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Persuasive social features that promote knowledge sharing among tertiary students on social networking sites: An empirical study

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Abstract

Persuasive system features have been widely adopted to encourage attitude and behaviour change. Recently, most social networking sites (SNS) adopt some form of persuasive system features that leverage social influence to deliberately induce prescribed behaviours in their users. However, studies on how these features can be used to promote knowledge sharing are inadequate; particularly, regarding how SNS that have been developed solely for academic purposes can adopt these features to promote knowledge sharing. To address this knowledge gap, this study integrates constructs from the social capital theory and persuasive systems design model to investigate the impact of persuasive social features on knowledge sharing among students of tertiary institutions on academic social networking sites. Data are quantitatively gathered from 218 respondents from tertiary institutions and statistically analyzed. The results suggest that perceived dialogue support and perceived social support have strong influences on knowledge sharing behaviour.

KEYWORDS

knowledge sharing, persuasive features, social facilitation, social networking sites, social support

1 | INTRODUCTION

Over the past decade, persuasive technologies have gained a substantial role in the lives of many individuals (Wiafe & Nakata, 2012). They have been adopted to induce attitude change and motivate individual behaviour (Agnisarman, Madathil, & Stanley, 2018). Persuasive technologies are extremely prevalent on social networking sites (SNS) (Fogg, 2008). SNS are mediums for social activity that enable users to create profiles and share content with others in a network (Ellison, Gibbs, & Weber, 2015).

In contrast to generic SNS such as Facebook and Twitter, some SNS are specifically designed for academic collaboration to promote knowledge sharing (Jeng, He, Jiang, & Zhang, 2012; Koranteng & Wiafe, 2019). These are called academic social networking sites (ASNS). Examples of such sites are Kudos, ResearchGate and Mendeley. ASNS connect academics with common interests: they provide features such as discussion boards and email services that enable collaboration and knowledge sharing activities. Thus, they support social relationships and interactions, which are essential factors of knowledge sharing (Lim & Richardson, 2016). Individuals may be influenced to share knowledge not only by physically interacting with others nearby but also through information systems (IS) that are specifically designed for such purposes (Stibe, 2015). Consequently, IS can be engineered with social influence principles through their interfaces and designs to induce a desired behaviour (Oinas-Kukkonen, 2013). In essence, ASNS leverages on social influence principles such as recognition and normative influence to facilitate changes in knowledge sharing behaviour of its users.

Besides developing robust systems and software, ASNS developers are required to build systems that continuously engage users in knowledge sharing activities. It is therefore imperative that developers understand the social factors that influence users' knowledge sharing behaviour on such sites. However, research that focuses on persuasive social features of ASNS is scarce. Although some studies have examined social persuasive principles (Stibe, 2015; Stibe & Oinas-Kukkonen, 2014), these studies were conducted aside from the scope of knowledge sharing and ASNS. For instance, Stibe and Oinas-kukkonen (2014) explored the influence of social persuasive principles on publicly displayed systems.

Accordingly, this study examines the persuasive social features that promote knowledge sharing on ASNS. It adopts constructs from the social capital model (Nahapiet & Ghoshal, 1998) and persuasive systems continuous use intention model (Lehto & Oinas-kukkonen, 2015), which are integrated to develop a research model. It is noteworthy that Lehto and Oinas-kukkonen (2015)'s model was developed based on the persuasive system design model by Oinas-Kukkonen and Harjumaa (2009). The research model developed in this study is tested on a sample of tertiary students to identify and validate key features that promote knowledge sharing. The findings from this study indicate that social principles including social support, social interactions and social identification play a major role in promoting knowledge sharing on ASNS.

In the next section, persuasive social features and their relation to knowledge sharing are discussed. This is followed by a discussion on the research model and hypothesis formulation. Thereafter, the research methodology, data analysis, findings and research implications are presented.

2 | PERSUASIVE SOCIAL FEATURES AND KNOWLEDGE SHARING

In today's research environment, collaboration and knowledge sharing are a necessity (Garcia-Sánchez, Diaz-Diaz, & De Saá-Pérez, 2019). Although several institutions invest huge sums of money into the acquisition of software, databases and networking infrastructure, the attainment of effective knowledge sharing continues to be a challenge, especially tacit knowledge. As such, socio-cognitive mechanisms are adopted to encourage knowledge-sharing (Zhang, Zhu, & Wang, 2019). Effective knowledge sharing may be achieved through direct contacts and relationships between individuals (Endres & Chowdhury, 2019). Consequently, effective knowledge sharing requires communication opportunities and good interaction among members within a community (Zheng, 2017). Social factors such as trust, interaction, identification, and shared objectives have been identified as the foundations for relationship building and they also have significant impacts on knowledge sharing among individuals (Chiu, Hsu, & Wang, 2006; Chow & Chan, 2008; Koranteng, Wiafe, & Kuada, 2019; Tsai & Ghoshal, 1998; Wasko & Faraj, 2005). Also, there are suggestions that factors such as monetary rewards and incentives influence knowledge sharing behaviour (Bartol & Srivastava, 2002). However, some researchers disagree with this notion (Bock & Kim, 2002; Lin, 2007; Vuori & Okkonen, 2012). In this study, attention is focused on the role of social relationships and interactions in knowledge sharing activities. Particularly, this study seeks to identify persuasive features that are embedded in ASNS and how they influence knowledge sharing behaviour.

Current studies indicate that the internet has been flooded with social technologies (Appleford, Bottum, & Thatcher, 2014). For instance, social media are rapidly being integrated into business websites and their processes in order to increase customer interactions and to facilitate product and service improvements. Social media have also been successfully integrated into lifestyle applications such as weight loss, healthier lifestyles and security-aware systems (Wiafe & Nakata, 2012). In such situations, social technologies are harnessed to intentionally change human behaviour and or attitude (Wiafe, Nakata, & Gulliver, 2011). Consequently, social media have gained acceptance for knowledge sharing activities. Their applications include ASNS, where generic social influence principles have been identified to promote knowledge sharing behaviour (Koranteng & Wiafe, 2019).

As IS evolve from a static repository of information with fixed interfaces to favourable social environments and platforms that permit users to actively interact and share information (Bruns, 2008), it is possible to design systems with persuasive intent. In other words, dynamic systems are designed with variable content to alter human cognition to a predetermined concept or idea. Although one can argue that existing ASNS incorporate persuasive features into their design principles, there is a lack of sufficient information as to whether these persuasive features intend to promote knowledge sharing. This is more worrying, particularly, considering the evidence that users on these sites have been identified as information consumers but not sharers (Collins, Shiffman, & Rock, 2016; Meishar-Tal & Pieterse, 2017). This observation may be attributed to the lack of a clear understanding of the role of these features on knowledge sharing. As mentioned earlier, existing studies mostly focus on how the affordances of generic SNS impact knowledge sharing (Koranteng, Sarsah, Kuada, & Gyamfi, 2019). However, it will be more appropriate if attention is given to persuasive social networking features since it has been substantiated that persuasion features that leverage on social activities are effective for behaviour and attitude change (Oyibo, Orji, & Vassileva, 2017; Torning, Hall, & Oinas-Kukkonen, 2009).

In this paper, we define a persuasive social feature as any feature, principle or factor that exhibits the capability of changing an individual's behaviour via social networking. The next section discusses some persuasive social features and their hypothesized relationships regarding knowledge sharing on ASNS.

3 | RESEARCH MODEL AND HYPOTHESIS FORMULATION

According to Markus and Saunders (2007), IS researchers must develop fresh theories in an attempt to complement the quick changes in IS and their effects on phenomena. It is also essential to adopt appropriate measurement items that have been tried and tested

as they unveil existing knowledge gaps and also provide direction for research. Consequently, the research model presented in this study (see Figure 1) is an integration of selected constructs from prior studies by Nahapiet and Ghoshal (1998), and Lehto and Oinas-kukkonen (2015). The selection was based on the definition of persuasive social features as explained earlier. Shared language, shared vision, social interaction ties and knowledge sharing were adopted from social capital concepts proposed by Nahapiet and Ghoshal (1998) whereas social identification and dialogue support were adopted from Lehto and Oinas-kukkonen's (2015) work. The modified definitions of the selected constructs and their sources are presented in Table 1.

3.1 | Shared language and social interaction ties

In any social setting, language is important for social interactions (Omotayo & Babalola, 2016) and it supports persuasion (Dragoni, Bailoni, Maimone, Marchesoni, & Eccher, 2019; Wiafe, Alhammad, Nakata, & Gulliver, 2012). Shared language facilitates shared understanding and effective communication. It promotes shared meaning among individuals which enhances participation in social interactions (Davison, Ou, & Martinsons, 2018) and may result in persuasion. According to Sin and Kim (2013), the lack of shared language often hinders successful interactions among individuals from different disciplines. Thus, for individuals to effectively interact on ASNS, there must be a shared vocabulary (Koranteng & Wiafe, 2019). Moreover, because groups formed on ASNS are mostly domain-specific, there is a higher probability that members will have a shared interpretation, especially regarding jargon and keywords. When members understand each other, they are likely to interact frequently. This frequent communication encourages member closeness to each other. Thus, there is a significant relationship between shared language and knowledge sharing (Koranteng, Sarsah, Kuada, & Gyamfi, 2019).

To confirm this relationship on ASNS, it is hypothesized that:

H1a *Shared language positively influence social interaction ties within an academic social networking site.*

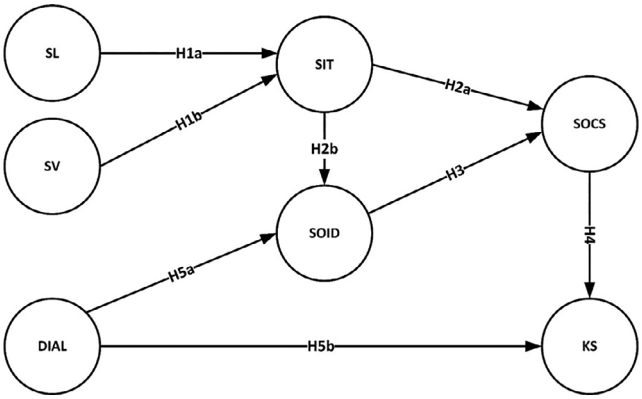

FIGURE 1 Research model showing the relationships between persuasive social features of academic social networking sites

3.2 | Shared vision and social interaction ties

The more individuals find others with similar characteristics in terms of vision and values, the higher the frequency of interaction (Al-Daihani, Al-Qallaf, & AlSaheeb, 2018). Thus, individuals with similar objectives are expected to have higher levels of interactions than those who do not. Forslund Frykedal and Hammar Chiriac (2018) confirmed that members with common goals mostly participate in group activities. As mentioned earlier, groups on ASNS are formed based on a particular discipline and thus, users readily find groups in their relevant field and with similar objectives. While this is true, how such similarities affect interactions on ASNS is not definite (Koranteng & Wiafe, 2019). Therefore, to explore this relationship further, it is hypothesized that:

TABLE 1 Model constructs, definition and sources

Construct	Definition	Source
Shared language (SL)	It is a common vocabulary that enable actors to communicate with common understanding	Nahapiet and Ghoshal (1998); Tsai and Ghoshal (1998)
Shared vision (SV)	It entails common goals and objectives of members within a social network	Aslam, Shahzad, Syed, and Ramish (2013); Chiu et al. (2006)
Social interaction ties (SIT)	It represents the strength of the relationships, the frequency, and intensity of interactions among members of a network	Chiu et al. (2006); Tsai and Ghoshal (1998)
Perceived dialogue support (PDS)	This shows users' perception of how a system provides relevant, motivating feedback to its users via words, images, sounds and other forms of media	Adaji and Vassileva (2016); Fogg and Nass (1997)
Social identification (SI)	This involves identifying with other system users, their shared characteristics, common interests/language	Aslam et al. (2013); Ma and Agarwal (2007)
Perceived social support (PSS)	This represent users' perception of how the system motivates them through other members	Chiu et al. (2006)
Knowledge sharing (KS)	This entails the willingness of individuals in a network to share their acquired knowledge with others	Bock, Zmud, Kim, and Lee (2005); Chiu et al. (2006)

H1b *Shared vision positively influence social interaction ties within an academic social networking site.*

3.3 | Social interaction ties, social identification and perceived social support

Based on the definition of social interaction ties in Table 1, it is expected that individuals will have positive affection towards a group when there is increased communication among members (Dubos, 2017). Social interaction enables frequent communication among members (Lim & Richardson, 2016), and increases group spirit and members' affection towards a group (Koranteng, Wiafe, Katsriku, & Apau, 2019). Since ASNS augment the formation and strengthening of social ties (Curry, Kiddle, & Simmonds, 2009) within academic social groups, social interaction is expected to promote social identification and support as established in other studies that did not consider academic networks. However, this assertion has not been empirically evaluated for the specific case of ASNS. Hence, it is hypothesized that:

H2a *Social interaction ties positively influence social identification within an academic social networking site.*

H2b *Social interaction ties positively influence perceived social support within an academic social networking site.*

3.4 | Social identification and perceived social support

As previously defined in Table 1, social identification emphasizes an individual's sense of belongingness to a group (Koranteng & Wiafe, 2019). According to the social identity theory (Tajfel & Turner, 1986), individuals classify themselves as group members through participation in group activities. Engagement in group actions facilitate the formation of loyalty, mutual support, and faithfulness among group members (Ellemers, Kortekaas, & Jaap, 1999). Jeng et al. (2012) suggested that group members on ASNS must effectively support each other. It is therefore expected that as individuals take pride in belonging to a group, they will seek to support each other to demonstrate cohesion in that group. Hence:

H3 *Social identification positively influences perceived social support within an academic social networking site.*

3.5 | Perceived social support and knowledge sharing

The relationship between perceived social support and knowledge sharing has not been adequately studied. However, it is known that an individual's behaviour is largely influenced by their thoughts (Wiafe, Nakata, & Gulliver, 2014) and expectations in addition to influences from others (Salahshour Rad, Nilashi, Mohamed Dahlan, & Ibrahim, 2019). These influences may include support that others provide them. As explained by Fogg (2009), although an individual may have the motivation to perform a behaviour, the lack of ability to perform the behaviour hinders the possibility of the behaviour performance. Thus, support from others is essential. Perceived social support has been demonstrated to be a key factor that influences decisions (Orji, 2014). Yet, as mentioned earlier, there is little evidence on how perceived social support influences knowledge sharing, especially within online academic groups. Perceived social support is enhanced by a reciprocal exchange of resources between parties. Mostly, within any social setting (such as social networks), individuals expect their actions to be reciprocated (Kwahk & Park, 2016). Koranteng, Sarsah, Kuada, and Gyamfi (2019) argues that individuals will share knowledge when they presume it to be fair and mutual. This is because, there is a strong relationship between reciprocal exchanges and intention to participate in online groups (Moghavvemi, Sharabati, Klobas, & Sulaiman, 2018). Since ASNS are formed to promote knowledge sharing, it is expected that perceived social support would also promote knowledge sharing. Hence, it is hypothesized that:

H4 *Perceived social support positively influence knowledge sharing on academic social networking sites.*

3.6 | Perceived dialogue support, social identification and knowledge sharing

IS are social actors (Oinas-Kukkonen & Harjumaa, 2009); hence, human interactions with computers are similar in other social settings. Dialogue support defines the principles that support users to reach their intended behaviour by keeping them active and motivated. ASNS may provide dialogue support in the form of notification, feedback, and prompts. Lehto, Oinas-Kukkonen, and Drozd (2012) and Lehto and Oinas-kukkonen (2015) explained that the incorporation of such features influences user's perception of the support they receive from group members. This support may lead to a sense of inclusiveness. In other words, the provision of perceived effective dialogue support increases interactions among members (Wiafe, 2017). As a consequence, members form stronger bonds with an increase in group belongingness. However, such a relationship is yet to be confirmed on ASNS. It is expected that an increase in interaction among groups on ASNS will also lead to increased knowledge sharing. As indicated earlier, reciprocal exchanges such as feedback influence users' knowledge sharing behaviour. Therefore:

H5a *Perceived dialogue support positively influences social identification within an academic social networking site.*

H5b *Perceived dialogue support positively influences knowledge sharing within an academic social networking site.*

4 | METHODOLOGY

The hypotheses were analyzed to examine the significance of the relationships. An English-based survey questionnaire was developed using Google Forms. This approach is relatively cheaper and faster as compared to offline or paper base questionnaire administration. The electronic questionnaire (see Table 3 for question items) was distributed through academic social networks to ensure that all responses are from individuals who use such networks. All question items were presented and adopted in English from prior studies (see Table 1). The five-point Likert scale ranging from 'strongly agree' (5) to 'strongly disagree' (1) was used to reduce respondent's frustration levels and therefore increase the response rate (Sachdev & Verma, 2004). Opinions of respondents that were gathered relate to (a) Shared Language (b) Shared Vision (c) Social Interaction Ties (d) Social Identification (e) Perceived Dialogue Support, (f) Perceived Social Support and (g) Knowledge Sharing, within the academic SNS that a respondent belongs to. All the questionnaire items emphasized anonymity and participation was purely voluntary. Convenience sampling was used to select participants. The questions were pre-tested to ensure that the modifications made did not affect comprehension. The pre-test results indicated that none of the 15 initial respondents had issues answering them. The pre-test responses were not used for the main analysis.

Partial Least Squares Structural Equation Model (PLS-SEM) was adopted to analyze the research model. This technique was chosen because it is effective for exploring relationships between constructs as well as predicting the effects of independent variables (Hair Jr, Hult, Ringle, & Sarstedt, 2016). Hair, Sarstedt, Ringle, and Mena (2012) argued that PLS-SEM is appropriate for research that extends existing theory. Therefore, SmartPLS 3.0 software was used for the analysis. After about 4 months of data collection, a total of 218 responses were received. About 83% of the respondents were male and 17.4% were female. The majority (73.9%) were below 30 years, 22% were between 30 and 40 years and 4.1% were above 40 years. Additionally, 78% have postgraduate degrees or above and 22% have undergraduate degrees. Table 2 provides a summary of respondents' demographic data.

5 | MEASUREMENT MODEL

The constructs and their indicators were examined for internal consistency, reliability, convergence and discriminant validity as proposed by Coltman, Devinney, Midgley, and Venaik (2008). They were observed to be reliable since they met Barclay, Higgins, and Thompson (1995)'s (i.e., threshold of 0.7) criteria (see Table 3). Internal consistency was assessed using Cronbach's alpha and composite reliability. Table 4 indicates that all items were above the minimum value of 0.7 recommendation by Bagozzi and Yi (1988).

The findings from discriminant validity testing are presented in Table 4. It was performed by comparing the square root of the average variance extracted (AVE) of latent variables with other latent variables. Fornell and Lacker (1981) proposed that the square root of AVE of a latent variable should be higher than correlations with other variables. Accordingly, Table 4 supports the validity of the discriminants (the shaded diagonal figures of Table 4 are square roots of the AVEs).

5.1 | Structural model

The relationships among the constructs were examined using bootstrapping (100 samples) procedure. Kock (2010) recommends this procedure when the sample size is greater than 100. Using a one-tailed *t* test, path coefficients were considered significant for *p*-values less than 0.05. Table 5 presents a summary of the results from the bootstrap procedure. All the relationships were observed to be significant. The maximum *p*-value was .015 and it was recorded for the relationship between shared vision and social interaction ties.

Figure 2 shows the PLS analysis of the hypothesized model. Shared language and shared vision explained 28.6% of the variance in social interaction ties. Dialogue support and social interaction ties accounted for 39.8% of social identification. However, social identification and social interaction ties explained 42.4% of social identification, whereas social identification and dialogue support explained 34.2% of the variance in knowledge sharing.

6 | DISCUSSION

The research model presented in this article examined persuasive social features that promote knowledge sharing on ASNS. The results suggest that all proposed relationships were significant. Shared language and shared vision were observed to be strong antecedents of social interaction ties. As indicated earlier, social interaction is an avenue for information exchange (Lim & Richardson, 2016). For individuals to frequently interact, there must be a common understanding and objective. These characteristics enable members to describe and interpret situations. Common understanding and objective further guides and promote effective interactions among members (Zheng, 2017).

TABLE 2 Demographics of respondents (*N* = 218)

Demographics	Value	Frequency	Percentage
Sex			
	Male	180	82.6
	Female	38	17.4
Age			
	Below 30	161	73.9
	30–40	48	22
	Above 40	9	4.1
Education level			
	Postgraduate	171	78
	Undergraduate	47	22

TABLE 3 Question items, loadings and sources

Construct	Items	Question items	Load	Source
Shared language	SL1	The members of my academic social network use common terms or jargons.	0.766	Koranteng et al. (Koranteng, Sarsah, Kuada, & Gyamfi, 2019)
	SL2	Members of my academic social network use understandable communication pattern during the discussion.	0.891	
	SL3	Members of my academic social networks use understandable narrative forms.	0.894	
Shared vision	SV1	Members of my academic social network share the vision of helping others solve their professional problems.	0.909	Koranteng, Sarsah, Kuada, and Gyamfi (2019)
	SV2	Members of my academic social network share the same goal of learning from each other.	0.939	
	SV3	Members of my academic social network share the same value that helping others is pleasant.	0.903	
Social interaction ties	SIT1	I maintain close social relationships with some members of my academic social network.	0.812	Koranteng, Sarsah, Kuada, and Gyamfi (2019)
	SIT2	I spend a lot of time interacting with some members of my academic social network.	0.816	
	SIT3	I have frequent communication with some members of my academic social network.	0.897	
Social identification	SOID1	I care about my friends on my academic social networking site.	0.742	Koranteng, Sarsah, Kuada, and Gyamfi (2019); Lehto and Oinas-kukkonen (2015)
	SOID2	I have a strong positive feeling toward my academic social network.	0.768	
	SOID3	I have the feeling of togetherness or closeness in my academic social network.	0.836	
Perceived social support	SOCS1	Through academic social networking sites, I am able to get support when I need it.	0.795	Lehto and Oinas-kukkonen (2015)
	SOCS2	I share my experiences with my friends using academic social networking sites.	0.745	
	SOCS3	I learn from the experiences of my peers on my academic social networking site.	0.796	
Dialogue support	DIAL1	The academic social networking site that I use motivates me to perform my daily activities.	0.800	Lehto and Oinas-kukkonen (2015)
	DIAL2	The academic social networking site that I use provides me with the right feedback on the task I perform.	0.770	
	DIAL3	The academic social networking site that I use provides messages of praise when I complete a task.	0.806	
Knowledge sharing	KS1	I enjoy sharing knowledge sharing with my academic social network friends	0.832	Koranteng, Sarsah, Kuada, and Gyamfi (2019)
	KS2	I feel that my members in my social network enjoy sharing their knowledge with each other	0.802	
	KS3	It seems to me that my academic social network friends share the best knowledge they have	0.802	

Indeed, consistent with findings from Chiu et al. (2006) and Abhari, Xiao, & Davidson, (2017), communication and interaction among group members increase when they share similar traits such as language. This finding suggests that groups on ASNS are formed based on particular disciplines and fields because, members share similar aspirations and use jargon and acronyms that are understandable. Consequently, they are able to bond, cooperate and interact closely. Again, contrary to Nie (2001), the findings indicated that ASNS increases interpersonal interaction and communication. Hence, the use of common language serves as a motivator that persuade users of ASNS to increase communication and share knowledge. Some studies have explained that communication norms may evolve with time (Senyo, Liu, Sun, & Effah, 2016), and thus it is expected that this evolution will further improve knowledge sharing as stronger bonds are formed.

TABLE 4 Reliabilities, AVEs, and inter-constructs correlations (N = 218)

	CA	CR	AVE	DIAL	KS	SIT	SL	SOCS	SOID	SV
DIAL	0.710	0.853	0.627	0.792						
KS	0.745	0.880	0.659	0.426	0.812					
SIT	0.797	0.888	0.710	0.245	0.402	0.843				
SL	0.813	0.815	0.726	0.240	0.480	0.507	0.852			
SOCS	0.765	0.826	0.595	0.298	0.509	0.529	0.443	0.772		
SOID	0.784	0.941	0.613	0.385	0.435	0.579	0.459	0.616	0.783	
SV	0.906	0.835	0.841	0.396	0.153	0.270	0.201	0.259	0.365	0.917

Note: AVE: average variance extracted; CA, Cronbach's alpha; CR, composite reliability.

TABLE 5 Statistical path coefficients of structural model (N = 218)

	Original sample (O)	Sample mean (M)	*SD*	*T* statistics (|O/*SD*|)	*p* values	Hypothesis supported
DIAL → KS	0.301	0.303	0.088	3.429	0.000	Yes
DIAL → SOID	0.259	0.265	0.088	2.940	0.002	Yes
SIT → SOCS	0.259	0.255	0.068	3.833	0.000	Yes
SIT → SOID	0.516	0.518	0.089	5.765	0.000	Yes
SL → SIT	0.471	0.475	0.066	7.193	0.000	Yes
SOCS → KS	0.420	0.426	0.095	4.399	0.000	Yes
SOID → SOCS	0.466	0.464	0.101	4.613	0.000	Yes
SV → SIT	0.175	0.184	0.081	2.169	0.015	Yes

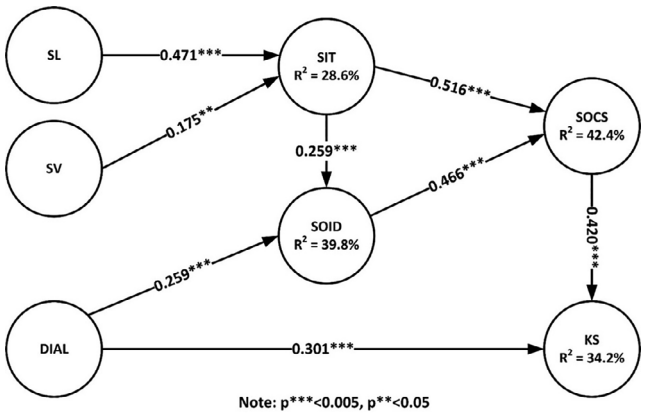

FIGURE 2 Structural model

Social interaction ties had a significant impact on social identification and perceived social support. It strongly predicted perceived social support. This indicates that as the intensity of interactions among members increase, they feel a sense of belonging towards their academic network and thus support each other. This persuasive feature (social interaction) has been identified in several studies as a key persuasive feature (Oinas-Kukkonen & Harjumaa, 2009; Oyibo et al., 2017). This finding disproves arguments by Kraut et al. (1998) and Tonioni et al. (2012) that states that online social networks reduce social involvement and make individuals depressed, anxious and lonely. It can therefore be confirmed that within ASNS social interaction ties do not reduce social involvement. As Lim and Richardson (2016) state, ASNS supports social relationships by providing functionalities that reduce the proximity of interactions among members. For example, most ASNS provide emailing and instant chat services, which enable synchronous interactions among users. These functionalities also eliminate boundaries that hinder successful interactions such as cost and distance. Again, since members of ASNS seek to acquire knowledge (Koranteng et. al., 2019) and social networks become beneficial when they are used to make meaningful connections (Clark, Algoe, & Green, 2018), the interaction between members further promotes knowledge sharing. Positive affection and fondness are developed as members interact more frequently and share ideas (Dubos, 2017). The increase in successful interaction increases members' 'we' mentality and their sense of togetherness (Lin & Lu, 2011). This supports Ellemers et al. 's (1999) argument that when there is a high perception of belongingness, group members mutually support each other and develop loyalty for other members.

Perceived dialogue support was observed to positively influence social identification. This validates Oinas-Kukkonen and Harjumaa (2009) and Dabi, Wiafe, Stibe, and Abdulai (2018) claim that IS are social actors, hence, individuals perceive their interactions with ASNS as similar in other social settings. ASNS provide features such as prompts and notifications, which can provide members with responses and feedback on the activities they perform. As mentioned earlier, individuals expect reciprocal exchanges to justify their expense in terms of time and effort (Thibaut, 2017). When a person's actions are reciprocated, they perceive other members to be fair (Moghavvemi et al., 2018) and they develop positive affect and likeness towards other group members (Koranteng, Sarsah, Kuada, & Gyamfi, 2019).

Perceived dialogue support and perceived social support had significant influence on knowledge sharing. It involves the posting and viewing of information. This indicates that ASNS members presume their interactions with the system and other users to be mutual and fair. A member's perception of fairness depends on the comparison of his/her input and corresponding outcome from others. Thus, when this equilibrate, users become satisfied and motivated to give more inputs. Member feedback and prompts ignite willingness to share knowledge. This serves as a persuasive feature. Furthermore, the existence of mutual support as claimed by Jeng et al. (2012) motivates users to share knowledge.

Accordingly, designers of ASNS should incorporate these features into their designs to ensure that their sites promote sharing of knowledge. More importantly, persuasive features such as perceived dialogue and social support are direct predictors of knowledge sharing and thus must not be omitted in ASNS.

7 | CONCLUSION

This study incorporated social constructs from prior studies to examine persuasive features that influence knowledge sharing behaviour on ASNS. The results suggest that dialogue support and perceived social support positively influence knowledge sharing activities on ASNS, whereas social interaction ties and social identification are key predictors for perceived social support. The findings suggest that developers must keenly consider the incorporation of social persuasive principles in designing ASNS.

Although findings from this study have established the relevance of social persuasive features, the study is limited to ASNS in addition to the use of convenience sampling. As such, the findings are limited. More so, controlled variables such as gender and age were not considered in the analysis and thus future studies must replicate the study in other domains such as learning management systems using other sampling techniques to validate these claims.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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