

Knowledge Sharing Behaviour among University Students: An Empirical Study from Vietnam

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The current study examines the determinants of knowledge sharing behaviour among university students. A field study was conducted with 315 undergraduate students from a large university in Hanoi, Vietnam. The information obtained was used to run a regression model to test the research hypotheses. The findings show that an individual's ability to share knowledge, instructor support, technological support and technological availability have a positive correlation with the students' knowledge sharing behaviour. The findings show no association between the students' willingness to share and the degree of competition within the classroom. The implications are discussed both theoretically and for classroom development.

Keywords: *Information Sharing, Knowledge Sharing, University Students.*

Introduction

With the increasing dominance of the knowledge-based economy, knowledge management is becoming more and more essential for organisations, with evidence revealing that it drives firm performance (Wu & Chen, 2014; Yang, 2010). Under the umbrella of knowledge management, knowledge sharing has been recognised as a critical factor in knowledge creation, which contributes to boosting organisational performance (Wang & Wang, 2012; Wang, Wang, & Liang, 2014). Knowledge sharing in this context is the “process that enables the knowledge of individuals and groups to be transferred to the organisational level, where it can be applied for the development of new products, services, and processes” (Camelo-Ordaz et al. 2011, p. 1442). The knowledge-based view supports the importance of knowledge sharing. However, the distribution of knowledge is fragmented within organisations and in order to utilise it a resource for innovative development, it is necessary for knowledge to be shared and

accumulated among individuals (Wang, Liang, Zhong, Xue, & Xiao, 2012). Unfortunately, there are barriers that hinder knowledge sharing among individuals in the workplace, and people may need incentives to overcome their reluctance to share knowledge (Husted, Michailova, Minbaeva, & Pedersen, 2012). In general, there may be an inherent aversion to sharing knowledge because this is considered a personal asset. Knowledge sharing is a voluntary behaviour that transcends ordinary interpersonal obligations (Husted et al. 2012; Hislop, 2003).

Researchers have made great efforts to address the issue of problems with the knowledge sharing process in the work setting (Wang & Noe, 2010; Xue, Bradley, & Liang, 2011), but similar studies at universities, which play an important role in the knowledge economy, are sparse. Indeed, universities are linked with the society's knowledge creation system through research, publications and collaboration with government and industry (Fullwood, Rowley, & Delbridge, 2013). Be that as it may, in the university context, research work has mainly focused on knowledge sharing among academics. Student-to-student knowledge sharing has been overlooked (Skaik & Othman, 2015; Gamlath, & Wilson, 2017). According to past studies, knowledge sharing not only fosters a sharing culture in class, which helps to improve the quality of the learning environment, but it also develops in students the knowledge sharing habit when they enter the labour market. Therefore, investigating what factors impact knowledge sharing activities among university students is important for both theoretical development and actual practical implications. The current study contributes to the literature by providing empirical evidence about the determinants of university students' knowledge sharing in the Vietnamese context, specifically the practice of drawing implications from research findings.

Theoretical Background and Hypothesis Development

Knowledge sharing has proven its importance in improving organisational performance and facilitating economic development (Wang et al., 2014; Wu & Chen, 2014; Yang, 2010). Recently, knowledge sharing has begun to receive more attention from university managers, academics and research institutions where knowledge management is extremely important, since knowledge sharing promotes knowledge creation at universities, improves the students' learning process, and enhances the collaborative learning environment (Chong, Teh, & Tan, 2014; Ghadirian, Ayub, Silong, Bakar, & Zadeh, 2014; Singporn, Jantavongso, & Nuansomsri, 2019). However, individuals may not want to share their knowledge as expected owing to the aversion to losing face if the shared knowledge is insufficiently valuable and fear of the information they share working against their benefit (Lam & Lambermont-Ford, 2010; Hwang, Francesco & Kessler, 2003). Therefore, researchers are interested in finding the critical determinants of knowledge sharing including knowledge sharing among students in the classroom, which can basically be categorised into three factors, namely, individual factors,

classroom factors, and technological factors (Akosile, & Olatokun, 2019; Chong, Teh, & Tan, 2014; Ong, Yeap, Tan, & Chong, 2011; Nuansomsri, & Jantavongso, 2016).

Indeed, individual factors are important in knowledge sharing, as they are central to social activity. For example, Mtega, Dulle and Ronald (2013) stated that knowledge was partly created and shared through personal experiences and interpersonal communication. Past studies have found positive correlations between individual factors, such as, personality traits, motivation, trust, personal expectations, knowledge self-efficacy, willingness to share, and communication skills and knowledge sharing behaviour among students (Akosile & Olatokun, 2019; Chong et al., 2014; Ong et al., 2011; Nuansomsri & Jantavongso, 2016). The current study focuses on two primary aspects of individual factors, the ability to share and the willingness to share knowledge. First and foremost, in order to exchange knowledge, one has to have the ability to communicate effectively both verbally and non-verbally the information she or he wants to obtain from and deliver to others. Empirical studies reveal a positive correlation between students' ability to share knowledge and knowledge sharing (Akosile, & Olatokun, 2019, Singporn et al., 2019). Moreover, willingness to share is an essentially a motivational factor which is positively associated with knowledge sharing behaviour among students. Willingness to share knowledge refers to a person's readiness to spread their valuable knowledge which can be considered an intangible asset. Willingness to share is important because even when other factors are at work, individuals may still choose to hide their knowledge for fear of losing this advantage (Akosile, & Olatokun, 2019). There is evidence of the positive effect of willingness to share on knowledge sharing behaviours (Khan, Salman, & Islam, 2016). Therefore, the two following hypotheses are proposed:

Hypothesis 1: There is a positive association between the ability to share knowledge and the knowledge sharing behaviour among students.

Hypothesis 2: There is a positive association between the willingness to share knowledge and the knowledge sharing behaviour among students.

The findings of a great number of studies support the existence of a positive relationship between organisational factors and knowledge sharing among employees (Liu, N.C & Liu, M.S, 2011; Lu, Leung, & Koch, 2006; Razmerita, Kirchner, & Nielsen, 2016). Although this current work focuses on knowledge sharing among students, the basic ideas about organisational factors may be applicable to the classroom context. More specifically, several studies have found evidence revealing a positive correlation between different aspects of the classroom environment, such as between classmates, the teacher's grading system, the level of competition within the classroom and the students' knowledge sharing behaviour (Nuansomsri, & Jantavongso, 2016; Riege, 2005). Among the different aspects of classroom factors, instructor support may play a critical role in the process of knowledge sharing. For example,

by implementing a grading system which rewards knowledge sharing, instructors may promote discussion and debate, resulting in an increase in knowledge sharing activities among students. This relates to social exchange theory (Cropanzano & Mitchell, 2005) and expectancy theory (Vroom, Porter, & Lawler, 2005). The implication is that students may be motivated to more freely share ideas and opinions with classmates in order to receive recognition from instructors. Chong et al. (2014) and Nuansomsri and Jantavongso (2016) advocated a positive association between instructor support and knowledge sharing of students.

The effect of the level of competition within the class has also received attention from researchers (Chong et al., 2014), particularly, in collectivist cultures like those of China and Vietnam, as the competitive level is perceived to be relatively low. Students who consider their classmates as competitors rather than learning partners are more likely to hoard their own knowledge in order to gain an advantage in the final performance appraisal. For example, Chen et al. (2007) and Chong et al. (2014) found a negative relationship between the degree of competition in the class and knowledge sharing among students. If the pressure to outperform others is greater than the perceived reward from teacher's support, students will have a tendency to hide their valuable knowledge to maintain their exclusive control over intangible assets. Although in collectivist cultures, the level of competition might be relatively low compared to that in individualist cultures, the pressure to outperform others is quite high. Therefore, it would be interesting to examine the relationship between the degree of competition within the classroom and the students' knowledge sharing activity in a collectivist culture, in this case among the Vietnamese. Thus, the two following hypotheses are proposed:

Hypothesis 3: There is a positive association between instructor support and the knowledge sharing behaviour of students.

Hypothesis 4: There is a positive association between the degree of competition in the class and the knowledge sharing behaviour of students.

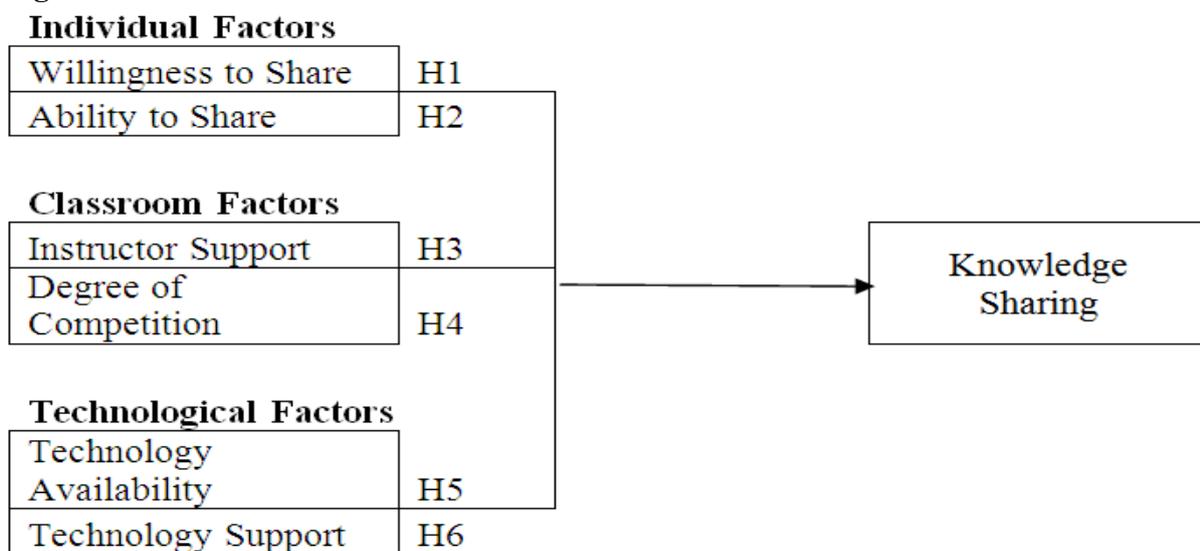
It is also noteworthy that knowledge sharing may happen not only within the class, but also be outside the class. In the latter case, technological availability and technological support are necessary. Empirical studies have found support for a positive correlation between technological availability and support and knowledge sharing (Chong, et al., 2014; Singporn et al., 2019). More concretely, technological availability including social networking, emailing, online video conferencing, and so on have been found to increase intergroup discussion and collaboration among people in the group. With youth today being so familiar with using technological devices, regularity, availability and support of technology are expected to have a positive impact on the frequency of knowledge sharing among students (Ong et al., 2011), especially outside the classroom. Hence, the two following hypotheses are proposed:

Hypothesis 5: There is a positive association between technological availability and the knowledge sharing behaviour of students.

Hypothesis 6: There is a positive association between technological support and the knowledge sharing behaviour of students.

Below is the conceptual framework for the current study (Figure 1):

Figure 1. Research framework



Research Method

Questionnaire Design

The survey questionnaire included 21 observed items, divided into 7 variables, which were modified from Wangpipatwong (2009). The determinants of knowledge sharing included willingness to share, ability to share, instructor support, degree of competition, technology availability, and technology support. Knowledge sharing was also adopted from Wangpipatwong (2009). All questionnaire items were measured using the five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree.

Samples and Data Collection

A convenient sample was used in the current study. Specifically, online questionnaires were sent to students at the Vietnam National University, Hanoi through social media platforms, such as Facebook and the university's forum page, in February 2019. Among the 1000 questionnaires sent, 315 responses were received, representing a response rate of 31.5%. Due to missing

information, 7 questionnaires were excluded, leaving 308 questionnaires for the final analysis, which showed a valid response rate of 30.8%. Participating students were majoring in different fields at the university. The authors checked the non-response bias by comparing all the general information and found no significant bias (all p-values for T-tests > 0.05). The table below summarises the characteristics of the participants in the survey.

Table 1: Respondents' Demographic Information

Characteristics	Number of observations	Percentage (%)
Gender		
Female	193	62.7
Male	112	36.33
Other	3	0.97
Age		
18-21	248	80.58
21-25	58	18.77
>25	2	0.65
Major		
Economics and Business	123	40.12
Social Sciences and Humanities	26	8.4
Natural Science	28	9.06
Engineering and Technology	21	6.8
Languages and International studies	37	12
Educational Development	13	4.2
International Affairs	17	5.51
Medicine and Pharmacy	17	5.51
Law	26	8.4
Total	308	100

Results and Discussion

Cronbach's Alpha Reliability Test

The Cronbach's alpha statistic was used to measure the internal consistency or reliability of group items. The value of alpha should be greater than 0.7, indicating the validity of the scales used. However, a cut-off point of 0.6 may be considered in case of exploratory research or newly developed measures (Hair et al., 1998). Among the seven factors examined, only degree of competition had a Cronbach's alpha smaller than 0.7 (0.643). Table 2 reports this information in more detail.

Table 2: Analysis of Internal Consistency

Variables	No. of Items	Cronbach's Alpha
Willingness to Share	3	.862
Ability to Share	3	.752
Instructor Support	3	.712
Degree of Competition	3	.643
Technology Availability	3	.774
Technology Support	3	.900
Knowledge Sharing	3	.783
Total	21	

Exploratory Factor Analysis (EFA)

In the next step, EFA was used to re-assess the convergence of the observed variables around the main components. The Kaiser-Meyer-Olkin (KMO) and Barlett's tests showed a KMO index as high as 0.864 (greater than 0.5) with a significance equal to 0 (sig = 0.000). Thus, it can be concluded that EFA was appropriate for the analysis.

Based on the analysis of the Rotated Component Matrix table, questionnaire items which measured the determinants of knowledge sharing among students were categorised into six independent factors as expected: willingness to share, ability to share, instructor support, degree of competition, technology availability, and technology support. Information about the EFA results appears in Tables 3 and 4 below.

Table 3: Test results for the KMO and Bartlett's Test and Rotated Component Matrix

KMO and Bartlett's Tests		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.864
Bartlett's Test of Sphericity	Approx. Chi-Square	3504.224
	Df	231
	Sig.	.000

Table 4: Rotated Component Matrix

Observed variables	Factor					
	1	2	3	4	5	6
Willingness to Share 3	.839					
Willingness to Share 1	.825					
Willingness to Share 2	.765					
Ability to Share 1		.788				
Ability to Share 2		.759				
Ability to Share 3		.735				
Instructor Support 2			.788			
Instructor Support 1			.759			
Instructor Support 3			.728			
Degree of Competition 2				.816		
Degree of Competition 3				.849		
Degree of Competition 1				.799		
Technological Availability 2					.876	
Technological Availability 1					.574	
Technological Availability 3					.574	
Technological Support 3						.887
Technological Support 2						.608
Technological Support 1						.593

Regression Analysis

Multiple regression analysis was used to check the hypotheses, using the Statistical Package for the Social Sciences (SPSS) version 23. Knowledge sharing was set as the dependent variable

and the six factors, willingness to share, ability to share, instructor support, degree of competition, technology availability, and technology support, were set as independent factors. The mean values of all variables were calculated before running the multiple regression analysis. Table 5 and 6 show the results of regression analysis.

Table 5: Regression Analysis Summary

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	.522	.272	.258	.60218	1.625

Table 6: Regression analysis results

Variables	Unstandardized Coefficients		Standardized Coefficients	t-statistics	p-values	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
constant	.918	.240		3.826	.000		
Willing to share	.057	.062	.059	.916	.361	.581	1.722
Ability to share	.208	.057	.209	3.649	.000	.740	1.351
Instructor support	.092	.047	.107	1.977	.049	.819	1.221
Degree of competition	-.007	.051	-.008	-.135	.893	.697	1.435
Technology availability	.115	.050	.141	2.306	.022	.642	1.557
Technology support	.222	.060	.231	3.711	.000	.622	1.607

The results showed an adjusted R squared value of 0.258. This means that six independent variables explained 25.8% of knowledge sharing deviations. The relatively small result for the Variance Inflation Factor (VIF) (smaller than 10) showed that these independent variables were not closely related to each other so there was no serious multicollinearity occurring. Findings showed that, among the six factors, ability to share, instructor support, technological availability, and technological support had positive correlations with knowledge sharing, with coefficients of 0.209; 0.107; 0.141; and 0.231, respectively, and all p-values were smaller than 0.05. Thus, hypotheses 2, 3, 5, and 6 were supported. Whereas, there was no evidence supporting positive relationships between willingness to share and degree of competition within the class and knowledge sharing (p-values > 0.05), so hypotheses 1 and 4 were rejected. For *hypothesis 1*, there was no statistical relationship between willingness to share and knowledge sharing, which was similar to the findings of Wangpipatwong (2009), and Akosile and Olatokun (2019). One possible explanation for this is that the students in the class may not have close relationships with each other, thus they may feel reluctant to communicate and share knowledge. In other words, even though some students are willing to share their knowledge, they might not have a comfortable and appropriate environment for sharing because of lack of

close relationships with the others. Our findings with regard to *hypothesis 4* differ from those of Chong et al. (2014) and showed that the degree of competition was positively associated with knowledge sharing. The insignificant result for the relationship between degree of competition within a class and the students' knowledge sharing might be a cultural characteristic of collectivist countries like Vietnam: that is there is a relatively low level of competition between individuals. This implies that students may not care much about competition when deciding whether or not to share knowledge.

Conclusion

In the current study we investigated the influence of three different groups of factors, namely individual factors, classroom factors and technological factors on students' knowledge sharing activities. The results showed that the students' ability to share, support from instructors, technological availability and technological support were positively associated with knowledge sharing. Whereas, students' willingness to share and degree of competition within the classroom were not statistically related to knowledge sharing. This paper provides an additional empirical study about the determinants of knowledge sharing among students, thereby enriching the literature about knowledge management in the university context. The findings of the research indicate the importance of the roles of the instructor and technology in fostering knowledge sharing among students. On the one hand, by showing support and encouragement through grading policies and promoting a collaborative learning environment, teachers can encourage students to share knowledge with others. On the other hand, technological advances should be utilised in education to facilitate discussion and debate as well as knowledge sharing among students, both within and outside the classroom.

Nevertheless, the current research has several limitations. First, the small sample size which includes students from only one university means this study's findings may not be applicable to other contexts. Second, cross-sectional data was used, which limits our ability to draw causal relationships among the studied variables. The convenient sample is the third limitation of this research. Future studies should examine a more diversified sample in order to increase the generalisability of the research results. In addition, longitudinal or experimental research designs should be used to capture causality. Fourth, this work investigated only basic factors which are related to knowledge sharing. Other factors which are also considered to have an important impact on knowledge sharing among students should be integrated in future, for example, motivation, culture and personality.



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