

# Knowledge Sharing and Innovative Work Behaviour: A Case Study from Vietnam

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## Abstract

This study aims to examine the influence of environmental and personal factors on knowledge-sharing behaviour (KSB) and whether more leads to superior innovative work behaviour (IWB) at tertiary level in Vietnam. Our case is Hanoi University (HANU), one of the Leading Public Universities in Vietnam. This study applies the structural equation modelling (SEM) to investigate the research model based on social cognitive theory. Based on a survey of 320 academic staff at HANU, the results show that two environmental factors (subjective norm, trust) and three personal factors (knowledge self-efficacy, enjoyment in helping others, and reciprocity) significantly influence KSB. The results also indicate that employee willingness to share knowledge enable the organisation to promote IWB. It is hoped that academic staff and university leaders from other countries may find the case study useful for deeper understanding of the effects of social influences, personal perceptions and KSB on IBW in the future.

**Keywords:** Knowledge sharing, Knowledge sharing behaviour, Innovative work behaviour, Social cognitive theory

## 1 Introduction

This paper intends to investigate the influences of environmental factors (subjective norm, trust) and personal factors (knowledge self-efficacy, enjoyment in helping others, organisational rewards, reciprocity, and psychological ownership of knowledge) on knowledge sharing behaviour (KSB) can facilitate or impede innovative work behaviour (IWB) by using social cognitive theory (SCT)-based model. By examining the relationships among these critical knowledge sharing (KS) factors, KSB and IWB, the current research examines how organisations can develop their knowledge sharing culture which will support their employees' IWB.

IWB has been described as “the intentional creation, introduction and application of new ideas (within a work role, group or organization)” to meet new challenges in complex environments (Janssen 2000; Javed et al. 2017; Scott and Bruce 1994). It is broadly stated as the essential for the productive functioning and long-lived sustainable development of organisations (Janssen 2000; Amabile et al. 1996) which relies on their each individual capability to innovate methods, goods and services (Afsar and Badir 2015). Furthermore, IWB helps to find a better way to do or make something new that others want to use or ways to organise resources better (Hawryszkiewicz 2010). Thus, it is essential to create a culture where IWB is practised throughout the organisation and every person generates, promotes, and uses knowledge in imaginative ways (Hawryszkiewicz 2017).

An organisation can successfully promote IWBs by directly integrating knowledge in its business plan, and promoting individuals' attitudes and behaviours consistent with KS as well (Lin 2007a). Nevertheless, KS has not met many organisations' expectation. It has been argued that individuals believe that their knowledge is power and valuable, therefore, sharing knowledge is generally unusual (Davenport and Prusak 1998); hoarding knowledge is the real propensity (Hsu et al. 2007; Lin et al. 2009). Moreover, knowledge management (KM) has only highlighted on the technology aspect in many organisations, in particular technology infrastructures (Pfeffer and Sutton 1999). It is not surprisingly, KS is problem for organizations with the existing of information systems (Bakker et al. 2006; Lin et al. 2009). Finally, several studies have indicated that KM often fails in encouraging KS practices because of it ignores the importance of the willingness of KS (Lin et al. 2009). Undoubtedly, the great challenge in promoting IWB is the personal willingness of sharing knowledge between or among colleagues. There have been two issues are involved in this respect (Hsu et al. 2007; Wang and Noe 2010). One is personal perceptions, which are based on self-efficacy and outcome expectations (Hsu et al. 2007; Wang and Noe 2010). The other is social influences based on trust and subjective norms (Bock et al. 2005; Hsu et al. 2007; Wang and Noe 2010). Investigating the personal perceptions (Bock et al. 2005; Radaelli et al. 2014) and the influence of the social environment on KSB lead to IWB (Bock et al. 2005, Akhanvan et al. 2015; Yu et al. 2013) is able to help both managers and researchers get insights into how to encourage KS in teams, groups or the organisation in order to facilitate IWB. In order to fulfil this purpose, the current study will propose an integrated research model based on social cognitive theory (SCT).

SCT, a well-known theory, has been broadly used in the literature of information systems for identifying the individual behaviour (Hsu et al. 2007). SCT states that an action that has personal perception in a social environment would be taken by a person. A personal perception to behave in a certain way has some cognitive factors. One is self-efficacy or the belief is a potential significant factor impacting the decision of sharing knowledge (Bock and Kim 2002). Engaging in KS may require the sense of the self-confidence and ability of individuals (Lin 2007a). Also, Lin (2007a) indicates that people who find the enjoyment in KS and consequently helping other people is more like to be motivated in sharing their knowledge with others. Other important factor has significant influence on individual KS decisions is outcome expectations that are associated with organisational rewards and reciprocal benefits (Hsu et al. 2007; Wang and Noe 2010). Wang and Noe (2010) found that person's beliefs with regards to psychological ownership of knowledge (POK) is very important as when people perceived they owned knowledge instead of the organisation they would engage in KS. Furthermore, subjective norm shows employee's feeling regarding the social pressure which they perceive a given behaviour surrounding them. Employees with positive subjective norms lead to given behaviours than the concerned behaviour intentions would be more positive in KS. Finally, trust has also been recognised as an essential determinant influencing KS (Hsu et al. 2007; Wang and Noe 2010).

This paper is organised as follows. The literature review will be presented in the next section, followed by describing the theory background and research model. Then, the sample and data collection methods, measurement and data analysis are described in the research methodology section. Finally, the discussion and conclusion is presented.

## **2 Literature Review**

### **2.1 The Context**

The case study is conducted at Hanoi University (HANU), a public university founded in 1959 in Hanoi. It is a well-known multidisciplinary training university based on foreign languages specialised in foreign language teaching and foreign studies in Vietnam. Essential information management systems for teaching, learning and research have been conducted at HANU for over a decade. HANU is gradually moving into the provision of international education, increasing the use of advanced technologies in learning and teaching in order to equip its students with professional skills to be able to adapt to future working environments. Moreover, HANU is striving to become a research university commensurate with other universities in the Asia- Pacific region and the world. However, it is similar to any other universities in Vietnam, HANU has been undergoing continuous change for more than twenty years to be innovative and responsive to the demands of the market and of high quality. It can only happen through knowledge distribution, knowledge creation and knowledge transfer to society at large (Oosterlinck 2004) which contributes to knowledge progress, and to actively create new knowledge. Thus, knowledge management (KM) has recently become increasingly important at HANU to meet the socio-economic requirements.

### **2.2 Innovative Work Behaviour**

According to Janssen (2000), IWB comprises three components: idea creation, idea promotion, and idea implementation. The first step of the individual innovation is to create idea that is generation of new and valuable ideas in any field (Amabile et al. 1996). Second, potential colleagues or partners will be promoted the idea which occurs when an individual has created an idea and engages in social activities to get supporter surrounding an idea (Janssen 2000). Finally, the innovation process involves idea application by developing a model or innovative prototype that is likely to be tried and utilised in teams or the whole organisation (Kanter 1998). Basic innovations are accomplished by individuals, whilst the completion of more complicated innovations often needs teamwork relies upon a diversity of knowledge, ability, and work roles (Janssen 2000; Kanter 1998). With the belief that individual IWB have positively effects on work outcomes, several researchers have dedicated increasing attention to factors that potentially foster IWB such as KS and IWB (Radaelli et al. 2014) and KS determinants, behaviours, and IWB (Akhavan et al. 2015). However, the relationship between KSB and IWB is still largely unexamined, especially in non-Western countries (Shanker et al. 2017).

### **2.3 Knowledge Sharing Behaviour**

Knowledge is a significant organisational resource. KS contributes to developing competitive advantages for organisations in complex environments, such as the improvement of intellectual capital, by encouraging the exchange and creation of knowledge within an organisation. This is because knowledge is the key factor for achieving continuous innovation at both individual and organisational levels. It is also examined a closely related factor for the progress of any individual or organisation, hence it is an essential indicator to be studied in the KS on individual IWB in university settings. KSB can be defined as the process involving the exchange of knowledge between individuals and groups of people (Davenport and Prusak 1998). The authors develop the measurement of KSB by the frequency of knowledge dissemination that can also be beneficial for an organisation in general, a university setting in particular. In turn, KS is relied upon knowledge management, which is a necessary activity in all businesses. Any KS practice occurring within organisations between its employees will always be based on both knowledge-giving and knowledge-receiving. KM is a broader term that caters to a wide range of topics, while KS is a specific focus area of KM (Hendriks 1999). KS, when performed in conjunction with other aspects of the step-by-step process of KM (creation, storage, sharing, and application) can fulfil a strategic necessity for organisations that wish to improve their capabilities and performance (Lee and Hong 2002).

## **3 Research Model and Hypotheses**

### **3.1 The Development of Research Conceptual Model**

KSB is related to the employees' willingness of sharing their knowledge with the others in the organisation (Hsu et al. 2007). Previous studies have emphasised several factors that impact personal willingness of KS including subjective norm, trust, psychological ownership, and motivation (e.g., Hsu et al. 2007; Lin 2007b). Thus, the study could rationally suppose that employee' behaviour for KS would be leaded by individual perceptions and social influences. This paper proposes the model based

on Bandura’s SCT (1986) (see Figure 1). In SCT model, environmental influences, personal factors, and behaviour act as interactive relationships (Wood and Bandura 1989). Bandura (2002) explains the main concepts of SCT by the “triadic reciprocal causation” as follows: (1) Environmental influences that influence the personal capacity to successfully fulfil the behaviour; (2) Personal factors determine whether a person has low or high knowledge self-efficacy leads to his/her behaviour and; (3) Behaviour is the response which a person gains after his/her performing a certain behaviour. This research focuses on the exploration of the role of the environmental and personal factors on individual behaviours. Table 1 presents the summary of the prior research models.

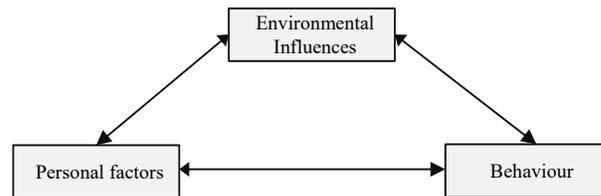


Figure 1. The interactions between environment, person and behavior (Bandura 1986).

Related Literature	Subjective Norm	Trust	Self-Efficacy	EHO	Rewards	Reciprocity	POK	KS	IWB
Hsu et al. (2007)		✓	✓			✓		✓	
Lin et. al (2009)		✓	✓					✓	
Bock et al. (2005)	✓								
Lin (2007b)			✓	✓	✓	✓			
Janssen (2000)					✓				✓
Dong et al. (2010)	✓	✓			✓			✓	
Lin (2007a)			✓		✓			✓	
Yu et al. (2013)								✓	✓
Akhavan et al. (2015)	✓							✓	✓
Han et al. (2010)							✓	✓	

Table 1: Dimensions of environmental and personal factors, KS and IWB across studies.

The proposed conceptual model consists of nine main constructs, including two environmental factors, five personal factors, KSB and IWB (Figure 2). Each of them is described as follows.

- Subjective norms: “The extent to which an individual perceives whether social pressure will influence the performance of KS behaviour” (Ajzen 1991).
- Trust: Refers to “The extent of belief in good behaviours, competence, and reliability of members with respect to sharing knowledge in the organisation” (Lee and Choi 2003).
- Knowledge self-efficacy: “The extent of confidence in employees’ ability to sharing knowledge that is important to the organisation” (Lin et al. 2009).
- Enjoyment in helping others: Refers to “Knowledge workers who derive enjoyment from helping others may be more favourable oriented toward KS and more inclined to share knowledge” (Lin 2007a).
- Organisational rewards: Refers to “The degree to which a reward system to share any new and creative ideas and effectiveness KS” (Lin 2007a).
- Reciprocal benefits: “Reciprocal benefit is a form of conditional benefit; that is, individual expect future benefits from his or her present actions” (Hung et al. 2011).
- Psychological ownership of knowledge (POK): “The extent to which individuals believe on the possession and are responsible towards the knowledge they possess” (Han et al. 2010).
- Knowledge sharing behaviour: The extent to which a person performs KS activities in the organization (Davenport and Prusak 1998; Lin et al. 2009).

- Innovative work behaviour: “The extent to which employees behave to create, promote, and implement new ideas in an group or organisation” (Janssen 2000).

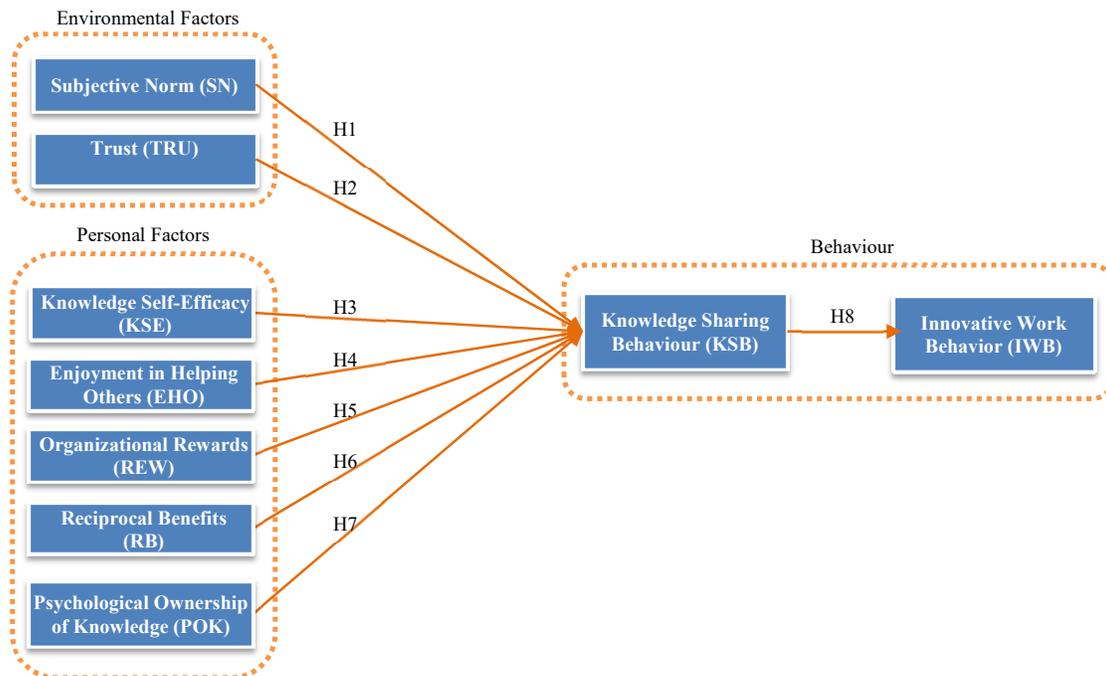


Figure 2. The proposed research model showing factors based on SCT

## 3.2 Hypothesis Development

### *Social influences*

According to Ajzen (1991), the subjective norm is a social factor which can be described as the extent to which a person perceives social pressure to perform or not to perform certain behaviour. Subjective norm has acquired significant practical support as an important antecedent to behavioural (Bock et al. 2005). Hee (2000) emphasised the impact of others who are important to the employee such as “close friends, relatives, colleagues, or business partners.”. Subjective norm shows personal emotion regarding the social pressure they perceive about given behaviours surrounding them. Also, Employees with positive subjective norms lead to given behaviours than the concerned behaviour intentions would be more positive in KS. Therefore, we hypothesise that.

**H1:** Subjective norm has a positive impact on knowledge sharing behaviour.

Trust can be defined as “maintaining reciprocal faith in each other in terms of intention and behaviours” (Lee and Choi 2003). It may encourage the exchange of knowledge to be substantive, influential, and open (Lee and Choi 2003). Trust affects KS decisions and with trust, a person becomes less willing to share knowledge with others (Davenport and Prusak 1998). According to Nonaka (1994) interpersonal trust is a key factor in teams, groups and organisations to establishing an environment for KS. Employees are more willing to engage into KS when they have a high level of trust in their relationships (Lee and Choi 2003). Thus, interpersonal trust increases individuals’ tendency to participate in KS practices (Fukuyama 1995). Therefore, we hypothesise that:

**H2:** Trust has a positive impact on knowledge sharing behaviour.

### *Personal perceptions*

According to Lin (2007a), “Knowledge self-efficacy is an individual’s judgment of his or her ability to organize and execute successful performance in everyday tasks”. The individual’s sense of self-efficacy is affected by the tendency of individuals to take actions such as level of problems, expressed interest, persistence and task effort (Hsu et al. 2007). Lin’s study shows that knowledge sharing contributions improve an organization’s performance if staff increase their willingness to give and receive knowledge (Lin 2007a). Therefore, we hypothesise that:

**H3:** Knowledge self-efficacy has a positive impact on knowledge sharing behaviour.

Prior research shows that employees are inherently interested in giving knowledge because of the enjoyment acquired from helping others (Wasko and Faraj 2005). Thus, employees is likely more favourably oriented toward sharing their knowledge in terms of both giving and receiving (Lin 2007a). Therefore, we hypothesise that:

**H4:** Enjoyment in helping others has a positive impact on knowledge sharing behaviour.

Providing incentives and rewards to motivate staff to contribute in knowledge sharing adoption are recommended (Wong 1989). Employees who share their knowledge may improve team performance and consecutively increase the personal rewards received. Incentives and rewards encourage staff to share knowledge (Bock et al. 2005). Organizational rewards point out what the organizational values form individual behaviours (Lin 2007a). Organisational rewards can vary according to the organization policies from monetary incentives to non-monetary awards (Davenport and Prusak 1998; Lin 2007a). Therefore, we hypothesise that:

**H5:** Organisational rewards has a positive impact on knowledge sharing behaviour.

Reciprocal benefit is a form of conditional benefit; that is, the individual expects future benefits from his or her present actions. It means that an action is done in response to prior friendly behaviours (Hung et al. 2011). Many researchers have conducted detailed analyses of reciprocity and indicated that it can be valuable to knowledge contributors as they anticipate future help from others (Hung et al. 2011). Also, studies have investigated that reciprocity can yield an effective motivation to encourage KS and consequently establish long-term mutual cooperation (Lin 2007b). Thus, people who expect reciprocity from other members through sharing their knowledge will share more useful and creative ideas and their satisfaction with the meeting will be higher KS intentions (Hung et al. 2011; Lin 2007b). Therefore, we hypothesise that:

**H6:** Reciprocal benefits has a positive impact on knowledge sharing behaviour.

Psychological ownership of knowledge (POK) can be described as the degree to which people believe on the possession and are responsible towards the knowledge they possess (Pierce et al. 2001). That is, POK explains the feeling of possession linking to knowledge in a psychological sense that makes persons regard intangible/tangible objectives as an addition of themselves (Han et al. 2010). Van Dyne and Pierce (2004) found that the POK can stimulate an altruistic spirit, supporting to extra-role behaviour such as KSB and individuals who have a sense of POK may display a sense of belonging which impacts altruistic spirit and which influences KSB. Thereby, POK is conducive to KSB on the part of individuals. Therefore, we hypothesise that:

**H7:** POK has a positive impact on knowledge sharing behaviour.

#### *Knowledge sharing behaviour and Innovative work behaviour*

It is undoubtedly that one's capability of transferring and utilising knowledge may encourage his or her level of individual innovation, for example, quick problem-solving capacity and improved faster reaction to novel challenges. Several academics highlighted the essential of KS to improve individual IWB (Akhavan et al 2015; Yu et al. 2013). Effective knowledge processes can create important organizational intellectual capital and intangible resources to improve performance (Nold 2012). For example, when an employee transfers tacit knowledge into explicit knowledge, the entire organisation will benefit from it (Han et al. 2010). This shows that when organizations manage their knowledge assets better, they will then have a greater chance of better performance in both organisational and individual levels (Han et al. 2010; Kowal and Fortier 1999). This research expects that individual willingness of sharing knowledge with others is likely to sustain IWB. Therefore, we hypothesise that.

**H8:** Knowledge sharing behaviour positively impacts innovative work behaviour.

## **4 Research methodology**

### **4.1 Sample and data collection**

The questionnaire survey was conducted to accomplish the research goal with the sample of academic staff in the 24 departments at Hanoi University – HANU, a public university in Vietnam, from October 2016 to December 2016. After being developed from the reviewed literature, the comparability of the English and Vietnamese versions of the questionnaire was double checked by two language experts. In order to get high response rate of the survey, the researcher met all leaders of respective departments at HANU to introduce the research and determine the possible number of participants of their

departments. Then, the questionnaire with a cover letter was delivered to and collected from the participants by the administrative staff of respective departments. Of the 320 questionnaires has been distributed, 258 questionnaires were returned, representing a high response rate of 81 percent. It is crucial to note that incomplete responses were considered in a serious manner and hence, excluded from the study. Only 10 out of 258 attempted responses had missing values, as some substantial sections were incomplete. The exclusion of these 10 responses was acceptable as they accounted for only 4 per cent of the total, and did not significantly affect the sample size. The final useable returned questionnaire was, therefore, 248 (N = 248).

## 4.2 Measures

In this study, the existing measures from prior studies were used for the questionnaire. All items were primary adopted/adapted for use in the KS context in Vietnam. All indicator variables were measured using a five-point Likert-type scale (ranging from 1 = never to 5 = always or 1 = strongly disagree to 5 = strongly agree). Organisational rewards was measured by four items adapted from Bock et al. (2005). A six-item scale adapted from Lin et al. (2009) was used to measure trust. Moreover, reciprocal benefits was measured using three items adapted from Lin (2007a). A four-item scale adapted from Lin (2007a) was used to measure enjoyment in helping others. A five-item scale measuring psychological ownership of knowledge was adapted from Van Dyne and Pierce (2004) and Han et al. (2010). Additionally, subjective norm was measured through three items adapted from Bock et al. (2005). A four-item scale was adapted to measure knowledge self-efficacy based on Lin (2007a). Furthermore, KSB was measured by five items adapted from an examination Lin et al. (2009). Finally, nine items adapted from Janssen (2000) was used to measure IWB.

## 4.3 Data analysis and results

This study used the structural equation modelling (SEM) technique to examine the causal relationships of the model for the current study (Hair et al. 2006). The rationale of this selection is due to its ability to validate causal relationship between constructs with multi-measurement predictors (Lin 2007a). This research follows a two-stage approach to SEM which combines the measurement model for instrument validation (CFA) and the structural model (regression model) for evaluating associations hypothesised in the model (Mulaik et al. 1989). A pilot study was operated to find and fix any issues of the questionnaire that required to be revised before delivering in the large sample size. The following sections will described the results from these stages of SEM.

### 4.3.1 Measurement Model

The measurement model, consists of nine constructs, has been assessed through confirmatory factor analysis (CFA). It was assessed in AMOS by evaluating internal consistency, convergent validity and discriminant validity (Othman 2014). The internal consistencies (Cronbach's alpha) of all predictors were higher than the adequate benchmark of 0.60 except the REW construct with 0.307 (Malhotra 2008). The value of the item-total correlation should be greater than 0.3 to indicate that the variable belongs to the expected scale (Pallant 2010). From the results show in Table 2, the values of the item-total correlations for the following items: TRU1, KSE3, EHO3, POK2 and POK5 are 0.144, 0.080, 0.102, 0.175 and 0.130 respectively (less than 0.3), accordingly; it is suggested to remove these indicators and REW construct with four items before continuing further analysis steps.

Measurement Scale	N of Items	Cronbach's Alpha ( $\alpha$ )	Original value of ( $\alpha$ )	Deleted Items
Subjective norm (SN)	3	0.763		
Trust (TRU)	5	0.827	0.760	TRU1
Knowledge self-efficacy (KSE)	3	0.693	0.556	KSE3
Enjoyment in helping others (EHO)	3	0.829	0.655	EHO3
Organizational rewards (REW)	4	0.307		
Reciprocal benefits (RB)	3	0.735		
Psychological ownership of knowledge (POK)	3	0.696	0.408; 0.604	POK5; POK2
Knowledge sharing behavior (KSB)	5	0.869		
Innovative work behavior (IWB)	9	0.799		

*Table 2: Cronbach's alpha of the measurement scales*

**Note:** The original value of Cronbach's alpha for the scales before deleting the items if needed.

The following assessment criteria for the validation of the model fit, the convergent and discriminant validity have been used for this study:

- Model fit indices:  $\chi^2/df < 3.0$ ; GFI, TLI, CFI, and IFI  $> 0.90$ ; and RMSEA  $< 0.08$  (Hair et al. 2006; Kline 2011; Othman 2014);
- Convergent validity: factor loadings  $> 0.50$ ; t-values  $> 1.96$  (significant at  $p < 0.05$  level); and  $R^2 > 0.50$  (Koufteros 1999; Hair et al. 2006; Othman 2014);

The combination of the results indicated that measurement model was not exhibited an acceptable level of model fit:  $\chi^2 = 1284.516$ ;  $df = 434$ ;  $\chi^2/df = 2.960$ ; GFI = 0.740; TLI = 0.786; CFI = 0.813; IFI = 0.815; RMSEA = 0.089. The construct POK was not significant because of a high errors level and a T-value of 0.485 - leading to insignificant path. It was suggested to eliminate the POK construct in the final model to improve the level of significance and the values of model fit indices because all the predictors received a significant loading ( $p < 0.001$ ) on their constructs.

### 4.3.2 Structural Model

The next stage for the model assessment was to analyse the significance of each hypothesised path in the conceptual model (Lin 2007a). The results of the examination are presented in Figure 3 and summarised in Table 3. In hypotheses H1 and H2, this research evaluated the effects of environmental factors on KSB. The results indicated that both SN and TRU were found to have positive impact on KSB, supporting hypotheses H1 and H2. Moreover, regarding personal factors, KSE, EHO and RB were found to be influential in KSB, supporting H3, H4 and H6 respectively. However, hypothesis H7 was not supported in which the results show that POK had insignificant relationship with KSB. Finally, the influence of IWB was found to be strongly positively related to KSB, supporting hypotheses H8.

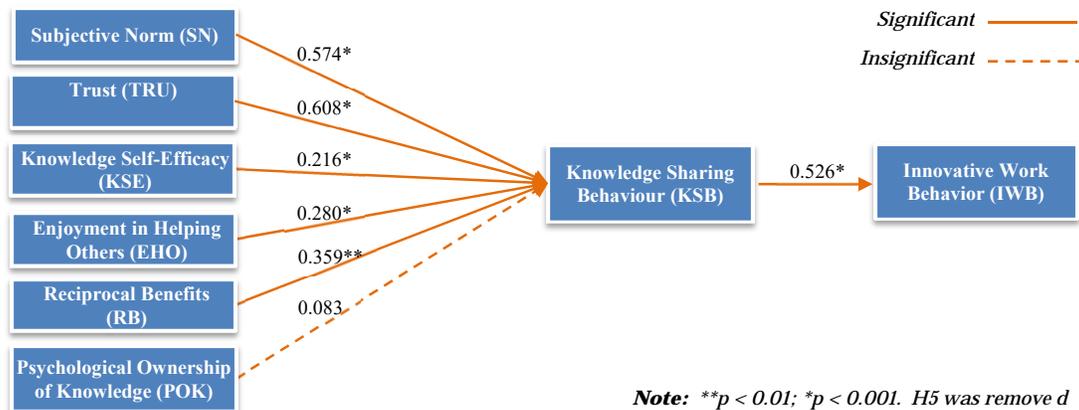


Figure 3. The final findings of structural model (Final model)

Hypothesis	Hypothesised path	Path coefficient	Results
H1	SN → KSB	0.574***	Supported
H2	TRU → KSB	0.608***	Supported
H3	KSE → KSB	0.216***	Supported
H4	EHO → KSB	0.280***	Supported
H5	REW → KSB	Path removed from the final model	Not tested
H6	RB → KSB	0.359**	Supported
H7	POK → KSB	0.083	Not supported
H8	KSB → IWB	0.526***	Supported

Table 3: The results of structural model

**Note:** \*\*p < 0.01; \*\*\*p < 0.001.

## 5 Discussion and Conclusion

The current research is interesting to both academia and practitioners. From a theoretical perspective, a research model has been proposed for empirical studies to link environmental factors, personal factors with knowledge sharing behaviour (KSB) with innovative work behaviour (IWB). By using a SEM approach, the findings of study yield fairly a strong support for the hypothesised paths. The results show that two environmental factors (subjective norm, trust) and three personal factors (knowledge self-efficacy, enjoyment in helping others and reciprocity) significantly influence KSB. The results also point out that individual willingness to share knowledge enable the organisation to promote IWB. Practically, the investigation of relationships among personal perceptions and social influences, KSB, and IWB may bring a clue with regard to how organisations can develop the KS culture to encourage their employee IWB.

### Implications

A clear understanding of the critical factors influence KSB toward promoting IWB may help managers to develop suitable and evolving strategies to address the challenges of knowledge sharing. This paper recommends the following implications for managers to develop knowledge sharing strategies more effectively in their organisations. First, the results confirm that environment factors (subjective norm, trust) are associated with KSB. Therefore, subjective norm significantly influenced employee KSB. Managers should increase the level of social pressure on sharing knowledge by who are important to the employee as they encourage them are more likely to be positive in KS. Moreover, managers need to strengthen trust between colleagues due to when they have a high level of trust in their relationships are more willing to engage into KS. Second, personal factors (knowledge self-efficacy, enjoyment in helping others and reciprocity) has positive impact on KSB. Leaders should concentrate on improving the positive mood state of individuals with regards to social exchange which foregoes KS activities. Also, it is necessary for managers to pay more attention in providing beneficial feedback to enhance the knowledge self-efficacy of employees. Additionally, the findings indicate that people who feel enjoyment in sharing knowledge and consequently helping their colleagues tend to be more motivated to share knowledge. Regarding reciprocal benefit, employee expects reciprocity from their colleagues when they share their knowledge. The results show that psychological ownership of knowledge has not significant influence on KSB as people have a high level of knowledge ownership may not be willing to share their knowledge with others. Organizational rewards are not related to KSB. Therefore, managers should not emphasise organizational rewards with salary incentive, bonuses, promotion incentive, or job security as a major KS mechanism as extrinsic rewards ensure temporary compliance (Lin 2007a). In other words, extrinsic motivation may bring temporary incentives for KS, but is not primary push shaping individual KSB (Lin 2007a). Finally, our proposed research model is expected to be tested in any organisations in which future researchers or practitioners wish to test this model.

### Limitations and directions for future work

The study context was limited to only one Vietnamese university. It appears that it is likely to be lost the part of a bigger picture of KS in organisations in Vietnam. However, given the previous studies on knowledge sharing in both developed and developing countries (Van den Hooff and Van Weenen 2004; Lin 2007a), it could be expected that the results of this study may be taken forward by university leaderships, academic staff and researchers in other contexts as well. Moreover, by limiting time and financial restrictions, there was not a comparative research attempted for other similar or different contexts in other developed or developing countries. Thus, future work should be fulfilled this gap. Furthermore, future work may be needed to investigate the differences among staff roles or disciplines regarding innovative initiative experience, such as leaders of divisions, leaders of departments and leaders of the organisation or staff from social and technical areas. Finally, the qualitative interviews should be undertaken to validate the quantitative results. It is because the use of different data sources and approaches can strengthen the validity of the findings (Mertens 2010).

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