UNIVERSITI PUTRA MALAYSIA

PREDICTORS OF KNOWLEDGE SHARING BEHAVIOUR AND MEDIATING EFFECT OF SELF-EFFICACY AMONG SUCCESSFUL FARMERS IN SELECTED MALAYSIAN STATES

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By

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Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Master of Science

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

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March 2016

Chairman : Roziah Binti Mohd Rasdi, PhD
Faculty : Educational Studies

This study is to investigate the predictors of knowledge sharing behaviour and mediating variable of self-efficacy among successful farmers in selected Malaysian states. In Malaysian agriculture context, knowledge sharing behaviour of successful farmers formally and informally occurs during training, farm visits and also through discussions. However, current practices among farmers in the sharing process are unstructured and lack clarity. To date, there is no certain mechanism or coordination, which can be followed and properly implemented, leaving the issue unclear and unresolved. Hence, examining how individuals' personal factors and environmental factors affect shape successful farmers' knowledge sharing behaviour is imperative in order to formulates a strategy towards encouraging knowledge sharing culture in the agriculture community. Investigating this process is both theoretical and practically significant to provide better understanding of knowledge sharing behaviour among successful farmers.

This study employed Social Cognitive Theory and Endres et al.'s (2007) model of knowledge sharing behaviour in order to provide an integrative theoretical framework in explaining knowledge sharing behaviour among successful farmers. Further, the present study aimed to examine the mediating role of self-efficacy on the relationship between independent variables (e.g., individual and environmental-related factors) and knowledge sharing behaviour among successful farmers. The findings indicated the level of knowledge sharing behaviour was high among 241 respondents of successful farmers.

Subsequently, the result showed that successful farmers possessed high level of self-efficacy, enjoyment in helping others, perceived high level of training and prior experiences. Similarly, perceived social support and trust were also reported high among the successful farmers.

The results in the PLS-SEM path models revealed that individual-related factors (enjoyment in helping others, training and prior experiences) and environmental-related factors (social support and trust) were positively associated with successful farmers' knowledge sharing behaviour. Furthermore, the findings also indicated that self-efficacy mediates the relationship between individual-related factor (prior experience) and environmental-related factors (social support and trust) on knowledge sharing behaviour. In contrast, it was found that self-efficacy did not mediate the relationship between training (individual-related factor) and knowledge sharing behaviour.

It can be concluded that, knowledge sharing behaviour is adopted and practiced by successful farmers. The individual-related factors namely enjoyment in helping others, training and prior experience play a role in knowledge sharing behaviour among successful farmers. Besides that, the environmental-related factors such as social support and trust are vital to promoting knowledge sharing behaviour among successful farmers. Notably, this study found that self-efficacy is a central component in knowledge sharing behaviour among successful farmers.

Moreover, this study provides a predictive framework explaining the phenomenon of knowledge sharing behaviour among successful farmers. In spite of that, the present study extends the existing self-efficacy literature and hopes to contribute additional insights to self-efficacy and knowledge sharing studies especially in Malaysia. For the field of agriculture extension, this study will yield additional insights to the relationship between self-efficacy and knowledge sharing behaviour among successful farmers. Furthermore, this study hopes to provide knowledge especially for extension agents and department of agriculture to give attention on individual-related factors and environmental-related factors which could influence self-efficacy and thereby provide practical means to improve knowledge sharing behaviour among farmers in Malaysia.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

PERAMAL TINGKAHLAKU PERKONGSIAN MAKLUMAT DAN PENGANTARA EFIKASI KENDIRI DI KALANGAN PETANI BERJAYA DI NEGERI TERPILIH DI MALAYSIA

Oleh

JENEFER BROOKE

Mac 2016

Pengerusi : Roziah Binti Mohd Rasdi, PhD

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Kajian ini bertujuan mengkaji faktor-faktor yang mempengaruhi tingkah laku perkongsian pengetahuan dan pembolehubah pengantara efikasi kendiri di kalangan petani berjaya di negeri terpilih di Malaysia. Dalam konteks pertanian Malaysia, walaupun perkongsian pengetahuan dalam kalangan petani berjaya berlaku secara formal dan tidak formal, iaitu semasa latihan, lawatan lading dan juga melalui perbincangan. Walaubagaimanapun, ianya tidak berstruktur dan kurang jelas. Sehingga ke hari ini, tidak ada mekanisma dan koordinasi tertentu yang boleh diikuti dan tidak ada pelaksanaan yang sempurna, menyebabkan isu ini menjadi kurang jelas dan belum di atasi. Oleh itu, kajian terhadap bagaimana faktor individu dan faktor persekitaran memberi kesan kepada tingkahlaku perkongsian pengetahuan di kalangan petani berjaya adalah penting untuk merangka strategi ke arah menggalakkan budaya perkongsian pengetahuan di kalangan masyarakat petani. Penyiasatan dari segi teori dan praktikal adalah penting untuk memberikan pemahaman yang lebih menyeluruh mengenai tingkahlaku perkongsian pengetahuan di kalangan petani berjaya.

Kajian ini menggunakan Teori Kognitif Sosial dan model tingkahlaku perkongsian pengetahuan oleh Endres et al.'s (2007) untuk menyediakan satu rangka kerja teori integriti dalam menerangkan tingkahlaku perkongsian pengetahuan di kalangan petani berjaya.

Selanjutnya, kajian ini juga bermatlamat untuk mengkaji peranan efikasi kendiri sebagai pembolehubah pengantara di dalam hubungan pembolehubah tak bersandar (faktor individu dan faktor persekitaran) dengan tingkahlaku perkongsian pengetahuan di kalangan petani berjaya. Dapatan kajian menunjukkan tahap tingkahlaku perkongsian pengetahuan adalah tinggi di kalangan 241 responden petani berjaya. Seterusnya, hasil kajian juga

menunjukkan bahawa petani berjaya juga memiliki tahap yang tinggi dari segi efikasi kendiri, keseronokkan membantu orang lain, latihan dan pengalaman terdahulu. Begitu juga dengan tahap sokongan sosial dan kepercayaan juga dilaporkan tinggi di kalangan petani berjaya.

Keputusan dalam model PLS-SEM mendedahkan bahawa faktor individu (keseronokan membantu orang lain, latihan dan pengalaman terdahulu) dan faktor persekitaran (sokongan sosial dan kepercayaan) menunjukkan hubungan yang positif dengan tingkahlaku perkongsian pengetahuan di kalangan petani. Selain itu, hasil kajian juga menunjukkan bahawa efikasi kendiri menjadi pengantara hubungan di antara faktor individu (pengalaman terdahulu) dan faktor persekitaran (sokongan sosial dan kepercayaan) ke atas tingkahlaku perkongsian pengetahuan. Sebaliknya, kajian mendapati bahawa efikasi kendiri tidak menjadi pengantara hubungan antara latihan (faktor individu) dengan tingkahlaku perkongsian pengetahuan. Selain itu, kajian ini menyediakan rangka kerja ramalan untuk menjelaskan fenomena tingkahlaku perkongsian pengetahuan di kalangan petani berjaya dalam konteks pertanian.

Sebagai kesimpulannya, didapati bahawa tingkahlaku perkongsian pengetahuan diguna pakai dan diamalkan oleh petani berjaya. Faktor individu iaitu keseronokan membantu orang lain, latihan dan pengalaman terdahulu memainkan dalam tingkahlaku perkongsian pengetahuan di kalangan petani berjaya. Selain itu, faktor persekitaran seperti sokongan sosial dan kepercayaan adalah penting untuk menggalakkan tingkahlaku perkongsian pengetahuan di kalangan petani berjaya. Jelasnya, kajian ini mendapati bahawa efikasi kendiri adalah komponen utama dalam tingkahlaku perkongsian pengetahuan di kalangan petani berjaya.

Di samping itu, kajian ini menyediakan rangka kerja ramalan terhadap fenomena tingkahlaku perkongsian pengetahuan dalam kalangan petani berjaya. Selain itu, kajian ini menambah nilai literatur efikasi kendiri sedia ada dan tingkahlaku perkongsian pengetahuan terutamanya di Malaysia. Bagi bidang pengembangan pertanian, kajian ini memberi maklumat tambahan kepada hubungan antara efikasi kendiri dan tingkahlaku perkongsian pengetahuan di kalangan petani berjaya. Tambahan lagi, kajian ini diharap dapat memberi pengetahuan kepada agen pengembangan pertanian dan jabatan pertanian supaya memberi perhatian terhadap faktor individu dan faktor persekitaran yang boleh mempengaruhi efikasi kendiri dan dengan itu menyediakan satu cara praktikal untuk memperbaiki tingkahlaku perkongsian pengetahuan di kalangan petani di Malaysia.

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I certify that a Thesis Examination Committee has met on 25 March 2016 to conduct the final examination of Jenefer Brooke on her thesis entitled "Predictors of Knowledge Sharing Behaviour and Mediating Effect of Self-Efficacy among Successful Farmers in Selected Malaysian States" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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Declaration by Members of Supervisory Committee

This is to confirm that:

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- supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) are adhered to.

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Signature: _____
Name of Member of Supervisory Committee: Professor Bahaman Abu Samah

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LIST OF ABBREVIATIONS

AVE	Average Variance Extract
CB-SEM	Covariance-based - Structural Equation Modelling
CFA	Confirmatory Factor Analysis
CR	Composite Reliability
DoA	Department of Agriculture
ENJ	Enjoyment in Helping Others
f^2	Effect size of a specific predictor on Endogenous Construct
h	Stratum
ICT	Information and communication technology
KSB	Knowledge sharing behaviour
LL	Lower level
n	Number of cases
n_h	Sample size for stratum
N_h	Population size for stratum
OLS	Ordinary Least Square
P.EXP	Prior Experience
PLS-SEM	Partial Least Square –Structural Equation Modelling
Q^2	Predictive Relevance
q^2	Effect size for predictive relevance
r	Correlation Coefficient
R^2	Coefficient of Determination
S.D	Standard Deviation
SCT	Social Cognitive Theory

SE	Self-efficacy
SE	Standard Error
SEM	Structural Equation Modelling
SS	Social Support
TRA	Training
TRU	Trust
UL	Upper level
VIF	Variance Inflation Factor
β	Standardized Beta

CHAPTER 1

INTRODUCTION

Chapter 1 presents the background of the study, statement of the problem, research objectives, significance, scope and limitations, assumptions, and operational definitions of terms as utilised in this study.

1.1 Background of the Study

Research on knowledge sharing behaviour has received a lot of attention among researchers (Iebra Aizpurúa, Zegarra Saldaña & Zegarra Saldaña, 2011) and became the focus of research for more than a decade (Lu, Leung & Koch, 2006). Undoubtedly, the phenomenon of knowledge sharing behaviour also occurred in the agricultural context. The phenomenon of knowledge sharing among farmers takes place during group sessions such as training, field days, exchange visits and farmers' workshops. Likewise, in informal interactive knowledge sharing behaviour, sharing and exchange of ideas could occur through farmer-to-farmer interaction through discussions and daily conversations (Wood et al., 2014). According to Nathaniels (2005), farmers share information among their social community networks such as family, friends and neighbours. Local researchers Kamarudin, Aziz, Zaini and Ariff (2015) believe that knowledge sharing behaviour is the best practice to assist farmers to become more competitive in the agricultural sector. As the agriculture sector is now experiencing a paradigm shift from small scale to a highly commercial level, farmers need to be made aware of the agriculture technologies that are changing over time. Therefore, agriculture technical know-how and skills are crucial for farmers to increase their yield and productivity levels (Al-sharafat, Altarawneh & Altahat, 2012).

However, researchers have argued that knowledge and skills are not enough in explaining knowledge sharing behaviour. The relationship between cognitive elements such as self-efficacy and behaviour needs to taken into account while studying human behaviour (Pyysiäinen, Anderson, McElwee & Vesala, 2006). Prior research suggests that self-efficacy has the significant impact on individual knowledge sharing behaviour (Bock & Kim, 2002; Cabrera, Collins & Salgado, 2006; Hsu, Ju, Yen & Chang, 2007). The concept of self-efficacy was first introduced by Bandura (1977). Self-efficacy is formed through a judgement process that people engage in when deciding whether he/she can execute an action based on the influence of contextual and personal factors. Wasko and Faraj (2000) found that self-efficacy is important to motivate people to share knowledge with others. They asserted that individuals who have high confidence in their ability are able to provide valuable knowledge to other people. Hsu, Ju, Yen and Chang (2007) further support that individuals who have high self-efficacy are more likely to share knowledge compare to those with low self-efficacy. Similarly, Hu (2010), also added that self-efficacy is seen

as an essential tool to improve individual knowledge sharing behaviour. Besides, Roy Dutta (2009) reported that farmers who have high levels of self-efficacy are more competitive, challenging, curious, motivated to learn new skills and can perceive environmental uncertainty. Therefore, research on knowledge sharing behaviour is imperative especially for successful farmers because they are the active farmers who are more advanced in seeking modern and better technologies to increase yield productivity levels (Kamarudin et al., 2015).

Meanwhile, the effective role of the extension agent cannot be denied (Kiptot, Franzel, Hebinck, & Richards, 2006). Extension officers play a major part in transferring the agriculture technology to the farmer (Rahim, 2008) as well as to provide advisory and consultancy services (Shah, Asmuni & Ismail, 2013). Al-sharafat, Altarawneh and Altahat (2012) added that an extension agent brings about changes through education and communication in a farmer's attitude, knowledge and skills which will then help farmers change behaviours to improve their lives (Battel & Krueger, 2005). In the Malaysia National Agro-Food Policy (2011-2020), the focus is to develop knowledge-based human capital, skills and technology by educating and training a generation of progressive agricultural entrepreneurs and enable farmers to generate more income (www.mpc.gov.my). Among the efforts taken were to strengthen the capacity of agriculture operators to adopt technology, mechanisation and ICT through awareness campaigns and continuous training, mainstreaming the agriculture courses and training as well as enhance the capacity of the teaching workforce of the agriculture extension agents.

1.1.1 Role of Department of Agriculture, Malaysia

The Department of Agriculture Malaysia plays significant efforts to provide professional and quality extension services to the target groups, which comprise of farmers, entrepreneurs, investors, etc. The extension program emphasizes on technology transfer to the target groups so that the farming community will be able to increase their income and improve their quality of life. Moreover, agriculture extension agents play a significant role in providing extension services such as technical and management training, advisory services particularly in food crops, consultation and technical support services in order to foster the positive change in attitude, increased self-efficacy and entrepreneurial spirits of the clientele.

On top of that, farmers are also given recognition as the "Best Farmer" if the criteria of becoming successful farmers are met. Farmers' Livestock Produces and Fishermen's Day are examples of how achievement of the farmers can be appreciated. It gives recognition to the agriculture communities across the country for the efforts in producing food-based material and agricultural products for domestic needs as well as the international market (www.maha.gov.my).

Based on the report by Department of Agriculture Malaysia, in 2013, a total of 3,257 trainings and courses were conducted and a total of 63,581 farmers attended the program (www.doa.gov.my). This kind of training/course not only provides information on agricultural technologies to farmers. In fact, it serves as a platform for farmers to share knowledge that could bring benefits to innovative ideas, better decision-making and enhanced personal capability.

1.1.2 Criteria of Successful Farmers

In this study, it should be noted that successful farmers are also regarded as an agriculture entrepreneur as they are involved in agriculture business and achieve a target certain income that qualifies them to be successful entrepreneurs in the agricultural sector (www.doa.gov.my). According to the Department of Agriculture Malaysia, farmers who are regarded as successful are those with an annual production value of more than RM50,000 and it reflects the average net income of more than RM3,000 per month (Profile Usahawan Tani Bimbingan Jabatan Pertanian, 2009). Some of them have also been awarded the best entrepreneurs at both state and national levels. In general, successful farmers who are knowledgeable in the agriculture aspect and market trends and have high self-determination are seen to have the potential to be successful in entrepreneurship (Janee & Hamid, 2012).

Among the core traits of successful entrepreneur is the ability to predict the market trends and market opportunities (Abdon and Raab, 2004). Schiebel, Kirkpatrick and Mitchell, (2005) further added that entrpreneurs are those who have the ability to solve problems, risk taker and having initiative in order to ensure success. Lee and Chan (1998) supported this notion by claiming that the characteristic of successful entrepreneurs is hardworking, have a very strong determination and goal oriented.

Considering that a large amount of knowledge is embedded among successful farmers who create and apply expert agriculture tacit knowledge in their farming practices, successful farmers were chosen as a sample of this study. Kamarudin et al. (2015) make it a point that the key success factor which contributed towards farmers high productivity level is the farmers' willingness to share and exchange useful information with others. The statistics assumed that data presented in Table 1.1 reflected the knowledge sharing activities among successful farmers in the agricultural context.

1.1.3 Statistics of Successful Farmers (DoA, Malaysia)

The statistics of successful farmers under the supervision of DoA, Malaysia are illustrated in Table 1.1. The table indicates the number of successful farmers based on their involvement in the agriculture sector with an annual production value of more than RM50,000. It also reflects that the average net income is more than RM3,000 per month for the year of 2013. The farmers come from

different backgrounds i.e. knowledge and skill involved in the cultivation of paddy fields, vegetables, fruits, herbs, cash crops and floriculture. Some of them have also been awarded the best entrepreneurs at the state and national levels.

Table 1.1: Numbers of Successful Farmers under Supervision of DoA, Malaysia Based on Statistics in 2013

NO.	STATES	NUMBER OF SUCCESSFUL FARMERS
1	Johor	110
2	Kedah	78
3	Kelantan	20
4	Melaka	67
5	Negeri Sembilan	257
6	Pahang	80
7	Perak	30
8	Perlis	22
9	Pulau Pinang	4
10	Selangor	144
11	Terengganu	14

Source: www.agris.doa.gov.my

Based on Table 1.1, Negeri Sembilan has the highest number of agriculture entrepreneurs among the states in Peninsula Malaysia, followed by Selangor and Johor. These are among the three states with the highest number of successful farmers, which are used as samples of this study.

1.1.4 Knowledge Sharing and Extension Education

Agricultural extension is the application of scientific research and new knowledge to agricultural practices through farmer's education. As noted by Battel and Krueger (2005), agriculture extension officers play an important job as extension agriculture educators to help farmers to improve their lives and enables them make better decision and provide feedback to researcher and policy makers (Kiptot et al., 2006).

Therefore, the main focus of extension education is to provide farmers the latest agriculture information, equipped them with farming skills as well as developing their attitude towards large scale agriculture. The main role of agriculture extension services is to give recommendation on production technologies. This approach is particularly relevant and can be achieved through meetings, training, on farm visit and demonstration (Lukuyu, Place, Franzel, & Kiptot, 2012).

On the other hand, Davis, Franzel, Hildebrand, Irani and Place (2004) make it a point that, the most effective method in disseminating the latest technology among farmers is through knowledge sharing activities. Through knowledge sharing, farmers can be informed and educated in order for them to increase their production and income (Chhachhar, Hassan, Omar & Soomro, 2012).

Hence, it is important to study the successful farmers knowledge sharing behaviour so that the knowledge and technology can be leveraged to others and multiplied.

1.1.5 Factors Influencing Successful Farmers' Knowledge Sharing Behaviour

The literature recognizes the existence of several factors which influence individual knowledge sharing behaviour such as individual and environmental-related factors (Bock et al., 2005; Cabrera & Cabrera, 2005; Kankanhalli et al., 2005; Lin & Huang, 2013; Lin, 2007; Lin & Lee, 2004). Referring to the individual dimension, most researchers agree that knowledge sharing behaviour depends on individual factors such as training, prior experience and enjoyment in helping others. A considerable amount of research has identified that some people are intrinsically motivated to help others in sharing knowledge. Enjoyment in helping others has also been found to be a powerful predictor for knowledge sharing behaviour (Hau, Kim, Lee & Kim, 2013; Jeon, Kim & Koh, 2011; Yu, Lu & Liu, 2010).

Training is seen as an essential tool to facilitate the creation and dissemination of new knowledge for maintaining a continuous learning cycle for better performance (Kang et al., 2008). Hence, it is expected that successful farmers' perception of formal education in agriculture training is positively related to their level of self-efficacy and knowledge sharing behaviour. Considering that prior experience in a particular task is a relevant variable in the learning process (Hailikari, Nevgi & Komulainen, 2008), this study includes prior experience as one of the individual-related factors which contributed to knowledge sharing behaviour. As pointed out by Teece (2000), the individual prior experience is one of the most important aspects in knowledge sharing and the lack of this element could influence the sharing process. Ipe (2003) further support that effectiveness of knowledge sharing is highly dependent on the individuals who create, share and use the knowledge. In entrepreneurial research, Zhao, Seibert and Hills (2005) believe that skills and performance strategies useful for entrepreneurship are likely to be acquired from previous experience as an entrepreneur.

Concerning environmental-related factors, past researchers have shown that environmental-related factors are crucial due to its contributions in predicting the behaviour of knowledge sharing (Cabrera et al., 2006; Gupta & Govindarajan, 1995; Wasko & Faraj, 2005). It was discovered that individuals

who receive social support from their family, peers and subordinates, and supervisors are believed to influence and encourage the knowledge sharing activity (Ajzen, 1991; Bock et al., 2005; Ryu, Hee, & Han, 2003). The association of trust and knowledge sharing behaviour has been widely recognized in many studies as an important enabling factor for knowledge sharing behaviour (Ho, Kuo & Lin, 2012; Schwaer, Biemann & Voelpel, 2012; Yen, Tseng & Wang, 2012). Therefore, social support and trust were chosen, which formed the environmental-related factors and impact towards knowledge sharing behaviour.

Based on the reviews, this study has categorized and renamed the factors to individual-related factors and environmental-related factors. The variables for individual-related factors (enjoyment in helping others, training and prior experiences) and environmental-related factors (social support and trust) were selected due to its significance and relevance in explaining knowledge sharing behaviour among successful farmers.

1.2 Statement of Problem

In the Malaysian agricultural context, knowledge sharing behaviour of successful farmers occurred formally and informally during training, farm visits and also through discussions. However, though current practices of sharing process happen formally and informally, it is unstructured and lack clarity. To date, there is no certain mechanism or coordination, which can be followed and properly implemented, leaving the issue unclear and unresolved.

In spite of the voluminous number of knowledge sharing behaviour studies (e.g. Babalhavaeji & Kermani, 2011; Goh & Sandhu, 2013; Jeon, Kim & Koh, 2011; Tohidinia & Mosakhani, 2010) interestingly, not much light has been shed on the factors influencing knowledge sharing behaviour among successful farmers. The factors that influence successful farmers to participate in knowledge sharing activities are uncertain and still vague. According to Sandhu, Jain and Ahmad (2011), most research on knowledge sharing behaviour focus more on private organisations rather than the public sector. Some researchers also report that the limited studies available are mostly focused on knowledge management and not knowledge sharing behaviour (McAdam & Reid, 2000). This has raised the concern to further examine the phenomenon of knowledge sharing in the agricultural context.

Contextually, available studies in the agricultural context are giving more attention to the role of mass media in the dissemination of agriculture technologies diffusion and technologies (e.g. Chhachhar, Hassan, Omar & Soomro, 2012; Farooq et al., 2007; Irfan, Muhammad, Khan & Asif, 2006), adoption among farmers (e.g. Agwu, Ekwueme & Anyanwu, 2008; Sinja et al., 2004; Tiraieyari, Hamzah & Abu Samah, 2014), and also the effectiveness of agriculture extension services and farmer field schools (Akinnagbe & Ajayi,

2010; Chowa, Garforth & Cardey, 2013; Nathaniels, 2005). Therefore, there is a growing interest for further research on knowledge sharing behaviour in the agricultural context.

Furthermore, studies on knowledge sharing behaviour have employed samples such as senior managers (Lin & Lee, 2004) , paddy farmers (Kamarudin, Aziz, Zaini & Ariff, 2015), Farmer Field School (FFS) graduates (Ebewore, 2012; Rola, Jamias, & Quizon, 2002), public sector employees (Sandhu, 2011), manufacturing employees (Fathi, Eze & Goh, 2011), university students (Wei, Choy, Chew & Yen, 2012) and bank employees (Tan, 2010). Hence, there is a lack of studies focusing on farmers, especially successful farmers.

While the availability of numerous literatures speaks about knowledge sharing behaviour, the use of self-efficacy as a mediating variable in knowledge sharing research is still lacking. This study found out that not many studies have used self-efficacy as a mediating variable in knowledge sharing research (Endres et al., 2007; Tan & Md. Noor, 2013; Zhang & Ng, 2012). Review of literatures revealed that studies involving self-efficacy as mediating variables are in the area of academic motivation (Feyter, Caers, Vigna & Berings, 2012), career intention (Barnir, Watson & Hutchins, 2011), organizational citizenship behaviour (Mansor, Darus & Dali, 2013) and also in treatment adherence (Maeda, Shen, Schwarz, Farrell & Mallon, 2013).

Some researchers have employed self-efficacy as a mediating variable but they focused on other criterion variables such as goal setting and performance (Appelbaum & Hare, 1996), ethical leadership (Ma, Cheng, Ribbens & Zhou, 2013), technological creativity for sports (Wu, Lee, & Tsai, 2012), and perceived academic climate (Abd-Elmotaleb & Saha, 2013). In addition to that, existing studies focus more on self-efficacy as a predictor for knowledge sharing behaviour (Bock, Zmud, Kim & Lee, 2005; Kankanhalli et al., 2005; Lin, 2007; Shaari, Rahman & Rajab, 2014; Tsai & Cheng, 2012). Therefore, in this current study, self-efficacy is employed as a mediating variable since there is little research testing the mediation effect of self-efficacy on knowledge sharing particularly in the agricultural context.

Inspection of previous studies have shown that the relationship between individual-related factors (training and prior experience) and environmental-related factors (social support and trust) with self-efficacy had been given little attention (Endres, Endres, Chowdhury & Alam, 2007; Lin, Hung & Chen, 2009; Zhou, 2008). In addition to that, much knowledge sharing behaviour research is concentrated in Western and South-East Asian countries (Tohidinia & Mosakhani, 2010). Hence, there is a need to study about knowledge sharing behaviour particularly in the Malaysian agricultural context to bridge the gaps in the literature.

1.3 Objectives of the Study

1.3.1 General Objective

The overall objective of this study is to examine the predictors of knowledge sharing behaviour and the mediating role of self-efficacy on the relationship between individual-related factors, environmental-related factors and knowledge sharing behaviour among the successful farmers in Malaysia.

1.3.2 Specific Objectives

The specific objectives of this study are:

(i) To determine the level of knowledge sharing behaviour among successful farmers in selected Malaysian states.

(ii) To determine the level of self-efficacy, individual-related factors (enjoyment in helping others, training, prior experience) and environmental-related factors (social support and trust) among successful farmers in selected Malaysian states.

(iii) To determine the influence of individual-related factors (enjoyment in helping others, training, prior experience) and environmental-related factors (social support and trust) on knowledge sharing behaviour among successful farmers in selected Malaysian states.

(iv) To determine the mediating effect of self-efficacy on the relationship between individual-related factors (training, prior experience) and environmental-related factors (social support, trust) on knowledge sharing behaviour among successful farmers in selected Malaysian states.

1.4 Significance of the Study

This study provides a new perspective of research on knowledge sharing behaviour by integrating the cognitive element of self-efficacy in the research model as little research had been carried out to investigate knowledge sharing behaviour in the agricultural context (Rad, Alizadeh, Miandashti & Fami, 2011). This study extends the existing knowledge sharing behaviour literature by giving additional insights into the Malaysian agriculture field of study. In the field of agriculture, this study will give clearer insights into the relationship between self-efficacy and knowledge sharing behaviour among successful farmers.

The contribution of this study is threefold. Firstly, few studies have integrated the two dimensions of individual factors and environmental-related factors in the area of knowledge sharing which thus creates the need for future research (Wang and Noe, 2010). Secondly, research to date indicated that the Social Cognitive Theory has not often been used in knowledge sharing research (Chiu, Hsu & Wang, 2006; Quigley, Tesluk, Locke & Bartol, 2007). Therefore,

this study incorporates Social Cognitive Theory in explaining knowledge sharing behaviour among successful farmers in the agricultural context. Thirdly, this study utilizes the construct of self-efficacy as the mediating variable between antecedent factors and knowledge sharing behaviour among successful farmers since the use of self-efficacy as a mediator in knowledge sharing research is still lacking (Endres et al., 2007; Tan & Md. Noor, 2013; Zhang & Ng, 2012a).

In respect of the practice, this study hopes to provide information especially to agriculture extension agents in Malaysia to emphasise the individual and environmental-related factors which could help enhance farmers' self-efficacy and therefore provide a practical means to promote knowledge sharing behaviour among the target groups i.e. farmers. Furthermore, this study assists top agriculture management in understanding the psychological behaviour of farmers to plan a proper strategy to carry out trainings and seminars that will promote knowledge sharing behaviour among them. On top of that, the information in this study could be used to facilitate and encourage farmers to share information and experience with others during training and simulation sessions as training was also found to boost self-efficacy. Better and purposeful sharing of knowledge is needed in the department so that the knowledge not easily lost. By empirically examining antecedents of self-efficacy, this study hopes to draw the attention of the government to support and believe in farmers' capabilities in providing useful knowledge to others.

This study also provides added value for policy development. Among the eight main ideas in National Agro-Food Policy (2010-2020) is Human Capital Development. Much attention is given to the development of knowledge and farmers' skills to reduce the dependency on foreign labour. Therefore, knowledge sharing is seen as one of the best mechanisms for farmers to become more progressive in seeking new knowledge, which could benefit them. Apart for that, the findings of this study could also assist in developing policies and procedures to not only emphasise one-way knowledge dissemination but, more importantly to encourage farmers to participate in knowledge sharing activity. Finally, the present study will provide insights for future researchers on the phenomenon and factors influencing knowledge sharing behaviour among successful farmers.

1.5 Assumptions

This study takes into account a few primary assumptions. Based on the data provided by the Department of Agriculture (2013), this study is aware that successful farmers share with others the knowledge they have acquired or created. The independent variables used in this study are identified as relevant variables and are found to contribute towards knowledge sharing behaviour. The use of self-efficacy is also believed to mediate the relationship between the related factors (individual factors and social factors) and knowledge sharing behaviour. Apart from that, this study also assumes that the adopted

instrumentations are suitable and applicable for use in investigating the knowledge sharing behaviour among successful farmers. Nevertheless, the instrument used in this current study has been adapted to fit into the context of the study.

1.6 Limitations of the Study

This study confines itself to understanding knowledge sharing behaviour among successful farmers in selected Malaysian states who are randomly selected. It is also limited to farmers associated with the Department of Agriculture, Malaysia. With such limitations, the findings of this study cannot be generalized to all successful farmers in Malaysia.

Another limitation of this study is the social desirability bias. It is one of the most common sources of bias and can seriously affect the validity of questionnaires and its findings (Matthews, Baker & Spillers, 2003). As noted by King and Bruner (2000), respondents may believe the information they report (self-deception), or may 'fake good' to conform to socially acceptable values, avoid criticism, or gain social approval. In this case, there is a potential of respondents not being truthful. Clark and Desharnais (1998) make it a point that there are respondents who are reluctant to answer, fearing that the people conducting the survey will know their responses. Therefore, respondent confidentiality and anonymity should be used to enhance response validity.

On the other hand, this study concerns respondents' interpretation of knowledge sharing behaviour. Items may not have the same meaning to all respondents. Thus, this could lead to misinterpretation of the questionnaire. In order to minimize this limitation, the definition of knowledge sharing behaviour is explained beforehand to the respondents and the District Agriculture Officer. Leung (2001) suggested using short and simple sentences, which are less confusing and correctly worded.

From the literature review, there are numerous variables, which are significantly related to knowledge sharing behaviour. However, this study is limited to selected variables namely; training, prior experience, social support, trust, enjoyment in helping others as predictors of knowledge sharing behaviour and self-efficacy as a mediator between individual and environmental-related factors and knowledge sharing behaviour. These variables were chosen due to the fact they were found to be among the significant variables influencing knowledge sharing behaviour.

1.7 Research Hypotheses

There are five main hypotheses in this study. The hypotheses are as follows:

H_a1: Self-efficacy has a significant influence on successful farmers' knowledge sharing behaviour.

H_a2: Individual-related factors (enjoyment in helping others, training and prior experience) have significant influence on successful farmers' knowledge sharing behaviour.

H_a2a: Enjoyment in helping others has significant influence on successful farmers' knowledge sharing behaviour.

H_a2b: Training has significant influence on successful farmers' knowledge sharing behaviour.

H_a2c: Prior experience has significant influence on successful farmers' knowledge sharing behaviour.

H_a3: Environmental-related factors (social support and trust) have significant influence on successful farmers' knowledge sharing behaviour.

H_a3a: Social support has significant influence on successful farmers' knowledge sharing behaviour.

H_a3b: Trust has significant influence on successful farmers' knowledge sharing behaviour.

H_a4: Self-efficacy mediates the relationship between individual-related factors and knowledge sharing behaviour.

H_a4a: Self-efficacy mediates the relationship between training and knowledge sharing behaviour.

H_a4b: Self-efficacy mediates the relationship between prior experience and knowledge sharing behaviour.

H_a5: Self-efficacy mediates the relationship between environmental-related factors and knowledge sharing behaviour.

H_a5a: Self-efficacy mediates the relationship between social support and knowledge sharing behaviour.

H_a5b: Self-efficacy mediates the relationship between trust and knowledge sharing behaviour.

1.8 Definition of Terms

Knowledge sharing behaviour

Knowledge sharing behaviour is defined as the interaction among successful farmers involving the exchange of knowledge, experiences and skills in agriculture, which measure the frequency of farmers' shared knowledge.

Enjoyment in helping others

Enjoyment in helping others refers to the successful farmers' willingness and pleasure of helping others by sharing their knowledge without expecting any future returns.

Training

Training refers to the successful farmers' educational programs provided by the department of agriculture, which could affect their self-efficacy to engage in knowledge sharing behaviour.

Prior experience

Prior experience refers to successful farmers' prior experiences in contributing agriculture knowledge among their agriculture social system.

Self-efficacy

Self-efficacy refers to the belief of successful farmers about his/her judgements of their own capabilities to be involved in knowledge sharing behaviour.

Social Support

Social support refers to encouragement and persuasion that successful farmers receive from their social communities (agriculture officers, friends and family) that would influence their self-efficacy to engage in knowledge sharing behaviour.

Trust

Trust refers to successful farmers' expectations and their beliefs that other farmers are knowledgeable in agriculture.

Successful farmers

Successful farmers refer to the agriculture entrepreneur involved in agriculture business with annual income of more than RM50,000 per month and it reflects the average income of more than RM3,000 per month.

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