

Knowledge Sharing Behavior in Vietnam Telecommunication Companies

¹Thi Phuong Linh Nguyen, ²Huu Hai Do, ³Phong Tuan Nham, ⁴Minh Hai Nguyen and
⁵Thi Tuyet Mai Nguyen

¹Faculty of Business Management, National Economics University, Hanoi, Vietnam

²Information Technology Institute, Vietnam National University, Hanoi, Vietnam

³University of Economics and Business, Vietnam National University, Hanoi, Vietnam

⁴Banking University Ho Chi Minh City, Vietnam

⁵Vietnam University of Commerce, Vietnam-griffith Business School, Queensland, Australia

Abstract: This study explores the relationship between several factors and attitude toward knowledge sharing; attitude toward knowledge sharing and intention to share knowledge; intention to share knowledge and two processes of knowledge donation and collection; the level of information and communication technology and two processes of knowledge donation and collection. Data is collected from 234 employees of some departments such as research and development, technology and so on of Vietnam telecommunication companies in order to test the hypotheses by Structural Equation Modeling (SEM). Most of the hypotheses are supported, only two hypotheses about the relationship between rewards and attitude toward knowledge sharing; the level of information and communication technology and knowledge donation are rejected. The study gives several suggestions for academics as well as practitioners in the telecommunication companies in promoting knowledge sharing behavior.

Key words: Knowledge sharing, attitude toward knowledge sharing, intention to share knowledge, knowledge donation, collection

INTRODUCTION

Today's economy has shown the importance of knowledge and intellectual capital to organizations. In order to gain a competitive advantage, organizations should leverage their knowledge-related competencies (Kankanhalli *et al.*, 2005). Knowledge Management (KM) can improve organizational innovation and play a significant role in the organisation's success (Nonaka and Takeuchi, 1995). Knowledge sharing is seen as one of the essential processes for knowledge management. Knowledge, especially tacit knowledge is difficult to be shared particularly whenever the individual refused to do so. Knowledge sharing is being studied by domestic and foreign researchers. These studies have contributed both in theory and practice of knowledge sharing; focused on understanding the attitudes about knowledge sharing; factors affecting knowledge sharing behavior and making proposals to promote knowledge sharing within organizations. However, the study of knowledge sharing in enterprises in each field is still open. Every field of study has its own characteristics; the attitudes, intentions and knowledge sharing behavior of employees in each different sector should be explored.

The shifting winds of change in today's business environment where the marketplace is increasingly competitive and the rate of innovation is going up, together with the pressure of the emergence of worldwide knowledge-based economy, have made telecommunication organizations realize that knowledge is their key asset (Snyman and Kruger, 2004). On entering the new knowledge-based economy, telecommunication organizations face more severe competition in the worldwide marketplace than ever before. Know-how, process and practice have thus become the important source (Seng and Lin, 2004) for this industry.

In Vietnam, the telecommunication industry has rapid growth, the development usually focuses on width and do not pay attention to the depth and thus knowledge sharing is one of solutions for these companies to grow lasting. Research on knowledge sharing in the telecommunication sector in Vietnam today has not been much and the lack of studies on the attitudes and intention to share knowledge as well as knowledge sharing behavior of employees in this area. Therefore, this research will focus on understanding of the impact on the attitudes of and intentions towards knowledge sharing as

well as knowledge sharing behavior in telecommunication companies in Vietnam. Finally, based on analysis results, some suggestions for academics and managers of telecommunication companies are given to boost knowledge sharing.

Theoretical background and hypothesis development

Knowledge sharing: Knowledge sharing is a core issue of knowledge management. Tuomi defined knowledge sharing as the readiness of someone within an organization to publish the knowledge he has with others. Knowledge sharing is a social process that takes place through the interaction and communication between individuals. Lee (2001) defined knowledge sharing as the activities that involve transferring knowledge whether tacit or implicit knowledge from one person, group or organization to another. De Vries *et al.* (2006) denoted that knowledge sharing as the process of giving and receiving knowledge. It is also the process of exchange data, information, know-how, skills, feedback and expertise regarding products, procedures and processes (Matthew and Cheung, 2008).

Knowledge sharing related to different individuals at different levels within the organization; the sharing done between individuals or between individuals and groups. This process assumes that at least two parties: one party distributes or conveys knowledge while the other is to acquire and collect knowledge (Van de Hooff and De Ridder, 2004; Vithessonthi, 2008). Weggeman (2000) also studied the difference between the two processes, including: knowledge donation is share of knowledge with others; knowledge collection is consulting their colleagues to share their February 11, 2017 own intellectual capital.

Van de Hooff and De Ridder (2004) defined knowledge sharing is the process by which individuals exchange of knowledge (both tacit and explicit knowledge) to each other and work together to create new knowledge and they also distinguish between two central processes of knowledge sharing behavior which are knowledge donation and collection. The separation into two knowledge sharing process was not developed by Van de Hooff and De Ridder (2004) from the beginning but in reality, Van de Hooff and De Ridder (2004) looked at from three previous studies which mentioned two basic processes in the structure of knowledge sharing: the study of Weggeman (2000) and Ardichvill *et al.* (2003). Some recent studies also inherited by the previous scholars about the concept of knowledge sharing behavior of two central processes which are knowledge donation and collection, including: knowledge donating,

communicating to others what one's personal intellectual capital is and knowledge collecting, consulting colleagues in order to get them to share their intellectual capital.

Factors affecting knowledge sharing: At the individual level, some of the barriers identified by Riege (2005) are general lack of time to share knowledge, apprehension of fear for job security, low awareness on the benefits of knowledge sharing, dominance in sharing explicit knowledge over tacit knowledge, use of strong hierarchy/formal power, differences in experience level, lack of contact time and interaction, poor verbal and interpersonal skills, age differences, gender differences, lack of social network, difference in education levels, lack of trust in people, fear of not receiving recognition, lack of trust in knowledge source accuracy and cultural differences. Although motivation and expertise might account for individual participation in knowledge sharing (Wang and Lai, 2006) it is not always easy to predict when and why employees share their knowledge (Duguid, 2005). Therefore, individual factors are also among those key elements that need to be considered while studying knowledge sharing behaviour (Nonaka, 1994; Constant *et al.*, 1994; Jarvenpaa and Staples, 2000; Bock *et al.*, 2005; Wasko and Faraj, 2000; Kankanhalli *et al.*, 2005; Kuo and Young, 2008).

At the organizational level, Riege (2005) outlined several major organizational barriers to knowledge sharing as lack of leadership and managerial direction, shortage of formal and informal spaces, lack of transparent rewards and recognition system, unsupportive corporate culture, low priority on knowledge retention on experienced staffs, shortage of appropriate infrastructure, deficiency of company resources for adequate knowledge sharing practices, competition with business units/functional areas/subsidiaries, restricted communication and knowledge flows, restrictive work environment/layout of work area, hierarchical organization structure and size of business unit. Another factor that seems to have a considerable impact on knowledge sharing is organizational climate. To some practitioners, creating a knowledge sharing culture is one of the main concerns when devising a knowledge management (Reid, 2003). Without a proper atmosphere in organizations, other attempts to share knowledge might be pointless. Furthermore, the lack of an aspiring culture to communicate and explore new ideas may become a major barrier to knowledge sharing (Sun and Scott, 2005).

The technology barriers are lack of integration of Information Technology (IT) systems/processes, lack of technical support, lack of maintenance of integrated IT

systems, people's unrealistic expectation on IT, lack of compatibility between diverse IT systems/processes, restriction due to mismatch between need requirements and IT system, people's reluctance to use IT systems and lack of training for familiarization of IT systems and processes (Riege, 2005) IT is considered as one of the decisive factors in knowledge sharing. A number of reasons count for this such as the growing recognition of knowledge work, the ever-increasing complexity of jobs and also the speed of changes occurring around us (Huysman and Wulf, 2006). As one of the potential influences on knowledge sharing, IT has been examined in many researches (Jarvenpaa and Staples, 2000; Huysman and Wulf, 2006). In a study conducted by Jarvenpaa and Staples (2000), individuals strongly believed that the use of computer-based information systems and electronic media contributed to providing valuable information.

Research model and hypotheses: Enjoyment in helping others as it derived from the concept of altruism is the opposite of selfishness; it is the belief in or practice of disinterested and the selfless concern for the well-being of others (Lin, 2007). Osterloh and Frey (2000) have argued that knowledge sharing activity is motivated by one's own intrinsic motivations. Therefore, the first hypothesis is proposed:

- H₁: Enjoyment in helping others has a positive effect with attitude towards knowledge sharing

Self-efficacy is defined as "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations" (Bandura, 1997). Ormrod (2006) defined self-efficacy as a person's belief about his abilities to perform in a certain manner or obtain certain goals. Recently, the concept of self-efficacy has been applied to knowledge management to validate the effect of personal efficacy belief on knowledge sharing. Therefore, the second hypothesis is proposed:

- H₂: Knowledge self-efficacy has a positive effect with attitude towards knowledge sharing

Management support for knowledge sharing has been shown to be positively associated with employee's perceptions of a knowledge sharing culture and willingness to share knowledge (Connelly and Kelloway, 2003; Lin, 2007). Lin (2007) states that, availability of management's support can help the employees getting positive awareness towards knowledge sharing. As a result, the third hypothesis is proposed:

- H₃: Management support has a positive effect with attitude towards knowledge sharing

Chaudhry (2005) claims reward and incentive as inspiring factors for knowledge sharing. Rewards and incentives will expand a helpful approach for information sharing and make an organizational culture values the information sharing practices (Cantoni *et al.*, 2001). Therefore, the fourth hypothesis is proposed:

- H₄: Reward has a positive effect with attitude towards knowledge sharing

Ajzen and Fishbein (1980) believe that attitude has an influence on behavioral intentions. Attitudes can be a mediator between personal factors and knowledge sharing intention (De Vries *et al.*, 2006). Attitudes influence a person's evaluation of a particular behavior (Blue *et al.*, 2001). Hence, the fifth hypothesis is proposed:

- H₅: Attitude towards knowledge sharing has a positive effect with intention to share knowledge

People's intention to share knowledge is a determiner of desired behavior (Ryu *et al.*, 2003). As a major element in the TPB framework, intention to share knowledge can have a significant effect on knowledge sharing behavior. Findings of previous studies show the positive effect of intention on knowledge sharing behavior (Lin and Lee, 2004). As a result, we propose the following hypotheses:

- H_{6a}: Intention to share knowledge will positively influence knowledge donation
- H_{6b}: Intention to share knowledge will positively influence knowledge collection

By improving access to knowledge and removing temporal and spatial obstacles between knowledge workers, Information and Communication Technology (ICT) can enhance knowledge sharing levels (Hendriks, 1999). ICT and its ability to spread knowledge across different units of an organization may allow a better understanding of the complex organizational environment (Coakes, 2006). Thus, we propose the last two hypotheses:

- H_{7a}: The level of ICT usage will positively influence knowledge donation
- H_{7b}: The level of ICT usage will positively influence knowledge collection

The purpose of this study was to explore the relationship between several factors and attitude toward knowledge sharing; attitude toward knowledge sharing

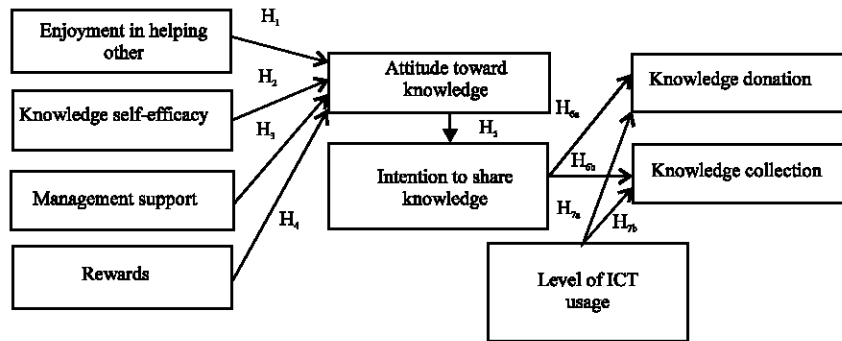


Fig. 1: The research model and hypotheses

and intention to share knowledge; intention to share knowledge and two processes of knowledge donation and collection; the level of information and communication technology usage and two processes of knowledge donation and collection. Therefore, we propose research model (Fig. 1) resulted from a review of previous theories and studies.

MATERIALS AND METHODS

Data and sample: Research conducted in-depth interviews of 10 people from a number of telecommunication enterprises in the city of Hanoi to preliminarily evaluate and adjust the scales used for this research. Based on the results of in-depth interviews, the authors conducted the survey built to serve large-scale investigation. Before conducting the survey on a large scale, the survey was sent to 25 telecommunications employees to test. Questionnaire survey was used to collect data from the selected departments in the telecommunication companies. The questionnaire is formed on the basis of scale variables used in the previous studies. Nine factors in the model with the observed variables (items) inherited from previous studie have added some items by the researchers (Table 1). These items are measured by using a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

The list of telecommunication organizations was obtained from an online page (YellowPages: http://yellowpages.vnn.vn/business/category_listings.asp?classcode=235590). Most of them comprise of medium to large-sized organizations which include local and multinational telecommunication corporations. Respondents are employees in some telecommunication companies such as Viettel Telecom, Vinaphone, Mobifone, FPT in Hanoi, Hai Duong, Hoa Binh, Da Nang and Ho Chi Minh. These employees are working at some departments which are related to research and development, technology and so on. The researchers

investigated through questionnaires sent directly and via the Internet (email, social networks and forums) thanks to google docs tool. Time to collect data was from April to June 2015. The results were 83 direct and 178 online questionnaires. After screening the invalid questionnaires due to lack of information and unreliability, the authors collected 234 valid questionnaires to use for analysis.

Analysis methods

Reliability analysis: This method assists analysts in removing irrelevant variables. It also helps evaluating the reliability of the measurement by Cronbach alpha coefficient. Variables which have item-total correlation less than 0.3 will be removed. Measurements with Cronbach alpha being ≥ 0.6 can be deployed (Nunnally, 1978; Peterson, 1994) Normally, measurements with Cronbach alpha from 0.7 to 0.8 will be used. Many researchers assume that those which have the reliability from 0.8 to nearly 1.0 are acceptable measurements.

Exploratory Factor Analysis (EFA): After assessing the reliability of measurements by Cronbach alpha coefficient and removing unreliable variables, exploratory factor analysis will be used to reduce and summarize the data. This method is very useful in determining the variable set necessary for the research as well as in finding the relationship between variables. In exploratory factor analysis, the KMO index (Kaise-Meyer-Olkin) is deployed to indicate the suitability of factor analysis. If the KMO index lies between 0.5 and 1, the analysis is suitable.

In addition, factor analysis depends on Eigenvalue in determining the number of factors. Only factors with Eigenvalue < 1 are kept in the model. Eigenvalue represents the varying element explained by factors. One significant part of the factor analysis result table is the component matrix or rotated component matrix. This component matrix contains coefficients representing standardized variables by factors (each variable is a

Table 1: Factors and their items

Factors	Sources	Items	Symbols
Enjoyment in helping others (En)	Hsiu and Chiu (2004)	I enjoy sharing my knowledge with colleagues	En1
		I enjoy helping colleagues by sharing my knowledge	En2
		It feels good to help someone by sharing my knowledge	En3
Knowledge Self-efficacy (Se)	Zahra and Mohammad (2010)	Sharing my knowledge with colleagues is pleasurable	En4
		My knowledge sharing would help other members in the organization to solve their problems	Se1
		My knowledge sharing would help the organization achieve its performance objectives	Se2
		My knowledge sharing would create new business opportunities for the organization	Se3
		My knowledge sharing would improve work process in the organization	Se4
Management support	Hsiu and Chiu (2007)	My knowledge sharing would help the organization achieve its performance objectives	Se5
		Managers think that encouraging knowledge sharing with colleagues is beneficial	Ma1
		Managers always support and encourage employees to share their knowledge with colleagues	Ma2
		Managers provide most of the necessary help and resources to enable employees to share knowledge	Ma3
		Managers are keen to see that the employees are happy to share their knowledge with colleagues	Ma4
Rewards (Re)	Srivastava <i>et al.</i> (2006) and Sveiby (2001)	I receive recognition from the top management for sharing my ideas and knowledge with my colleagues	Re1
		I will receive higher bonus for sharing knowledge	Re2
		There are promotion opportunities for me if I share my experience and knowledge with my colleagues	Re3
		There are promotion opportunities for me if I share my experience and knowledge with external stakeholders	Re4
		I gain job security for supporting initiatives that foster knowledge creation	Re5
		I gain job security for supporting initiatives that foster knowledge dissemination	Re6
		I gain recognition from my colleagues for sharing my experience and knowledge	Re7
Attitude toward knowledge	Zahra and Mohammad (2010)	To me sharing knowledge with other organizational members is beneficial	At1
		To me sharing knowledge with other organizational member is good	At2
		To me knowledge sharing with other organizational members is an enjoyable experience	At3
		To me knowledge sharing with other organizational members is valuable	At4
		To me knowledge sharing with other organizational members is pleasant	At5
Intention to share knowledge (In)	Zahra and Mohammad (2010)	I intend to share my knowledge in the near future	In1
		I am likely to share my knowledge with my colleagues in future	In2
Knowledge Donation (Do)	Hsiu and Chiu (2004); Zahra and Mohammad (2010)	I will try to share my knowledge with my colleagues	In3
		I plan to share my knowledge with my colleagues	In4
		When I learn something new, I tell my colleagues about it	Do1
		I share the knowledge I have, with my colleagues	Do2
Knowledge collection(Co)	Hsiu and Chiu (2004); Zahra and Mohammad (2010)	I think it is important that my colleagues know what I am doing	Do3
		I regularly tell my colleagues what I am doing	Do4
		When I need certain knowledge, I ask my colleagues about it	Co1
		I like to be informed of what my colleagues know	Co2
		I ask my colleagues about their abilities when I need to learn something	Co3
Level of ICT usage (Te)	Argyris and Schon (1978); Duncan (1972) and Teece (1998)	When one of my colleagues is good at something	Co4
		I ask him/her to teach me how to do that thing	Co5
		I admit that I have spirit of learning on the job*	Co6
		Accumulating knowledge is my goal in the current job position*	Te1
		Our organization introduces new technology platforms that enable knowledge sharing for more effective operations	Te2
		Our organization has expertise in the usage and maintenance of critical information infrastructure, e.g., intranet, extranet, groupware	Te3
		Our information systems infrastructure is updated regularly to facilitate effective knowledge sharing and creation	

Table 1: Continue

Factors	Sources	Items	Symbol
		Our extranet systems facilitate coordination of tasks between our organization and our stakeholders	Te4
		Social network systems enable the search and sharing of ideas and information within the organization and with our stakeholders	Te5
		Our groupware systems enable knowledge sharing among employees	Te6
		Our intranet systems enable the sharing of ideas and critical documents	Te7

polynomial of factors). Factor loading coefficients show the link between variables and factors. Those coefficients reveal how close the relationship between variables and factors is. As the research uses factor extraction-principal component method, factor loading coefficients must have weights >0.5.

Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM): Having explored the factor structure of the research through EFA, a pattern of dimensionality was evident. Therefore, it is appropriate to test that structure using CFA (Netemeyer *et al.*, 2003). The measurement model was estimated first to examine the loading of measures to their respective factors and to inspect the correlations among the nine latent factors. The next step was to test a measurement model including all factors of the research. To establish construct validity, the researcher examined the relationship between the items and their latent constructs, as well as correlations between the nine constructs. The results of the measurement model test determine how well the indicators capture their specified constructs (Hair *et al.*, 1998).

RESULTS AND DISCUSSION

Descriptive statistics: The demographic characteristics of the sample are presented in Table 2. The gender of the respondents: 69.23% questionnaire was answered by men; 30.77 % of questionnaire was answered by women. Regarding the age of the respondents: 56.84% respondents aged 20-30 years old; 43.16% of subjects remaining respondents aged 31-45 years old. Regarding education level of respondents: 83.76% of respondents have qualified College/University; the remaining 16.24% of respondents had postgraduate qualifications. On work experience of the respondents: 20.94% of respondents have work experience from 1-5 year; 51.71% of respondents have experience working from 6-10 years; 27.12% of respondents have work experience from 11-15 year. Of the 234 valid questionnaires, no respondent had experience working under 1 year or over 15 year.

Reliability test: The reliability test is used to confirm whether the determine measures can be employed as representation of the global independent and its

Table 2: Characteristics of the sample

Category	No. of respondents	Percentages
Sex	234	100
Male	162	69.23
Female	72	30.77
Age	234	100
Under 20	0	0
From 20-30	133	56.84
From 31-45	101	43.16
From 46-60	0	0
Over 60	0	0
Education level	234	100
Lower secondary educational level	0	0
Upper secondary educational level	0	0
Professional secondary school	0	0
Graduate	196	83.76
Postgraduate	38	16.24
Work experience	234	100
Under 1 year	0	0
From 1-5 year	49	20.94
From 6-10 year	121	51.71
From 11-15 year	64	27.35
Over 15 year	0	0

sub-variables and global depend variable and its sub-variable. Cronbach's alpha coefficients are computed for each of the variables and Cronbach's alpha value is assumed to be at least 0.5 for all variables. Cronbach's alpha of each factor in the survey ranged from 0.640-0.898 (Table 3). All of these values are above 0.6, generally considered to be the lower limit of reliability (Hair *et al.*, 1998).

Exploratory Factor Analysis (EFA): To verify that this study data set is suitable for factor analysis, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy value should be 0.6 or above and the Barlett's test of sphericity value is significant, (i.e., 0.5 or <). KMO value of this research was 0.747 which falls in the range of being middling (Table 4). Bartlett's test was significant (p<0.05), reflecting the many correlation coefficients of 0.3 and above. In sum, the sample size is adequate for factor analysis and the factor analysis is appropriate.

The data in Table 3 show strong factor loading, ranging from 0.504 for In4 to 0.931 for Se4. Knowledge self-efficacy, management support, rewards, attitude toward knowledge sharing and intention to share knowledge had high reliability. Four items were deleted based on their strength of loading or cross loading: Re1, Re 5, Re7 and Do2. Cronbach's alpha ranged from 0.640

for enjoyment in helping others to 0.898 for knowledge self-efficacy and rewards. At the conclusion of the EFA process, the research comprised 42 items across nine factors.

Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM): The authors conducted factor analysis confirmed (CFA) to test the suitability of the model scale with the data collected. Results obtained that: $\chi^2/df = 1.555$; GFI = 0.669; TLI = 0.812; CFI = 0.825 and RMSEA = 0.069, showing scale of models being suitable for research data.

Structural Equation Modeling (SEM) was used to test the relationship between the scale of the theoretical model. Results are shown in Fig. 2 after adjusting the parameters: $\chi^2/df = 1.379$; GFI = 0.711; TLI = 0.872;

CFI = 0.882 and RMSEA = 0.057, showing that the theoretical model is appropriate for research data. Results of hypothesis testing in theoretical models are presented in Table 4.

Table 4 shows the results of testing hypotheses with path coefficient derived from structural equation modeling (SEM). The hypothesis is accepted as H₁, H₂, H₃, H₅, H_{6a}, H_{6b} and H_{7c}. Two hypotheses are removed due to the significant uncertainty hypothesis H₄ and H_{7a}.

The main purpose of this study was to determine the relationship between factors related to knowledge sharing behavior. After testing the hypotheses, there are several following discussions: enjoyment in helping others, knowledge self-efficacy and the support of management positively influence views on knowledge sharing. This result is consistent with several previous studies such as Hsu and Chiu (2004), Bock *et al.*, (2005), Lin and Lee (2004), Zahra and Mohammad (2010). When employees like myself to help others have confidence in the knowledge and the sharing of knowledge and encouragement received from the leaders, they will have a positive view on knowledge sharing, considered work that is actually useful.

Views on knowledge sharing have a positive influence to intention of sharing knowledge. The views in this study are considered as the perceived level of a person of knowledge sharing. Results derived consensus with several other studies on the relationship between views on knowledge sharing and knowledge sharing intentions such as Bock *et al.* (2005), Kuo and Young (2008). This totally means in practice when the employees have a positive view on knowledge sharing, it will lead to their intended knowledge sharing. The intention to share knowledge will positively affect knowledge donation and collection. This result is also shown in the study by Zahra and Mohammad (2010).

The level of information and communications technology positively affects knowledge collection. This finding has appeared in studies of Zahra and Mohammad (2010) to show that the infrastructure, platform and software technology are now used to positively influence the acquisition of knowledge staff.

Table 3: Factor loading and Cronbach's alpha within EFA

Factors	Items	Factor loading	Cronbach's alpha
Enjoyment in helping others	En1	0.914	0.640
	En2	0.733	
	En3	0.802	
	En4	0.771	
Knowledge self-efficacy	Se1	0.693	0.898
	Se2	0.702	
	Se3	0.925	
	Se4	0.931	
	Se5	0.899	
Management support	Ma1	0.713	0.884
	Ma2	0.820	
	Ma3	0.809	
	Ma4	0.789	
Rewards	Re2	0.892	0.898
	Re3	0.888	
	Re4	0.875	
	Re6	0.620	
Attitude toward knowledge sharing	At1	0.789	0.852
	At2	0.811	
	At3	0.842	
	At4	0.757	
	At5	0.657	
Intention to share knowledge	In1	0.850	0.871
	In2	0.858	
	In3	0.850	
	In4	0.504	
Knowledge donation	Do1	0.750	0.755
	Do3	0.743	
	Do4	0.808	
	Co1	0.746	
Knowledge collection	Co2	0.834	0.866
	Co3	0.909	
	Co4	0.836	
	Co5	0.763	
	Co6	0.712	
	Te1	0.657	
Te2	0.755		
Te3	0.862		
Te4	0.760		
Te5	0.707		
Te6	0.585		
Te7	0.519		

Table 4: Results of hypothesis testing

Variables	The average estimate	SD	Critical value	The level of significance
At-En	0.339	0.150	2.265	0.024
At-Se	0.215	0.093	2.303	0.021
At-Ma	0.184	0.108	1.705	0.038
At-Re	0.177	0.113	1.556	0.120
In-At	0.275	0.090	3.066	0.002
Do-In	0.990	0.314	3.154	0.002
Co-In	0.448	0.186	2.408	0.016
Do-Te	0.570	0.278	2.049	0.051
Co-Te	0.441	0.198	2.225	0.026

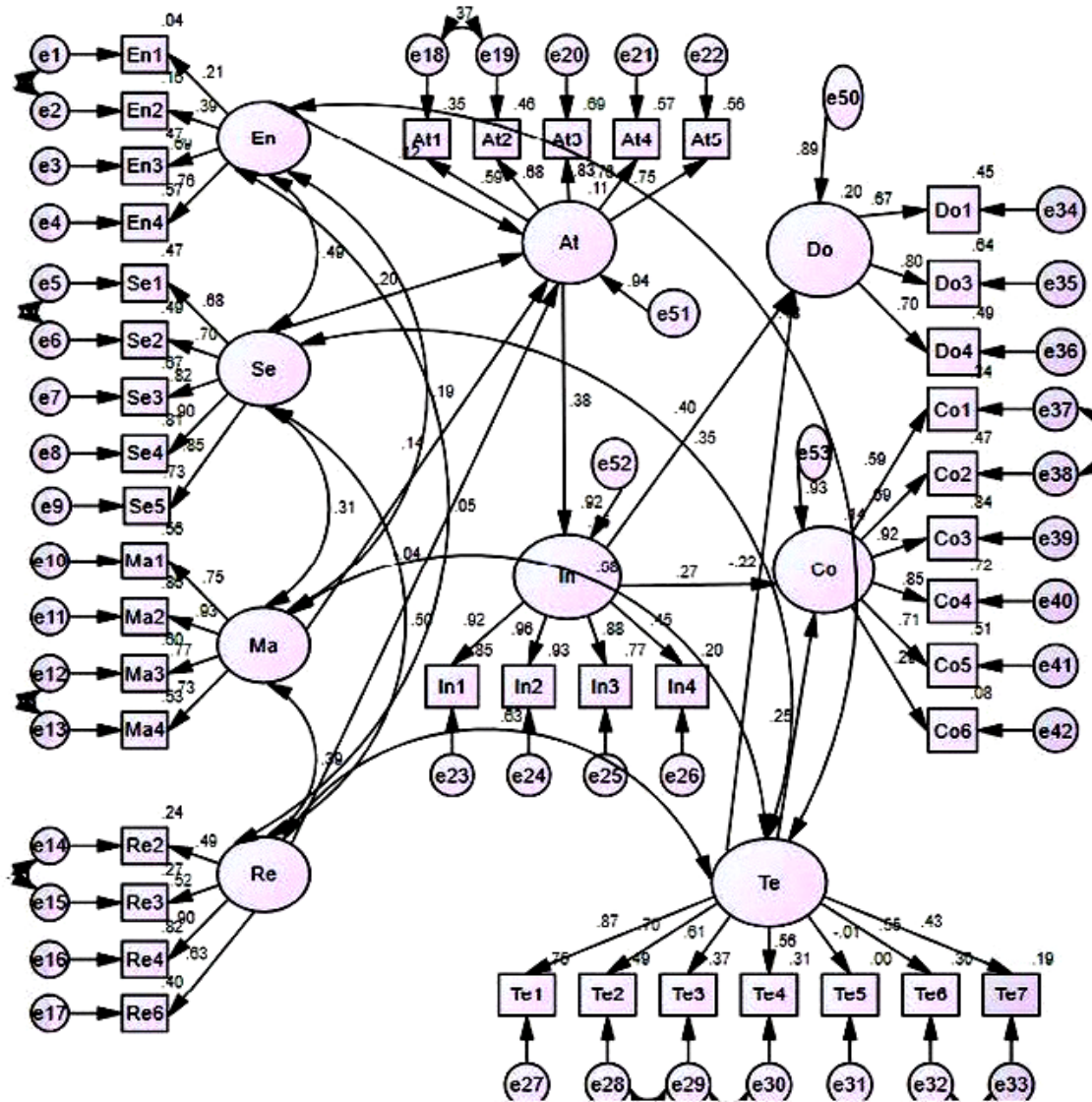


Fig. 2: Results of SEM theoretical model (standardized)

Two hypotheses on the relationship between rewards and incentives with a view to sharing knowledge and level of information and communications technology to the process of knowledge donation are rejected. Bonus and offers have no sense for views on knowledge sharing similar to the studies by Zahra and Mohammad (2010). Kohn (1993)'s and Bock and Kim (2002) indicated that rewards and incentives were only effective in early stages of knowledge management, for example, reward is just a start to share knowledge rather a sustainable factor to shape a person's behavior. Peihua and Fung explains that knowledge sharing behavior is rarely considered in the

evaluation system of personal achievement in the business. Meanwhile, the level of information and communications technology have no meaning to the process of knowledge donation but meaningful with knowledge collection. This finding was announced by Lin and Lee (2004). Research of Bock and Kim (2002)'s also pointed out that the level of information and communication technology by individuals is no apparent sense on knowledge sharing behavior. The information and communications technology tool that used to support knowledge sharing behavior sometimes not really affect the process of knowledge donation of the employees in companies (Fig. 2).

CONCLUSION

This study focuses on knowledge sharing behavior in the Vietnam telecommunication enterprises. On the basis of theoretical models and previous studies, the researchers propose a new research model. Results show that most of the hypotheses are supported, only two hypotheses about the relationship between rewards and attitude toward knowledge sharing; the level of information and communication technology and knowledge donation are rejected. The study gives some implications for academics and Vietnam telecommunication firms. Firstly, for academics, this study provides one more empirical studies of knowledge sharing behavior for literature. Secondly, in terms of practitioners, attitude toward knowledge sharing is influenced by many factors, this study showed three factors that have positive relationships such as enjoyment in helping others, knowledge self-efficacy and the support of management. Managers should help employees realize the benefits of knowledge sharing and always support knowledge sharing behavior. The communications and discussions on the topic of knowledge sharing should be done regularly to have a positive impact on attitude toward knowledge sharing.

Managers should affect the attitude toward knowledge sharing, in its turn, it will influence on intention to share knowledge and then intention to share knowledge will affect two processes of knowledge donation and collection. Therefore, managers should focus on the impact on attitude toward knowledge sharing because it is a factor contributing the intention to share knowledge of the employees.

Information and communication technology is now used to positively influence on knowledge collection. Information and communication is a useful tool to help knowledge donation process easier and more convenient. Investments in technology, information infrastructure, intranet, social networking and groupware are effective investment policies to help employees have more channels to acquire knowledge.

Like all other researches, this study faces limitations. Firstly, many other factors which were not addressed in this study could influence attitude toward knowledge sharing. Secondly, the research did not explore the effect of the intermediate variables and moderator variables on attitude toward knowledge sharing, intention to share knowledge and knowledge sharing behavior. In the future, the authors will overcome the limitations mentioned above to complete the study on knowledge sharing behavior in the Vietnam telecommunication companies.

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