Int. J. Web Based Communities, Vol. 12, No. 4, 2016

Factors influencing the intention to share knowledge in citizen media with stimulus-organismic-response framework

Hana Fitriani, Achmad Nizar Hidayanto* and Eko K. Budiardjo

Faculty of Computer Science, Universitas Indonesia, Kampus UI Depok, 16424, Indonesia Email: hana.ftrn@gmail.com Email: nizar@cs.ui.ac.id Email: eko@cs.ui.ac.id *Corresponding author

Meyliana

School of Information Systems, Bina Nusantara University, Jakarta 11480, Indonesia Email: meyliana@binus.edu

Kongkiti Phusavat

Center for Advanced Studies in Industrial Technology and Faculty of Engineering, Kasetsart University, Bangkok 10900, Thailand Email: fengkkp@ku.ac.th

Abstract: The trend of citizen journalism enables people to actively share knowledge. This research aimed to analyse which factors influence the individual to share knowledge in citizen media. Our research model was organised using stimulus-organismic-response (SOR) framework by focusing stimulus from social and technological environment. The five points Likert scale questionnaire was developed and distributed to 850 Kompasiana's contributors (the largest citizen media platform in Indonesia) via message feature, thus obtaining 295 valid respondents who fill the questionnaire completely. Those data then were analysed by structural equation modelling method using AMOS 22.0. The result shows that both social and technological environment significantly influences the intention to share knowledge.

Keywords: knowledge sharing; citizen media; citizen journalism; social environment; stimulus-organismic-response model; technological environment; web communities; Indonesia.

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Reference to this paper should be made as follows: Fitriani, H., Hidayanto, A.N., Budiardjo, E.K., Meyliana and Phusavat, K. (2016) 'Factors influencing the intention to share knowledge in citizen media with stimulus-organismic-response framework', *Int. J. Web-Based Communities*, Vol. 12, No. 4, pp.419–438.

Biographical notes: Hana Fitriani obtained her Bachelor's degree in Information Systems from Universitas Indonesia. She is working as a Business Analyst in an online media company in Jakarta. Her research interests are related to information systems and knowledge management.

Achmad Nizar Hidayanto is the Head of Information Systems/Information Technology Stream, Faculty of Computer Science, Universitas Indonesia. He received his PhD in Computer Science from Universitas Indonesia. His research interests are related to information systems/information technology, e-learning, e-commerce, e-government, information systems security, change management, knowledge management and information retrieval.

Eko K. Budiardjo has been a faculty member of the Faculty of Computer Science – University of Indonesia since 1985. Majoring in Software Engineering as professional track record, he has made some scientific contribution such as software requirement specification (SRS) patterns representation method, ZEF framework, and front CRM framework. Graduated from Bandung Institute of Technology (ITB) in 1985, he holds Master of Science in Computer Science from the University of New Brunswick – Canada in 1991, and awarded Philosophical Doctor in Computer Science from Universitas Indonesia in 2007. Currently, he is the Chairman of The Indonesian ICT Profession Society (IPKIN).

Meyliana has been a faculty member of the School of Information Systems – Bina Nusantara University since 1997. Her research interests are business process management, enterprise system, customer relationship management, e-business and information system development. She earned her Master in Management of Information Systems from Bina Nusantara University. She received her PhD in Computer Science from University of Indonesia. Currently, she is the Deputy Vice Rector Operational of Alam Sutera Campus and Rector's Office Manager, Bina Nusantara University.

Kongkiti Phusavat is a Professor at the Faculty of Engineering, Kasetsart University. He received his Doctoral degree from Virginia Tech's Department of Industrial and Systems Engineering, USA. His research areas include productivity and quality management, and acquisition logistics.

1 Introduction

Web 2.0 is a common phrase in describing the website technology which users can make and share their own content independently (Thomson, 2008). The emergence of Web 2.0 allows users not to interact passively with the website only, but also contribute actively by sharing the content. One of the consequences of Web 2.0 is the concept of citizen journalism. Citizen journalism is a process of gathering, analysing, and distributing information and news from the civil society though they are not a journalist.

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This phenomenon then triggers the raising of platform enhancing citizen journalism, popularly called citizen media. Since citizen media is similar to and basically uses a concept of blog, hence it depends largely on the participation and contribution of its members. The prominent activity of blogging and citizen journalism is knowledge transfer among the members (Kumar and Thondikulam, 2005). It is followed by the challenging part to encourage members to contribute and share their knowledge (Hsu and Lin, 2008). Furthermore, citizen media does not give monetary reward as the contribution to its members. So, it becomes important to find the factors influencing members to contribute and share their knowledge.

Recent researches had examined the factors involved in knowledge sharing, like social asset (Chang and Chuang, 2011; Wasko and Faraj, 2005; Aslam et al., 2013), social cognitive aspect (Hsu et al., 2007; Oo Tha, 2014), motivation (Bock et al., 2005; Yang and Lai, 2010; Chang and Chuang, 2011; Wasko and Faraj, 2005), trust (Chai and Kim, 2010; Chao et al., 2014; Hsu et al., 2007), performance model of expectancy theory (Cho and Jahng, 2014), and technology acceptance (Hsu and Lin, 2008; Lu et al., 2009; Miralbell, 2015). Nonetheless, there has not been a specific research evaluating environmental factor specifically. Besides, environment is a significant factor influencing the intention to share knowledge as what Carlson and Davis (1998) found in their research of technological environment. Technology can create the environment that makes members share knowledge easier and more flexible (Yu et al., 2010). Another significant environmental factor is social environmental factor influencing user's intention to share knowledge. In this research, environmental factor is divided into social environment.

This research uses stimulus-organismic-response (SOR) framework that is adapted from environmental psychology. SOR framework says that aspects within environment act as stimulus (S) that influences someone's state (O) and then resulting on how he/she responses (R) (Mehrabian and Russell, 1980). SOR framework is able to proceed applicative model in explaining how individual's internal reaction and behaviour response as a consequences of environmental stimulus (Zhang et al., 2014). Counting on SOR framework, this research seeks the relation between environment in citizen media platform and contribution of user.

The case study is Kompasiana, one of the biggest and most popular citizen media platforms in Indonesia. The contributors of Kompasiana, which called Kompasianer, can share numerous contents of various topics such as politic, economic, technology, local news, etc. This platform also allows the contributors to interact and communicate to each other so then prompts the community forming. However, according to Nurulloh, content manager of Kompasiana, only 30% of members who are contribute actively, otherwise; the remaining are passive readers. It may be concluded that the intention to share knowledge is not coming along with the numerous amount of members.

The rest of this paper is organised as follow: Section 2 discusses about literature review and theoretical background; Section 3 accentuates the model on this research; Section 4 describes the method used in this research; Section 5 presents the result of the study; Section 6 discusses the discussion and implication; Section 7 emphasises the conclusion.

2 Theoretical background

2.1 Knowledge sharing

Citizen media is a tool used by its members to share knowledge to others. Then, knowledge is a set of data and information to support the decision making process (Becerra-Fernandez and Sabherwal, 2010). Becerra defines knowledge as a justified belief of the relationship of particular concept. Based on her statement, knowledge is a way more substantial and valuable than data and information.

The process involving knowledge in citizen media is knowledge sharing. This process happened only when knowledge is successfully transferred from one individual to the other (Becerra-Fernandez and Sabherwal, 2010). There are three most important processes within the process of knowledge sharing. First, it should be an effective process, which means the receiver should understand the knowledge given by the sender (Becerra-Fernandez and Sabherwal, 2010). Second, message communicated is the knowledge itself, not the derivative recommendation based on knowledge. Last, this process can be done within group, department, or organisation (Becerra-Fernandez and Sabherwal, 2010).

2.2 The concept of citizen journalism

Citizen journalism is a concept adapted in citizen media where civil society have chance to publicise and share any occurrence or event happened in their vicinity and tell it with their own point of view (Khamis and Vaughn, 2011). This method is different with professional journalists that should maintain their journalism ethic code. People who are doing citizen journalism called citizen journalists. They use digital media to report the information, give the description of event, and it can be supported by photo or video (Khamis and Vaughn, 2011).

2.3 Stimulus-organismic-response (SOR) framework

SOR framework is adapted from environment psychology that contains three parts: stimulus, organismic, and response. Aspects in stimulus influence individual's internal state and cause the response of something (Mehrabian and Russell, 1980). Belk (1974) had said that environment was a factor in particular time and place that has systemic effect for individual's behaviour. According to Houston and Rothschild (1977), environment is the instance of stimulus aspect. They divided stimulus into two categories. The first one is stimulus came from particular object that becomes individual's consideration (Houston and Rothschild, 1977). In the context of knowledge sharing, usability or technology features can be a consideration for individual. Based on Goodhue and Thompson (1995), system capability helps individual finish their task and be a major factor of individual's performance (Larsen et al., 2009).

The second category is stimulus from socio-psychology environment. This stimulus emphasises on individual's expectation to the presence or absence of other individuals. For the knowledge sharing, the feedback by other member can be a stimulus to share knowledge. This is followed by Oo Tha's research that found that feedback by other individual influences cognitive side (Oo Tha, 2014).

Organismic is an individual's state to process stimulus that came to him/her (Jacoby, 2002). It also divided into two types. The first one is individual's degree of familiarity to a product or system. Second type is how individual interacts with value of the product or system.

According to Jacoby (2002), organismic is emotional and cognitive state of individual on a system like experience, knowledge, trust, and attitude from individual. Based on the theory, individual's cognition like knowledge self-efficacy and reputation are organismics. Enjoyment is an organismic as well because it describes how individual interacts with the system.

Response comes from the cognitive and attitude of individual that affects the process of decision making (Arora, 1982). For the context of knowledge sharing, individual interacts with the environment that is presented by its technological and social environment. This interaction then influences the cognition and experience of individual. Those are factors triggering individual to share knowledge.

3 Hypotheses development

3.1 Stimulus (S)

Feedback is a form of advice, critiques, or information relating to individual's performance upon particular task (Oo Tha, 2014). Individual can feel more competence and in consequence affects her/his achievement (Barr and Conlon, 1994). According to Bock et al. (2005), feedback constitutes the motivation to share knowledge since individual can reckon his/her performance of contribution. Therefore, hypotheses are as following:

- H1 Feedback has relationship with reputation.
- H2 Feedback has relationship with knowledge self-efficacy

Social reward, such as status and achievement, is a decoy that can increase the intensity of behaviour. In the context of citizen media, Kompasiana implements social reward to appreciate the contributors. They put the qualified and comprehensive articles into the 'featured', 'highlight, 'headline, or 'highlight' columns in the front page. This mechanism allows other members to notice the article so that it will elevate contributor's reputation. This is followed by cognitive evaluation theory (CET) (Deci and Ryan, 1985) that accentuates social reward as a factor that affects individual's cognitive aspect. Hence, we propose the following hypotheses:

- H3 Social reward has relationship with reputation
- H4 Social reward has relationship with knowledge self-efficacy

Kompasiana as the citizen media provides feature for its contributors to share their knowledge directly in the system. By using this feature, contributors can make their own articles, modify the content, attach the picture and video, and also publicise their articles in particular channel. This feature let contributors utilise the system to share their knowledge.

The compatibility between technology and task is one of the prominent factors to improve user's performance (Goodhue and Thompson, 1995). The more suitable the technology to the task's specification, the more it can improve contributor's accomplishments. Larsen et al. (2009) also found that the compatibility leads to the level of utility of contributor. The research done by Chen et al. (1999) states the utility upon to the system can make contributor feels comfortable and enjoy. Therefore, the hypothesis is:

H5 Task-technology fit has relationship with enjoyment.

As stated by Phang et al. (2009), the usability is a system's capability to be used easily and effectively. Hornbæk (2006) found that usability is formed by the relationship between technology, task, and individual. This is related to how individual feels control of the technology. Control is a notable factor for individual to enjoy the system since he/she will not be comfortable when being anxious (Chen et al., 1999). So, it can be said that usability is a salient component to make individual enjoy and comfortable. Hence, the hypothesis is:

H6 Usability has relationship with enjoyment

3.2 Organismic

According to the social exchange theory (Emerson, 1976), individual is interacting to each other in order to gain acknowledgement of appreciation and recognition. Reputation constitutes one of the significant assets of individual to escalate his/her status. When he/she shares his/her knowledge, individual believe that his/her participation will gain the respect and elevate his/her status (Wasko and Faraj, 2005). This finding is consistent with prior research that reputation is the strong motivation to share knowledge (Davenport and Prusak, 2000) and affects individual's behaviour when sharing knowledge (Hsu and Lin, 2008). Hence, the following hypothesis is:

H7 Reputation has relationship with intention to share knowledge.

Self-efficacy is the individuals' degree of belief upon his/her capability on completing the task and reaching the goal. Individual's knowledge self-efficacy is degree of belief that his/her knowledge can be useful for other people (Kankanhalli et al., 2005). The prior research stated the evidence that individual with higher self-efficacy has bigger motivation to share knowledge (Lai and Chen, 2014; Kuo and Young, 2008; Papadopoulos et al., 2013). Therefore, the hypothesis is:

H8 Knowledge self-efficacy has relationship with the intention to share knowledge.

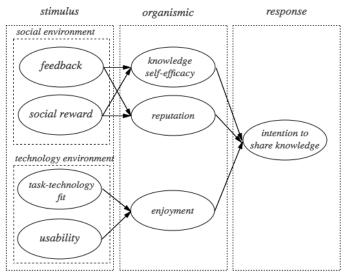
Enjoyment is a condition where individual found that using technology is pleasure activity (Davis et al., 1992). Research done by Davis et al. (1992) and Venkatesh et al. (2002) revealed that enjoyment is a factor that encourages individual's intention to share knowledge.

Yi and Hwang (2003) in their research also accentuates that enjoyment has significant effect on how individual decides to use the technology. In the context of citizen media, once a contributor feels comfort and with the system within the platform, then he/she tends to use citizen media as a medium to share his/her knowledge. Hence, the hypothesis is as follow

H9 Enjoyment has relationship with intention to share knowledge.

Based on the hypotheses mentioned above, the research model is illustrated in Figure 1.

Figure 1 Hypotheses and research model design



4 Research methodology

The research method used is quantitative approach that uses deductive logic, generalises a phenomenon, and assumes that the phenomenon is a result of other phenomenon (Martono, 2012). This research denotes the survey research and uses questionnaire as the instrument. The survey was done by sending questionnaires to the samples of particular population. The result from questionnaires is generalised and used to depict the condition of particular population.

4.1 Data collection

Population of this research is all contributors within Kompasiana. Based on the report from Kompasiana, the number of contributors reaches more than 280,000 people. This number is increasing every day.

The sample used on this research is the contributors who active within the last one to two months. The sample was chosen by observing profiles that appeared on the front page of Kompasiana.

In this research, questionnaires are spread to targeted respondents with the help of messaging feature in Kompasiana. We sent message to each profile of respondent and gave the online questionnaire address. The respondents fulfilled the questionnaires via Typeform. Respondents must mention their unique ID in Kompasiana to prevent duplicate data. The profile of our respondents can be seen in Table 1.

Measure	Items	Frequency	Percentage
Gender	Male	224	76
	Female	71	24
Age	Under 20	17	6
	20-40	185	62
	40–60	88	30
	Over 60	5	2
Duration of membership	Under one year	87	30
	One to two year	60	20
	Two to four year	78	26
	Over four year	70	24
Frequency of	1-25 articles	78	27
contribution	26-100 articles	68	23
	101-300 articles	74	25
	301-500 articles	33	11
	Over 500 articles	42	14

 Table 1
 Respondent demographics

From the total of 850 questionnaires, was obtained 295 data with 34.7% response rate. This number has complied minimum sample needed in SEM.

4.2 Research instrument

Research instruments are adapted from prior researches and the instruments are arranged in a questionnaire using five points Likert scale. By using this scale, respondent were asked about their opinion of particular statement whether they agree or not. The list of questions in our instrument can be seen in Table 2.

Table 2Research instruments

Code	Statement	References
FE1	My article got feedback from other member in Kompasiana if my article was interesting	Oo Tha (2014)
FE2	My article was get the rating from other member in Kompasiana	
SR1	My article was put into 'Teraktual/actual' column if it got many ratings from other members	Oo Tha (2014)
SR2	My article was put into 'Bermanfaat/useful' column if it got many ratings from other members	
SR3	My article was put into 'Inspiratif/inspiring' column if it got many ratings from other members	
SR4	My article was put into 'Menarik/interesting' column if it got many ratings from other members	
SR5	My articles was shared by other members through social media if my article was interesting and useful	

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Table 2	Research instruments (continued)		
Code	Statement	References	
In helpir	g me to write an article in Kompasiana:		
TTF1	The functionality of Kompasiana was adequate	Lin and Huang	
TTF2	The functionality of Kompasiana was appropriate	(2008)	
TTF3	The functionality of Kompasiana was useful		
TTF4	The functionality of Kompasiana was very helpful		
TTF5	The functionality of Kompasiana was compatible with the task		
USA1	Overall, I understood easily the interface of Kompasiana	Hidayanto	
USA2	I found it was easy to learn Kompasiana	et al. (2013) and Lee et al.	
USA3	I found it was easy and fast to find what I want in Kompasiana	(2015)	
USA4	I found it was easy to use Kompasiana		
USA5	I could remember easily how to use Kompasiana		
RE1	I felt appreciated by other members when I wrote my article in Kompasiana	Lai and Chen (2014)	
RE1	I thought, making the article in Kompasiana could leverage my status		
RE1	I thought, making the article in Kompasiana could leverage my reputation		
KSE1	I had the ability to write an article in Kompasiana	Lin and	
KSE2	I felt confident with my capability in writing useful article	Hwang (2014)	
KSE3	Other contributors could make the better articles than me		
EN1	When I participated in Kompasiana, I felt enjoy	Papadopoulos	
EN2	I enjoyed to share my knowledge in Kompasiana	et al. (2013) and Hsu and	
EN3	It is a pleasure to use Kompasiana	Lin (2008)	
IKS1	To participate in Kompasiana was useful	Hsu and Lin (2008), He and Wei (2009) and Lai and Chen (2014)	
IKS2	I intended to continue using Kompasiana to write my opinion and knowledge		
IKS3	I intended to continue using Kompasiana to share my opinion and knowledge		
IKS4	If I had opinion or article of particular topic, I would consider to share and write in Kompasiana		

Table 2Research instruments (continued)

4.3 Data analysis

Method used to analyse the collected data is statistic with multivariate technique called structural equation modelling (SEM). SEM constitutes the technique that can explain relationship between variables. Microsoft Excel and AMOS 22.0 were used to process the collected data.

5 Results

In order to reckon research model, it is needed to test the measurement model and then followed by structural model (Wijanto, 2008). Measurement model represents the theory that shows how a construct is formed by manifest variables. Meanwhile, the structural model depicts about how the latent or constructed variables are interconnected.

5.1 Measurement model

Measurement model test is based on the result of reliability and validity test. To test the validity of the model, we have to see the value of loading factor and goodness of fit from each indicator. The value of loading factor indicates the relation between indicator and its variable. According to Hair et al. (2014), the acceptable value of loading factor is above 0.5. Table 3 shows loading factor values of each instrument. The instrument KSE3 was removed because it did not meet the lower limit of loading factor.

/ test

Indicators	Loading factor	AVE	CR
Feedback		0.770	0.919
FE1	0.892		
FE2	0.674		
Social reward		0.593	0.992
SR1	0.851		
SR2	0.914		
SR3	0.945		
SR4	0.937		
SR5	0.524		
Task-technology fit		0.837	0.992
TTF1	0.827		
TTF2	0.849		
TTF3	0.899		
TTF4	0.817		
TTF5	0.808		
Usability		0.703	0.991
USA1	0.783		
USA2	0.823		
USA3	0.781		
USA4	0.868		
USA5	0.844		
Reputation		0.775	0.980
RE1	0.530		
RE2	0.940		
RE3	0.888		

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Indicators	Loading factor	AVE	CR
Knowledge self-efficacy		0.576	0.974
KSE1	0.891		
KSE2	0.880		
KSE3	-0.341		
Enjoyment		0.738	0.984
EN1	0.734		
EN2	0.825		
EN3	0.863		
Intention to share knowledge		0.661	0.990
IKS1	0.825		
IKS2	0.918		
IKS3	0.911		
IKS4	0.971		

 Table 3
 Results of validity and reliability test (continued)

Reliability can be seen from the average variance extracted and construct reliability numbers. *Average variance constructed* (AVE) is the mean value from the sum of squares of all loading factors from each instrument. The minimal acceptable value of AVE is 0.5 and construct reliability is 0.7 (Santoso, 2014). The result of reliability test can be seen at Table 3 that shows both AVE and construct reliability value meet the standard.

After reckoning the loading factor, we measure the fitness of the model by looking at goodness of fit values. There are several indexes to measure goodness of fit as shown at Table 4. Based on Table 4, overall, the model has good fitness value.

Measurement index	Limit	Result	Note
DF	> 0	368	
Chi-square	As small as possible	472.337	
GFI	> 0.8	0.801	Good fit
RMR	As small as possible	0.145	Good fit
NC	≤2	1.284	Good fit
NFI	> 0.9	0.936	Good fit
RMSEA	< 0.05	0.034	Good fit
CFI	≥ 0.9	0.999	Good Fit
TLI	≥ 0.9	0.999	Good fit

 Table 4
 Results of goodness-of-fit test

In the testing process, there is new path between usability and task-technology fit. This relationship is in line with the research from Yu et al. (2012) which found that there is a significant relationship between usability and task-technology fit. The usability accounts the easiness of individual when using technology (Nielsen, 2000). Research from Mathieson and Keil (1998) also showed that task-technology fit affected ease of use

significantly. Therefore, relationship between usability and task-technology fit is considered as a new path.

5.2 Structural model

After testing measurement model, then the structural model testing. In this occasion, we did hypothesis testing to measure the significance level of relationship between variables that was mentioned at hypothesis. The p-value of each relationship must be below α (5%) or |C.R| > 1.96 which means exogenous construct has significant association to endogen construct with 5% of error level (Hair et al., 2014). Based on the calculation of p-value and CR shown in Table 5, seven hypothesises were accepted and two hypothesises were rejected out of nine.

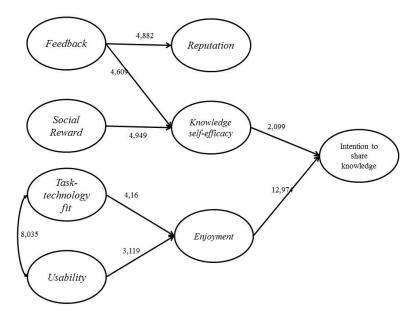
Нуров	thesis	C.R	Р
H1	Reputation \leftarrow feedback	4.882	***
H2	Knowledge self-efficacy \leftarrow feedback	4.609	***
H3	Reputation ← social reward	1.271	0.204
H4	Knowledge self-efficacy \leftarrow social reward	4.949	***
Н5	Enjoyment ← task-technology fit	4.16	***
H6	$Enjoyment \leftarrow usability$	3.119	0.002
H7	Intention to share knowledge \leftarrow reputation	0.74	0.459
H8	Intention to share knowledge \leftarrow knowledge self-efficacy	2.099	0.036
H9	Intention to share knowledge \leftarrow enjoyment	12.974	***

 Table 5
 Results of structural model test

6 Discussion and implication

6.1 Discussion

The result from the measurement found the result model as shown in Figure 2. It can be seen that both social and technological environment stimulus have salient impact to their organismics. Meanwhile, the technological environment factor has the stronger impact to the intention to share knowledge, rather than social environment. It was seen in the stronger relationship between enjoyment and intention to share knowledge, compare to individual's cognitive. Figure 2 also illustrates the new path between usability and task-technology fit with high significance. This path indicates the relationship between those variables.





6.1.1 Relationship between social environment and individual cognition

This study shows that the social environment has a direct relationship with individual cognition. Social environment, which is represented by feedback and social reward, affect the level of individual cognition represented by reputation and knowledge self-efficacy.

Figure 2 shows that the reputation of the individual only significantly influenced by feedback, and not by social rewards. Furthermore, it can be seen that feedback and social reward has a significant relationship to knowledge self-efficacy. However, feedback gives a more significant influence on knowledge self-efficacy. Feedback also has a significant influence on reputation. From Figure 2, it concluded that feedback has a more significant impact than social rewards in influencing individual cognition.

In the theory of extended cognition, Clark and Chalmers (1998) accentuate that human's organismic is linked strongly with external entity in two-way interaction. It was said that cognition is not only within human brain but also coupled with its environment. Clark and Chalmers (1998) also found that human cognition leans heavily on environmental support. In Kompasiana case, human cognitive is represented by knowledge self-efficacy which is depended on social system in Kompasiana, namely feedback and social reward. When social environment easily supports human's need, this will be the resource and coupled with cognitive package in human's brain. Hence, both feedback and social reward in technological environment can encourage cognitive process in human mind.

The study's result confirms the CET (Deci and Ryan, 1985), where environmental aspects can affect individual cognition. The study conducted by Deci and Ryan (1985) and Harackiewicz (1979) indicated that social reward and feedback given to individuals could increase motivation and competence. This means that knowledge self-efficacy is influenced by feedback given. In Kompasiana system, a contributor can give a feedback to others in the forms of comment or rating to a particular article. By having feedback from others, a contributor feels more appreciated and confident with his/her knowledge.

Similarly, social rewards given by others could increase individual confidence to his/her knowledge. In Kompasiana system, if a contributor gets more ratings from other contributors, the article will go into a special column on the front page. This social reward given by Kompasiana is able to increase the confidence of the contributors of their knowledge.

Unfortunately, social reward does not significantly affect the individual reputation. The argument is that special column provided by Kompasiana is located less visible and covered by other larger columns such as Headline, featured article, or highlights. So that it is not able to boost the individual reputation.

6.1.2 Relationship between technological environment and enjoyment

Our research results indicate that the technological environment has a significant influence to individual enjoyment in using Kompasiana. Technological environments, which is represented by task-technology fit and usability, has a significant relationship with individual enjoyment. Figure 2 shows that task-technology gives more influence to enjoyment, rather than the usability does. In addition, we also found a new significant path that relates between task-technology fit and usability that we did not include in our initial model.

The influence of task-technology fit to individual enjoyment is in line with results of Goodhue and Thompson (1995), which shows that the more relevant and supportive a technology for individual tasks, the higher the level of its utilisation. The same finding also was found by Larsen et al. (2009) which showed that the task-technology fit can increase the utilisation level of a technology. Larsen et al. (2009) also found that high utilisation of a technology had a significant impact on the continuation of individuals in using the technology. This is consistent with study of Chen et al. (1999) which showed that the utilisation level increases the sense of comfort and pleasure in using the technology.

Kompasiana provides functions and features to its contributors to share knowledge directly through the system. Through these features, a contributor can write a text, modify a text, attach a media, and publish an article directly. This makes the contributor feel happy and can utilise Kompasiana to contribute and share his/her knowledge.

The relationship between usability and individual enjoyment is reinforced by several results of previous researches. Hornbæk (2006) stated that usability has a significant impact to individual control in using technology. Chen et al. (1999) in his research indicated that control becomes an important thing for individuals to get a sense of pleasure and comfort in using technology.

Suchman (2007) found that the obscurity when user interacts with machine or system is not because of lacking technology sophistication, but lacking familiarity and easiness. The system which is too complicated brings obscurity and uncomfortable condition for user. Suchman suggested that machine should have self-explanatory system that allowed user to easily understand. This is also accentuated by Fogg (2009) that one of three important factors to create behaviour is user ability. Therefore, machine or system should provide an easy and familiar interaction between human and computer.

Navigation in Kompasiana facilitates contributors to explore the system. Kompasiana arranges the category of knowledge according to popular topics such as politics, economics, lifestyle, media, young people, etc. Kompasiana also provides direct button to write an article on the front page. Navigation and display make it easy for contributors to understand and find what they need in Kompasiana. This easiness then gives pleasure and comfortable to contributors in sharing knowledge in Kompasiana.

The close relationship between usability and task-technology fit is in line with the research result of Yu et al. (2012) which stated that there is a significant relationship between task-technology fit and usability. The same also was found by Mathieson and Keil (1998) which concluded that the task-technology fit significantly affects the ease of individuals in using the system (Phang et al., 2009).

6.1.3 Relationship between individual cognition and intention to share knowledge

Social cognitive theory by Bandura (1986) shows that individual cognition has an influence on behaviour. Knowledge self-efficacy, as a form of individual cognition, has an influence on the individual's intention to share his/her knowledge (Hidayanto et al., 2015; Kuo and Young, 2008; Lai and Chen, 2014). Individual, who have knowledge self-efficacy, believes that their knowledge give benefits for others. Thus, knowledge self-efficacy eventually influences individual motivation in sharing knowledge.

Individual cognition is also represented by reputation. According to Hsu and Lin (2008) and Davenport and Prusak (2000), reputation has influence the intention to share knowledge. Research from Wasko and Faraj (2005) also shows a significant relationship between individual's reputation and his/her contribution in sharing knowledge. However, our study produced different result, where reputation did not show any significant relationship to knowledge sharing intention. Our finding is in line with the results of Lai and Chen (2014), which indicated that there is no significant effect of the reputation on knowledge sharing intention.

The argument regarding to the citizen media is that the contributors in Kompasiana are not motivated to get a high reputation. One of possible reasons is no status level that clearly distinguishes between contributors who have a lot of contribution and the ones who have not. Due to lack of levels, the contributor might not feel the importance of the status and reputation in Kompasiana.

6.1.4 Relationship between enjoyment and intention to share knowledge

Results from this study showed that there is a relationship between enjoyment and individual's intention to share knowledge. This result is consistent with the result of previous studies of Lai and Chen (2014), which showed the significant relationship between enjoyment and the intention to share knowledge. This result is also in line with the result of Hsu and Lin (2008), which indicated that enjoyment, has a substantial effect on individual attitudes toward technology. Although not direct, Hsu and Lin's research suggests a path between individual enjoyment and the intention to share knowledge. This result is also strengthened by the result of Venkatesh et al. (2002) which showed that the

enjoyment received by individual becomes a determinant that motivate him/her to do something.

6.2 Implication

Regarding to the theoretical implication, this research confirms that SOR model can be applied to explore determinants of knowledge sharing intention in citizen media. The intention to share knowledge is triggered by stimulus from environment. The stimulus then affects the organismic that gives response that is the intention to share knowledge. The stimuli tested in this study are in the form of social and technological environment. The results indicate that social environment has a significant influence on individual cognition, both to reputation and knowledge self-efficacy. Moreover, the environmental technology was proven to be a stimulus for individual enjoyment. Cognition and enjoyment of individual then produce a response in the form of an intention to share knowledge. However, this study shows that the reputation has no significant effect on the intention to share knowledge.

This result can be used as guidance for citizen media management in improving its members' intention to share knowledge. In triggering the individuals' intention to share knowledge, citizen media should create an interactive social environment, and equipped with an easy environment and adequate technology.

Related to the social environment, citizen media users need to feel cared by their social environment so that they are willing to share knowledge. Also, citizen media sites need to provide functionalities for their members to interact and provide feedback to each other. The result proves that the feedback gives significant effect on individual cognition. The feedback feature can be in forms of response feature or discussion feature that enables members to discuss a particular article. In addition, citizen media also needs to provide a social rewards feature. The feature can be in forms of special award for individuals who get the most comments, or get the highest rating. In addition, the citizen media platform also can give a special status in the contributor profile to distinguish the ones who have contribute a lot or the ones who have a little contribution. This status can adapt the mechanism in social commerce platforms or recommender systems, where each member will have a credibility status. The social interactive environment proves to increase individual self-efficacy, and thus motivates individuals to continue to share knowledge.

Related to technological environment, citizen media needs to provide convenience platform for its members. The platform should be equipped with features and functionalities that will support members doing their tasks for knowledge sharing such as writing or sharing articles. In addition, the citizen media should be easy to use by its members, so that the usability factors should be paid attention by citizen media platform developers. Considering the advancement forms of knowledge, we suggest the citizen media site also provides the functionality to share any forms of knowledge such as audio, video or image, and not only text. This function is to suit with member needs in sharing any forms of knowledge.

7 Conclusions

This research analysed the environmental factors in citizen media that affects individual's intention to share knowledge. The environmental factors are divided into two separate

groups: social environment and technological environment. This research was using quantitative approach by spreading online questionnaire. Based on the analysis, it is concluded that social factor has significant influence to individual cognitive aspect. This cognitive aspect is then related to the intention to share knowledge. The significant relationship between social factor and cognitive aspect are feedback with reputation and knowledge self-efficacy, and social reward with knowledge self-efficacy. Knowledge self-efficacy is considered as significant factor influencing intention to share knowledge, though reputation is not. Moreover, the results indicate the strong relationship between technological environment (usability and task-technology fit) and enjoyment. The enjoyment feeling then affects the intention to share knowledge strongly. Also, the result reveals a new path that shows a significant relationship between usability and task-technology fit.

Acknowledgements

This research is fully supported by Universitas Indonesia through 'Hibah Riset Multidisiplin UI 2015' No. 1606/UN2.R12/HKP.05.00/2015. It is a pleasure to convey our gratitude to our university for their continuous support, particularly for research and community engagement directorate for their excellent services.

References

- Arora, R. (1982) 'Validation of an S-O-R model for situation, enduring, and response components of involvement', *Journal of Marketing Research*, Vol. 19, No. 4, pp.505–516.
- Aslam, M.M.H., Shahzad, K., Syed, A.R. and Ramish, A. (2013) 'Social capital and knowledge sharing as determinants of academic performance', *Journal of Behavioral & Applied Management*, Vol. 15, No. 1, pp.25–41.
- Bandura, A. (1986) 'The explanatory and predictive scope of self-efficacy theory', Journal of Social and Clinical Psychology, Vol. 4, No. 3, pp.359–373.
- Barr, S.H. and Conlon, E.J. (1994) 'Effects of distribution of feedback in work groups', *The Academy of Management Journal*, June, Vol. 37, No. 3, pp.641–655.
- Becerra-Fernandez, I. and Sabherwal, R. (2010) *Knowledge Management Systems and Processes*, M.E. Sharpe, New York.
- Belk, R.W. (1974) 'An exploratory assessment of situational effects in buyer behavior', *Journal of Marketing Research*, Vol. 11, No. 2, pp.156–163.
- Bock, G-W., Zmud, R.W., Kim, Y-G. and Lee, J-N. (2005) 'Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, social-psychological forces, and organizational climate', *MIS Quarterly*, Vol. 29, No. 1, pp.87–111.
- Carlson, P.J. and Davis, G.B. (1998) 'An investigation of media selection among directors and managers: from 'self' to 'other' orientation', *MIS Quarterly*, Vol. 22, No. 3, pp.335–362.
- Chai, S. and Kim, M. (2010) 'What makes bloggers share knowledge? An investigation on the role of trust', *International Journal of Information Management*, Vol. 30, No. 5, pp.408–415.
- Chang, H.H. and Chuang, S-S. (2011) 'Social capital and individual motivations on knowledge sharing: participant involvement as a moderator', *Information & Management*, Vol. 48, No. 1, pp.9–18.
- Chao, R-M., Chang, C-C. and Chang, W-Y. (2014) 'Exploring the antecedents of trust from the perspectives of uncertainty and media richness in virtual community', *International Journal of Web Based Communities*, Vol. 10, No. 2, pp.176–187.

- Chen, H., Wigand, R.T. and Nilan, M.S. (1999) 'Optimal experience of web activities', *Computers in Human Behavior*, Vol. 15, No. 5, pp.585–608.
- Cho, H. and Jahng, J. (2014) 'Factors affecting the performance of voluntary participants in the knowledge sharing virtual community', *International Journal of Web Based Communities*, Vol. 10, No. 3, pp.339–356.
- Clark, A. and Chalmers, D.J. (1998) 'The extended mind', Analysis, Vol. 58, No. 1, pp.10-23.
- Davenport, T.H. and Prusak, L. (2000) Working Knowledge: How Organizations Manage What They Know, Harvard Business School Press, Boston.
- Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. (1992) 'Extrinsic and intrinsic motivation to use computers in the workplace', *Journal of Applied Social Psychology*, Vol. 22, No. 14, pp.111–1132.
- Deci, E.L. and Ryan, R.M. (1985) Intrinsic Motivation and Self-Determination in Human Behavior, Springer Science+Business Media, New York.
- Emerson, R.M. (1976) 'Social exchange theory', Annual Review of Sociology, Vol. 2, No. 1, pp.335–362.
- Fogg, B.J. (2009) 'A behavior model for persuasive design', Proceedings of the 4th International Conference on Persuasive Technology, Article No. 40.
- Goodhue, D.L. and Thompson, R.L. (1995) 'Task-technology fit and individual performance', MIS Quarterly, Vol. 19, No. 2, pp.213–236.
- Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2014) *Multivariate Data Analysis*, Pearson Education Limited, Harlow.
- Harackiewicz, J.M. (1979) 'The effects of reward contingency and performance feedback on intrinsic motivation', *Journal of Personality and Social Psychology*, Vol. 37, No. 8, pp.1352–1363.
- He, W. and Wei, K-K. (2009) 'What drives continued knowledge sharing? An investigation of knowledge-contribution and -seeking beliefs', *Decision Support Systems*, Vol. 46, No. 4, pp.826–838.
- Hidayanto, A.N., Limupa, A., Junus, K.M. and Budi, N. (2015) 'Investigating knowledge sharing behaviour on virtual community members: integration of technological, individual and contextual factors', *International Journal of Business Information Systems*, Vol. 19, No. 2, pp.180–204.
- Hidayanto, A.N., Mukhodim, W.M., Kom, F.M. and Junus, K.M. (2013) 'A study of service quality and important features of property websites in Indonesia', *Pacific Asia Journal of the Association for Information Systems*, Vol. 5, No. 3, Article 2, pp.1–25.
- Hornbæk, K. (2006) 'Current practice in measuring usability: challenges to usability studies and research', *International Journal of Human-Computer Studies*, Vol. 64, No. 2, pp.79–102.
- Houston, M.J. and Rothschild, M.L. (1977) A Paradigm for Research on Consumer Involvement, Graduate School of Business, University of Wisconsin-Madison, USA.
- Hsu, C-L. and Lin, J.C-C. (2008) 'Acceptance of blog usage: the roles of technology acceptance, social influence and knowledge sharing motivation', *Information & Management*, Vol. 45, No. 1, pp.65–74.
- Hsu, M-H., Ju, T.L., Yen, C-H. and Chang, C-M. (2007) 'Knowledge sharing behavior in virtual communities: the relationship between trust, self-efficacy, and outcome expectations', *International Journal of Human-Computer Studies*, Vol. 65, No. 2, pp.153–169.
- Jacoby, J. (2002) 'Stimulus-organism-response reconsidered: an evolutionary step in modeling (consumer) behavior', *Journal of Consumer Psychology*, Vol. 12, No. 1, pp.51–57.
- Kankanhalli, A., Tan, B.C.Y. and Wei, K-K. (2005) 'Contributing knowledge to electronic knowledge repositories: an empirical investigation', *MIS Quarterly*, Vol. 29, No. 1, pp.113–143.

- Khamis, S. and Vaughn, K. (2011) 'Cyberactivism in the Egyptian revolution: how civic engagement and citizen journalism tilted the balance', *Arab Media and Society*, Vol. 14, No. 3, pp.1–25.
- Kumar, S. and Thondikulam, G. (2006) 'Knowledge management in a collaborative business framework', *Information Knowledge Systems Management*, Vol. 5, No. 3, pp.171–187.
- Kuo, F-Y. and Young, M-L. (2008) 'Predicting knowledge sharing practices through intention: a test of competing models', *Computers in Human Behavior*, Vol. 24, No. 6, pp.2697–2722.
- Lai, H-M. and Chen, T.T. (2014) 'Knowledge sharing in interest online communities: a comparison of posters and lurkers', *Computers in Human Behavior*, Vol. 35, No. 1, pp.295–306.
- Larsen, T.J., Sørebø, A.M. and Sørebø, Ø. (2009) 'The role of task-technology fit as users' motivation to continue information system use', *Computers in Human Behavior*, Vol. 25, No. 3, pp.778–784.
- Lee, D., Moon, J., Kim, Y.J. and Yi, M.Y. (2015) 'Antecedents and consequences of mobile phone usability: linking simplicity and interactivity to satisfaction, trust, and brand loyalty', *Information & Management*, Vol. 52, No. 3, pp.295–304.
- Lin, H. and Hwang, Y. (2014) 'Do feelings matter? The effects of intrinsic benefits on individuals' commitment toward knowledge systems', *Computers in Human Behavior*, Vol. 30, No. 1, pp.191–198.
- Lin, T.C. and Huang, C.C. (2008) 'Understanding knowledge management system usage antecedents: an integration of social cognitive theory and task technology fit', *Information & Management*, Vol. 45, No. 6, pp.410–417.
- Lu, Y., Zhou, T. and Wang, B. (2009) 'Exploring Chinese users' acceptance of instant messaging using the theory of planned behavior, the technology acceptance model, and the flow theory', *Computers in Human Behavior*, Vol. 25, No. 1, pp.29–39.
- Martono, N. (2012) Metode Penelitian Kuantitatif Analisi Isi dan Analisi Data Sekunder, PT Raja Grafindo Persada, Depok.
- Mathieson, K. and Keil, M. (1998) 'Beyond the interface: ease of use and task/technology', *Information & Management*, Vol. 34, No. 4, pp.221–230.
- Mehrabian, A. and Russell, J.A. (1980) An Approach to Environmental Psychology, The MIT Press, Cambridge, MA, US.
- Miralbell, O. (2015) 'Use of social networking sites for knowledge exchange', *International Journal of Web Based Communities*, Vol. 11, No. 1, pp.42–56.
- Nielsen, J. (2000) Designing Web Usability, Macmillan Computer Publishing, Italy.
- Oo Tha, K.K. (2014) 'What drives continued sharing knowledge in the electronic network of practice: the case of Wikipedia', *Proceedings of Americas Conference on Information Systems (AMCIS)*.
- Papadopoulos, T., Stamati, T. and Nopparuch, P. (2013) 'Exploring the determinants of knowledge sharing via employee weblogs', *International Journal of Information Management*, Vol. 33, No. 1, pp.133–146.
- Phang, C.W., Kankanhalli, A. and Sabherwal, R. (2009) 'Usability and sociability in online communities: a comparative study of knowledge seeking and contribution', *Journal of the Association for Information Systems*, Vol. 10, No. 10, pp.721–747.
- Santoso, S. (2014) Konsep Dasar dan Aplikasi SEM dengan AMOS 22, PT Elex Media Komputindo, Jakarta.
- Suchman, L.A. (2007) *Human-Machine Reconfigurations: Plans and Situated Actions*, Cambridge University Press, New York.
- Thomson, H. (2008) Wikis, Blogs & Web 2.0 Technology [online] http://www.unimelb.edu.au/ (accessed 10 February 2016).
- Venkatesh, V., Speier, C. and Morris, M.G. (2002) 'User acceptance enablers in individual decision making about technology: toward an integrated model', *Decision Sciences*, Vol. 33, No. 2, pp.297–316.

- Wasko, M.M. and Faraj, S. (2005) 'Why should i share? Examining social capital and knowledge contribution in electronic network of practice', *MIS Quarterly*, Vol. 29, No. 1, pp.35–57.
- Wijanto, S.H. (2008) Structural Equation Modeling dengan Lisrel 8.8: Konsep dan Tutorial, Graha Ilmu, Yogyakarta.
- Yang, H-L. and Lai, C-Y. (2010) 'Motivations of Wikipedia content contributors', Computers in Human Behavior, Vol. 26, No. 6, pp.1377–1383.
- Yi, M.Y. and Hwang, Y. (2003) 'Predicting the use of web-based information systems: selfefficacy, enjoyment, learning goal orientation, and the technology acceptance model', *International Journal of Human-Computer Studies*, Vol. 59, No. 4, pp.431–449.
- Yu, T-F., Lee, Y-C. and Wang, T-S. (2012) 'The impact of task technology fit, perceived usability and satisfaction on M-learning continuance intention', *International Journal of Digital Content Technology & its Application*, Vol. 6, No. 6, pp.35–42.
- Yu, T-K., Lu, L-C. and Liu, T-F. (2010) 'Exploring factors that influence knowledge sharing behavior via weblogs', *Computers in Human Behavior*, Vol. 26, No. 1, pp.32–41.
- Zhang, H., Lu, Y., Gupta, S. and Zhao, L. (2014) 'What motivates customers to participate in social commerce? The impact of technological environments and virtual customer experiences', *Information & Management*, Vol. 51, No. 8, pp.1017–1030.