MODELLING KNOWLEDGE SHARING INTENTION AMONG MALAYSIAN POLYTECHNICS ACADEMICIANS

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Abstract— Malaysian Polytechnics have transformed their system in order to enhance their academic staffs' capabilities. Time based promotion system has changed to competencies based promotion. Academicians are required to present and publish their research as one of the condition to be promoted. Senior or knowledgeable staffs were highly encouraged to share their knowledge to their colleagues. However, if they keep on sharing their knowledge, more staffs become more competence and will become a stiff competitor in promotion raced. Most of the literatures focusing on the academic staffs at the university level, but none from academician at Polytechnic level. Understanding of the factors that lead to the sharing activity is vital for the management to achieve the goal of transformation. By adopting the theory of planned behavior, this study will try to identify factors that lead to the knowledge sharing. Using the convenience sampling method, 233 data was gathered from POLISAS and PMJ. Structural Equation Modelling (SEM) approach was used to test the relationship between research model construct. The findings show that attitude, subjective norm, perceived behavior control, and intention to share were significant predictor for intention to adopt and actual sharing behavior. The findings, beside presents the suitability of PLS in statistical analysis, has also provide useful information to a better understanding in intention to share and actual behavior of sharing among TVET academicians. Limitation and suggestion for future research were discussed.

Index Terms— Theory of Planned Behavior, intention to share, knowledge sharing, actual sharing.

I. INTRODUCTION

Malaysian Polytechnic which consist of 35 Polytechnics located all around Malaysia, having around 7,800 academic staffs, more than 92,000 students from various disciplines either technical or non-technical from 87 programs offered has move forward to become one of the leading higher institution in Technical and Vocational Education (TVET) in Malaysia. In order to strengthen the knowledge of their academicians, Malaysian Polytechnics have transformed their system in order to enhance the academic staff capabilities not only on the research and developments activities, but also in the area of academic writing. In the previous system, known as DG scheme, promotion is according to the time based. The academicians will be promoted to the new level after certain years of services, but with the new system, known as DH scheme, the promotion of academicians is based on the capabilities and competencies. Instead of evaluating the routine jobs in teaching and learning activities, the academicians also need to produce academic writings, innovations, publications and also presenting their researches at any academic conference either local or international. Knowledge sharing can be considered as a vital factor to support organizational survival in a very competitive business environment. Lacking of intention to share knowledge among organizational members will influence the chances of reaching the organizational goals. Top management will be very happy if the staffs are willingly to share their knowledge among members in the organization. However, according to Jolaee et al., (2014) individuals do not always share their knowledge and also will not share as much as the top management expects them to do.

Abundant of studies has been done regarding the knowledge sharing in various organizational settings (Ipe, 2003; Kim and Lee, 2006; Chatzoglou and Vraimaki, 2009. Same goes to other organizations, higher learning institutions tend to rely more on knowledge sharing. Higher learning institution are known for knowledge-oriented institutions and should encourage the practice of sharing of knowledge for teaching and learning and also for researching (Muda and Yusof, 2015) but, interestingly, very little empirical researches have investigated the knowledge sharing intention of academic staff in higher institutions (Bock and Kim, 2002; Ryu et al., 2003), especially in Malaysia (Ahmad, 2003; Ariffin, 2004). Even Malaysian Polytechnic has been recognized as one of the higher institution learning institute, very little study has been concern about it. Most study is about university lecturers. Though, this study will try to investigate intention to share knowledge among Polytechnic lecturers who are also known as Technical-Vocational (T-VET) educators.

II. LITERATURE REVIEW AND HYPOTHESIS

A. Attitude

Attitude refers to an individual's positive or negative view towards engaging in a particular behaviour (Safa & Solms, 2016). It has attracted many studies from any various field due to its capability to explain an individual's behavior. It is believed that attitude has a direct relationship with the behavioral intention

(Ajzen & Fishbein, 1980). Previous studies constantly claimed that attitude has a positive relationship with the intention to share (Bock et al., 2005; Md Nor et al., (2014),; Safa & Solms, 2015). Therefore, for the study ;

H1. Attitude has a positive relationship with the intention to share knowledge.

B. Subjective Norm

Subjective norm is a person's perception of whether people important to the person think the behavior should be performed (Pavlou and Fygenson, 2006). According to Cheng et al., (2013), Subjective Norms indicate the social pressure on employees to perform, or not to perform on a particular behavior. Many studies proposed that subjective norm has a positive relationship with the intention to share (Moser, 2015) and (Jolaee et al., 2014). Though, in the light of the above we proposed that;

H2: Subjective norm has a positive relationship with the intention to share knowledge.

C. Perceived Behavioral Control (PBC)

Perceived behavioral control refers to the perceived ease or difficulty of performing the behavior (Ajzen, 1991) and reflects past experiences and anticipated obstacles (Paul et al., 2016). Zhou et al., (2013) mentioned that behavioral control (i.e.ability) and motive determines behavior. Many studies have shown that PBC is positively linked with intention in various research context, such as conservation (Chen and Tung, 2014; and green products in general (Moser,2015). Hence, our hypothesis is;

H3. PBC has a positive relationship with the intention to share knowledge.

D. Intention to share knowledge

Knowledge sharing has been widely researched either in academic (Bock et al., 2005, Jolaee et al., 2014) or in a business world (Ifinedo, 2014). It shows that knowledge sharing is vital factor to be studied since it has an effect to the capability to achieve an organizational goal. Intention is a mental state that shows a commitment to execute an action either now or in a future (Safa & Solms, 2016). Intention is believed to be enhanced by attitudes, subjective norms and PBC (Ajzen, 1991). Literature confirmed that intention has a positive relationship with the actual sharing (Venkatesh et al., 2000, Hajli & Lin, 2014). Hence,

H4 : Intention has a positive relationship with the actual sharing.

From the above literature, figure 1 shows the research framework of the study that based on Theory of Planned Behavior that developed by Ajzen (1991).

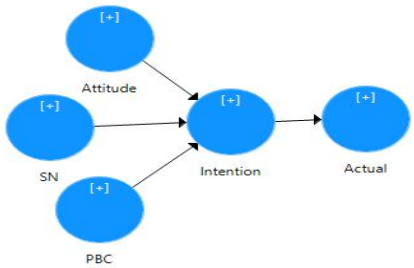


Figure 1: Research Framework

III. RESEARCH METHODOLOGY

3.1 Data Collection

The unit of analysis of the study is at individual level. This is an empirical study that is quantitative in nature as it involves the validation of a survey instrument. The population of the study is the total numbers of academicians in Politeknik Sultan Haji Ahmad Shah (POLISAS) and Politeknik Mersing Johor (PMJ). As it is not feasible to include all Malaysian Polytechnics, only two Polytechnics were involved in this study. POLISAS is representing the east coast region and the early batch of Polytechnics in Malaysia with a big numbers of staffs and students. Whereas, PMJ representing the south region with small number of staffs and students and the new Polytechnics in Malaysia.

There are 500 academicians in POLISAS and 85 academicians in PMJ. Adopting a self-administered method, data was collected within 5 days. The questionnaire was personally distributed to the office of the respondents along with a letter requesting their participation and cooperation. Applying convenience sampling technique, researchers distributed 300 questionnaires in POLISAS and 85 questionnaires in PMJ. Out of that numbers, 200 were responded for POLISAS and 80 were responded for PMJ. 39 questionnaires from POLISAS and 8 questionnaires from PMJ were discarded due to too many missing values or poor data quality such as respondents were responded in a straight line. Hair et al., (2010) claimed that 100 is the minimum sample size if SEM is applied to test the hypotheses. Though, with 233 respondents, the study has sufficient sample size to test the hypothesis generated from the research framework. Table 1 shows the respondents profile of the study.

Table 1: Profile of respondents

Variable		Freq	%
Polytecnics	POLISAS	161	69.1
	PMJ	72	30.9
Gender	Male	84	36.1
	Female	149	63.9
Age	25 – 29 years	21	9
	30 – 34 years	67	28.8
	35 – 39 years	82	35.2
	40 – 44 years	36	15.5
	Above 45 years	27	11.6

Length of Services	1 – 4 years	74	31.8
	5 - 8 years	68	29.2
	9 – 12 years	36	15.5
	13 – 16 years	30	12.9
	More than 17 years	25	10.7
Level of Education	Diploma	6	3.7
	Degree	85	53.1
	Masters	67	41.9
	PhD	2	1.3
Total		233	100

Majority of the respondents were female (63.9%), age within 35-39 years old (35.2%). Among the respondents 29.2% have worked for 5 -8 years. Only 1.3 % is the Phd holder since the majority (53.1%) of them is holding a degree according to their fields of study.

3.2. Measurements

To measure the variables of the study, various sources were used and Table 2 displays the summary of the questionnaire.

Table 2 : Measurement Properties

Variable	items	Source
Personal data	7	
Attitude	5	Bock et al (2005)
Subjective Norms	4	Bock et al (2005
Perceived Behavioral Control	4	Chau & Hu (2001)
Intention	5	Bock et al (2005)
Actual Sharing	3	Adopted from Bock et al (2005

IV. DATA ANALYSIS

Data has been analyzed by SPSS (profile of respondent) and the rest with the Smart PLS version 3.0, which is a variance-based structural equation modeling (SEM). The purpose of this study is to predict the relationship between the variables in the research model. Therefore, the Smart PLS was adopted, as it has the capability to predict the relationship between variables. Furthermore, it has a minimal restriction on the sample size (Chin, 1998) to generate reliable estimations with equivalent statistical power (Reinartz *et al.*, 2009).

As proposed by Anderson and Gerbing (1988), the two-step analytical procedure was adopted to analyze the data. The first step is to evaluate the measurement model which has the convergent validity and discriminant validity. After confirming the validities, the structural model will be tested to test the hypothesis. The bootstrapping procedure with 500 resamples follows the procedure mentioned by Chin (1998) to determine the significant level of loadings, weight and path coefficients.

The five-point Likert scale was used to gather independent variable data, and the seven-point Likert scale was used to measure dependent variables items. This approach is to avoid the common method variance before data analysis, as suggested by Podsakoff *et al*. (2003). As the study used a single source data, there was a potential for common method variance. Podsakoff *et al.* (2003) mentioned that common method bias is problematic if a single latent factor would carry the majority of the explained variance. Hence, the Harman single factor test was conducted to determine the extent of this bias. The un-rotated factor analysis indicated that the first factor carried for 37.12 per cent of the total 48.57 per cent variance, and thus the common method bias was not serious problems in this study.

A. Convergent Validity

Table 3: Convergent Validity

Construct	Item	Loadings	CR	AVE
Attitude	**ATT1**	**0.808**	**0.869**	**0.623**
	ATT2	**0.799**		
	ATT3	**0.762**		
	ATT4	**0.788**		
Extent	**EXTENT1**	**0.854**	**0.939**	**0.837**
	EXTENT2	**0.936**		
	EXTENT3	**0.951**		
Intention	**INTT1**	**0.840**	**0.939**	**0.755**
	INTT2	**0.852**		
	INTT3	**0.900**		
	INTT4	**0.900**		
	INTT5	**0.852**		
PBC	**PBC1**	**0.804**	**0.794**	**0.503**
	PBC2	**0.580**		
	PBC3	**0.880**		
	PBC4	**0.506**		
SN	**SN1**	**0.833**	**0.893**	**0.675**
	SN2	**0.876**		
	SN3	**0.765**		
	SN4	**0.810**		

Note: a) Composite reliability (CR)=(square of the summation of the factor loadings)/{(square of the summation of the factor loadings)+(square of the summation of the error variances).

b)Average variance extracted (AVE)=(summation of the square of the factor loadings)/{(summation of the square of the factor loadings)+(summation of the error variances)}.

Convergent validity is the test to measure the degree to which multiple items to measure the same concepts are in agreement. Hair et al. (2010) suggested that to assess convergent validity, the cut off value for loading is should exceed 0.5, and the CR is greater than 0.7. The cut off value for AVE is also 0.5 (Barclay et al., 1995). As shown on the Table 3, the loadings for all items, CR and the AVE value, all of them are above the recommended value by Hair et al. (2010) and (Barclay et al., 1995). Table 3 summarizes the results of the measurement model. The results indicate that all the constructs used are all valid measures of their respective constructs according to their parameter estimates and statistical significance (Chow and Chan, 2008).

B. Discriminant Validity

The discriminant validity can be assessed by examining the correlations between the measures of potential overlapping constructs. Items should load higher on their own constructs in the model. The average variance shared between each construct and its measures should be greater than the variance shared between the construct and other construct (Compeau et al., 1999). As depict in the Table 4, the square correlations for each construct are lower than the average variance extracted (AVE) by the indicators measuring construct indicating adequate discriminant validity. As a whole, the measurement model demonstrated adequate convergent validity and discriminant validity.

Table 4: Discriminant Validity

	Attitude	Extent	Int	PBC	SN
Attitude	**0.789**				
Extent	0.417	**0.915**			
Int	0.477	0.459	**0.869**		
PBC	0.545	0.373	0.431	**0.710**	
SN	0.627	0.394	0.489	0.537	**0.822**

Note: Diagonals (in bold) represent the square root of the AVE and the off diagonals represent the correlations.

C. Hypothesis Testing

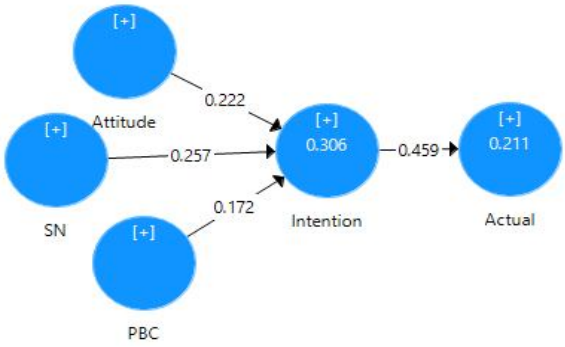


Figure 2: Hypothesis testing

Table 5: Hypothesis testing

	Relationship	Beta	Std Error	T-Value	Decision
H1	Att-> Intention	0.222	0.088	2.539**	Supported
H2	Intention -> Extent	0.459	0.048	9.531**	Supported
H3	PBC -> Intention	0.172	0.068	2.531**	Supported
H4	SN -> Intention	0.257	0.086	2.975**	Supported

**p < 0.01

After confirming validity and reliability of the measurements, next we go for the hypothesis testing. For the hypothesis testing, path analysis was used to test four hypothesis generated from the research model. Figure 2 and Table 5 present the results. The R^2 for the intention to share is 0.306, indicating that 30.6 per cent of the variance in the extent of collaboration can be explained by attitude, Subjective Norms and Perceived Behavior Control. Meanwhile, 21.1 per cent of the actual behavior of sharing can be explained by intention to share. Figure 2 shows all the details. Results shown in Table 5 clearly indicate that hypothesis were supported and significant at P< 0.01.

V. FINDINGS AND DISCUSSION

All the hypothesis generated on this study has been found to be supported. It shows that all the variables selected in the study have a significant impact to the intention to share knowledge among academicians in Malaysian Polytechnic. The first variable is the attitude to share knowledge. Attitude was found as a significant variable that influence the intention to share knowledge among academicians from POLISAS and PMJ. This findings support the findings from other studies such as Pavlou and Fygenson, (2006); Bock et al., (2005); Jolaee et al.,(2014) and Safa & Solms, (2016). Though in order to increase the knowledge sharing from the institutions, the management must ensure that their staff to have a positive attitude towards knowledge sharing. Even once they share their knowledge will lead to higher competition for the promotion, but the academicians also should note that, in DH system, promotion is not based on quota, but on the competencies. If they are really qualified, no one will stop them to be promoted if they meet all the requirements. Furthermore, a positive attitude on knowledge sharing among the staffs also will help the Malaysian Polytechnic to achieve their goals in strengthening the knowledge among their academic members.

The second variable is Subjective Norm. Most of the studies found that subjective norm has a positive relationship with the intention to share knowledge. This study also confirms the findings from Moser (2015) and Jolaee et al., (2014). Though, if the management wants their staffs to keep on sharing their knowledge, their superiors that close to them should encourage their employees to share. Continuously encouraging and positive expectation towards their subordinates to share will increase their staffs to share their knowledge among members in the organization.

The third variable is the Perceived Behavior Control. As discussed in the literature, the finding of the study also aligned with other studies. Perceived behavior control was found to have a positive relationship with the intention to share. It was similar to the findings from the study conducted by Chen and Tung, (2014); (2014); and Moser, (2015). Hence, to enhance the intention to share knowledge among academicians from Polytechnics, the management should motivate them to share. On top of that, the management also should make the process of sharing much easier as compared to before. It can be done by giving certain rewards to the persons who share their knowledge to their colleagues. Once their subordinates have face a positive experienced of sharing, that experiences should encourage them and other staffs to share their

knowledge for the sake of their friends to support the organization to achieve their goals of sharing knowledge.

The last variable is the intention to share knowledge. It also was found to have a positive relationship with the actual behavior of sharing knowledge. This finding also confirmed the findings from the past studies (Venkatesh et al., 2000, and Hajli & Lin, 2014). Actual sharing most likely will be occurred while there is an intention to share knowledge. Though, if the organization really wants this kind of attitude fertile among T-VET academicians, the management should planted the positive attitude and environment on the early stage of joining the organizations. If they have a positive surroundings and cultures on their early age or working experience, hopefully this noble of attitude will keep growing in their minds towards the end of their career.

VI. LIMITATIONS AND FUTURE RESEARCH

Even though, this study tries to fill a gap in the literature, still every research has its own limitation. Since the study only applied the Theory of Planned Behavior which consist of three variables (attitude, subjective norms and perceived behavior control), other antecedents that potentially influence intention to share knowledge such as ownership of the knowledge and how difficult to gain the knowledge that could be considered for future research. Another limitation is the sample of the study is only limited to two Polytechnics only. Though, in future study, the researcher should include sample from other Polytechnics from different regions. The study also could look at the barriers that may resist the knowledge sharing among academicians, not only from TVET but also from other field of studies.

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