THE FACTORS WHICH AFFECT PEOPLE SHARING KNOWLEDGE IN CHINA ONLINE FERTILITY HEALTH COMMUNITY

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Abstract

With the development of information technology, many people search and seek a solution through Internet, especially in health issue. People tend to ask question in online health communities or search for the knowledge shared by others who have same experience with them. When they come into specific healthy problems, they know where to find supporter and who is capable to make suggestion for them before they make the decision.

Virtue community's members should be aware of that if they can receive some money reward or business opportunities according to their sharing, it would encourage them for keep doing it better. There are two kinds of benefits, one is extrinsic and the other one is intrinsic (Kankanhalli et al., 2005). No matter what benefit it is, people tend to be more willing because of what they earn from. Other benefits can be classified by respect, reputation, self-satisfy and so on, and the more they can benefit, the more positives for them to share knowledge (Bock and Kim, 2002).

This study develops a structure and is designed to explain and analyze the relationships between contextual factors, such as, perceive related advantage, perceive compatibility, community loyalty and personal factors, self-efficacy, interpersonal trust, and norm of reciprocity with knowledge sharing behaviors.

Keywords: knowledge share, online health community, and personal factors, self-efficacy, social cognitive theory, interpersonal trust, perceive related advantage, perceive compatibility and community loyalty.

Introduction

The significance of this research is to study what is process of knowledge sharing and why individual share their knowledge in online health community voluntarily to contribute others. Which factor can motivate individual knowledge sharing and what is the expected outcome they are looking for. How people build up mutual reciprocal through the whole procedure. Most couples that suffering infertility are decided to get information support from Internet. A large research indicated that if patient gain more knowledge and skill during the process of treatment it can improve their ability to manage self-care, enhance decision-making and improve the quality of life.

Knowledge learner in health community can make cost-effect decision through others experience sharing, they get benefit from people who is sharing, knowing that whole treatment process, what kind of medicine would most useful, what others reaction when they are in the same situation, relieve their concern by getting social support to deal with their health problem.

We used social cognitive theory to contractual a model to research the motivations for people sharing knowledge in online health community. From the perspective of context factors and personal factors. Contextual factors can be classifying as most important two parts, which is the norm of reciprocity, the other part is interpersonal trust. Personal factors included self-efficacy, relative advantage, perceived compatibility. And we gather almost 400 questionnaire and used multiple regression analysis to get the conclusion that interpersonal trust, Self-efficacy, Perceived compatibility advantage has a positive relationship to knowledge sharing behavior. Knowledge sharing behavior has a positive relationship to community loyalty.

Problem statement

With the second child policy was formulated in 1, January 2016, a lot of people joining the trend by having the second child. But there are some reasons cause their infertility especially for 70's generation whose ages are around forty. Many couples consider clinically infertility when they processing regular unprotected sexual activities at least one year but still cannot pregnancy. This kind of private issue cannot be communicated between friends and colleagues and family, so they either go to find doctor or search information and seek support from online health community. Since that the meeting time with doctor is very limited and there is always long queue in hospital, they need to make an appointment three to four days ahead, some region for specific doctor even make an appointment one-month advance, otherwise they cannot accept treatment.

Some health issues may be too private for people to ask help from their families or relatives or friends, such as infertility. In particular, individuals who face infertility problem don't admit it because they are afraid of others would look down and isolate them, so it is hard to make people who have similar experience understand and mention it in front of public communication (Wright and Bell, 2003).

Another problem is when patient leave the doctor's office they still have unanswered question in mind, so it cost much time and energy to get help from doctor with dissatisfaction. Those unanswered question can be found in online healthy community and people can found related information through others knowledge sharing with similar experience. They can be satisfied by the explanation of the treatment process or medicine guideline by other patient sharing their knowledge base on their experience that costly and valuable.

Research objectives

The objective of this study is to select important factors according to knowledge sharing from social cognitive theories and increase the possibilities for users who are actively engaging in knowledge-sharing behaviors in online health community. As we know that knowledge sharing behaviors are likely to be affected not only by individual motivations but also by contextual factors like the outside environment forces (Yoo and Torrey 2002)

The objective of this study is as follows:

1. Which factors can affect people sharing knowledge in online health community?
2. Evaluate the relationship between these factor and knowledge sharing process;

The benefit of the study is to find out which factor can affect people sharing

their knowledge in online community and how to improve their online behavior to let people make decisions at a cost-effective way. People who share their knowledge in community can improve the process for knowledge learner, especially for fertility couple to learn knowledge related to advance technic and treatment process before seeing doctor and make communicate with doctor more efficiency and solve their real problems. It can also reduce their concern for a lot of uncertain things and some gynecology issues, which is common seen in fertility women.

It can also contribute to the efficient communication between doctors and patients, because the more knowledge that patients can learn from others online, the easy way that they can be corporative with specialists and have a more normal attitude to face specially infertility problems such as irregular menstruation, polycystic ovarian syndrome and so on.

Literature review

Firstly, find out the definition of knowledge sharing behavior, what is the process and what is the definition of related factors that would affect knowledge-sharing behavior. And the literature review for what is the factors affecting people knowledge share behavior online, and what is the result of the relationship between each factors and knowledge sharing behavior. And what is the characteristics for online health

community and how individual performance in community. Secondly, we use social cognitive theory to analyze the relationship between each factor to knowledge sharing behavior. What is the definition of social cognitive theory? According to the research, we select some factors to be the most important factors related to knowledge sharing behavior. Thirdly we give the explanation to each factor and list out the hypothesis.

Theory framework

According to Chiu, Hsu and Wang, (2005), they integrated social cognitive theory to contractual a model to research the motivations for people's knowledge sharing behavior in online health community. Social cognitive theory has been used in a lot of previous study to analyze knowledge-sharing behavior in the context of online community (Lin, Huang and Chen, 2009; Hsu, Ju and Chang, 2007). Social Cognitive Theory (SCT) can be classified into two sections. First one is a contextual factor and the other one is person's cognition. It is indicated that individual's behaviors can be sharpened through his or her own cognition. It is the base or the fundamental of our action. Personal determinism emphasizes the internal psychological factors on the regulation and control of behavior, environmental determinism emphasizes the control of external environmental factors on behavior.
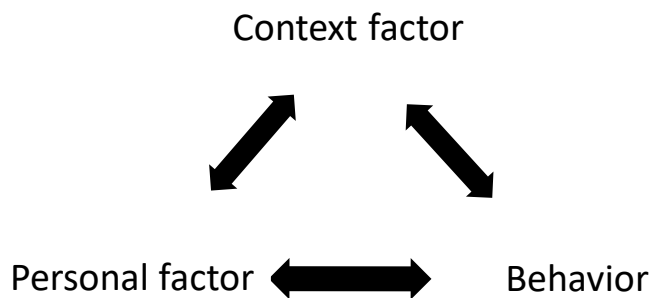

Figure 1 Social cognitive theory

Contextual factors

Contextual factors can be classifying as most important two parts, which is the norm of reciprocity, the other part is interpersonal trust. Norm of reciprocity and trust are two of the important factors that affect knowledge sharing in Davenport and Prusak's (1998) view.

Norm of reciprocity

The norm of reciprocity means that people in community trust if they help others solve their problems they would also get help from others in the future and trust that drive people knowledge sharing behavior. The norm of reciprocity usually refers to a series of rules that apply by organizing members and it is their obligation to follow it in order to have sustainable development (Wu et al., 2006).

Interpersonal trust

Trust is a key element for users to join in and build up a relationship with other members in online health community. Trust refers to members who feel confident for the quality and reliability of the content and personal relationship in online health community. (Zhao, J., Ha, S., & Widdows, 2013)

Interpersonal trust is an important factor that encourages people to have the attitude toward sharing their knowledge through Internet. It maintains mutual good exchange relationship. The strong interpersonal trust the more likely people would seek, collect, exchange and share knowledge in community. (Chen, Hung, 2010) Interpersonal trust is critical to predict interpersonal knowledge sharing in the organization. Trust between two individuals may create an atmosphere that boots knowledge sharing in a particular social context. Nonaka (1994) Trust among individuals is the foundation for interpersonal ties, which is important context factor for facilitating knowledge share behavior.

Personal factors self-efficacy

Personal factors included self-efficacy, how much confident for people when they come to difficulties and uncertain problems, they enforce learning capability from others and keep challenge and overcome difficulties. In their self-learning system, they also enhance their ability in knowledge sharing to help others or to be more positive to influence (Lin, 2009). Knowledge sharing self-efficacy shows one has capability to offer valuable knowledge to others and confident in his or her skill to answer to the questions posted by other members. People with high self-efficacy would be more likely to perform knowledge sharing compare with those with low self-efficacy. (Chen, Hung, 2010)

Perceived relative advantage

Relative advantage is a measure of the degree to which an action provides more benefit than its precursor. Perceived relative advantage in our study is what likely advantage and benefit can members get through knowledge contributors share behavior, such as less costs to problem solving and get more useful information efficiency. For example, in IVF procedure, patient care about total costs which need to be paid, what medicine should be intaken to improve quality of their result, how long for the whole process, what is the

technique behind IVF. What is side effect of some drug or medicine usage? How to make recover after surgery? How to react when feeling uncomfortable? Apart from this some patients who have already gone through this procedure would share their personal experience or mistake to remind others to prevent performed some situation, which is advantageous for those who want to learn something from real cases when it needs to make decision in some problem (Chen and Hung, 2010).

Perceived compatibility

Perceived compatibility refers to the degreed to online users perceived knowledge share behavior to match their individual exist needs and values. In our study, perceived compatibility refers to the knowledge contributors' hold the likely value like try every method to have a healthy baby, and need like how to get help and guideline for their specific problem, and experience like how knowledge share behavior educated them and help them to make the cost-effective decision (Chen and Hung, 2010).

The time for patients to meet with doctor face to face is very limited since the amount of patients is much more than the amount of doctors, so the resources for the professionals are much limited, and it reaches the result that when patients leave the doctors' office, they still have a lot of question which maybe come from treatment or some uncomfortable syndrome after entering the cure center that still need to be replied. But when it comes to online health community it can produce more effective activities which can provide sufficient opportunities for them to share their felling and find out the solution from individual who have the

same problem with them or even worse case. Online health community provide the cognitive and affective value determine by goals, activities, actors and independencies. (Sarah Van Oerle, 2016).

Knowledge sharing behavior

Knowledge sharing is involved in providing source of knowledge, interpretation and communication within two or more participant, and knowledge sharing is a process of communicated which is involved in two or more people to participant and for one side sharing is knowledge provider also call knowledge output. It is the process of creating new knowledge. For the other side receiving is knowledge obtainer which also call knowledge input. It is the changing program in terms of knowledge. Through the media that is online health community or social media. (Usoro, Sharratt, Tsui and Shekhar, 2007)

There are six motivators for individual sharing knowledge in online community, which is promise and obligate to the group, reciprocity, altruism, ease access to technology, personal gain, and external incentives. But it also refers to some barriers that may cause negative effect for an individual intention in knowledge sharing, such as lack of technology, litter knowledge cannot be shared, personal attitude for sharing lack of interested, and confidentiality considerations (Hew and Hara, 2007). Gray (2004) found if they are lack of familiar with online technology or lack of access to technology itself would hinder

individual sharing, the same with if they are not interested in how online community works. While (Wasko and Faraj, 2000) refers that if someone is lack of such knowledge or he or she has an uncomfortable experience in previous, it is another barrier to knowledge sharing behavior.

The characteristic of online self-help health community:

1. People don't know each other at first communicate.
2. People are willing to contact and answer the questions, which are posted by other members.
3. People willing to spend time in the self-help community to learn more methods related to their problems.
4. From the perspective of social exchange theory, knowledge community is a kind of communication; the motive of participating in communication is changing constantly. While communication maintains the basis of consistent value perception among members of the knowledge community, such as the return on invested time.
5. The knowledge community is seen as a way to accomplish organizational or process innovation. Establish knowledge communities that bring about changes in systems, organizations, or societies by identifying, producing, describing or disseminating data, information, and knowledge in a knowledge community context. It is clear that meaningful value creation through knowledge value chain production is the prerequisite for this perspective.
6. Their initial goal and topic to participant in community is same, which is getting pregnant and have a healthy baby, but they spend too many time on

getting familiar with each other, and any topic can be discuss.
7. The knowledge they share includes change information about personal experience about multiple miscarriage, ectopic pregnancy, assist reproductive technology, in vitro fertility, unknown infertility problems and also share emotional support and confidence to get it through that tough time.
8. Once they build up trust in on online community it would easily contribute to offline activities and thus strengthen interpersonal trust between them.

Research methodology

This study uses quantitative methodology for research and was analyzed by inferential statistics and multiple regression analysis. Multiple regression analysis was performed to examine relationships between dependent variables and the independent variable.

Data collection

Quantitative analysis

The aim of this research is finding out the motivation factors of knowledge sharing in online learning environments. This research analyzes data collected from online digital health fertility community named Bo zhong wang and infertility of We chat group to examine which factors can motivate people to share their knowledge online.

We would post a massage on the infertility column that anyone who wants to learn, to discuss and share their knowledge about infertility, or on the way of having a healthy baby can join to

our we chat group. And then post our ID group below to let them join in.

In QQ group we have four self-help groups talking about pregnant mainly, and each group reaches 1,000 people. In Wechat we have 6 groups also, but 400 people for each group. Until Sep 2017, there are around 400 people to consult with us individually in the processing of having a healthy baby. Some of them even succeed to have a baby already; we also build up group for people whom have got pregnant already to share knowledge and information about baby product and body shape courses after surgery.

So, we can get same information from others' group and join in to communicate and observe their sharing and talk to individual directly. Or we post the questionnaire link to the group, anyone whom finishes this questionnaire can get incentive or reward from us, such as baby litter gift or money. Since people who build up the group can persuade their members more effectively to participate any interactive. After we join other's group we would talk to the host of this group to help us and we would give them more valuable suggestion on how to motivate their sharing process according to our conclusion.

Descriptive data about each participant will be collected to provide an overall profile of the community membership in terms of gender, ages, occupation, participant type, and time since diagnosis.

In multiple regression analysis, after we put all the data we gather in questionnaires, we analyze regression in linear, and put knowledge sharing in dependent variable, the rest of self-efficacy, interpersonal trust, norm of reciprocity, perceive related advantaged, perceive compatibility, loyalty dimensions put in independent variable. Then the result comes out automatically. We can know what the relationship is between independent factors and dependent factors. Whether knowledge sharing can be predicted by self-efficacy, interpersonal trust, norm of reciprocity, perceive related advantaged, perceive compatibility, loyalty. Multiple regression analysis was performed to examine relationships between dependent variables and the independent variable.

Research tools

To ensure to keep mainly the same meaning of the questionnaire, firstly we design the questionnaire by English and then translate it into Chinese. Then change to Chinese backward to English to check if it remains the same version (Bock et al. 2005, Wang et al. 2006). Here we list the questionnaires base on others design. And the one designed by the author would also be mentioned later.

The six self-efficacy, interpersonal trust, social network, peer recognition, personality and attitude dimensions are measured by likert scale, respondents indicated their feelings by rating the degrade Of their felling on a five scale Where 1="strong agreed", 2="agreed", 3="Undecidedd", 4="disagreed", 5="strongly disagreed".

Data analysis

After we collect the questionnaire from online health community named bo zhong wang in the hot topic of fertility,

in-vitro fertility, prepare pregnancy, in pregnancy period, others' experience, questions and answers column, specialist doctors answer difficulties questions column, motion column for women. Since we use quantitative method, we use the software to input all the answers of questionnaires and then come out with the result, and according to the result we can find which factor can make significant influence to knowledge sharing behavior.

In order to test the hypotheses, a total of 400 questionnaires were distributed through online community from fertility-related online support group. Only 334 members fill up. They completed an online survey of exploring their experience of knowledge sharing in online support group. The survey was conducted over a period of one year with 334 questionnaires. The result was analyzed by using SPSS. This research uses Cronbach's Alpha as a tool to test the reliability of the questionnaire.

Table 1 Reliability test of questionnaire

Variable	N of Items	Cronbach's Alpha
Norm of Reciprocity	3	0.882
Interpersonal Trust	3	0.88
Self-Efficiency	10	0.943
Perceive Relative Advantage	3	0.921
Perceive Compatibility	4	0.915
Knowledge Share Behavior	3	0.915
Community Loyalty	4	0.954

Table 1 shows all of the variable's Cronbach's Alpha are greater than 0.8, so this questionnaire is believing in reliable.

Table 2 result of hypothesis 1 to hypothesis 5

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.696	0.264		-2.642	0.009		
	AVNOR	0.063	0.063	0.05	1.01	0.313	0.353	2.833
	AVIT	0.15	0.051	0.144	2.964	0.003	0.367	2.722
	AVSE	0.195	0.068	0.149	2.864	0.004	0.322	3.11
	AVPR	-0.107	0.073	-0.083	-1.463	0.145	0.269	3.721
	AVPCA	0.782	0.072	0.644	10.859	0.000	0.247	4.053

a Dependent Variable: AVSKB
R=0.84
R square=0.71
Adjusted R square=0.71 F=164

Because each factor contains related questions, but we take the average one to analyze. AVNO is average point of norm of reciprocity, AVIT is average point of interpersonal trust, AVSE is average point of self-efficacy, AVPR is average point of perceive related advantage, and AVPCA is average point of perceive compatibility. Hypothesis 1 shows P=0.313 meaning that the norm of reciprocity has no significant association with knowledge share behavior. Hypothesis 4 indicated P=0.145 meaning that perceive related advantage has no significant influence on knowledge share behavior.

The result indicated that hypotheses H2, H3 and H5 are support because significant lever P lower than 0.05, which is 0.003, 0.004 and 0 separately. Thus, interpersonal trust, self-efficiency, and perceive compatibility have positive influence knowledge share behavior.

From the table, the regression equation can be formulated as:

$$Y=-0.696+0.063X1+0.15X2+0.195X3-0.107X4+0.782X5$$

Where Y is knowledge share behavior, X1 the norm of reciprocity, X2 the interpersonal trust, X3 the self-efficiency, X4 the perceive relative advantage, X5 the perceive compatibility, the error term. It means that for every unit increase in interpersonal trust, the knowledge share behavior will increase by 0.15 units. For every unit increase in self-efficacy, the knowledge share behavior will increase by 0.195 units. For every unit increase in perceive compatibility advantage, the knowledge share behavior will increase by 0.782 units.

Table 3 result of hypothesis 6

Coefficient		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
Model		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.328	0.155		2.114	0.035		
	AVSKB	0.935	0.027	0.888	35.18	0	1	1

a Dependent Variable: AVCL

In this table, this study uses community loyalty as dependent variable, the knowledge share behavior as independent variable. Therefor the community loyalty is Y, knowledge share behavior is X, and the relationship between them was written as below:

Y=0.328+0.027X

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.888a	0.789	0.788	0.65252	2.143

a Predictors: (Constant), AVSKB
b Dependent Variable: AVCL

The result show that there was 78.9% (R Square=0.789) of variance in the dependent variable (community loyalty) which can be explained by independent variables (knowledge share behavior)

The result revealed that function value (p-value=0.035) was related to knowledge share behavior because the p-value of independent variable is less than 0.05, so the hypothesis 6 was accepted.

Summary of hypothesis testing result

The result was showed in table 4. There are 6 hypotheses that analyze on norm of reciprocity, interpersonal trust, self-efficiency, perceive relative advantage, perceived compatibility, knowledge share behavior in this study. The result show ACCEPT means that it is the hypothesis result is consisting of what we had expected. The result show REJECT means the hypothesis result is contracting of what we had expect.

According to the definition of Standardized Coefficients, the independent variables have a greater effect on the dependent variable in a multiple regression which depend on the absolute value of Standardized Coefficients. Compare of average point of interpersonal trust 144, average point of self-efficacy is 149, average point of perceive compatibility is the highest one 644. So, the result is that perceived compatibility is most important factor for people sharing knowledge behavior in China online fertility health community. It means that the common value that individual perceives is having a healthy baby through science method as possible as they can. This is the most original intention for them to join in online fertility health community.

Table 4 Summary of hypothesis testing result

Item	Description of hypothesis testing result
H1	Norm of Reciprocity has a positive relationship to knowledge sharing behavior.
H2	Interpersonal trust has a positive relationship to knowledge sharing behavior.
H3	Self-efficacy has a positive relationship to knowledge sharing behavior.
H4	Perceived relative advantage has a positive relationship to knowledge sharing behavior.
H5	Perceived compatibility advantage has a positive relationship to knowledge sharing behavior.
H6	Knowledge sharing behavior has a positive relationship to community loyalty.

Conclusion

The objective of this research was to enhance our understanding of the factors affecting knowledge share behavior in online health community. The study refers to theory and research from multiple main stream research such as social cognitive theory to investigate the impact of these six factors including norm of reciprocity, self-efficacy, interpersonal trust, perceive advantage, perceive compatibility, and community loyalty on knowledge share behavior. The result from the respondent of women who anticipated knowledge share behavior in China online health community. Mostly is undergoing preparing pregnant procedure. And the survey was carried in the most activity online health community (wechat group) most of them are experience same situation and similar circumstance. Since online health community helps to solves the problem of long procedure of making appointment with doctor, expensive consult fee or registration fee for specialist professor. For example, patient need to pay 1,000 yuan just talk with doctor for 3minutes. Or they spend whole day just for queuing to catch up the numbers to see doctor. It contributes for the patients who are overwhelming when they face pessimism situation. Our target group is women both infertility and fertility whom is undergoing pregnant for health baby. So, we create a topic in online health community and gather them in Wechat group to distribute the questionnaire to analyze which factor may have an effect on individual knowledge share behavior.

The result of this study shows interpersonal trust, self-efficiency, perceived compatibility has positive relationship with knowledge share behavior, and knowledge share behavior also has positive relationship with community loyalty. But there is not relationship between norm of reciprocity, and perceive related advantage with knowledge share behavior.

This research is beneficial to whoever work in maternal and child industry, overseas health and tourism industry, because this whole community is setting up a huge customer database, any feedback that any company would like to test can collect opinion in it.

Implication for business

In order to enhance the competitive power for the group which want to educate their patients or increase learning ability amount patients by knowledge share behavior, also improve the relationship between doctor and patients and their personal ability to deal with infertility treatment. There are four recommendations based on this study as below:

1. There is a relationship between interpersonal trust and knowledge sharing behavior, so if we can build up interpersonal trust relation very well between patients, the more likely they would like to share their knowledge in online health community. For example, we can give more detail on personal profile and make obvious title to let members get familiar with each other well, or host off-line activities to invited active members so that they can affect others from their sharing. People can gain the benefit of knowledge share in online community. For example we can improve their ability in healthcare management.

2. As the result shows, self-efficacy plays a positive role for sharing knowledge in online health community. The way they solve problem by themselves would affect others by sharing behaviors through social media when it comes to same problem. For example, we can top up the column for patient with highly self-efficacy and make the order by total reading times, which give patients guideline through their sharing. Encourage members to share by improve the lever of their experience title to show others they are knowledgeable for sharing.

3. Perceive compatibility advantage had a high correction with knowledge sharing behavior. It is very crucial for entrepreneurs to figure out what is the motivation for patients to join in community, which is fit with their value and needs. For example if problem solving in time is what the value function of community, members would care less the identity of individual and only focus on the result on problem solving. They would put forward the question and interacted with self-efficacy members so others can also learn from it. If finding emotional support is what the value function of community,

4. Knowledge share behavior is the important dimension of creating online community. It is necessary to enhance the four dimensions toward knowledge share behavior. The related enterprise could pay more attention to stimulate members sharing behavior to foster community loyalty. For example, invited new members to join community continuously, the interactive come up with a question, for new member they hold lots of curiosity and need to be answer, especially talking similar experience to unite members more closely. And it can be created new topic for new members to activated the group. The other suggestion for loyalty is that people tend to close to others whom in the same stage or situation with them. It is better to control the number of members by time line, such as by monthly or yearly. The knowledge can be distributed precisely and make sure everyone can get the point, not misunderstand by others interpretation and members can get notice synchronize.

Limitation of research

A limitation of present study is despite online health community has advantage as we point out like helping patient's discovery, exploration and management of personal illness. But we did not explain much disadvantage of online health community, such as the reality of knowledge share by other users. Users did not have enough experience to evaluate the quality of knowledge share by others. The disadvantage of online health community can be for instance, if the article which is posted in community cannot be category well it is very hard for people to navigate relevant knowledge. Too much people interactive and share would make it harder to identify valuable information.

Secondly, the factors that we select is just for target group, which is infertility women, so the framework or element we choose may not be applied to another target group.

Thirdly, for further research should consider the motivation for member to share their knowledge just for helping others or take it as chance to provide their product or services. The motivation may contain both positive and negative side. If the experience which share by others contain too much negative personal emotion, the potential effect on other members when dealing with personal problem needs to be considered.

References

Bock, G., W, & Kim, Y., G. (2002). Breaking the myths of rewards: an exploratory study of attitudes about knowledge sharing. *Information Resources Management Journal, 15* (2), 14–21.

Bock, G.W., Zmud. R.W., Kim. Y. G, et al. (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS Quarterly, 29* (1), 87-111.

Chen, C. J., & Hung, S. W. (2010). To give or to receive? Factors influencing members' knowledge sharing and community promotion in professional virtual communities. *Information & management, 47*(4), 226-236.

Chiu, C. M., Hsu, M. H., & Wang, E. T. (2006). Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision support systems, 42*(3), 1872-1888.

Gray, B. (2004). Informal learning in an online community of practice. *Journal of Distance Education, 19*(1), 20.

Hew, K. F., & Hara, N. (2007). Knowledge sharing in online environments: A qualitative case study. *Journal of the American Society for Information Science and Technology, 58*(14), 2310-2324.

Kankanhalli, A., Tan, B. C., & Wei, K. K. (2005). Contributing knowledge to electronic knowledge repositories: an empirical investigation. MIS quarterly, 113-143.

Lin, M. J. J., Hung, S. W., & Chen, C. J. (2009). Fostering the determinants of knowledge sharing in professional virtual communities. *Computers in Human Behavior, 25*(4), 929-939.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Orga- nization Science, 5*(1), 14–37.

Usoro, A., Sharratt, M. W., Tsui, E., & Shekhar, S. (2007). Trust as an antecedent to knowledge sharing in virtual communities of practice. *Knowledge Management Research & Practice, 5*(3), 199-212.

Van Oerle, S., Mahr, D., & Lievens, A. (2016). Coordinating online health communities for cognitive and affective value creation. *Journal of Service Management, 27*(4), 481-506.

Wasko, M. M., & Faraj, S. (2000). "It is what one does": why people participate and help others in electronic communities of practice. *The Journal of Strategic Information Systems, 9*(2), 155-173.

Wright, K. B., & Bell, S. B. (2003). Health-related support groups on the Internet: Linking empirical findings to social support and computer-mediated communication theory. *Journal of Health Psychology, 8*(1), 39-54.

Wu, J. B., Hom, P. W., Tetrick, L. E., Shore, L. M., Jia, L., Li, C., & Song, L. J. (2006). The norm of reciprocity: Scale development and validation in the Chinese context. *Management and Organization Review, 2*(3), 377-402.

Zhao, J., Abrahamson, K., Anderson, J. G., Ha, S., & Widdows, R. (2013). Trust, empathy, social identity, and contribution of knowledge within patient online communities. *Behaviour & Information Technology, 32*(10), 1041-1048.

Yoo, Y., & Torrey, B. (2002). National culture and knowledge management in a global learning organization. The strategic management of intellectual capital and organizational knowledge, 421-434.