

Social Network Factor to Facilitate Learning in Knowledge Sharing

Sham Sul Kamal Wan Fakeh, Mohd Sazili Shahibi, Adnan Jamaludin, Zaharudin Ibrahim, Juwahir Ali

Abstract — Social network is one of the important medium of communication in a new era of technology that can connect people around the world in a more interactive way. Social network sites like Face book, Twitter, Instagram , MySpace and others have become the favorite medium for people to communicate . This paper will discuss the importance of social network factors can facilitate learning and teaching in the form of information sharing. It describes the use of social networking and higher education, and functions. The results of this study can help organizations, especially educational institutions (as the respondents were students) to evaluate the use of social network sites and use them to share knowledge, and to support the teaching and learning environment. This study can also help to build awareness among the people how they were shared, and what information they need to know to increase their knowledge in partnership information in the future.

Keywords – Twitter, MySpace, social network, information sharing, knowledge sharing

I. INTRODUCTION

The Importance of Technology has been considered as an important requirement in our daily lives recently. The rapid growth of technology tools and applications has made an important medium for technology transfer and dissemination of information. Therefore, it can be considered as an enabler for sharing knowledge, which provides the infrastructure to share even though it may not be the motivation for people to share their knowledge (Shahrinaz Ismail, 2010). Nowadays, we can see many technological tools that have been provided to facilitate sharing, including electronic bulletin boards, databases, forums, e-mail, blogs, and social networking sites.

Manuscript received May 06, 2014.

Sham Sul Kamal Wan Fakeh, Faculty of Information, University Teknologi Mara Shah Alam, Selangor Malaysia, 019-6038522, 03-79622143 (e-mail: Shamsul@salam.uitm.edu.my)

Mohd Sazili Shahibi, Faculty of Information, University Teknologi Mara Shah Alam, Selangor Malaysia, 03-79622047 (e-mail: Mohdsazili@salam.uitm.edu.my)

Adnan Jamaludin, Faculty of Information, University Teknologi Mara Shah Alam, Selangor Malaysia. 03-79622106 (e-mail: Adnanj@salam.uitm.edu.my),

Zaharudin Ibrahim, FPM, UiTM(email:zahar347@salam.uitm.edu.my),

Juwahir Ali, FPM, UiTM(e-mail:juwahir.ali@salam.uitm.edu.my)

Therefore, this study aimed to investigate the factors that can promote knowledge sharing through social networks. Social networking has been chosen as the medium for study because it is widely used around the world today. This study was conducted with the purpose of knowing the social network can help teaching and learning using knowledge sharing to facilitate the process of knowledge. Social networks will often ask users to share their personal information (identity) This is the starting point for users to build trust between them and facilitate broader learning environment after trust is built with strong among them. Social networks are believed to be able to solve the barriers to knowledge sharing, which is a lack of open communication (Ramirez, 2007) as (Sharinaz Ismail, 2010). Trust is a key factor that has been studied by many researchers when considering electronic knowledge sharing. However, the depth of information they are likely or willing to share, is still in doubt. For the purposes of this study, previous research has seen and model of those studies were analyzed. There are three main groups, which consist of the organization / community / individual factors, content and contextual factors, and technological factors. Knowledge and learning can be enhanced through the factors that may contribute to knowledge sharing through social networks. Social networks have been chosen as the medium for study because it is widely used around the world today.

II. BACKGROUND OF THE STUDY

MARA University of Technology (UiTM) has been chosen as the location to conduct this study. This is because UiTM is one of the universities in Malaysia that currently active in doing research, which means, actively participate in sharing and retrieving information activities. In order to narrow down the scope, Faculty of Information Management which located in Puncak Perdana, Shah Alam, Selangor has been selected. Faculty of Information Management is selected to represent the community as this faculty is involves in area of managing and evaluating information. The activity of managing valuable information has been the core duty of people who graduated from this faculty (the former name for this faculty is School of Library Science). Therefore, final semester students, from four different programs (bachelor degree) from this faculty have been selected to be among 160 respondents, as they might be more exposed to activity of dealing with information compared to their juniors. Furthermore, they

will be graduated soon, which means they might build their own networking in order to search for jobs and experience. This situation could lead to actively using social networking websites or blogs.

III. LITERATURE REVIEW

A. Knowledge Sharing

Akiyoshi (2008) defines knowledge sharing as the process of transferring knowledge from a person to the group, and vice versa. Yang (2008) has a similar view with Akiyoshi and stated that it is a function of organizational culture and leadership roles as well as individual behaviour. Both of these authors relate knowledge sharing as a process which involves commitment between a person and his/her community or group. Chow and Chan (2008) pointed out that process of sharing knowledge engages a set of behaviours that facilitate the exchange of acquired knowledge. Furthermore, Yu, Lu, and Liu (2010) provided two definitions towards knowledge sharing. Firstly, it is a process by which individuals distribute their expertise, ideas or understanding to others so that the receiver can utilize the knowledge to perform task in a better way. Secondly, it is the sharing of community related information, ideas, suggestions and expertise among individuals. Again, a connection between knowledge sharing and community has been made.

B. Social Network

According to Oxford Dictionary of Computing, 6th edition (2008), social networking web site is a web site that provide social networking services to people, whereby registered members of the site could 'add' (authorize) other members as 'friends' and develop networks based on similar interests. The site could; (1) permits people to communicate easily, for example, chat rooms, blogs, instant messaging, uploading and sharing images and videos, and (2) encourages people to post online profile of themselves (which others can view and make new friends). Thelwall (2008) defines social network similarly, whereby social network is viewed as a site that allow users to register and connect to each other in order to communicate or share resources. Boyd and Ellison (2007) had the same view as well and define social network as the web based services that allow individuals to build a public or semi-public profile within a bounded system and communicate a list of other users with whom they share a connection.

C. Success Factor

National Archives of UK defines success factor as a

factor which considered being the most favourable to the achievement of a successful project. Furthermore, Tenstep.com stated that a success factor must occur in order to have a project or a process fulfil its goals and objectives. In addition, Wikipedia views success factors as the elements that are vital for a strategy to be successful. A success factor drives the strategy forward, it makes or breaks the success of the strategy, (hence "critical"). In overall, knowledge sharing is actually a process involving people who have similar interests or field to share their ideas and knowledge, whereby social network is a medium which could facilitate people with the same interests or field to exchange their ideas and knowledge. The success factors of knowledge sharing through social networks are actually the elements that should be exist (even though not necessarily all elements must exist simultaneously) in order for the process of sharing could be done successfully and efficiently.

D. Research Model

There are a lot of research has been done to investigate the condition and performance of knowledge sharing. From previous researches, it was found out that trust is the major focus of the researches and could be the major factors that influence knowledge sharing followed by other factors. Models that have been developed by previous researches;

Tseng and Kuo (2010)

Based on Fig 1, a study has been conducted towards a teacher's professional online learning community. Respondents are teachers who registered in K12 Digital School; e-learning platform for teachers who are attracted for professional development and educational issues. The study emphasized on how online community members control themselves with knowledge-sharing behavior. The model consists of as self-efficacy, community identity, interpersonal trust, and social awareness. Interpersonal trust is the individual's motivation to participate with others. It is an essential concern for knowledge sharing and learning, as it is able to lead to new creation of knowledge. Social awareness involves the cognitive development to differentiate the gap between individual's knowledge and what others know which may result in more effective communication. Moreover, strong group identification could improve individual's awareness of others and the knowledge resources. Self-efficacy means that individuals are committed to the goals and have positive attitudes. The study has shown that community identity, interpersonal trust, social awareness, and individuals' self efficacy are vital elements to ensure members are obedient to the group norms and focus towards behaviors to share knowledge.

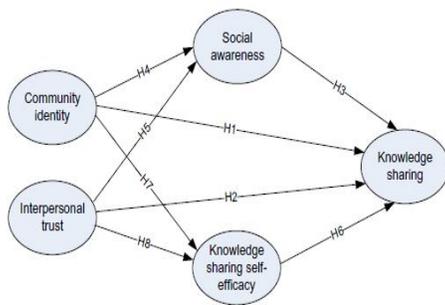


Fig 1: Source: Tseng and Kuo, 2010

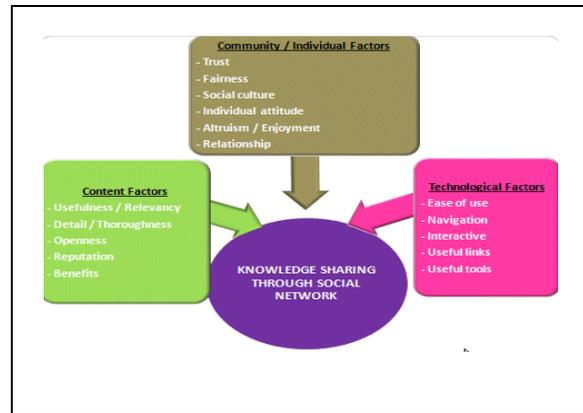


Fig 2: The Research Model

IV. THE RESEARCH FRAMEWORK

A model has been developed for the purpose of this study (Fig 2). Openness is where information flows freely through social networks. Some people might prefer to have opinions from others with no close relationship because they want honest opinions (close colleagues may not provide total honesty because they would avoid hurting friend's feelings). Reputation is about credibility. People tend to actively participate in sharing if they believe social networks could improve their credibility through sharing of knowledge (from the information they provide). Lastly, benefit is about what people expect to get from the process of sharing through social networks. People tend to share and gather information from social networks if they think that social networks could provide personal or work-related benefits to them. Lastly, technological factors can be divided into five elements: ease of use, navigation, interactive, useful links, and useful tools. Ease of use is about how technological features of social networks could help users perform their tasks faster. For example, if social networks have the ability to share articles, people might be more interested in sharing. Lastly, useful tools can be defined by the availability of tools (added value) which could aid users to communicate with others easier. For example, most social networking sites today, especially Facebook and Friendster, have already equipped with 'link' tools (users can copy and paste links that they found from other websites), events tool (users can set appointments or events), upload video or picture tools, comments.

V. RESEARCH METHODOLOGY

A. Population and Sampling

For the purpose of this study, the Faculty of Information Management is the population that has been selected. It is located at Puncak Perdana, Shah Alam, and also has four other branches at other states, including Machang (Kelantan), Merbok (Kedah), Segamat (Johor) and Kota Samarahan (Sarawak). However, for this study, it focused on the respondents at the faculty which is located at Puncak Perdana, since only Puncak Perdana has complete numbers of bachelor degree students from all four programs. According to the statistical data which was gathered from the Faculty of Information Management, there are a total of 2151 students from various modes and programs. There are 1684 students of bachelor degree from four programs, including Information System Management (IM 221), Records Management (IM 222), Information Resource Center (IM 223) and also Library and Information Management (IM 220). Others consist of students of Pengajian Luar Kampus (PLK) with 117 students, Masters with 332 students and PHD with 18 students. Generally, there are three types of sampling methods being used, which include grouping, stratified and random. Grouping is done by selecting one specific group. For example, focus on Records Management's students only. Stratified, on the other hand, is done through selecting a few people from each group at an average. For example, 50 students Information System Management program, 50 from Records Management program, etc. The third type is by random. This method is done by randomly selecting the respondent regardless of how many of them have to be selected from each program. For this study, the stratified random sampling is being used. Stratified in this case means by the 160 respondents that were selected from the final semester of bachelor degree students, from all four programs of Faculty of Information Management. These 160 respondents are actually representing 43.48% of

Social Network Factor to Facilitate Learning in Knowledge Sharing

final semester students (the total number of final semester students are 368). From the total of 160 respondents, there were randomly selected to answer the questions. The stratified random sampling was used because the difficulty to filter and to reach all of the total respondents in a limited time (368 respondents).

B. Data Collection

This study used questionnaire method, which is the most favorable method being chosen in order to have standardize feedbacks from users. The questionnaire that has been developed were tested for validation (5 students from Masters of Science in Information Management, IM 770 were selected) to ensure respondents could clearly understand the questions before it can be distributed to the actual respondents. The questionnaire was also being sent to an expert (lecturer/supervisor) for revision. After the pilot test and revision, some corrections have been done to improve and finally the questionnaire was distributed to 160 respondents. In order to ensure the number of respondents reach the total of 160, feedbacks from respondents were collected as soon as they complete the questionnaire.

C. Data Analysis

For the purpose of this study, data processing was done using commercial statistical software, called SPSS (version 16). SPSS is a widely used software for data analysis by students, academicians and professionals (Zamalia, 2009). This study used several approaches to process the data into meaningful information. Firstly, descriptive analysis – simple tabulation was used. It was about calculating the number of different responses and arranged the data into an organized manner to inform the researchers about the responses occur. The analysis also used frequency distribution approach. A table was prepared to display the counting of responses for each category (the frequency of occurrence).

V. DATA ANALYSIS AND FINDINGS

This chapter provides the analysis and findings from the questionnaire that have been distributed. It includes the demographic data, social network usage, frequency of usage, factors, etc. The questionnaire was sent out to 160 respondents from final semester students of bachelor degree programs from Faculty of Information Management, UiTM. From Table 1, it was found out that majority respondents are female with 80.62% (129 respondents), while male is only 19.38% (31 respondents). This major difference maybe caused by the different ratio of female students to male students. The total number of final semester female students is 293 students, while final semester male students

are only 75 students. The highest group participation came from IM 220 program (Library and Information Management), with 36.87% (59 respondents), followed by IM 223 (Information Resource Center Management) with 24.38% (39 respondents), IM 221 (Information System Management) with 20% (32 respondents) and IM 222 (Records Management) with 18.75% (30 respondents). As what have been described in chapter 6 (research methodology), respondents were randomly selected from the 160 targeted respondents.

GENDER / COURSE CROSS TABULATION						
		Course				
		IM 220	IM 221	IM222	IM223	TOTAL
Gender	Male	7 4.38%	11 6.87%	9 5.62%	4 2.5%	31 19.38%
	Female	52 32.50%	21 13.13%	21 13.13%	35 21.86%	129 80.62%
Total	59 36.8%	32 20.00%	30 18.75%	39 24.38%	160 100%	

TABLE 1: Demographic Data

A. Social Network Sites Usage

From Table 2, it has shown that the most popular social network site among respondents is Facebook, whereby every respondent know its existence (Statement “I do not know it” = 0% of respondents). 50.6% of respondents (81 respondents) contribute to Facebook. This mean that they are actively update their status / shout out, posting videos or links, as well as involve in group discussion. This number is followed by 46.9% of respondents (75 respondents) who only use Facebook without contribution. This means that they are passively participate in using Facebook tools. Users can easily access Facebook from Yahoo! site, as well as any other sites which enable user to log on into Facebook to share information they found. In addition, users could also logon into Facebook through mobile phones (most of latest model of mobile phones are equipped with Facebook icon). The social network sites usage is followed by Blogger, Friendster, Twitter, MySpace, Tagged and hi5.

Social Network Sites Usage							
Statement	Social Network Sites						
	Facebook	Twitter	MySpace	Friendster	Blogger	Hi5	Tagged
I do not know it	0	4	5	2	6	38	26
	0.00%	2.5%	3.1%	1.2%	3.8%	23.8%	16.2%
I, know it, but do not use	4	102	98	67	97	99	82
	2.5%	63.8%	61.2%	41.9%	60.6%	61.9%	51.2%
I only use it	75	32	42	64	26	15	38
	46.9%	20.0%	26.2%	40.0%	16.2%	9.4%	23.8%
I contribution to it	81	22	15	27	31	8	14
	50.6%	13.0%	9.4%	16.9%	19.4%	5.0%	8.8%
TOTAL	160	160	160	160	160	160	160

TABLE 2: The Social Network Sites Usage

B. Reason of The Social Network Usage

This section would answer one of the research objectives, which is to identify why people choose to use social network sites. Respondents were given six statements and were required to indicate their agreement for each statement. The statements are “To keep in touch”, “To find and exchange information – knowledge sharing”, “To share interest with others”, “To inform / be informed about contacts, events, appointments”, “To meet new people”, and “To advertise expertise, service / business / product”. To answer the question, respondents were given a Likert Scale, from 1 to 5 (“Strongly Disagree”, “Disagree”, “Neutral”, “Agree”, and “Strongly Agree”) and they are required to respond according to the scale given. From Table 3, it was found out that most respondents participate in social networking site because they would like to keep in touch with friends and families, which represented by a total of 86.9% respondents (139 respondents). This number was derived from a total sum of “Agree” and “Strongly Agree”. Other reasons that followed the main reason (to keep in touch) are to inform or be informed (contacts, events, appointments) with 86.2% (138 respondents), to share interest with others with 82.5% (132 respondents), to find & exchange information (k-sharing) with 73.1% (117 respondents), to meet new people with 63.1% (101 respondents), and to advertise service, products, expertise with 59.4% (95 respondents).

Reason To Use Social Network Sites						
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Keep in touch	2	1	18	63	76	160
	1.2%	0.6%	11.2%	39.4%	47.5%	100%
Find & exchange information (knowledge sharing)	2	2	39	72	45	160
	1.2%	1.2%	24.4%	45.0%	28.1%	100%
Share interests with others	4	0	24	80	52	160
	2.5%	0.0%	15.0%	50.0%	32.5%	100%
Inform / Be informed about contacts, events, appointments	3	2	17	77	61	160
	1.9%	1.2%	10.6%	48.1%	38.1%	100%
Meet new people	4	4	51	64	37	160

	2.5%	2.5%	31.9%	40.0%	23.1%	100%
Advertise expertise / service / business / product	8	6	51	64	31	160
	5.0%	3.8%	31.9%	40.0%	19.4%	100%

TABLE 3: Reason of Social Network Sites Usage

C. Individual or Community Factor

Table 4, Each element within the individual and community factor was displayed. It has been shown that the highest factor is user’s willingness to share (with mean = 4.03). However, these factors were then grouped according to research model (attitude, enjoyment, relationship, culture, trust, and fairness). The factors were again being calculated in order to represent each elements of the factor as in the research model.

Individual / Community Factors	Mean	Std. Deviation
Willing to share (attitude)	4.03	.70888
Approachable, enjoyment (enjoyment)	3.00	.57732
Know each other very well (relationship)	3.99	.67755
Prefer to work in group (relationship)	3.98	.73947
Keep each other updated (culture)	3.97	.74751
Trust (trust)	3.96	.95751
Supportive learning culture (culture)	3.93	.70533
Regardless of seniority (fairness)	3.86	.66812
Encouraged to give opinion (fairness)	3.83	.74582
Seniors commitment (culture)	3.78	.88275
Only share knowledge if it is important to other (attitude)	3.76	.84487
Feel sorry if SNS are shut down (attitude)	3.74	.89364
Have online discussion platform to exchange study-related ideas	3.73	.86838
Prefer people to approach rather than be volunteer (attitude)	3.68	.78947
Involvement with knowledge sharing regardless of people (enjoyment)	3.59	.77206
Feel out of touch when haven’t logged onto social network for a while (relationship)	3.58	1.00031
Proud to be social network user (relationship)	3.57	.90853

TABLE 4: Individual or Community Factor Findings

Table 5 displays the results of the content factors which could contribute towards knowledge sharing through social network. The highest factor from content factor is the open communication, whereby information is able to flow freely through social network. This factor score 4.02 (mean). However, these factors were not yet represent the actual factors as what being presented in the research model. Therefore, items in Table 5 were grouped into elements which being presented in the research model. The elements were later calculated again to produce score which represent each element in content factors. The results can be viewed as Table 6.

Social Network Factor to Facilitate Learning in Knowledge Sharing

Content Factors	Mean	Std. Deviation
Open communication (Openness)	4.02	.69565
Free disseminate information (Openness)	3.95	.68036
Current issue discussion (Usefulness)	3.88	.66340
Information about other societies/states/countries (Usefulness)	3.83	.70533
Relevant/used information (Usefulness)	3.82	.72573
Increase 'network' (connection with people (Reputation)	3.78	.63118
Personal (non academic) benefits (Benefit)	3.78	.67918
Personal experience (Detail)	3.74	.71364
Academic / work benefits (Benefit)	3.74	.64902
Reputation (Reputation)	3.70	.74226
Information about society (e.g. 1 Malaysia, etc) (Usefulness)	3.68	.77338
Information on shopping (Usefulness)	3.67	.72443
Academic experience (Detail)	3.63	.67990
Income (Usefulness)	3.59	.76387
Government information (Usefulness)	3.54	.78418
Political Information (Usefulness)	3.36	.82681

TABLE 5: Content Factor Findings

Table 6, represent the elements of content factor that could contribute to knowledge sharing through social network. Openness of information still has the highest score, with 3.99 (mean), followed by benefit with score 3.76 (mean). The lowest and the least score is usefulness of information with score 3.67. Even though it the lowest, it can still be considered as positive result. Content Factor had scored 3.77 mean, which can be considered as significant factor and positive result. This study could also help to build awareness among people of what extent they have already shared, and what information should they improve to share in future. . In addition, it was also found out that some engineers are still keep in contact with their seniors from the university, whom they referred to for certain solutions.

Content Factors	Mean
Openness	3.99
Benefit	3.76
Reputation	3.74
Detail	3.69
Usefulness	3.67
Content Factors Mean	3.77

TABLE 6: Content Factor

VI. CONCLUSION

Individual and community factors, content factors, and technological factors are all important to ensure successful knowledge sharing through social network. This means that, in order to ensure knowledge could be shared effectively, people, community, organization, as well as the country should made aware of these factors and should take certain approaches related to the factors. As a result,

knowledge sharing through social network can be improve in future and social network sites will be seen as one of the important alternatives or ways for people to share what they know and what they have. Therefore, people in the community, especially managers or people who involve with decision making on information should grab this opportunities to instill more awareness among people toward knowledge sharing through social network.

REFERENCES

- [1] Akiyoshi, M. (2008). Knowledge sharing over the network. *Thin Solid Films*, 517, 1512-1514.
- [2] Chow, W.S. and Chan, L.S (2008), Social Network, social trust & and shared goals in organizational knowledge sharing, *Information & Management*, 45, 458-465.
- [3] Fang Y.H. and Chiu, C.M. (2010). In justice we trust: Exploring knowledge sharing continuance intentions in virtual communities of practice. *Computers in Human Behaviour*, 26, 235-246.
- [4] Hu, C., and Racherla, P. (2008). Visual representation of knowledge networks: A social network analysis of hospitality research domain. *International Journal of Hospitality Management*, 27, 302-312.
- [5] Ling, C. W., Manjit S. Sandhu, and Kamal Kishore Jain. (2009). Knowledge sharing in an American multinational company based in Malaysia. *Journal of Workplace Learning*, 21 (2), 125-142.
- [6] Shahrinaz Ismail. (2010). An evaluation of students' identity-sharing behavior in social network communities as preparation for knowledge sharing. *International Journal for the Advancement of Science & Arts*, 1(1), 14-24.
- [7] Syahrir Mat Ali, and Fatin Hasnan. (2009). Kesan aplikasi sosial maya. (2009, December 23). *Kosmo*.
- [8] Tseng, F. C., and Kuo, F. Y. (2010). The way we share and learn: An exploratory study of the self-regulatory mechanisms in the professional online learning community. *Computers in Human Behavior*, 26, 1043-1053.
- [9] Wang, C. Y., Yang, H. Y., and Chou S. T.(2008).Using peer-to-peer technology for knowledge sharing in communities of practices. *Decision Support Systems*, 45, 528-540.
- [10] Yang, H. L., and Wu, Ted C. T. (2008). Knowledge sharing in an organization. *Technological Forecasting & Social Change*, 75, 1128-1156.
- [11] Yang, J. T. (2008). Individual attitudes and organisational knowledge sharing. *TourismManagement*, 29, 345-353.
- [12] Yu, T.K., Lu, L.C. and Liu, T.F. (2010). Exploring factors that influence knowledge sharing behavior via weblogs. *Computers in Human Behaviour*, 26, 32-41.
- [13] Zamalia Mahmud (2009) Handbook of research methodology: A simplified version Shah Alam: UPEN (University Publication Center)



Sham Sul Kamal Wan Fakeh, received of Master of Science in Information Management from University Teknologi MARA. Area of Interest: Multimedia Application, Web Design & Content, Information Content & Management.

Prof Madya Dr, Mohd Sazili Shahibi, received PhD in area of Information System Management from University of Malaya, Kuala Lumpur. Area of Interest: System Management.

Prof Adnan Jamaludin, received PhD in area of Strategic Information Management (USM): Area of Interest: Strategic Planning.

Zaharudin Ibrahim, received Master from University Kebangsaan Malaysia (UKM). Area of Interest: Information Management System.

Juwahir Ali, Master of Science in Information Technology from London University of East London. Area of Interest: Information Security, Database.