

## Determinants for Knowledge Sharing among Paddy Farmers in Malaysia

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### Abstract

In order to increase the rice productivity and quality, installing proper knowledge in paddy field is an important element. Knowledge sharing becomes an important part of improving skills, competency and knowledge in many sectors including agriculture. Knowledge sharing becomes an important part of improving skills, competency and knowledge in agriculture sector. This paper aims to find the factors that impact on knowledge sharing process among paddy farmers in Malaysia. A research model is developed to identify and evaluate the key driving factors influencing knowledge sharing among paddy farmers in Malaysia. There were about 142 useable responses were received and further analyzed using the appropriate statistical procedures. The research model was then tested using the partial least square (PLS) technique. ADANCO was used to validate the research model and test the proposed research hypotheses. The study confirms that organizational, personal and technology-driven drives paddy farmers sharing knowledge. This finding of the study can be reused, hence making learning and education among farmers become more efficient. Individual, organization and technology have influences to knowledge donating and collecting among paddy farmers and shows that organization has the highest factor. Therefore, government agency has to play important role in order to encourage activities of knowledge donating and collecting on farmers sharing knowledge.

### Keywords:

### Introduction

Paddy is an important crop in Malaysia and it is vital for the nation's food security. Apart from this, the statistic also has proven that paddy industry in Malaysia has generated stable income for the country. Such income generation has reflected the success of this industry (Zaim Fahmi et. al 2013). Paddy planting in Malaysia is synonymous with the rural community and traditional farming. The Government of Malaysia has initiated measures to assist the local paddy producing community through the introduction of incentives such as declaring the rice crop a security crop, launching of the National Agriculture Act (1992-

2010), upgrading of existing irrigation systems and building of new irrigation systems, introducing market price control and other measures to further boost local production (Toriman et al. 2013). Malaysia aspires to become one of the largest rice producing countries in Southeast Asia with various strategies that provided from government. This program launched for transfer knowledge to rural farmer and at once increasing the ability of this sector. According to Zaim Fahmi et. al, (2013), Malaysian paddy and rice industry often receive massive attention and seriously emphasized by the government due to its strategic importance as country's staple food. Government attention towards rice industry even started before it does achieve its independence in 1957, with the establishment of Rice Commission in 1937. Federation of Rice Malay Commission later established in 1956. Paddy and rice industry continuously received attention by policy makers in the post-independence era. In 1965, Federal Agricultural Marketing Authority was established and acts as an institution responsible for marketing rice and other agricultural commodities. Later in 1971, National Paddy and rice board was established and at once took over FAMA's functions in marketing rice. In order to further strengthen national paddy and rice industry and concurrently reduce government's burdens, the Malaysian government privatized The National Paddy and Rice Board (NPRB) in 1996 and NPRB change its name to Padiberas Nasional Berhad (BERNAS).

However, after undergoing various programs rice production in Malaysia is still unsatisfactory. This circumstance, can be proved based on the statistics released by the Department of statistic Malaysia and economic planning unit.

Table 1

*Income generated by agriculture based Industry (RM Million)*

Year	2000	2005	2010
Palm oil	5860	7915	10,068
Fisheries	2493	2839	3875
Forestry	3055	3016	2761
Rubber	1868	2264	2554
Livestocks	1520	2089	2483
Paddy	590	632	988
Cocoa	250	83	138

*Source: Department of statistic Malaysia and economic planning unit*

*Retrieval from: Paddy Industry and Paddy Farmers Well-being: A Success Recipe for Agriculture Industry in Malaysia (2013)*

It is undeniable saying that sharing knowledge is important but the most importance things is to change minds of rural farmer in Malaysia. According to B. V. den Hooff et. Al (2004), knowledge sharing is the process where individuals mutually exchange their knowledge with two occurring activities; bringing (donating) knowledge and getting (collecting) knowledge. Knowledge sharing promotes trust and mutual respect as well as facilitating the flow of one's knowledge assets to be capitalized for performance improvements.

Tumpat is a district in Kelantan, Malaysia. Tumpat is the strategic location to paddy cultivation because has 152,168 population of people with area 169.5 km<sup>2</sup>. Besides that,

Tumpat have a lot of paddy field with 355 farmers that registered under KADA (Kemubu Agriculture Development Authority, 2017). It can be seen paddy field in Tumpat have same problem with other rural farmer of paddy in Malaysia. The problem is lack of technology in paddy cultivation due to how to gain knowledge. According to K.N.N silva & T.Broekel ( 2012 ) state among the factors constraining the adoption of knowledge could be cited a lack of resources, incompatibility and complexity of new technology, socio-economic and cultural constraints. Tumpat has been known as low income per capita for a family especially for paddy farmers. This problem arises due inefficiency of paddy mediation at this area.

Therefore, this paper aim to provide comprehensive understanding of knowledge sharing and to find out the determinants of knowledge sharing among paddy farmers in Malaysia using three factors (organizational, personal and technology).

## **Literature Review**

### **Knowledge Management**

Knowledge management involves the panoply of procedures and techniques used to get the most from an organization's tacit and codified know-how (Teece, 2000). While defined in many different ways, knowledge management generally refers to how organizations create, retain, and share knowledge (Argote, 1999; Huber 1991). This study is focusing on knowledge sharing process which comprises of knowledge donating and later knowledge collecting. It is believed that the knowledge sharing is crucial in the agricultural industry where people need to exchange and share their data and knowledge in order to increase the yield productivity level (Hanis Diyana Kamarudin, et al 2015). Farmers' knowledge and experiences on climate change, local farmer innovations, natural resources management and indigenous knowledge could be captured in order to document best practices in agricultural activities ( Hanis Diyana Kamarudin, et al 2015 ).

### **Knowledge sharing in agriculture**

Yang and Wu (2008) noted that people owning specific knowledge could enjoy special benefits and unique positions. Therefore, the issue of knowledge sharing involves the social dilemma, and complex interactions between personnel and organization policy.

The study findings, in line with the knowledge management process that deals with knowledge sharing as indicated by knowledge management models (Probst et al., 2000; Rowley, 2001), showed that knowledge can be shared by either a centrally directed process of distributing knowledge among a particular group of farmers, or it can be transferred between individuals, or within a group of farmers. The study found that indigenous knowledge was shared in the local communities by using farmer groups and local traditions and cultures, which were folklore practices, apprenticeships, and initiation rites during adolescent age. A study by Owuor (2007) in Kenya also found that indigenous knowledge was commonly shared and distributed in the communities through events such as folklore, initiation rites, apprenticeships and inheritance of specialized knowledge such as indigenous medicine.

### **Personal Factor**

The research considered here has focused on individual factors that promote or inhibit organizational knowledge sharing activities. The two factors that may be proximal determinants of knowledge sharing are identified: enjoyment in helping others and knowledge self-efficacy. Enjoyment in helping others is derived from the concept of altruism.

Organ (1988) defined altruism includes discretionary behaviors that help specific others with organizationally relevant tasks or problems. Knowledge workers may be motivated by relative altruism owing to their desire to help others (Constant et al., 1994; Davenport and Prusak, 1998).

Employees are essentially motivated to put in knowledge because engaging in rational pursuits and solving tribulations are demanding or pleasant, and because it is a source of enjoyment to them (Wasko and Faraj, 2000). Self-efficacy can encourage employees to share knowledge with each-others (Wasko and Faraj, 2005). Researchers have also discovered that employees with strong self confidence in their capability to offer helpful knowledge are more expected to achieve specific responsibilities (Constant, Kiesler and Sproull, 1994). Self-efficacy has been found to be one of the key determinants in forming optimistic approaches on the way to knowledge sharing within a knowledge sharing context (Yeh, Lai and Ho, 2006). Knowledge self-efficacy normally appears within people who believe that their knowledge can encourage work efficacy and help to work out job related troubles (Luthans, 2003).

### **Organizational Factor**

Much literature has concentrated on the context and means to manage knowledge in a top-down fashion, focusing on the analysis of the role of organizational and technical infrastructure in facilitating knowledge sharing among individuals (Hoof and Huysman, 2009). Based on the existing literature, organizational culture (Huysman and Wulf, 2006; Hoof and Huysman, 2009), organizational structure (Hoof and Huysman, 2009, Yang and Wu, 2008), and information and communication technology (ICT) infrastructure (Carlson and Davis, 1998; Hoof and Huysman, 2009; in the organization are well-known organizational factors that most researchers are now agree on their direct and/or indirect influence on the sharing of knowledge.

Knowledge sharing can be managed by providing the context and means to manage knowledge in a top-down fashion. Much literature has concentrated on the analysis of the role that organizational structure plays in facilitating the sharing of knowledge among individuals (Egan and Kim, 2000). The concept of organizational structure is the extent to which a structure facilitates knowledge sharing.

### **Technology Factor**

The elements of knowledge sharing may be used to identify the potential roles of ICT related to knowledge sharing. Four main areas of ICT potential roles in knowledge sharing may be identified. The first three concern the groupware functionality classes as distinguished by McGrath and Hollingshead (1994) and they are overcoming constraints, increasing range and speed of information access and improving task performance. The fourth area refers to meta-knowledge. In one form meta-knowledge refers to the location and accessibility of relevant information bases. An example of this form is a clearinghouse, accessible via the Internet or via an intranet, providing a catalog to multiple data sets. In the second form meta-knowledge refers to both knowledge owners and knowledge reconstructions.

ICT may facilitate the access to information bases storing data that are relevant beyond the individual level. It may also be introduced with the purpose of improving the processes involved in knowledge sharing. A distinction can be made between ICT aimed at supporting knowledge sharing processes versus partially taking over or directing these processes (these are levels 2 and 3 of groupware functionality as identified by DeSanctis and Gallupe (1987)). ICT may help locate the various elements relevant to the process of knowledge sharing. In

that sense, ICT does not address the knowledge to be shared itself, but meta-knowledge, i.e. knowledge about the knowledge to be shared. Most of the studies prove that technology is a tool facilitating the process of knowledge sharing. However, regardless of effectiveness and ease of use, being important factors in utilizing technology (King and Marks Jr., 2008), the sheer existence of it still does not lead to knowledge sharing. In order for the technology to be of use other factors need to be in place (Siakas, Georgiadou and Balstrup, 2010). And more adaptive technological approach should be considered.

### Knowledge Donating and Collecting

Knowledge sharing creates opportunities to maximize organization ability to meet those needs and generates solutions and efficiencies that provide a business with a competitive advantage (Reid, 2003). Knowledge sharing can define as a social interaction culture, involving the exchange of employee knowledge, experiences, and skills through the whole department or organization. Knowledge sharing processes can be conceived as the processes through which employees mutually exchange knowledge and jointly create new knowledge (Van den Hooff and Van Weenen, 2004a). Ardichvill et al. (2003) discussed knowledge sharing as involving both the supply and the demand for new knowledge. Van den Hooff and Van Weenen (2004b) identified a two-dimension of knowledge sharing process that consists of knowledge donating and knowledge collecting. Knowledge donating can be defined as the process of individuals communicating their personal intellectual capital to others, while knowledge collecting can be defined as the process of consulting colleagues to encourage them to share their intellectual capital. Additionally, an important challenge for organizations is which motivations influence both knowledge donating and knowledge collecting and lead to superior firm innovation capability (Jantunen, 2005). Therefore, this study focuses on the relationships between knowledge sharing enablers (i.e. individual, organizational, and technology factors) and farmers in paddy cultivation by elaborating on the significance of knowledge sharing processes (i.e. knowledge donating and knowledge collecting).

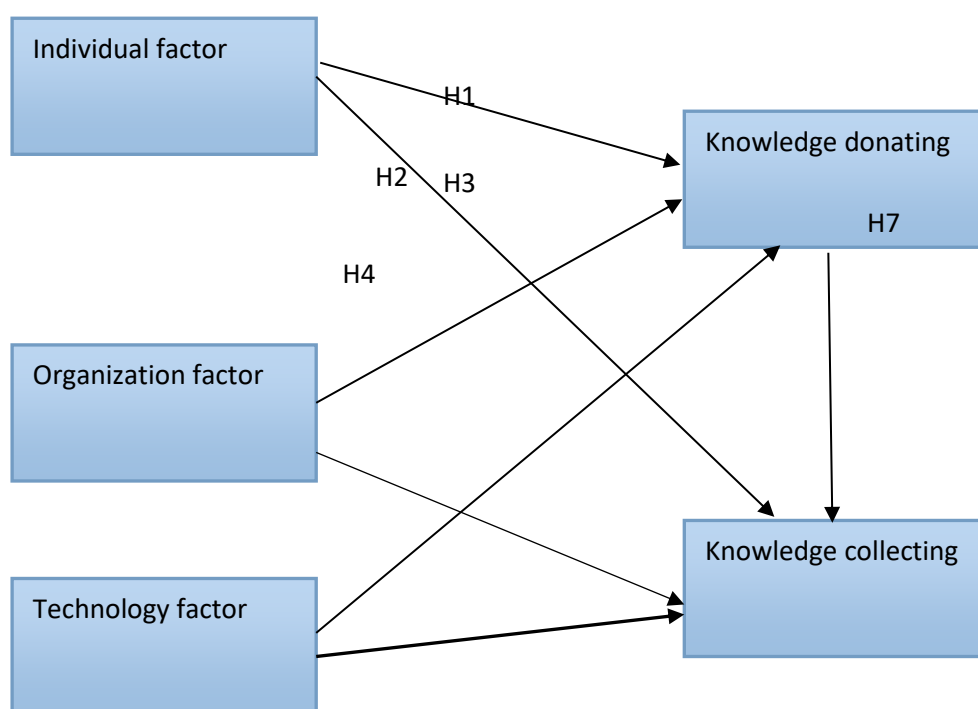
### Research Framework and Hypothesis

In summary, the literature review has identified several controversies in positing the nature of relationship between knowledge sharing

Table 3  
Hypothesis

H1	Ho	There is no significant influence between Individual factor and knowledge donating processes in paddy cultivation sector among farmers
	H1	There is significant influence between individual factor and knowledge donating processes in paddy cultivation sector among farmers
H2	H1	There is no significant influence between Individual factor and knowledge collecting processes in paddy cultivation sector among farmers
	Ho	There is significant influence between Individual factor and knowledge collecting processes in paddy cultivation sector among farmers

H3	Ho	There is no significant influence between organizational factor and knowledge donating processes in paddy cultivation sector among farmers
	H1	There is significant influence between organizational factor and knowledge donating processes in paddy cultivation sector among farmers
H4	Ho	There is no significant influence between organizational factor and knowledge collecting processes in paddy cultivation sector among farmers
	H1	There is significant influence between organizational factor and knowledge collecting processes in paddy cultivation sector among farmers
H5	Ho	There is no significant influence between technology factor and knowledge donating processes in paddy cultivation sector among farmers
	H1	There is significant influence between technology factor and knowledge donating processes in paddy cultivation sector among farmers
H6	Ho	There is no significant influence between technology factor and knowledge collecting processes in paddy cultivation sector among farmers
	H1	There is significant influence between technology factor and knowledge collecting processes in paddy cultivation sector among farmers
H7	Ho	There is no significant influence between knowledge donating processes and knowledge collecting in paddy cultivation sector among farmers
	H1	There is significant influence between knowledge donating processes and knowledge collecting in paddy cultivation sector among farmers



**Figure 1: Research framework****Research Instrument and Data Collection**

The aim of this papers is to evaluate the factors that influence paddy farmers knowledge sharing. Data for this study was collected through random questionnaire distribution. The survey had 23 questions to determine the impact of independent variables on the dependent variables, six questions demographic-based include working experience, involved directly or not and level of education. Except for demographic questions, all other responses were put on a five-point Likert scale. The respondents included a good mix of farmers that registered under Pertubuhan Peladang (PPK). Out of 152 responses, almost 10 percent failed to clear the qualifying questions, and 142 valid responses were used for this analysis. The research model was tested using partial least square (PLS). Specifically, ADANCO 2.0 was used to test hypotheses. The testing of the measurement model includes internal consistency reliability, indicator reliability, and the convergent and discriminant validity of the instrument items. The structural model and hypotheses are then assessed by evaluating the  $R^2$  values (i.e., explained variances) and the path coefficients (i.e., loadings and significance). Before making the survey publically available, it was pre-tested with a closed group to ensure that the results resonated with the actual behaviour of the respondent. One key insight from the pre-test was to position sharing knowledge among farmers an influence factor to sharing knowledge. This pre-test is really important because, a mini-version of full-scale study or a trial run done in preparation of the complete study. The latter is also called a 'feasibility' study. It can also be a specific pre-testing of research instruments, including questionnaires or interview schedules.

**Data Analysis**

We used SmartPLS (Ringle et al., 2005) to validate our measures and test our hypotheses. SmartPLS is a structural equation modelling tool that uses a series of interdependent OLS regressions to minimize residual variances (Chin et al., 2003). A PLS model consists of an outer (measurement) model and an inner (structural) model. The measurement model shows the relationship between the latent variables and their observed variables, and the structural model describes the relationships between the latent variables. PLS is suitable to estimate complex structural equation models, especially when the prediction of dependent endogenous variables is the core purpose of the research (Chin, 1998; Henseler et al., 2009). Also, PLS has less strict demands on data regarding sample size and distributional assumptions than covariance-based methods (Chin, 1998; Henseler et al., 2009). Finally, it has been shown that the estimates of PLS are more accurate with sample sizes of 250 or lower as compared to co- variance based algorithms (Reinartz et al., 2009).

When evaluating the PLS model three considerations are important: (1) the reliability and validity of the measurement model, (2) the size and significance of the path coefficients, and (3) the capability of the model to predict the outcome variables (Hulland, 1999).

**Descriptive Analysis**

Table 4

*Descriptive*

Gender	Female	61
	Male	122
Age	18 - 24 years old	34

	25 - 39 years old	43
	40 - 54 years old	72
	55 - 60 years old	34
Income	LessThanRM1500	121
	RM1500-RM2900	52
	RM3000-Rm3900	10

### Goodness of Model Fit

As part of measurement evaluation, this study considers composite reliability, average variance extracted (AVE), outer loadings, Cronbach's  $\alpha$ , cross-loading, and discriminant validity. To test the reliability of measurement model Dijkstra-Henseler's  $\rho_A$  (an estimate of the reliability of construct scores), composite reliability and Cronbach's  $\alpha$  values are examined to ensure the reliability of the measurement model. All values of factor loadings,  $\rho_A$ , and Cronbach's  $\alpha$  are shown in Table II, which are acceptable (more than 0.7) (Henseler et al., 2016), justifying the reliability of constructs. Further, the AVE values for all exogenous constructs and the endogenous construct denote the convergent validity as the values are well above the minimum required level of 0.50 (see Table III). Furthermore, to assess the discriminant validity between constructs, Fornell and Larcker (1981) and cross-loading criterion were used. Referring to Table IV, the diagonals or numbers in italic are the AVE, while the other values represent the squared correlations, and thus off-diagonal values in the table are the correlations between the latent variables. In addition, as shown in Table VI, comparing the loadings across the columns, an indicator's loadings on its own variable are in all cases higher than all of its cross-loadings with other variables. In addition, Henseler et al. (2015) indicated that Heterotrait-Monotrait (HTMT) ratio of correlations is required for examining discriminant validity in PLS approach. They argued that both Fornell-Larcker criterion and cross-loadings are not enough for evaluating discriminant validity and researchers need to report HTMT ratio of correlation. The threshold value for HTMT is below 0.9 (Teo et al., 2008).

Table 5

*Overall reliability of the constructs*

Construct	Dijkstra-Henseler's rho ( $\rho_A$ )	Jöreskog's rho ( $\rho_c$ )	Cronbach's alpha( $\alpha$ )
individual	0.8912	0.9244	0.8904
organization	0.7249	0.8378	0.7155
technology	0.8207	0.8684	0.7821
donating	0.8169	0.8632	0.7693
collecting	0.7487	0.8395	0.7198

Table 6

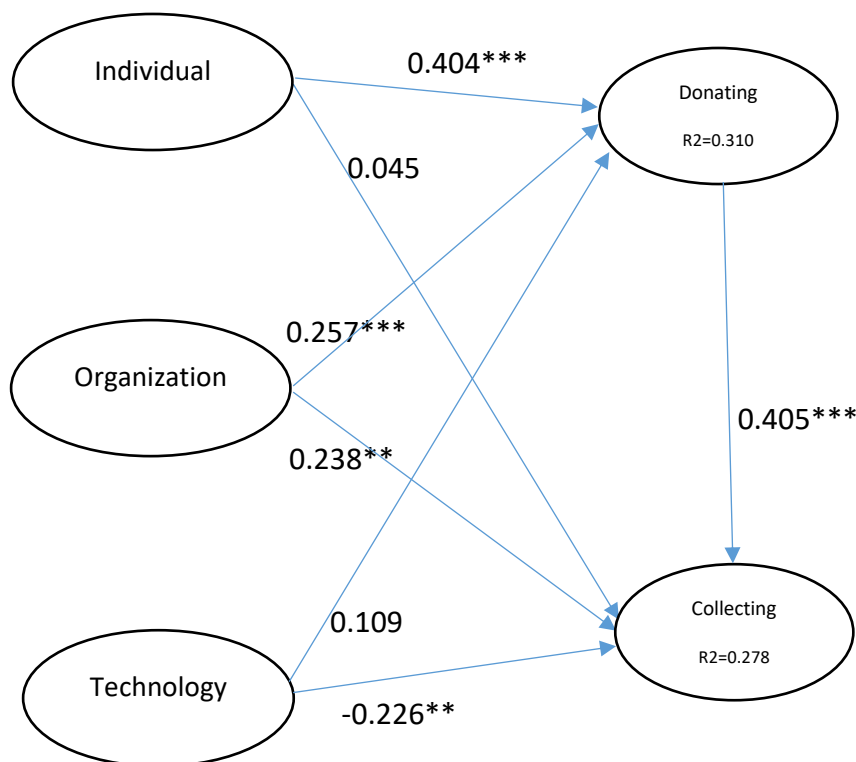
Convergent Validity

Construct	Average variance extracted (AVE)
individual	0.7541
organization	0.6326
technology	0.6880
donating	0.6794
collecting	0.6369

Table 7  
discriminant validity

Construct	individual	organization	technology	donating	collecting
individual					
organization	0.2120				
technology	0.1610	0.4750			
donating	0.5382	0.4644	0.3290		
collecting	0.2846	0.4266	0.0570	0.5450	

Research Findings



\*\* p<0.01, \*\*\* p<0.001, ns = not significant

Figure 6: Results of Structural Model

To test hypotheses about assessment of knowledge sharing and operational performance in paddy cultivation among farmers in Malaysia, a structural equation model (SEM) is deployed to analyse the path coefficients of individual constructs. Path analysis with SEM is based on linear statistical models and assumes multivariate normality, bringing visibility into measure imperfections, errors and unexplained variance.

Below are the details of the findings for each of the hypotheses.

H1 examines the influencing factor – Individual factor and knowledge donating processes – on the paddy cultivation sector among farmers. Individual factor shows a strong influence (t-value 5.8998); thus, H1 is accepted. This finding establishes the influence between individual factor and knowledge donating processes in paddy cultivation sector among farmers. This show individual factor and knowledge donating is a full mediated, it because individual need to donating to achieve collecting.

In the SEM model shown in Figure 3, I enjoy helping other farmers by sharing my knowledge (Q2) with 0.924 as its highest path coefficient in individual factor. Three other individual constructs, Q1 (0.872), Q3 (0.870) and Q4 (0.803) are above 0.8, signifying the strong influence individual factor and knowledge donating processes in paddy cultivation sector among farmers.

H2 looked at the influencing between Individual factor and knowledge collecting processes in paddy cultivation sector among farmers and showed a weak influence (t-value is 0.5373, CIW99 percent) thus the hypothesis is not accepted. Individual factor not influence knowledge collecting with path coefficient 0.045, that means individual factor does not have direct effect on knowledge collecting. Farmers need to donate their knowledge first before collect new information from other farmers. This because rural farmers hold on to high social value. Sharing knowledge actually base on culture, social and environment of village. Indigenous knowledge is mainly transmitted through socialisation within the cultural and household context (Singh and Kumar, 2014). This is significant reason for the weak influence between individual factor and knowledge collecting.

H3 examines the influencing factor – organization factor – on the impact of knowledge donating processes in paddy cultivation. The influencing between organizational factor and knowledge donating processes in paddy cultivation, showed a strong influence (t-value 3.7004, CIW99 percent) thus the hypothesis is accepted. Organization factor influence knowledge donating process with path coefficient 0.257, that means organization factor has straight effect on knowledge donating. That is clearly shown organization play important role to donate knowledge. This because organization factor or familiar PPK with famers is a warehouse of knowledge. Sharing knowledge actually easier with organization or government departments are appointed. Carlson and Davis, 1998; Hoof and Huysman, 2009; stated in the organization are well-known organizational factors that most researchers are now agree on their direct and/or indirect influence on the sharing of knowledge. Through organization knowledge will easy to share with stakeholder or others.

In the SEM model shown in Figure 4, PPK provides most of the necessary help and resources to enable us to share knowledge has the highest effect of influencing organization factor, with 0.799 as its path coefficient. Two other individual constructs, namely Q9 (0.794), and Q10 (0.793), is a signifying the strong effect these variables have on influencing sharing knowledge among farmers in Malaysia.

Next, H4 looked at the influencing between organizational factor and knowledge collecting processes in paddy cultivation and showed a strong influence (t-value  $\frac{1}{4}$  3.0058, CIW99 percent) thus the hypothesis is accepted. Organization factor influence knowledge collecting process with path coefficient 0.238, that means organization factor has straight effect on knowledge collecting. That is clearly shown organization is a important variable to collect knowledge. This because organization factor or familiar PPK with famers has all convenience to collect and share knowledge to farmers. Conclusion, organization factor are important in 2 sided either in donating or collecting process. Knowledge sharing is the process where individuals mutually exchange their knowledge with two occurring activities; bringing (donating) knowledge and getting (collecting) knowledge (B. V. den Hooff and L. Hendrix, 2004).

H5 looked at the influencing between Individual factor and knowledge collecting processes in paddy cultivation sector among farmers and showed a weak influence (t-value  $\frac{1}{4}$  1.5550, CIW99 percent) thus the hypothesis is not accepted. Individual factor not influence knowledge donating with path coefficient 0.109, that means individual factor not has straight

effect on knowledge donating. Technology is an important thing in sharing knowledge. The farmers came to regard the ICT as an important source of information on agriculture and allied area for all with their own perception and priorities (B. L. Dhaka and K. Chayal,2010). However, in certain situation technology not appropriate to farmers. Technology need to handle by knowledge or technology need to combine with level of education to gain benefits. P. Mufara stated, that low levels of education and knowledge among the farmers become one of the challenges in agriculture field in term of adopt new technology. Conclusion, without proper education technology will be obstacle and liability to farmers. This situation, that give weak influence variable between technology and knowledge donation.

In the SEM model shown in Figure 5, Farmers use knowledge networks (such as telephone, WhatsApp, telegram etc.) to communicate with PPK have the highest effect at an technology factor with 0.874 as its path coefficient. Two other individual constructs, namely Q15 (0.875), and Q13 (0.773), is a signifying the weak effect these variables have on influencing sharing knowledge among farmers in Malaysia.

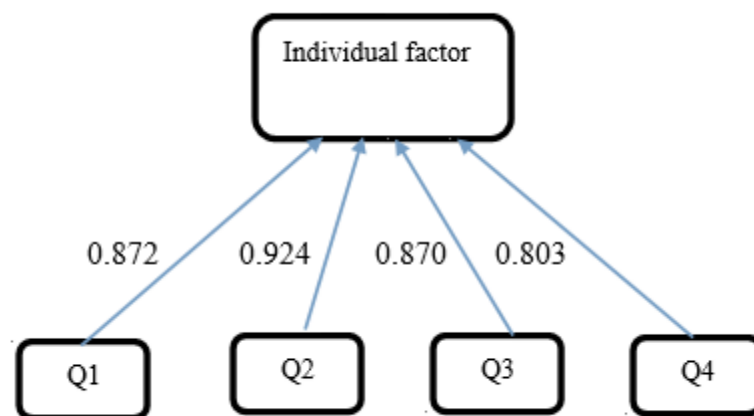


Figure 3: Factor Influencing Knowledge Donating and Collecting

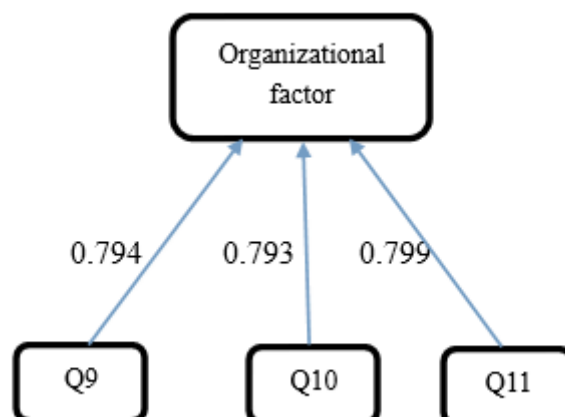
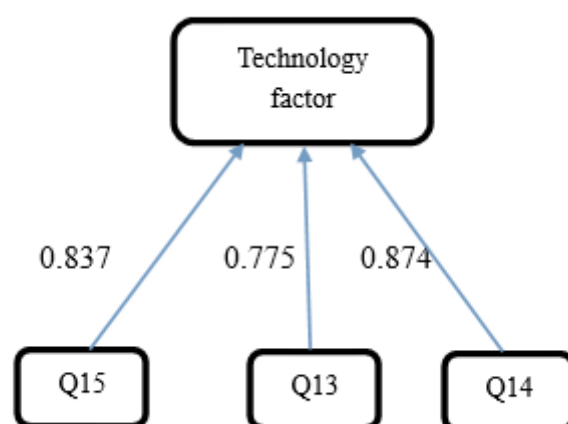


Figure 4: Factor influencing knowledge donating and collecting



**Fig 5: Factor influencing knowledge donating and collecting**

### Discussion

In this research, individual factor, organizational factor and technology factor were the main objectives to determine the influencers of knowledge donating and collecting. The group aged between 40-54 years old had become the main respondents for this research. This may due to the respondents between these ages is has knowledge and experience in paddy cultivation. Furthermore, this research was used the self-administered questionnaire though manually which is distributed for farmers in PPK Bakat Baru and PPK Bunga Raya. From this research, the researcher had been found that, majority of the PMR farmers have resulted in most of the respondents at the low income level which less than RM1500. In addition, majority of the respondents are involved directly in paddy cultivation.

As the result, there are all three variables which is individual, organization and technology was significant in explaining as the factors of influences knowledge donating and collecting among paddy farmers. Based on the results, all the three variables are positive influences to knowledge donating and collection. However, the relationship between all three variable has strong and weak influence for example technology factor and knowledge collecting. All the variable is accepted influence knowledge donating and collecting on farmers sharing knowledge.

Besides, the second factors, organizational also show the positive relationship with knowledge donating and collecting. Based on table 7, organizational has strong influence in two sided either knowledge donating or knowledge collecting. This proven, organizational factor it is important role to donate and collect knowledge from farmers. Organizational refer to PPK's. PPK's need to play important role for sharing knowledge with farmer through talk, course, meeting and other program. This is because, sharing knowledge through organization easier to farmers accept.

However, individual also have a positive and strong relationship with the knowledge donating and moderate relationship with knowledge collecting. Farmers prefer more to donate their knowledge and, in the same time do not collect knowledge for their own. To ensure sharing knowledge occurs smoothly, individual needs to play important role to donate and collect knowledge.

### Implication of Study

The aim of this research is to study the impact of the independent variable individual,

organization and technology as influencers the knowledge donating and collecting. In the view show that, the research objectives all had been proven and achieved. Thus, the result shown that, there all three hypotheses is accepted and influence the knowledge donating and collecting. Others than that, all have positive influences but only one hypothesis which technology factor and knowledge collecting has negative relationship.

For the objective 1, which is to identify if individual factor as relationship with knowledge sharing process in paddy cultivation sector among farmers. The results shown, that the individual factor has influence on knowledge sharing. Knowledge sharing includes knowledge donating and knowledge collecting. That mean, individual one of the factor for the success sharing knowledge among paddy farmers.

For the objective 2, this is to identify if organization factor as effect of knowledge sharing process in paddy cultivation sector among farmers. Organization also had a positive relationship in this research with dependent variable that is knowledge donating and knowledge sharing. This shown, this factor is a strong variable to sharing knowledge with farmers either to donating or collecting. Organization need to active to sharing knowledge to create competency farmers.

For the objective 3, this is to identify if technology factor as effect of knowledge sharing process in paddy cultivation sector among farmers. Besides that, based on the result shown the technology factor had positive and negative relationship in knowledge sharing in paddy cultivation. Technology factor and knowledge donating has positive relationship, while technology and knowledge collecting has negative relationship. But for overall, technology is one of the success sharing knowledge among paddy farmers.

### **Limitation of Study**

There are several limitations that had been founded. These limitations should be considered for the future research and improvement. Firstly, this study focused at Tumpat at Kelantan area only and used small sample size due to time constraint. Next, this research was not only focused on the farmers in Pertubuhan Peladang Kawasan. In order to influence and give awareness to the farmer's community, this research also need to be reliable to other farmers in Malaysia. Which this way, Malaysia will have competency farmers in future.

### **Recommendation of Study**

From the research that we identified that the all three is the influence knowledge donating and knowledge collecting. However, to conduct more accuracy and reliable data, future research is needed. This research only covers in Tumpat, thus it is representing the knowledge influence knowledge donating and collecting only in that area. The research need to expand to so it may show which this three elements can influences in the knowledge sharing and collecting for paddy farmers.

Besides that, in order to avoid the problem from the respondents who randomly answered the questionnaire, the research need to spend more time of conducting the questionnaires and focused on farmers that involving directly in paddy cultivation.

This paper aims to find out the determinants of knowledge sharing process among paddy farmers in Malaysia. Building the understanding of what influences these beliefs is important

as it can give better knowledge of how to motivate members to view this community as useful. When members have strong beliefs that the community is useful, it will give a better chance to encourage continuous participation by the members (Lu et al., 2011).

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### **References**

- Ardichvili, A., Page, V., & Wentling, T. (2003). Motivation and barriers to participation in virtual knowledge-sharing communities of practice. *Journal of knowledge management*, 7(1), 64-77.
- Argote, L. (1999). *Organizational learning: Creating, retaining and transferring knowledge*. Norwell, MA: Kluwer.
- Constant, D., Kiesler, S. and Sproull, L. (1994), What's mine is ours or is it? A study of attitudes about information sharing, *Information Systems Research*, 5(4), 400-21.
- Darroch, J., & McNaughton, R. (2002). Examining the link between knowledge management practices and types of innovation. *Journal of intellectual capital*, 3(3), 210-222.
- Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Harvard Business Press.
- DeSanctis, G. and Gallupe, R.B. (1987), A Foundation For The Study Of Group Decision Support Systems, *Management Science*, 33(5),589–609.
- Dhaka, B. L., & Choyal, K. (2016). Farmers' experience with ICTs on transfer of technology in changing agricultural environment. *Indian Research Journal of Extension Education*, 10(3), 114-118.
- Fahmi, Z., Samah, B. A., & Abdullah, H. (2013). Paddy industry and paddy farmers well-being: a success recipe for agriculture industry in Malaysia. *Asian Social Science*, 9(3), 177.
- Hansen, M. T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative science quarterly*, 44(1), 82-111.
- Huysman, M., & Wulf, V. (2006). IT to support knowledge sharing in communities, towards a social capital analysis. *Journal of information technology*, 21(1), 40-51.
- Jantunen, A. (2005). Knowledge-processing capabilities and innovative performance: an empirical study. *European Journal of Innovation Management*, 8(3), 336-349.
- Kamarudin, H. D., Aziz, N. E. A., Zaini, M. K., & Ariff, N. Z. Z. M. (2015). Exploring knowledge sharing practices among paddy farmers towards building a foundation for knowledge creation. *International Journal of Social Science and Humanity*, 5(1), 112.
- Kemubu Agriculte Development Authority, (2012). Motivational Course / Financial Management And Family Education. Retrieve from: [http://www.kada.gov.my/en/web/guest/asset?p\\_p\\_id=148&p\\_p\\_lifecycle=0&p\\_p\\_col\\_id=column-1&p\\_p\\_col\\_pos=3&p\\_p\\_col\\_count=5&p\\_r\\_p\\_564233524\\_tag=arkib-berita-2012](http://www.kada.gov.my/en/web/guest/asset?p_p_id=148&p_p_lifecycle=0&p_p_col_id=column-1&p_p_col_pos=3&p_p_col_count=5&p_r_p_564233524_tag=arkib-berita-2012).
- King, W. R., & Marks Jr, P. V. (2008). Motivating knowledge sharing through a knowledge management system. *Omega*, 36(1), 131-146.
- Luthans, F. (2002). Positive organizational behavior: Developing and managing psychological strengths. *Academy of Management Perspectives*, 16(1), 57-72.

- Mabe, L. K., & Oladele, O. I. (2012). Use of Information Communication Technologies tools among Extension officers in the North-West Province, South Africa. *Life Science Journal*, 9(4), 3275-3279.
- McGrath, J.E., Hollingshead, A.B. (1994), *Groups Interacting with Technology. Ideas, evidence, issues, and an agenda*, Thousand Oaks, Sage.
- Osondu, C. K., & Ibezim, G. M. C. (2015). Awareness and Perception of Farmers to the Use of Information and Communication Technologies (ICTs) in Agricultural Extension Service Delivery: A Case Study of Imo State, Nigeria. *International Journal of Agriculture Innovations and Research*, 4(1), 55-60.
- Osondu, C. K., & Ibezim, G. M. C. (2015). Awareness and Perception of Farmers to the Use of Information and Communication Technologies (ICTs) in Agricultural Extension Service Delivery: A Case Study of Imo State, Nigeria. *International Journal of Agriculture Innovations and Research*, 4(1), 55-60.
- Owuor, J. (2008). Integrating African indigenous knowledge in Kenya's formal education system: The potential for sustainable development. *Journal of Contemporary Issues in Education*, 2(2).
- Probst, G., Raub, S. and Romhardt, K. (2000), *Managing Knowledge: Building Blocks for Success*, John Wiley, New York, NY.
- Ray & Nilanjan, ( 2016 ). *Business and Economics: Business Infrastructure for Sustainability in Developing Economies*.
- Sanusi, M. A., Petu-Ibikunle, A. M., & Mshelia, C. M. (2010). The influence of Information and Communication Technology (ICT) on the dissemination of agricultural information among urban farmers in the Northern Guinea Savannah Zone of Nigeria. *African Scientist*, 11(2), 135-145.
- Siakas, K. V., Georgiadou, E., & Balstrup, B. (2010). Cultural impacts on knowledge sharing: empirical data from EU project collaboration. *Vine*, 40(3/4), 376-389.
- Singh, G., & Kumar, J. (2014). Studies on indigenous traditional knowledge of some aquatic and marshy wild edible plants used by the Munda tribe of district Khunti, Jharkhand, India. *International Journal of Bioassays*, 3(2), 1738-1743.
- Teece, D. J. (2000). Strategies for managing knowledge assets: the role of firm structure and industrial context. *Long range planning*, 33(1), 35-54.
- Teo, T. S., Srivastava, S. C., & Jiang, L. (2008). Trust and electronic government success: An empirical study. *Journal of management information systems*, 25(3), 99-132.
- Toriman, M. E. (2010). Assessing environmental flow modelling for water resources management: a case of Sg. (River) Pelus, Malaysia. *Nature and Science*, 8(2), 74-81.
- Van Den Hooff, B., & De 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), 117-130.
- Wasko, M. M., & Faraj, S. (2000). "It is what one does": why people participate and help others in electronic communities of practice. *The journal of strategic information systems*, 9(2-3), 155-173.
- Wasko, M.M. and Faraj, S. (2005), Why should I share? Examining social capital and knowledge contribution in electronic networks of practices, *MIS Quarterly*, Vol. 29 No. 1, pp. 35-57.
- Yang, H. L., & Wu, T. C. (2008). Knowledge sharing in an organization. *Technological Forecasting and Social Change*, 75(8), 1128-1156.
- Yeh, Y. J., Lai, S. Q., & Ho, C. T. (2006). Knowledge management enablers: a case

study. *Industrial Management & Data Systems*, 106(6), 793-810.