant messaging context.



The results of our study supported these findings within the mobile SNS context as well, demonstrating that a large network size and perceived complementarity enhance user satisfaction as it provides them with an opportunity to interact with their acquaintances without fear of being isolated from other technological platforms and apps (Lin & Lu, 2015; Zhao & Lu, 2012; Zhou & Lu, 2011). Moreover, both hedonic and utilitarian value were tested for their relationship to satisfaction and subsequent continuance intention. Utilitarian value was found to be a predictor of satisfaction, as has been the case in some previous studies (Kim, 2011; Kuo et al., 2009). Within the context, however, hedonic value was not found to be significant in predicting satisfaction, which is in contrast with some studies that found the opposite (Eroglu et al., 2005).

Finally, the relationship between satisfaction and continuance intention was tested. The results of our study concurred with prior research which establishes that satisfaction with a mobile network engenders continuance intention which, like Kim, Chan, & Gupta (2007) and Venkatesh & Davis (2000) explain, is a proxy for continuance behavior. (Lien et al., 2017) and (Ryu et al., 2010) are only examples of scholars' position on the issue.

### **5.1 Theoretical Implications**

The focus of the study has been to identify the effects of network externalities on consumer perceived value, satisfaction, and subsequent continuance intention specifically on mobile social networking sites. The study contributes to contemporary discussions on some interesting issues. First, it deliberates on the network effects occurring in social networking sites (Lin & Bhattacharjee, 2008), providing empirical evidence to support scholarly thoughts on the effects of network size and perceived complementarity on customer attitudes like satisfaction and continuance intention. Additionally, it supports research which discusses the effects of perceived value on satisfaction and continuance intention (Jin et al., 2010; Kim, 2011; Kim et al., 2007; McDougall & Levesque, 2000), distinguishing between hedonic and utilitarian value as precursors of these constructs.

By playing these roles, the study has contributed to studies of network effects, perceived value, and continuance intention specifically within the mobile SNS literature. Particularly, it has substantiated the role of perceived value as a predictor of satisfaction and continuance intention (Chiu et al., 2014; Kuo et al., 2009; Ryu, Han, & Jang, 2010), while also introducing the network externalities theory as a valid explanation for the network effects identified on social networking sites.

### **5.2 Practical Implications**

The results of the study are not only applicable to scholars. Practitioners will find a use for the knowledge of how network issues can affect the satisfaction and continuance intention for consumers of mobile SNSs. Marketers must create large and exciting networks on social networking sites that will encourage users to keep returning to the site. Moreover, they must ensure that they highlight the complementarity of the site with other services as much as possible so that users can recognize the value that they can get from the site. Among some of the specific lessons, practitioners can learn from the findings of the study are the following. Firstly, as perceived value plays such an important role in the generation of satisfaction and continuance intention, practitioners must strive to find avenues of providing both hedonic and utilitarian value to their users on the site. Second, although the results of the study did not indicate that hedonic value affects satisfaction directly within the context, practitioners must make sure that they do their best to fulfill the enjoyment needs of consumers on the platforms, as it still influences their continuance intentions.

### **5.3 Limitations and Future Research Directions**

Even though the current study presents empirical findings to further our understanding of continuance intention from the perspective of network externalities and perceived mobile value, a few limitations must be considered when interpreting and generalizing results. First, our result is limited by the fact that data were collected from students in only three private universities in Ghana. While this sample characterizes a fairly typical band of SNS users, it is still not representative of all SNS users. Second, our study employed a cross-sectional design; it would be interesting to consider a longitudinal design in future studies. Although Hedonic Value was found not to be a significant predictor of Satisfaction in this study, the results may be different for another cultural context. It would, therefore, be interesting to replicate the study in other cultural contexts.





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