

Factors Affecting Knowledge Sharing Behavior in The Virtual Teacher Community “Duta Rumah Belajar”

Devialina Puspita¹, Aida Vitayala Hubeis², Pudji Muljono³

¹ IPB University, Bogor, Indonesia; devialinapuspita@apps.ipb.ac.id

² IPB University, Bogor, Indonesia; aidavitayala@yahoo.com

³ IPB University, Bogor, Indonesia; pudjimuljono@gmail.com

ARTICLE INFO

Keywords:

Knowledge sharing;
Social Capital;
Individual Motivation;
Technology;
Virtual teacher community

Article history:

Received 2022-02-17

Revised 2022-04-10

Accepted 2022-07-28

ABSTRACT

The purpose of this study was to examine the relationship of social capital variables (social ties, social trust, and shared vision), individual motivation (self-efficacy, altruism, and reciprocal norms), and technology (perceived ease of use and enjoyment of participation) on knowledge sharing intention variable, and the relationship between knowledge sharing intention variable on knowledge sharing behavior variable. This study involved 128 outstanding teachers as respondents from the online community ‘Duta Rumah Belajar’, representing 34 provinces in Indonesia. PUSDATIN strictly selected these teachers, the Ministry of Education, Culture, Research, and Technology, to promote the Rumah Belajar portal. Data analysis used the Chi-Square method and the Structural Equation Model Partial Least Square (SEM PLS). The results showed that individual motivation had a significant effect on knowledge-sharing intentions. Social capital and technology had no significant impact on knowledge sharing intentions. Knowledge sharing intentions substantially affected knowledge sharing behavior, and there were no differences in individual characteristics of all research variables.

This is an open access article under the [CC BY-NC-SA](https://creativecommons.org/licenses/by-nc-sa/4.0/) license.



Corresponding Author:

Devialina Puspita

IPB University, Bogor, Indonesia; devialinapuspita@apps.ipb.ac.id

1. INTRODUCTION

Knowledge is very important for both individuals and organizations, knowledge as a strategic resource in creating opportunities to increase success, competitiveness and competitive advantage (Nonaka & Takeuchi, 1995). Organizations place knowledge as an important factor in the formation, use, and distribution of information to strengthen knowledge capital within the organization in global competition. Today, the sustainability and success of an organization depends on how the organization can manage the intangible assets that exist in human resources (HR), both skills and knowledge, and the extent to which the organization is responsive to changes that occur. Therefore, the organization in an

organization needs to be managed in order to be able to feel the benefits. According to (Tiwana, 2002), Knowledge Management (KM) collects various knowledge assets owned by an organization, both secretly and explicitly, to be valuable for its users to carry out their activities and the organization. (Becerra-Fernandez & Sabherwal, 2010) explains that knowledge sharing is a process in which explicit and tacit knowledge is communicated to other individuals, the transfer of ideas, suggestions, and expertise between individuals that help each other in solving problems. With the development of information technology, especially the internet, the development of transformation and integration of information is increasingly rapid. The internet in daily human activities has shifted communication from traditional communication to online communication using social media and social networks (Papadopoulos, Stamati, & Nopparuch, 2013). Several studies related to online communities show that the use of online communities in organizations is more practical and efficient to facilitate knowledge sharing among members.

Online communities are groups that join with the same interests that are connected via the internet on certain social media without being limited by geography and demographics, which are informal with anyone, anytime and anywhere (M. Zhang, Gao, Sun, & Bi, 2020). One community that actively shares knowledge is the Duta Rumah Belajar (DRB) community. DRB is a community of professional teachers selected annually through a rigorous selection process in 34 provinces by the Ministry of Education and Culture through the Information and Communication Technology Center (Pusdatin). The main task of DRB is to promote the Rumah Belajar portal. Rumah Belajar portal is a learning portal that makes it easier for students, educators, education personnel, and the general public to find various learning resources, virtual learning models, applications, and online training models (Pusdatin, 2019).

Various factors influence the process of sharing knowledge. (Okyere-Kwakye & Nor, 2011) found that the influence of individual factors in sharing knowledge has four elements: self-efficacy, Altruism, and reciprocal knowledge sharing based on social exchange theory and social cognitive theory, a theoretical basis. According to (Bandura, 1997), the self-efficacy factor is an assessment of one's ability to regulate certain behaviors. According to (Hoseini, Saghafi, & Aghayi, 2018), Altruism also relates to social cognitive theory so that individuals weigh psychological benefits before engaging in sharing their knowledge. According to (Okyere-Kwakye & Nor, 2011), the reciprocal norm also has a positive relationship with knowledge sharing. The better the interpersonal relationship for mutual knowledge sharing, the better individual behavior in sharing knowledge.

Technology has also become a consideration for sharing knowledge. Research by (Hsu & Lin, 2008) found that perceived ease of use significantly affects knowledge sharing behavior. Other studies present social capital factors. According to (Ridings, Gefen, & Arinze, 2002), in a virtual community, the members do not previously know each other; differences in regional origin, environment, and culture allow weak social ties. (Yeon, Wong, & Park, 2015) also use social capital factors in social relations, social trust, and sharing a vision. Although researchers have introduced social exchange theory in Internet contexts such as blogs (Chai & Kim, 2010; Hsu & Lin, 2008), online learning platforms (Ma & Yuen, 2011), and virtual communities (Chiu, Hsu, & Wang, 2006; Ridings et al., 2002; Wasko & Faraj, 2005), but relatively few studies provide empirical evidence on the effect of community social capital on knowledge sharing in teacher professional virtual communities.

The DRB community is selected based on a rigorous selection process bypassing several stages. The stages are level 1 online workshops (basic knowledge), level 2 online workshops (deepening of expertise), level 3 online workshops (creation), level 4 workshops (sharing), where each class has an assignment and a test. It is different from online communities, formed based on similar hobbies or awareness to exchange ideas. Therefore, researchers are interested in examining these factors in the DRB community.

Knowledge Management

The concept of Knowledge Management (KM) includes the management of human resources (HR) and information technology (IT) to create a better corporate organization so that it can win a business competition. KM is seen as an increasingly important discipline that promotes the creation, sharing, and

utilization of corporate knowledge (Becerra-Fernandez & Sabherwal, 2010). KM aims to manage experience that helps identify, select, organize, disseminate, and transfer information. According to (Becerra-Fernandez & Sabherwal, 2010), KM is an activity that involves finding, capturing, sharing, and applying knowledge to increase the influence of expertise to achieve goals cost-effectively. An illustration of the entire KM process is shown in Figure 1.

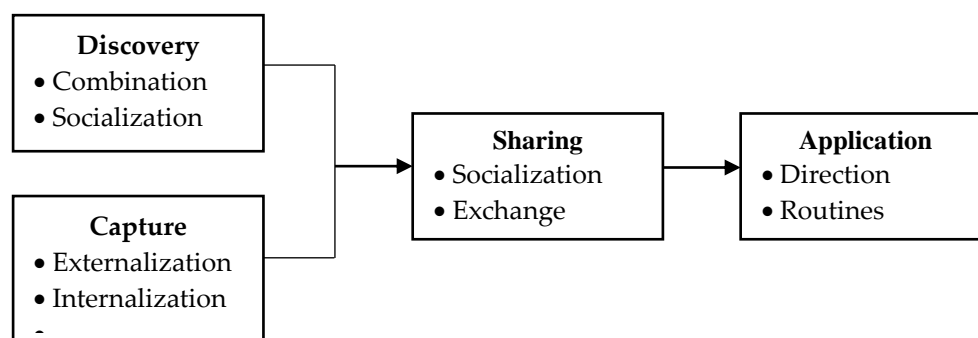


Figure 1. KM Process

Becerra-Fernandez & Sabherwal adopted the KM model from the SECI (Socialization, Externalization, Combination, and Internalization) model proposed by (Nonaka, 1994) and the exchange, direction, and routine model from (Nahapiet & Ghoshal, 1998). Knowledge discovery is exploring knowledge that can be interpreted as developing new tacit and explicit knowledge from data and information or the synthesis of previous knowledge. Knowledge capture is obtaining tacit and explicit knowledge in humans, artifacts, or organizational entities. The sub-processes of knowledge capture are (1) externalization, changing tacit knowledge to be explicit, and (2) internalization, namely converting explicit knowledge into tacit knowledge.

Knowledge sharing is the process of spreading tacit or explicit knowledge to others. The knowledge sharing sub-process is (1) socialization, namely the exchange of tacit knowledge, and (2) exchange, namely the exchange of explicit knowledge. Knowledge application is a process where knowledge is used to contribute to the organization in making decisions and carrying out work. The use of knowledge is applied into two sub-processes, namely: (1) direction, namely the process in which individual knowledge owners give suggestions to others without informing the knowledge underlying the movement; and (2) routine, namely the process of utilizing the knowledge contained in the procedures, rules, and norms that apply in the organization.

Social Capital Theory

Bourdieu first introduced the theory of social capital (1986), a whole source of actual or potential concepts related to ownership of long-lasting networks or more or less a reciprocal relationship between institutions. (Cohen & Prusak, 2001) define social capital as the willingness to have a functional relationship between humans: trust, mutually beneficial cooperation, shared values, and behaviors that bind every member of the network to work together. Several kinds of literature identify definitions that approach the social capital approach. (Portes, 1998) defines social capital as a person's ability to benefit based on membership in social networks or other social structures. (Baker, 2000) states that social capital is a resource available in personal and work networks. Meanwhile, (Coleman, 1999) defines social capital as all aspects that lead and are created to facilitate individual action in the social structure. The more social capital is integrated into an organization, the more profitable it is to create and share intellectual capital such as idea promotion, idea implementation, team innovation, and product and service innovation.

(Nahapiet & Ghoshal, 1998) propose an analytical framework that considers social capital as a multidimensional concept, namely a structural dimension which is a whole pattern of impersonal bonds in a network such as social bonds, the dimensions of relationships (relational dimensions) which are

personal and emotional attachments in a network. Actors embedded in networks, such as social beliefs and cognitive dimensions, are shared representations and meanings in networks such as shared visions.

H1: Social capital is thought to have a positive effect on the intention to share knowledge

Individual Motivation

Intrinsic and extrinsic motivations influence a person's attitude in sharing knowledge and contributions in the communities where they come from (Wasko & Faraj, 2005). In the Internet community, sharing personal knowledge occurs when individuals are motivated to carry out activities such as joining the organization, reading blogs or newsfeeds, and answering and responding to questions (Wu & Lu, 2013). Individual motivation includes self-efficacy, namely the perception of a person's ability and confidence that their knowledge can solve work-related problems. Employees who have high self-confidence in their ability to provide valuable knowledge tend to complete specific tasks (Kanaan & Ed, 2013). Altruism, (Yeon et al., 2015) used the variable pleasure in helping others or happiness in helping others, also called Altruism. This selfless attitude can influence someone voluntarily to share the knowledge that is beneficial to others. Reciprocity is considered as benefits obtained in social exchanges carried out because there is an expectation of services that are still present and will come and will end if there are no benefits in return (Chiu et al., 2006). Relationships and reciprocal norms are expected to facilitate behavioral knowledge sharing and are considered significant (Wasko & Faraj, 2005; Hsu & Lin, 2008).

H2: Individual motivation is considered to have a positive effect on the intention to share knowledge

Technology

Technology can improve performance and enable various activities to be carried out quickly, precisely, and precisely, which will increase work productivity. People usually like to use simple and easy applications. According to (Davis, 1989), perceived ease of use is "the extent to which a person believes that using a particular system will be free of effort." In research conducted by (Hung & Cheng, 2013), it was revealed that the ease of use of technology affects the perceived usefulness and has a significant effect on the intention to share knowledge. Hsu & Lin (2008) state that perceived service and ease of use significantly affect members' intention behavior in social networks. Apart from convenience, the convenience factor is also crucial in using technology. Comfort is defined as "the extent to which activities using a particular system are considered pleasurable, in addition to the performance consequences resulting from using the system" (Venkatesh & Davis, 2000).

H3: Individual motivation is thought to have a positive effect on the intention to share knowledge

Knowledge Sharing Intention and Knowledge Sharing Behavior

Theory of Reasoned Action and Theory of Planned Behavior state that a person's intention to take action will lead to his actual behavior (Ajzen & Fishbein, 1980). A person's intention to share knowledge also has a strong positive effect on their actual knowledge-sharing behavior (Chen, Chen, & Kinshuk, 2009; Lin & Lee, 2004). In line with research conducted by (Park, Gu, Leung, & Konana, 2014) that a high intention to share knowledge, information, ideas, and opinions can lead to high actuality. According to (Bechina & Bommen, 2006), knowledge sharing is a process of sharing knowledge, which is defined as exchanging knowledge between at least two parties in a reciprocal process that allows the re-formation of knowledge in a new context. Hoof & Ridder (2004) divide knowledge sharing behavior into two variables: donating knowledge and collecting knowledge. Donating knowledge is the behavior of communicating one's intellectual capital to others and Gathering Knowledge, namely individuals' behavior to consult with other individuals about their intellectual capital. These two behaviors have different characteristics and can have different effects.

H4: intention to share knowledge is thought to have a positive effect on knowledge-sharing behavior.

2. METHODS

This study has three independent variables and two dependent variables. The independent variables consist of social capital, individual motivation, and technology, linked to the dependent variable. At the same time, the dependent variable includes the variable of knowledge sharing intention

and knowledge sharing behavior. Furthermore, the intention to share knowledge will be related to knowledge-sharing behavior. The sample selection uses a probability sampling procedure with a simple random sampling method. The members of the DRB community who are the sample are randomly selected and have the same chance of being selected. The number of pieces was determined using the Slovin method. With a population of 145 people and a research alpha of 5 percent, the required sample size is at least 107 people. In this study, data were obtained from 128 respondents, representing 88.2 percent of the population. Finally, the data were analyzed by Structural Equation Modeling (SEM) with using the SMART PLS 3.2 software. SEM is a set of statistical tools or techniques that allow not only to obtain a model of the relationship and simultaneously test a series of relatively complex relationships (Mattjik & Sumertajaya, 2011). The PLS-SEM method is used by many researchers because it allows estimating complex models with many constructs, indicator variables, and structural paths without imposing distribution assumptions on the data (Hair, Jeffrey J. Risher, Marko Sarstedt, & Christian M. Ringle, 2019).

3. FINDINGS AND DISCUSSION

Respondent Characteristics

The respondents' characteristics were divided into six categories, namely gender, age, marital status, employment status, education level, and years of service. The number of male respondents was 75 respondents (59%), and female respondents were 53 respondents (41%). In the age range of 22-54 years, most of the respondents aged 31-40 years were 74 respondents (58%), the rest were followed by the 20-30-year age range as 26 respondents (20%), 41-50 years as many as 25 respondents (20%), and last > 50 years as many as three people (2%). As many as 113 respondents (88%) stated that they were married, and the remaining 15 respondents (12%) indicated they were not married. Based on employment status, most of the respondents were teachers with the level of Civil Servants as many as 103 respondents (80%), and the rest were teachers with the status of Non-Civil Servants as many as 25 respondents (20%). A total of 86 respondents with a bachelor's degree (67%), master 40 respondents (31%). Doctorate as much as one person (1%) and diploma as much as one person (1%). Meanwhile, the working tenure of the respondents was divided into five ranges, with the highest order in the field of 6-10 years 46 respondents (36%), 11-15 years 45 respondents (35%), 16-20 years 17 respondents (13%), 1-5 years 13 respondents (10%), and last > 20 years seven respondents (6%).

Table 1. Respondent Characteristics

Characteristic	N (107)	Percentage (100%)
Gender		
Male	75	59%
Female	53	41%
Marital Status		
Married	113	88%
Not Married	15	12%
Age		
>50	3	2%
41-50 Years	25	20%
31-40 Years	74	58%
20-30 Years	25	20%
Employee Status		
Civil Servant	103	80%
Non-Civil Servant	25	20%
Education Level		
Doctorate	1	1%

Master	40	31%
Bachelor	86	67%
Diploma	1	1%
Year of Service		
>20	7	6%
16-20	17	13%
11-15	45	35%
6-10	46	36%
1-5	13	13%

Measurement Model Evaluation

This analysis was conducted to see the relationship between latent variables and their indicators. Tests carried out on the outer model analysis are convergent validity, composite reliability, Average Variance Extracted (AVE), and Cronbach's Alpha. Convergent validity can be seen from the loading factor for each construct indicator. According to (Hair Jr, Hult, Ringle, & Sarstedt, 2016), indicators with a factor loading value below 0.4 must be specified because these indicators cannot reflect their respective variables. Therefore, the verification will be carried out by removing the indicator, namely the indicator X11.1 establishes a friendship with other members, X11.2 'spends time interacting with several other members', X11.4 'participates in educational activities as a participant with several other members,' X13.4 'feel happy when using the application on the forum,' X21.1 'the effect of education on the ability to complete work,' and Y11.2 'the willingness to share knowledge with other members when they ask for it. Of the 37 indicators used in this study, 31 indicators were retained, and the remaining six indicators had to be specified because they had a factor loading value below 0.4. The loading factor value after respecification is presented in Table 2.

Table 2. Loading Factor

Variable	Item	Indicator	Loading
SC	ST	X11.3	1
		STR	0.734
		X12.2	0.714
		X12.3	0.775
	SV	X12.4	0.849
		X13.1	0.856
		X13.2	0.906
		X13.3	0.849
		X13.4	0.691
IM	SE	X21.2	0.808
		X21.3	0.863
		X21.4	0.779
	Alt	X22.1	0.866
		X22.2	0.869
		X22.3	0.922
	NR	X23.3	1
TC	PE	X31.1	0.733
		X31.2	0.839
		X31.3	0.813
	EP	X32.1	0.883
		X32.2	0.876
		X32.3	0.924
KSI	KSI	Y11.1	0.935

		Y11.2	0.574
		Y11.3	0.917
KSB	CL	Y21.1	0.819
		Y21.2	0.845
		Y21.3	0.793
	DN	Y22.1	0.829
		Y22.2	0.802
		Y22.3	0.796

The measurement is continued by examining the values of Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach Alpha (CA). The AVE value is obtained by comparing the square root value of the AVE of each construct. The model is said to have a good discriminant validity value if AVE's square root value in each construct has a value above 0.5 and is greater than the correlation value between constructs and other constructs (Fornell & Larcker, 1981). The results show that the AVE of each latent construction is more significant than its correlation, meaning that it has achieved good discriminant validity with AVE values ranging from 0.51 to 1. The model reliability testing will be carried out by looking at the value and CA. According to (Hair Jr et al., 2016), a construct is declared reliable when the CR and CA values are more significant than 0.7. The CA value in this study ranged from 0.715 to 1. In contrast, the CR value ranged from 0.85 to 1, so that it can be concluded that it succeeded in achieving adequate internal consistency reliability. AVE, CR, and CA values can be seen in table 3.

Table 3. Values of AVE, CR, and CA

Item	AVE	CR	CA
SC	0.51	0.90	0.88
ST	1	1	1
STR	0,59	0,85	0,77
SV	0,68	0,89	0,84
IM	0,524	0,88	0,84
SE	0,668	0,858	0,751
Alt	0,785	0,916	0,863
NR	1	1	1
TC	0,573	0,888	0,845
PE	0,634	0,838	0,715
EP	0,8	0,923	0,875
KSI	0,682	0,861	0,752
KSB	0,568	0,888	0,848
CL	0,672	0,86	0,755
DN	0,655	0,85	0,736

Structural Model Evaluation

The next step after evaluating the model is evaluating the structural model, including testing R-square, Q-square, Goodness of Fit (GoF), and path coefficient. The structural model's evaluation is done by looking at the coefficient of determination (R²) and the path coefficient's value. At this stage, the R-square is used for the dependent construct and the path value or t-value coefficient for the structural model's significance test.

Table 4. R-squared coefficients

Variable	R Square
KSI	0.590
KSB	0.424

Based on table 4, the R-Square value for the knowledge sharing intention variable is 0.59, which means that the knowledge sharing intention variable can be explained moderately by the construct variability of the social capital, individual motivation, and technology variables by 59%, and other variables explain the remaining 41% beyond the model. The knowledge sharing behavior variable produces an R-square of 0.424, which means that the knowledge sharing behavior variable can be explained moderately by the construct variability of the knowledge sharing intention variable by 42.4%, and other variables outside the model explain the remaining 57.6 percent.

The next stage is Q-square testing which functions to validate the predictive ability of the model. The model is also evaluated by looking at the predictive relevance of the Q-square for the constructive model. The magnitude of Q square has a range value of $0 < Q^2 < 1$, where the closer to 1 means that the model is getting better. The importance of Q^2 is equivalent to the total coefficient of determination in the path analysis. The value of $Q^2 > 0$ indicates that the model has predictive relevance; on the contrary, $Q^2 \leq 0$ suggests that the model has less predictive relevance. Calculation of the total variable Q^2 is done with the formula:

$$Q\text{-Square} = 1 - [(1-R^2_1) \times (1-R^2_2)] = 0.76$$

Based on these calculations, the Q-square value is 0.76. With a weight of $Q^2 > 0$, this indicates that the exogenous latent variable as the explanatory variable can predict the endogenous latent variable. This value shows that 76% of the data in the data can be explained by the model, while 24% is explained by other variables (which are not yet included in the model) and the element of error. Furthermore, what is done in the evaluation of the inner model is to carry out an overall fit index using the goodness of fit (GoF index) based on the formula of Tenenhaus et al. (2004) as follows:

$$GoF = \sqrt{AVE \times R^2} = \sqrt{0.69 \times 0.507} = 0.59$$

Based on the calculation results, the resulting goodness of fit value is 0.59, more significant than 0.26. Therefore, it can be concluded that the goodness of fit of this research model is included in the large category, which means that the suitability of the model is high.

The last stage of SEM analysis is hypothesis testing or significance testing. The path coefficient value shows the significance level of the T-statistic value in hypothesis testing. The consideration used is a significant value of at least $\alpha = 0.05$. The hypothesis can be accepted if the path coefficient value is more significant than 0.1 and the P-value is smaller than 0.05, and the T-statistic value is greater than the t-table at the level of $\alpha = 0.05$ (1.96). Hypothesis testing is done by resampling using the bootstrapping method to minimize the problem of abnormal research data. From the bootstrapping results, the path coefficients were obtained as follows:

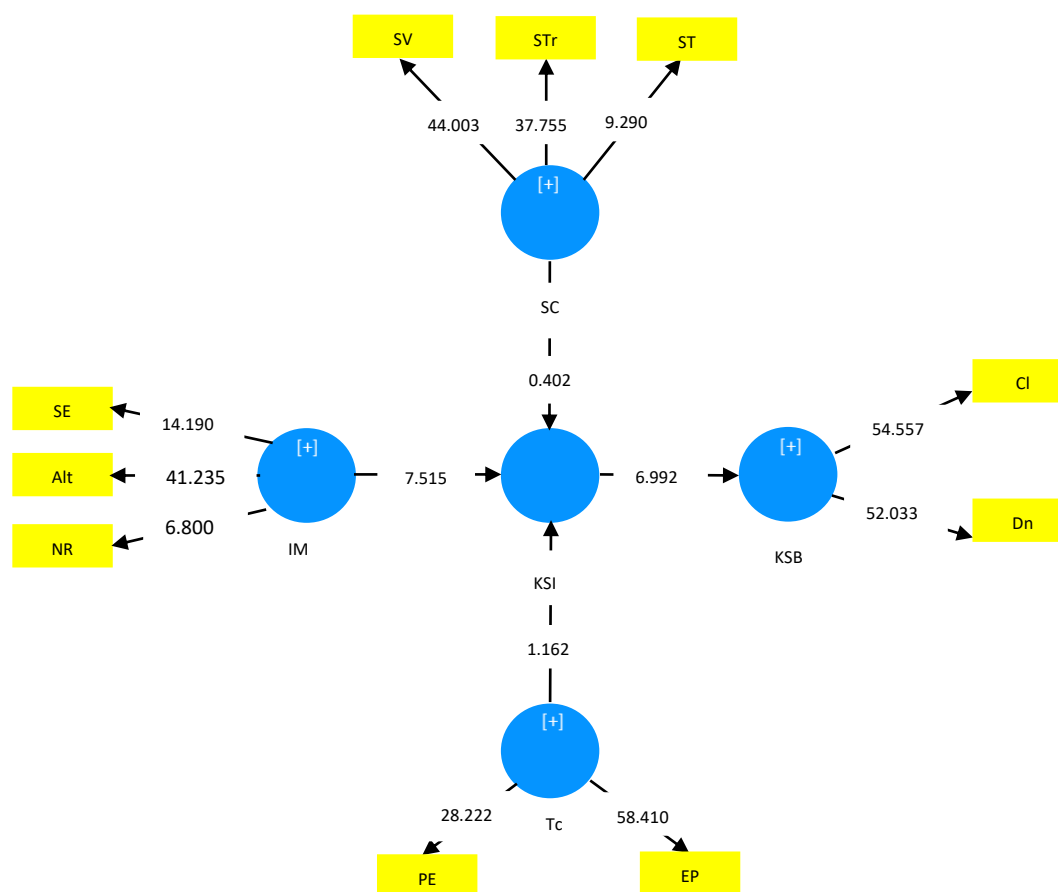


Fig. 1. Bootstrapping Results

Table 5. Value of Path Coefficients

Hypothesis	Original Sample	Standard Deviation	T- Statistics	P- Values	Result
SC => KSI	-0.031	0.076	0.402	0.688	Not supported
IM => KSI	0.742	0.099	7.515	0.000	Supported
T => KSI	0.076	0.066	1.162	0.246	Not supported
KSI => KSB	0.652	0.093	6.992	0.000	Supported

Table 5 shows the value of the path coefficients, which state the direct effect between variables. The accepted hypothesis based on the table above is the second hypothesis, where the individual motivation variable is having a significant impact on the intention to share knowledge because the T-statistic value is > 1.96, the next hypothesis that is accepted is the fourth hypothesis, where the knowledge sharing intention variable has a significant effect on knowledge sharing. In contrast, the rejected hypothesis is the first hypothesis where the social capital variable does not significantly affect the intention to share knowledge. And the fourth hypothesis results that technology does not significantly affect the intention to share knowledge.

Discussion

Based on table 11, the accepted hypotheses are hypotheses 2 and 4, while those rejected are hypotheses 1 and 3. It was found that social capital did not significantly influence the intention to share knowledge. Indicators on social capital variables are social ties, mutual trust, and vision. It is proven

that they cannot reflect the latent variables. This finding is in line with (Yeon et al., 2015)'s research, where the indicators of trust do not affect the intention to share knowledge. Trust turns out to be important for the knowledge of members sharing intentions. However, trust is often built over time through shared history, frequent interactions, and joint presence (Cohen & Prusak, 2001; Nahapiet & Ghoshal, 1998). Other studies with similar findings are research conducted by (Mura, Lettieri, Radaelli, & Spiller, 2013; Chang & Chuang, 2011). Lack of a significant relationship between structural capital and intention to share knowledge. The explanation for these findings lies in the strength of social ties and relationships among community members. According (Auh & Menguc, 2013) empirically show that the relationship's quality significantly affects knowledge sharing in the internet community. In a large community or a large research group, members must be effortless to form close relationships and good quality relationships with others (Hansen, 1999). Also, similar to (Tang, Zhao, & Liu, 2016), sharing knowledge on social networks requires socialization among its members as a necessity.

DRB community members come from all provinces, with different backgrounds where they do not know each other, for the first time being brought together in the community. The interactions that occur are not so intense with one another. According to (Ridings et al., 2002), the members do not previously know each other in a virtual community. Differences in regional origin, environment, and culture allow weak social ties. Chang & Chuang (2011) suggest that when members have intense interactions and a sense of belonging, they will participate more in knowledge-sharing activities. Another result of this study shows that interpersonal trust is not significantly correlated with knowledge-gathering behavior.

Another factor that does not significantly affect the intention to share knowledge is the technology intended in this study is the ease and convenience of media used for knowledge-sharing activities, in line with the results obtained by (Papadopoulos et al., 2013). It may be due to the high prevalence of applications used and the high level of IT skills among the average member. Contribution to the community cannot be increased just by making applications with easier technology, but other factors also need to be considered. Various possibilities can affect the technological factor about knowledge sharing because there are many methods or media choices that can be used.

While the factor that has a significant effect on the intention to share knowledge is individual motivation with T- statistics' value at a confidence interval of 95 percent > 1.96 , which is equal to 7.515. It means that changes in the value of individual motivation variables directly affect the intention to share knowledge. The value of the parameter coefficient (original sample) of individual motivation towards the intention to share knowledge is 0.742, which means that individual motivation can increase the intention to share knowledge by 74.2%. The sub-variables that have the greatest value on individual motivation variables are Altruism (41,235), self-efficacy (14,190), and reciprocity (6,800). Altruism has a positive influence on knowledge-sharing intentions. The findings show that the DRB community members enjoy helping others, sharing their knowledge, and seeking information or asking questions. This finding is similar to (Hoseini et al., 2018) study, which found that online community members like to help their colleagues. In line with (Oktaviani, 2016) research, Altruism has a positive relationship with knowledge sharing capacity. The more someone is interested in helping others without hope, the more Altruism they will be (Hsu & Lin, 2008).

Furthermore, the sub variable of individual motivation is self-efficacy. The results showed that self-efficacy had a significant effect on the intention to share knowledge. This finding is in line with the findings of the study by Kanaan & Ed (2013), which states that self-efficacy is significantly related to knowledge sharing behavior and a study conducted by C. J. Chen & Hung (2010), which analyzed the factors that influence knowledge sharing behavior of members of the virtual community of professional researchers Taiwan, where self-efficacy has a significant effect on knowledge sharing intentions and behavior. The research object of C. J. Chen & Hung (2010) is a community of professional researchers with higher self-confidence as the object of research carried out by researchers at this time, namely a community of professional teachers selected based on a rigorous selection process which is then included in the DRB community, in other words, the community formed by design by PUSDATIN.

The third sub variable of individual motivation is the reciprocal norm. According to the testing of the proposed hypothesis, the t-statistic value of the reciprocal norm is 6,800. It was found that the norm of reciprocity greatly influences a person's intention to share his knowledge with the behavior of other community members. Hence, the reciprocal norm enhances the relationship between members by making voluntary contributions. Likewise, contributors expect equal future voluntary rewards because they feel that the more they share their knowledge, the more they will get back in the future. In contrast to previous research by C. J. Chen & Hung (2010), hypothesis testing results indicate that reciprocal norms are positively correlated with knowledge-sharing behavior. Thus, the more knowledge obtained from a community, the more they have a responsibility to reward what they have obtained. This is consistent with a study conducted (X. Zhang, Liu, Chen, & Gong, 2017), which suggests that the more knowledge a community gains, the more they have a responsibility to reward what they have earned.

The significance test results show that the fourth hypothesis, namely the intention to share knowledge, has a positive and significant effect on knowledge sharing behavior. The T-statistic test results > 1.96, which is 6.481, and the P-value is less than 0.5. The value of the parameter coefficient (original sample) of the intention to share knowledge on knowledge sharing behavior is 0.652, which means that the intention to share knowledge can increase knowledge sharing behavior by 65.2 percent. Knowledge sharing behavior is divided into two indicators, namely 'collecting' and 'donating,' the t-statistical values of the indicators 'collecting' and 'donating' are relatively the same, namely 54,557 and 52,033, meaning that between the indicators 'collecting' and 'donating,' the two indicators are the same size reflects the latent variable.

4. CONCLUSION

This study was conducted to identify the factors that influence knowledge-sharing behavior in the Duta Rumah Belajar teacher community, determine differences in individual characteristics, and provide recommendations based on certain factors to encourage more optimal knowledge-sharing activities. Based on the value of t-statistics in this study, there are two accepted hypotheses: hypothesis 2, where the individual motivation variable has a significant effect on the intention to share knowledge, and hypothesis 4, where the intention to share knowledge is having a significant impact on knowledge sharing behavior. Of the three variables tested, namely social capital, individual motivation, and technology, only individual motivation variables significantly affect knowledge sharing intentions, which consist of sub-variables of self-efficacy, altruism, and reciprocity. Sequentially, among the three variables, the most influential are altruism, self-efficacy, and reciprocity. At the same time, the variables of social capital and technology have no significant effect on the intention to share knowledge.

This study shows that factors in the aspect of individual motivation significantly influence knowledge sharing intentions and knowledge sharing behavior. The DRB community is a community with distinctive and specific characteristics that are different from the online community in general, where the DRB community formed by Pusdatin with a strict selection process, so that the results found cannot be generalized to all online communities, the findings may differ from those found in research others with different online communities. The same research model does not necessarily produce the same conclusions when tested on different objects depending on the background and culture that influences their behavior. The implementation of knowledge management in the community cannot be separated from the involvement of its members. Knowledge-sharing activities in the DRB community, such as information transfer between individuals, transfer of tacit knowledge to explicit knowledge, and explicit knowledge to tacit knowledge to be utilized by members, have been running optimally. DRB members play an active role in using the existing knowledge in the community. Behavior that likes to help each other, self-efficacy, and reciprocal relationship between DRB are factors that have been proven to optimize the role of DRB in knowledge sharing activities within the internal community. The influence of educational background, confidence, and self-confidence in responding and solving a problem and the speed of adapting to master the job are essential indicators of self-efficacy in this study.

The research suggests several points that can be used as managerial implementations for Pusdatin as the agency that oversees the Duta Rumah Belajar, namely:

1. Pusdatin can develop strategies to optimize individual motivation (self-efficacy, altruism, and reciprocity) among members by organizing training to increase competence such as increasing professional competence, pedagogic competence, social competence, and personality competence which are included in the four competencies the basics that a teacher must have according to Law No. 14 of 2005 on Teachers and Lecturers.
2. At the selection stage for the selection of DRB candidates, Pusdatin is expected to provide more opportunities for DRB candidates to interact with each other such as giving assignments in groups so that DRB candidates can have a chance to get to know and cooperate further.
3. Pusdatin can also optimize communication channels that are more effective in small groups of DRB in each province. Through smaller and more specialized communication channels, it is hoped to increase togetherness and the spirit to help each other.

While the input for further research, further analysis can be done on the rejected hypothesis. Researchers can also add other factors that are thought to influence the knowledge-sharing behavior of community/organizational members to share knowledge that is not used in this study, such as organizational variables, innovation, and rewards.

REFERENCES

- Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behaviour. New Jersey: Prentice-Hall. *Englewood Cliffs*, 5(4).
- Auh, S., & Menguc, B. (2013). Knowledge sharing behaviors of industrial salespeople: An integration of economic, social psychological, and sociological perspectives. *European Journal of Marketing*, 47(8). <https://doi.org/10.1108/03090561311324354>
- Baker, W. E. (2000). What is social capital, and why should you care about it? *Achieving Success Through Social Capital: Tapping the Hidden Resources in Your Personal and Business Networks*.
- Bandura, A. (1997). *Self-efficacy in Changing Societies*. United Kingdom: Cambridge University Press.
- Becerra-Fernandez, I., & Sabherwal, R. (2010). *Knowledge Management: Systems and Processes*. New York: M.E. Sharpe Inc.
- Bechina, A., & Bommen, T. (2006). Knowledge sharing practices: Analysis of a global Scandinavian consulting company. *The Electronic Journal of Knowledge Management*, 4(2).
- Chai, S., & Kim, M. (2010). What makes bloggers share knowledge? An investigation on the role of trust. *International Journal of Information Management*, 30(5). <https://doi.org/10.1016/j.ijinfomgt.2010.02.005>
- Chang, H. H., & Chuang, S. S. (2011). Social capital and individual motivations on knowledge sharing: Participant involvement as a moderator. *Information and Management*, 48(1). <https://doi.org/10.1016/j.im.2010.11.001>
- 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 and Management*, 47(4), 226–236.
- Chen, I. Y. L., Chen, N. S., & Kinshuk. (2009). Examining the factors influencing participants' knowledge sharing behavior in virtual learning communities. *Educational Technology and Society*, 12(1).
- Chiu, C. M., Hsu, M. H., & Wang, E. T. G. (2006). Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision Support Systems*, 42(3). <https://doi.org/10.1016/j.dss.2006.04.001>
- Cohen, D., & Prusak, L. (2001). *In Good Company: How Social Capital Makes Organisations Work*. Boston: Harvard Business School Press.
- Coleman, J. S. (1999). *Foundations of Social Theory*. Cambridge: MA: Harvard University Press.

- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, 13(3). <https://doi.org/10.2307/249008>
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1). <https://doi.org/10.2307/3151312>
- Hair, J. F., Jeffrey J. Risher, Marko Sarstedt, & Christian M. Ringle. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1). <https://doi.org/10.1108/EBR-11-2018-0203>
- Hair Jr, J., Hult, G. T., Ringle, C., & Sarstedt, M. (2016). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) - Joseph F. Hair, Jr., G. Tomas M. Hult, Christian Ringle, Marko Sarstedt. In *Sage*.
- Hansen, M. T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly*, 44(1). <https://doi.org/10.2307/2667032>
- Hoof, B. Van Den, & Ridder, J. A. (2004). Knowledge sharing in context: The influence of organizational commitment, communication climate and CMC use on knowledge sharing. *Journal of Knowledge Management*, 8(6). <https://doi.org/10.1108/13673270410567675>
- Hoseini, M., Saghafi, F., & Aghayi, E. (2018). A multidimensional model of knowledge sharing behavior in mobile social networks. *International Journal of Information Management*, 48(5). <https://doi.org/10.1108/K-07-2017-0249>
- Hsu, C. L., & Lin, J. C. C. (2008). Acceptance of blog usage: The roles of technology acceptance, social influence and knowledge sharing motivation. *Information and Management*, 45(1). <https://doi.org/10.1016/j.im.2007.11.001>
- Hung, S. W., & Cheng, M. J. (2013). Are you ready for knowledge sharing? An empirical study of virtual communities. *Computers and Education*, 62. <https://doi.org/10.1016/j.compedu.2012.09.017>
- Kanaan, R., & Ed, R. (2013). The impact of knowledge sharing enablers on knowledge sharing capability: An empirical study on Jordanian telecommunication firms. *European Scientific Journal*, 9(22), 237–258.
- Lin, H. F., & Lee, G. G. (2004). Perceptions of senior managers toward knowledge-sharing behaviour. *Management Decision*, 42(1). <https://doi.org/10.1108/00251740410510181>
- Ma, W. W. K., & Yuen, A. H. K. (2011). Understanding daring knowledge sharing: An interpersonal relationship perspective. *Computers & Education*, 56((1)), 210–219.
- Mattjik, A. A., & Sumertajaya, I. M. (2011). *Sidik Peubah Ganda dengan Menggunakan SAS*. Bogor: Fakultas Matematika dan Ilmu Pengetahuan Alam. IPB.
- Mura, M., Lettieri, E., Radaelli, G., & Spiller, N. (2013). Promoting professionals' innovative behaviour through knowledge sharing: The moderating role of social capital. *Journal of Knowledge Management*, 17(4). <https://doi.org/10.1108/JKM-03-2013-0105>
- Nahapiet, J., & Ghoshal, S. (1998). Social Capital, Intellectual Capital, and the Organizational Advantage. *Academy of Management Review*, 23(2), 242–266.
- Nonaka, I. (1994). A Dynamic Theory of Organizational Knowledge Creation. *Organization Science*, 5(1). <https://doi.org/10.1287/orsc.5.1.14>
- Nonaka, I., & Takeuchi, H. (1995). *The Knowledge-Creating Company: How Japanese Companies Create the Dynamic of Innovation*. New York: Oxford University Press.
- Oktaviani, D. (2016). *Faktor-faktor yang memengaruhi knowledge sharing capability: studi kasus group SAP PT ABC*. Universitas Indonesia.
- Okyere-Kwakye, E., & Nor, K. M. (2011). Individual Factors and Knowledge Sharing. *American Journal of Economics and Business Administration*, 3(1), 66–67.
- Papadopoulos, T., Stamati, T., & Nopparuch, P. (2013). Exploring the determinants of knowledge sharing via employee weblogs. *International Journal of Information Management*, 33(1). <https://doi.org/10.1016/j.ijinfomgt.2012.08.002>
- Park, J. H., Gu, B., Leung, A. C. M., & Konana, P. (2014). An investigation of information sharing and

- seeking behaviors in daring investment communities. *Computers in Human Behavior*, 31(1), 1–12. <https://doi.org/10.1016/j.chb.2013.10.002>
- Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology*, 24, 1–24.
- Pusdatin. (2019). *Digitalisasi Sekolah dengan Menyiapkan Rumah Belajar Menyiapkan SDM Era Revolusi Industri 4.0*. Jakarta: Kementerian Pendidikan dan Kebudayaan.
- Ridings, C. M., Gefen, D., & Arinze, B. (2002). Some antecedents and effects of trust in virtual communities. *Journal of Strategic Information Systems*, 11((3/4)), 271–295.
- Tang, Q., Zhao, X., & Liu, S. (2016). The effect of intrinsic and extrinsic motivations on mobile coupon sharing in social network sites: The role of coupon proneness. *Internet Research*, 26(1). <https://doi.org/10.1108/IntR-05-2014-0136>
- Tiwana, A. (2002). *The Knowledge Management Toolkit: Orchestrating IT, Strategy, and Knowledge Platforms* (2nd Edition). In *Prentice Hall*.
- Venkatesh, V., & Davis, F. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, 46(2), 186–204.
- Wasko, M. M. L., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly: Management Information Systems*, 29(1). <https://doi.org/10.2307/25148667>
- Wu, J., & Lu, X. (2013). Effects of extrinsic and intrinsic motivators on using utilitarian, hedonic, and dualpurposed information systems: A meta-analysis. *Journal of the Association for Information Systems*, 13, 153–191.
- Yeon, K., Wong, S. F., & Park, M. (2015). Knowledge sharing behavior among community members in professional research information centers. *Information Development*, 5(1), 1–18. <https://doi.org/10.1177/0266666914566512>
- Zhang, M., Gao, Y., Sun, M., & Bi, D. (2020). *Influential Factors and the Realization Mechanism of Sustainable Information-Sharing in Virtual Communities from a Knowledge Fermenting Perspective*. <https://doi.org/10.1177/2158244020974002>
- Zhang, X., Liu, S., Chen, X., & Gong, Y. (2017). Social capital, motivations, and knowledge sharing intention in health Q&A communities. *Management Decision*, 55(7), 1536–1557. <https://doi.org/10.1108/MD-10-2016-0739>