

Impact of Social Networking and Technology on Knowledge Sharing among Undergraduate Students

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Abstract

Effective and inclusive Knowledge Sharing is an integral part of successful and practical university learning. This study examines the factors impacting Knowledge sharing among students as there is a lack of studies conducted among students in the context of middle east countries. A survey was carried out among undergraduate students at Cihan University-Erbil, Iraq and questionnaires consisted of two main sections were used to collect the data. Demographic information was collected in the first section, and the second section contained six factors: File-sharing, Perceived Enjoyment, Perceived Reciprocal Benefit, Information and Communication Technology, Technology Availability, and Knowledge Sharing. Out of 150 questionnaires distributed, 114 were valid for analysis representing a 76% response rate and the data were analysed using Smart-PLS 3.2.9. The results indicated that Files-sharing, Perceived Enjoyment, Perceived Reciprocal Benefit, and Information and Communication Technology positively impacted Knowledge Sharing among students. However, Technology Availability did not affect Knowledge Sharing among students. The results implied that universities should encourage Knowledge Sharing between students by designing course activities and assessment that incorporate Files-sharing and Information and Communication Technology by fostering enjoyment and creating awareness of Knowledge Sharing's reciprocal benefits.

Keywords:

Social networking, technology, knowledge sharing, higher education

INTRODUCTION

Knowledge Sharing (KS) is essential as much technical work is carried out among teams involving people who are not physically located in the same area and interact online. Since students are the future leaders, positive behaviour towards KS is a prerequisite to increase their employment opportunities in the global market and prepare them for a strong position in the information society (Chong, Teh, & Tan, 2014). The notion of a social network for KS is increasingly established and has gained more attention in recent years. As the social network is an integral part of the pedagogy, a different form of learning called interactive style is becoming more popular (Jameel, 2018). Today, developments of social media have gone beyond personal use. Organisations have gradually regarded them as instruments for information sharing (Lam, Yeung, & Cheng, 2016; Thabit & Raewf, 2015). Similarly, students used social media to share information (Eid & Al-Jabri, 2016; Wang, Woo, Quek, Yang, & Liu, 2012). University students usually share their knowledge in two ways; formal

sharing by using the university systems, e.g., Moodle (Mousa et al., 2019), and informal sharing through social media (Chong et al., 2014).

Organisational document management systems and online file-sharing tools have shown a strong correlation with the various kinds of trust (Ozlati & Donaldson, 2012). Technology is essential to promote KS because it leads to communication and allows cooperation between students. Information and Communication Technology (ICT) brought about major methodological improvements in education by machine approaches to theory and research (Jantavongso & Nuansomsri, 2018). Such strategies give students a chance to gain knowledge and prospects for their future careers (Jameel, Mahmood, & Jwmaa, 2020). In the past years, the exponential increase in ICT has contributed to more learning opportunities and KS in the education field. ICT and KS have made it possible and advanced for students to share knowledge regardless of their regional limits and reduce the time used for commuting and studying than the pre-IT century (Mousa, Jameel, & Ahmad, 2019). Technology availability has made it possible for people to create, share and communicate what they want with others worldwide. Therefore, the absence of technology would lead to issues in the workplace and particularly higher education institutions. In parallel, teaching methods tend to change with major technological advances. As a result, self-learning was emphasised more than conventional teaching (Koranteng, Wiafe, & Kuada, 2019).

Most of the previous studies on KS among students have been conducted in the context of south-east Asia countries such as Malaysia (Chong et al., 2014; Moghavvemi, Sharabati, Paramanathan, & Rahin, 2017; Yu, Lu, & Liu, 2010), Indonesia (Rahab & Wahyuni, 2013), and Thailand (Wangpipatwong, 2009), while limited studies were conducted in Middle East countries (Eid & Al-Jabri, 2016) particularly in the Iraqi setting. The Iraqi education system faces several challenges, such as low fund, low university ranking, and lack of publications (Jameel & Ahmad, 2020; Mousa et al., 2019). Consequently, students graduated from a poor quality education that did not meet the market and country demand (Jameel, 2018b; Jameel & Ahmad, 2020; Mahmood, Raewf, & Hamadany, 2019). Furthermore, universities are also suffering from inferior technology infrastructure (Ahmad & Jameel, 2020; Jameel, 2018a; Raewf & Thabit, 2015). KS could be one of the challenges facing students, and the universities should create a KS culture among students to improve education quality. In response, the study aims to examine the impact of several factors affecting KS among students in the Iraqi setting to enrich the body of knowledge suffering from lack of literature.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Knowledge sharing

KS can be defined as the sharing of ideas and suggestions among people. KS takes place whenever information or knowledge is discussed and debated by people until others accept it (Mousa et al., 2019). However, KS is a purpose-oriented conduct influenced by people's attitude, social behaviour, and a sense of authority (David & Whittam, 2017). KS and communication enhance learning through online interaction between students (Brewer & Brewer, 2010).

KS is an exchange of experience between individuals in an organisation, whether explicit and implicit information improves departmental relationships within a company (Lo & Tian, 2019). Meanwhile, the process of KS takes place at various levels, such as among

individuals, groups, or organisations within and beyond the organisational boundary (Aljuwaiber, 2016). KS is one of the vital knowledge management processes. KS is essential because many people agree that sharing knowledge depends on the success of Knowledge Management, and some believe that KS is a crucial part of Knowledge Management.

The advantage of KS is that people have different knowledge and expertise, and sharing this information will enhance their overall performance. When knowledge is shared between organisational members, the quality of work, decision-making, problem-solving and skills acquisition is improved (Yang, 2007). Mousa et al. (2019) showed that perceptions of the relationship between individuals support the enactment of KS activities, which ultimately affect the success of an organisation. Individuals are motivated to share their knowledge with others because it is the right thing to do to help others. Therefore, people feel ethically obligated to share their knowledge to make a positive contribution to community progress (Rahab & Wahyuni, 2013).

Social networking factors

Social networks are widely used nowadays by students to communicate, discuss, and share the materials due to its easiness and fast connections than the university system or emails. Another reason is that students enjoy using social network platforms to help or share knowledge with others. Social networks refer to several platforms, but this study focuses on the media widely used by students such as Facebook, Viber, WhatsApp, and Telegram. Most students utilise the social networks to exchange the expertise and information, cooperate on the execution of homework or term assignments, and explore topics and ideas (Eid & Al-Jabri, 2016). Furthermore, students use Facebook Groups to organise and fulfil their tasks as a learning system (Wang et al., 2012; Hudin, Hudin & Abdul Aziz, 2020). According to Chu and Meulemans (2008), 90% of students used Facebook to contact others about colleges, teachers, or courses, and they believe the social network grows its popularity among the students. Pi, Chou, and Liao (2013) clarified students' willingness to use Facebook Groups to share their knowledge. They further reported the attitude and sense of self impact on KS through the subjective norm (Pi et al., 2013). Several studies have also been conducted to find the effects of social networks on KS (Eid & Al-Jabri, 2016; Pi et al., 2013).

File-sharing

File-sharing is one of the most significant Internet technology that is widely used among students. Students typically share images, PowerPoint files, word files, Excel files, and videos for learning. Meanwhile, the low storage cost and positive network externalities are important reasons for the rapid increase in File-sharing among students.

According to Eid and Al-Jabri (2016), File-sharing is considered a social network site category, which impacts KS. However, they defined File-sharing as an operation by which information is stored in files and exchanged with learners using one or more social networks. Daft and Lengel (1986) concluded that the quality of interaction between the students would be increased by responding to the information needs. Files, for examples, course materials, assignments, and lecture notes are widely shared between Iraqi students through social networks such as Facebook, Viber, WhatsApp and Telegram groups at Cihan university due to the university newly implement Moodle system. Despite that, the students' involvement was still low, although File-sharing is undisputedly important for students in this learning environment. However, limited studies have examined the impact of File-sharing on KS among students (Eid & Al-Jabri, 2016). The survey conducted among students by Eid and Al-Jabri (2016) found the File-sharing had a positive and significant impact on KS.

H₁: File-sharing has a significant impact on knowledge sharing among students

Perceived enjoyment

Individuals are naturally attracted to contribute information as it is daunting or enjoyable to participate in logical paths and solve problems. Some people share knowledge because they think it is pleasant to help others with severe challenges and make them feel happy.

Enjoyment refers to the level of Internet user engagement in social networks since enjoyment is the element of evaluating a person's decision to engage in social networks (Hsu & Lin, 2008). Enjoyment as operation whereby individual or group games are played as well as photos and videos stored in files and shared by people via one or more social networking sites (Eid & Al-Jabri, 2016). However, enjoyment could be consisting of two prospects; spending time with friends in the social network, and helping other people (Moghavvemi et al., 2017). Enjoyment in assisting other people to is characterised by the perceived pleasure of helping others by contributing knowledge (Kankanhall, Tan, & Wei, 2005). Internet users are undoubtedly interested in activities on social networks because engagement adds to the enjoyment. Pastor (2012) assumed that platforms to entertain social media provide an ideal opportunity for learning interaction and calls for further work on entertainment in education. According to Jameel (2018), game-based learning motivates students and increases their participation and interaction, which significantly enhances students' learning.

Moreover, when games are created to address particular skills or display problems solving in a given field, they can be beneficial for teaching tools. However, KS is considered enjoyable among group members on Facebook, and they feel the enjoyment in helping others to understand and know something (Pi et al., 2013). Meanwhile, students share their knowledge with others because they think it would be enjoyable and meaningful to help others face problems and feel right to do so (Rahab & Wahyuni, 2013).

There is scant evidence on the impact of enjoyment on KS among students (Eid & Al-Jabri, 2016; Moghavvemi et al., 2017), and there is an inconsistency of results between the studies conducted previously. A study of students at King Fahd University of Petroleum and Minerals, Saudi Arabia, found a non-significant impact of enjoyment on student KS (Eid & Al-Jabri, 2016). However, the authors attributed this result to the student using the social network for their leisure, not learning purpose, and KS (Eid & Al-Jabri, 2016). On the other hand, the study conducted among undergraduate students at the University of Malaya, Malaysia, indicated a positive and significant impact of enjoyment on KS (Moghavvemi et al., 2017). The students were more willing and enjoyed sharing knowledge among peers through the Facebook that lead to help others gain the knowledge (Moghavvemi et al., 2017).

Enjoyment has a positive effect on KS with a high contribution toward sharing the knowledge in higher education institutions (Rahab & Wahyuni, 2013). However, Lin (2007) and Kanaan and Gharibeh (2013) reported that helping others impact KS through Weblogs and enjoying has a positive impact on KS.

H₂: Perceived Enjoyment has a significant impact on KS among students

Technology Factors

Technology may be defined as material devices such as software and hardware to perform duties in an organisation. Technology can be seen as a crucial contributor to communication, as long-range collaboration is possible among peers (Wangpipatwong, 2009). According to Wangpipatwong (2009), Technological Availability is one element of technological factors in

the educational context. However, ICT is considered the main component of technology factors (Jameel, Karem, & Mahmood, 2017).

Information and communication technology

ICT can improve and enhance KS (Jameel, 2018). ICT promotes the exchange of knowledge and makes KS simpler and more efficient among peers (Jameel & Ahmad, 2018). KS could be achieved by reducing spatial obstacles among knowledge users and enhancing access to knowledge information (Jameel & Ahmad, 2020a). Modern communications systems had enabled KS over time and distance (Mousa et al., 2019).

The attitude towards new technology adaptation is essential for promoting, enabling, and supporting KS (Han & Anantatmula, 2007). Due to this, Kim and Jarvenpaa (2008) emphasised the importance of technology for KS in an organisation. The rapid progress in remote networking technology allowed students to share information and knowledge beyond time and space barriers, allowing them to learn effectively through interviews and explanations (Soller, 2004). According to Mousa et al. (2019), ICT is an essential factor in increasing KS and implementing the ICT help the academic institutions to save time and effort. The study conducted in Iraq found the ICT had a positive impact on KS (Mousa et al., 2019). According to Han and Anantatmula (2007), and Kanaan and Gharibeh (2013), KS is influenced by technology factors and ICT.

H₃: ICT has a positive and significant impact on KS among students.

Technology availability

The main requirement of KS among students is the Technology Availability which serves as a facilitator to promote and support KS. Iraqi students struggle with the lack of Technology Availability, IT management and system integration (Ghran, Jameel, & Ahmad, 2019). Despite that, technology is essential to promote KS because it improves communication and encourages long-distance cooperation between students (Chong et al., 2014). An earlier study confirmed the positive impact of Technology Availability on KS among students in public and private universities in Malaysia (Chong et al., 2014), but Wangpipatwong (2009) reported a contrasting result.

H₄: Technology Availability has a significant impact on KS among students

Perceived reciprocal benefit

Reciprocation is an immediate process by which people access and use external information as a trigger for innovation. Further, the Reciprocal Benefit is a type of mutual gain the person intends to benefit from his present actions in the future (Phung, Hawryszkiewicz, & Binsawad, 2018). It ensures that action is taken in response to previous friendly conduct. People are expected to respond when they think other people will owe them the same favours (Aslam, Shahzad, Syed, & Ramish, 2013). Additionally, students spend time responding and encouraging others to share knowledge and waiting for other students to benefit from it and share their suggestions and answers (Moghavvemi et al., 2017). Anticipated reciprocal benefits include the level to which a person thought they could benefit from sharing knowledge (Hsu & Lin, 2008). Lin (2007) reported that if individuals feel that they will reciprocally benefit from peers through KS, they are more likely to see the sharing of information favourably, and thus share more knowledge.

Individuals must feel that their input is worth the effort to contribute knowledge and the individuals who look forward to good ideas are more willing to share, and they expect others to respond (Moghavvemi et al., 2017). According to Lin (2007), those who anticipated reciprocity from other individuals by sharing their knowledge will be more willing to share their innovative thoughts.

Reciprocal positively impacts KS among undergraduate students in Malaysia (Moghavvemi et al., 2017). A similar result was reported by Rahab and Wahyuni (2013) among students in public and private universities in Indonesia. Lin (2007) and Chuang, Chen, and Tsai (2015) found that reciprocal positively impacts attitude toward KS. On the other hand, reciprocal had a non-significant effect on KS among students (Koranteng et al., 2019). Since there is a discrepancy in the previous results, the following hypothesis was proposed to test this factor in Iraq’s setting.

H₅: Reciprocal benefit has a significant impact on KS among students

METHODOLOGY

The target population of this study was students attending Cihan University-Erbil. Convenience sampling was employed to collect data from selected classrooms. One hundred fifty (150) self-administered questionnaires were distributed to respondents, and 124 responses were returned. After removing the missing values and outliers, 114 data were valid for analysis. The net response rate for this study was 76%—the data were analysed by Smart-PLS 3.2.9.

A questionnaire consisted of two main sections. The first section represented the demographic questions. In contrast, the second section contained 28 items representing the variables; KS (5 items), File-sharing (4 items), ICT (4 items), Perceived Enjoyment (5 items), Perceived Reciprocal (6 items), and Technology Availability (4 items). All these items were adopted from previous studies (see Table 1). The questionnaire used a 5-point Likert scale ranging from 1- Strongly disagree to 5- Strongly agree.

Table 1: Research instrument

Constructs	Number of items	Source
Knowledge Sharing (KS)	5	Moghavvemi et al. (2017)
File-sharing	4	Wang et al. (2012), Wangpipatwong (2009)
ICT	4	Kanaan & Gharibeh (2013)
Perceived Enjoyment	5	Moghavvemi et al. (2017), Phung et al. (2018)
Perceived Reciprocal	6	Moghavvemi et al. (2017), Phung et al. (2018)
Technology Availability	4	Chong et al. (2014), Wangpipatwong (2009)

Smart PLS used in this study consisted of two main steps. The first step was to test the validity and reliability of the instruments in the measurement model. The second step was to test the structural model’s path coefficient, also known as hypothesis testing (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014).

RESULTS

Demographic result

Based on Table 2, there were 54% male and 46% female respondents in the research sample. Besides, most of the respondents were the 4th year students (41%), while 19% were the 3rd year students, 22% were the 1st year students, and 18% were the 2nd year students as per the academic year 2019-2020.

Table 2: Demographic results

Variables	Label	Number	Percentage
Gender	Male	61	54
	Female	53	46
	Total	114	100%
Year of Study	1 st Year	25	22
	2 nd Year	20	18
	3 rd Year	22	19
	4 th Year	47	41
	Total	114	100%

Measurement model

As mentioned, this step aimed to test the validity and reliability; thus, the tests for convergent validity and discriminant validity were performed.

Convergent validity

According to Chin (2010) and Hair et al. (2014), the minimum factor loadings should be >0.70, composite reliability (CR) should be >0.70, and Average Variance Extracted (AVE) should be >0.50 to achieve the convergent validity. For this study, all the item loadings exceeded the required level of 0.70. Based on Figure 1 and Table 3, PE5 obtained the lowest loading (0.756), while FS2 obtained the highest loading (0.960). For the AVE, all variables exceeded the required level of 0.5. The lowest and highest AVE values were 0.687 (Perceived Enjoyment) and 0.884 (File-sharing). This study tested CR and Cronbach's Alpha to determine internal consistency, and all the items' reliability exceeded 0.70. The results of the validity and reliability were sufficient as described in Table 3.

Table 3: Validity and reliability

Constructs	Items	Factor Loading	CR	AVE	Cronbach's Alpha
Knowledge Sharing	KS1	0.787	0.930	0.727	0.905
	KS2	0.862			
	KS3	0.904			
	KS4	0.909			
	KS5	0.796			
File sharing	FS1	0.953	0.968	0.884	0.956
	FS2	0.960			
	FS3	0.957			
	FS4	0.889			
ICT	ICT1	0.857	0.945	0.776	0.927
	ICT2	0.918			
	ICT3	0.935			
	ICT4	0.871			
	ICT5	0.818			
Perceived Enjoyment	PE1	0.819	0.916	0.687	0.886
	PE2	0.889			
	PE3	0.895			
	PE4	0.777			
	PE5	0.756			
Perceived Reciprocal	PR1	0.870	0.944	0.738	0.929
	PR2	0.916			
	PR3	0.816			
	PR4	0.876			
	PR5	0.850			
	PR6	0.824			
Technology Availability	TA1	0.905	0.953	0.834	0.934
	TA2	0.923			
	TA3	0.950			
	TA4	0.875			

Discriminant validity

Discriminant validity is necessary to determine whether a construct discriminates against other constructs in the same model. The first way to test the discriminant validity is by applying the Fornel-Larcker criterion, which will indicate the latent variable that explains its indicator better than other latent variables (Fornell & Larcker, 1981). Fornel-Larcker criterion for discriminant validity is illustrated in Table 4.

Table 4: Fornell–Larcker criterion discriminant validity

	FS	ICT	KS	PE	PR	TA
FS	0.940					
ICT	0.280	0.881				
KS	0.548	0.549	0.853			
PE	0.446	0.588	0.550	0.829		
PR	0.256	0.202	0.325	0.115	0.859	
TA	0.472	0.554	0.472	0.397	0.202	0.913

Note. FS: File-sharing, ICT: Information and Communications Technology, KS: Knowledge Sharing, PE: Perceived Enjoyment, PR: Perceived Reciprocal; TA: Technology Availability.

The second assessment of the discriminant validity was using heterotrait-monotrait (HTMT) ratio of correlation, which must be less than 0.90 (Gold et al., 2001). Table 5 showed all the values were less than 0.90, indicating no discriminant validity problem in the data.

Table 5: HTMT discriminant validity

	FS	ICT	KS	PE	PR	TA
FS						
ICT	0.294					
KS	0.590	0.593				
PE	0.471	0.655	0.603			
PR	0.265	0.212	0.346	0.149		
TA	0.497	0.592	0.511	0.434	0.219	

Note FS: File sharing, ICT: Information and Communications Technology, KS: Knowledge Sharing, PE: Perceived Enjoyment, PR: Perceived Reciprocal; TA: Technology Availability

Structural model

This second step in PLS was to assess the structural model. This step was possible to run through bootstrapping. There were various methods to determine the structural model. However, this study first examined the p -value to find the hypotheses testing results. The next step was identifying the R^2 and Q^2 .

The R^2 represented the proportion of the variance for an endogenous variable that could be explained by exogenous variables. Our R^2 value was 0.514 (see Figure 1), considered a moderate level (Chin, 2010). The Q^2 called the Blindfolding represented the total effect of an endogenous variable, and the Q^2 acceptable value should be greater than zero (Henseler, Ringle, & Sinkovics, 2009). The Q^2 of this study was 0.360, which was considered acceptable. Figure 1 illustrates the structural model, while Table 6 shows the result of the hypotheses testing. The t -statistics should be higher than 1.96 to accept the hypothesis when the hypothesis is tested at 5% error, 95% confidence level, and the p -value < 0.05 .

The first hypothesis proposed was that File-sharing had a significant impact on KS. The result of this study indicated the t -statistics $2.975 > 1.96$ and the p -value $0.003 < 0.05$; thus, the first hypothesis was accepted. This result was supported by the previous study (Eid & Al-Jabri, 2016).

The second hypothesis proposed was that Perceived Enjoyment had a significant impact on KS among students. This study indicated the t -statistics $2.159 > 1.96$ and the p -value

0.031 < 0.05; thus, the second hypothesis was accepted. This result was in line with the finding reported by Rahab and Wahyuni (2013).

The third hypothesis was ICT had a significant impact on KS among students. This hypothesis was accepted because the t-statistics 2.212 > 1.96 and the p-value 0.027 < 0.05. Mousa et al. (2019) reported similar findings when they found a significant impact of ICT on KS.

Meanwhile, the analysis of the fourth hypothesis showed that Technology Availability did not predict KS among students. The p-value 0.563 > 0.05, and the t-statistics was less than 1.96; thus, H₄ was rejected. This result was in line with previous work (Wangpipatwong, 2009).

The fifth hypothesis was Perceived Reciprocal had significant benefits on KS among students. This hypothesis was accepted because the t-statistics 2.180 > 1.96 and the p-value 0.029 < 0.05. A similar effect was reported earlier by Moghavvemi et al. (2017).

Table 6: Result of hypotheses

	Hypotheses	β	Sample Mean	Standard Deviation	t-statistics	p-values	Results
H₁	File-sharing -> KS	0.311	0.312	0.105	2.975	0.003	Accepted
H₂	Perceived Enjoyment -> KS	0.208	0.208	0.096	2.159	0.031	Accepted
H₃	ICT -> KS	0.276	0.272	0.125	2.212	0.027	Accepted
H₄	Technology Availability -> KS	0.059	0.058	0.102	0.579	0.563	Rejected
H₅	Perceived Reciprocal ->KS	0.154	0.162	0.071	2.18	0.029	Accepted

Note: KS: Knowledge Sharing, ICT: Information and Communications Technology

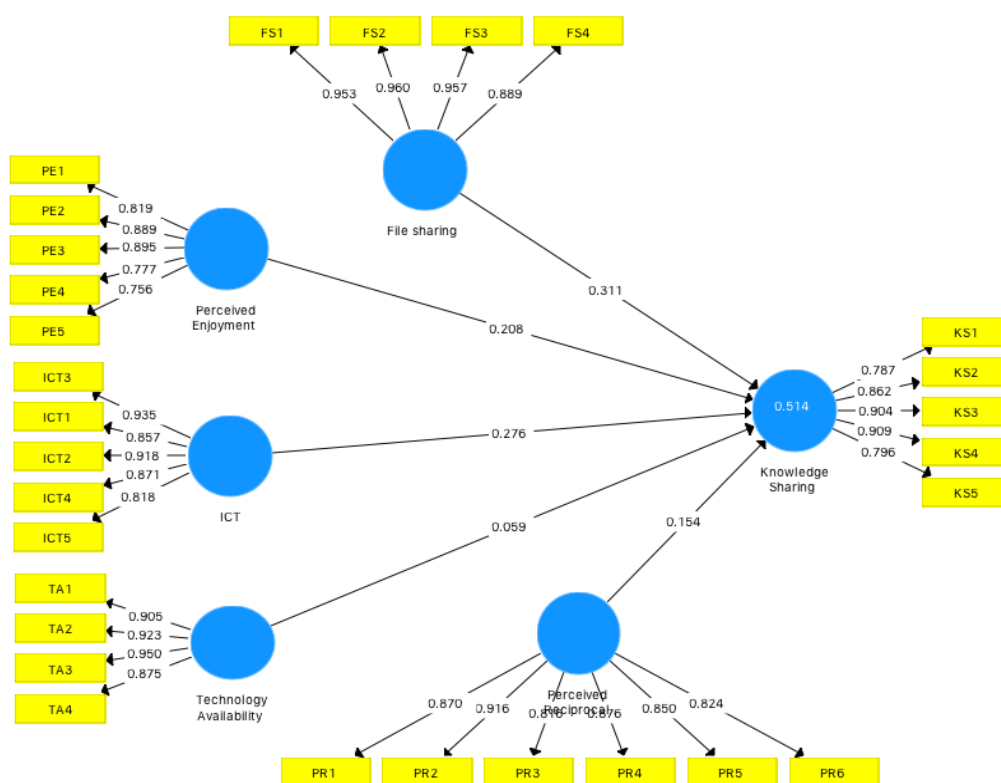


Figure 1: Structural model

DISCUSSION

This study examines several factors that predict KS among students. In the educational background of Iraqi university students, KS plays a significant role, as seen in this study. Sharing knowledge gives Iraqi university students the capacity to develop their education.

The first hypothesis was accepted, which represented the impact of file-sharing on KS with the highest prediction than other factors. This result is supported by a previous study (Eid & Al-Jabri, 2016). File-sharing using social network tools is essential to the effect of KS among student. Furthermore, file-sharing would contribute significantly to sharing information and enhance learning efficiency, which is closely linked to the student learning process. File-sharing is necessary to increase the sense that student information sharing contributes to better learning for them. Furthermore, incorporating social network tools for File-sharing and other activities in the coursework design may be considered reasonable.

The second hypothesis was accepted too, which referred to the impact of Perceived Enjoyment on KS among students. The result is in line with finding revealed by Rahab and Wahyuni (2013). This result showed that students share knowledge because they enjoy helping other students. Moreover, the students who perceived KS as enjoyable will be inspired to share their experience with others even more. The results showed that students like to share their knowledge, which benefited other students eventually. The work suggests that the students' intrinsic motivation was to exchange knowledge using the social network.

Besides, students shared their knowledge because they believe it would be enjoyable and exciting to help others face a problem, and they feel confident in doing so.

In parallel with Mousa et al. (2019), KS among students was impacted by ICT. Therefore, ICT is vital in KS to ensure that education and learning quality match students' needs and lifestyles. Additionally, students will understand the concepts they are learning through ICT-facilitated KS between them. In an extended application, higher education institutions can use ICT to effectively code, incorporate and distribute student information to promote student interaction and cooperation. As a result, the ICT can help quickly scan, access and acquire information for KS, increasing students' opportunity to share their work experience, skills, and knowledge with others.

However, Technology Availability has an insignificant impact on KS among students. This result bolstered previous work by Wangpipatwong (2009). It could be because the university provides proper equipment, systems and a reliable IT infrastructure, and students possess personal gadgets that enables KS. Therefore, there is no gap in technology available in universities, and the students do not feel any shortage.

Lastly, Perceived Reciprocal has a positive and significant impact on KS among students, consistent with Moghavvemi et al. (2017) report. The student who anticipates reciprocity from other participants when sharing information will exchange more helpful and innovative opinions and feel more pleased with the KS. Additionally, the reciprocal gain is a type of mutual value where individuals anticipate their present behaviour to profit them in the future. They expect that others will offer something in return to the decisive action they previously carried out. Likewise, students will share more beneficial and innovative ideas when they expect other students' reciprocity. Their satisfaction with the reciprocity will also improve KS. Students spend time answering each others' inquiries, helping others, and hoping to exchange ideas between them. A strong sense of mutual gain will, therefore, encourage the exchange of knowledge.

CONCLUSION, LIMITATIONS AND FUTURE STUDIES

This study showed the File-sharing, Perceived Enjoyment, ICT, and Perceived Reciprocal increased the KS among students. Additionally, the File-sharing predicted KS, which means students used the social network to share their material, assignment, project, etc. Simultaneously, Technology Availability did not impact KS among students, which may be due to the university's sound IT infrastructure. The study faced several limitations. First, the research carried out at only one university, which means the results cannot be generalised to all other universities. Second, the study was conducted at a private university which had different environments from public universities. Third, the study examined the direct effect only and did not find the causal effect of these variables on KS. Future studies could overcome the limitations mentioned above by considering the mediator role to find the cause-effects of results and carry out the survey in more than one university. Likewise, it is possible to conduct the study at private and public universities regarding the students' perception of KS.

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