

Knowledge sharing behaviour among academics of private universities in Malaysia: A study of intention to publish articles

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Abstract

A higher education institution (HEI) creates and shares knowledge for various stakeholders. Incentives are given to academics to boost research and publication productivity, and thus improve the status and world ranking of the university, and increase the enrolment of local and foreign students. Research, however, shows that academics are mentally hoarding knowledge. The number of private universities has grown to outnumber public universities in Malaysia, but studies of knowledge sharing behavior among private university academics are still rare. This study fills the literature gaps by adopting the full version of the TPB and extending the theoretical framework by including the direct and indirect effects of perceived trust and organizational climate. Self-administered questionnaires were distributed to the top twelve Malaysian private universities, using the drop-off and pick-up approach. A total of 405 useable responses were collected and the data was examined using covariance based structural equation modelling. The results show that the attitudes, subjective norm (SN), and perceived behavioral control behavior (PBC) of academics are significantly influenced by their respective salient beliefs (behavioral, normative and control). The results also show that: attitude, SN, PBC, perceived trust, and organizational climate are directly related to the intention to share knowledge; PBC, intentional behavior, attitude, and SN are directly related to actual behavior or knowledge sharing behavior; and intentional behavior mediates the relationship between the respective variables – attitude, SN, and PBC, and actual behavior. The moderating effect generated by perceived trust between attitude, SN and actual behavior is not supported. Policy implications are discussed accordingly.

Keywords: Knowledge sharing, private universities, article publication, full version of TPB, Malaysia

1. Introduction

The role of universities in creating and disseminating new knowledge is challenged by the need to keep abreast of rapid changes in technology and the environment, and to secure more research funding (Al-husseini & Elbeltagi, 2018; Berchin et al., 2018; Elrehail et al., 2018). To cope with these challenges, universities need to become more efficient in research so that they can produce higher quality results (Ghabban et al., 2018; Zhu, 2015) and to generate a pool of future workers who are receptive to learning (Berchin et al., 2018; Gaspar & Mabic, 2015; Tseng, Huang, & Chen, 2020).

Al-Kurdi, El-Haddadeh, and Eldabi (2018); Zareie and Jafari Navimipour (2016) suggest that knowledge management as a system can help groups to utilize their intangible resources, such as innovative knowledge, and ideas to improve their competitive advantage and decision-making. Universities, therefore, should encourage the practice of knowledge management. The practice of knowledge management is only feasible, however, when there is a culture of knowledge sharing (Fullwood, Rowley, & Delbridge, 2013; Hislop, Bosua, & Helmas, 2018). The practice of knowledge sharing very much depends on an academic's beliefs about their capacity for knowledge (Stenius et al., 2015), attitudinal behavior, and responses to the pressures and incentives received from other people or the organisation.

In the context of knowledge sharing (KS) benefits through publication, Omotayo and Abdul-Rahman (2021) posit that KS helps to decrease the duplication of research, reduces intervention

costs, and creates a new form of unique knowledge through the collaboration of experts. This systematic approach to scientific research means that KS can contribute greatly to developing the quality of work, to problem-solving efficiency, and to the quality of decision-making. KS also provides a better avenue for knowledge sharers to build their own confidence. For instance, academics might be willing to share knowledge with their peers, but they are often uncertain about the approach that they should take. KS helps them to sharpen their understanding and identify the best approach before sharing their knowledge. Sharing their knowledge means they can also obtain positive or negative feedback from their peers (Fauzi et al., 2019; Fullwood, Rowley, & McLean, 2019). Knowledge sharing through published research works, online or face to face activities, thus helps to develop an individual's self-competency as well as benefiting the community with new knowledge (Al-Husseini, El Beltagi, & Moizer, 2019; Ballesteros-Rodríguez et al., 2020).

Stakeholders' knowledge sharing through publishing research in international refereed journals is gaining significance in the context of Malaysian universities, because it helps to increase a university's global ranking. According to the Quacquarelli Symonds (QS)¹ ranking system, 20% of a university's overall score depends on research publications and their citation impact. The Ministry of Higher Education (MoHE) has made a new rule to improve the quality of research and publication, in which academics will not be promoted unless they have made a significant research contribution. Omotayo and Abdul-Rahman (2021) report that the global ranking of Malaysian universities, improved significantly after a knowledge-sharing culture and positive environment was established.

Developed countries have carried out many studies on knowledge management and knowledge sharing as related to the development of academics, non-academics, and students (Ballesteros-Rodríguez et al. 2020; Dee & Leisyte, 2017; Ku, 2019; Li et al., 2014). Similar studies have been carried out in Malaysia but were concentrated on public universities (Anis, Islam, & Abdullah, 2018; Jer Yuen & Majid, 2007; Nordin et al., 2012). Studies among academics in private universities in Malaysia are still limited, even though there are more private universities than public universities (Charband & Navimipour, 2018; Ismail & Ashmiza, 2012; Li, Roberts, Yan, & Tan, 2014).

The general objective of this study was to examine the effects of the perceived knowledge capacity of academics and the TPB's constructs on the intentional behavior of academics and their actual behavior in knowledge sharing. Specifically, this study intends:

- (1) To examine the initial beliefs (behavioral beliefs, normative beliefs and/or control beliefs) that could change an academic's attitude to knowledge sharing, responses towards the subjective norm and perceived behavioral control.
- (2) To evaluate the structural relationships between the TPB predictors of academic attitude, subjective norm, and perceived behavioral control, on behavioral intention and actual knowledge sharing behavior.
- (3) To appraise the direct and indirect relationships between the TPB constructs of academic attitude, subjective norm, intentional behavior and actual knowledge sharing, with perceived trust and organizational climate.

2. Methodology

2.1 Constructs measure

Congruent with Ajzen's (1991; 2006) suggestion, and in order to derive the respondent's salient beliefs, we interviewed 30 respondents among academics from Malaysian private universities. Academics were requested to explain the pros and cons related to the potential outcomes of

¹ <https://www.topuniversities.com/qs-world-university-rankings>

(behavioral beliefs), the perceived pressure that they expect from someone or the HEI; (normative beliefs), the self-efficacy that they perceive they possess; and (control beliefs), the support that they believe their lecture or HEI will provide. A content analysis was carried out after the interview session. A 7-point Likert scale has been proposed in the context of this study, and when this 7-point Likert scale is converted to the bipolar scale, the value would be -3 to +3. The rest of construct items in this study were therefore adapted from different sources, and the questionnaire statements for each item were modified carefully to preserve what the item is meant to measure.

2.2. Data collection method and procedure

The academics were selected from private universities in West Malaysia because this area has more private universities than East Malaysia. The respondents were selected from those who had active academic status and had completed at least one year of teaching or research experience in any capacity at a private university (with a PhD, Masters or other degree) irrespective of the mode of the working (part-time or full-time), and who had published at least one article in a Web of Science or Scopus indexed journal. A non-probability sampling approaches (quota and snowball) were applied for this study because not every university updated its website to include all particulars about their staff. By using drop-off and pick-up data collection approach, a total 405 useable and valid questionnaires were received for further statistical analysis, which was a response rate of 96%. Covariance-based structural equation modeling (CBSEM) was carried out using the analysis of moments structures (AMOS) program in SPSS software to analyze the structural relationship between the studied latent variables.

3. Findings

3.1. Profile of respondents

Survey data was collected from Malaysian private university academics who had been actively working for at least one year and had published at least one article in a Scopus or Web of Science indexed journal. Table 1 shows that the number of female academics was slightly higher than male academics. This finding is in line with the Malaysian Educational Statistics (2018) report, which noted that 1.27 females are working at the tertiary level compared to 1 male. Around 37% of respondents were aged 51-60 years, and the lowest percentage of respondents was those who are above 60 years old. Generally, after reaching the age of 60, most people retire and enjoy their lives in Malaysia, but some people who are very passionate about teaching and research continue to work with the university.

Table 1. Profile of respondents

Demographic	Characteristic	Frequency	Percentage
Sex	Male	201	49.6
	Female	204	50.4
Age	<40	84	20.7
	41-50	133	32.8
	51-60	153	37.8
	>61	35	8.6
Highest qualification	PhD	216	53.3
	Masters	157	38.8
	Bachelor	32	7.9
Ethnicity	Malay	124	30.6
	Chinese	150	37.0
	Indian	106	26.2
	Others	25	6.2
Academic field	Science	121	29.9
	Engineering	114	28.1
	Business	121	29.9
	Arts and humanities	49	12.1

Note(s): Number of respondents = 405.

3.2 Measurement model evaluation

Congruent with Hair et al. (2014), the measurement items with a factor loading below 0.6 and newly developed items factor loading below 0.5 should be deleted because they fail to measure their respective constructs. Two measurement items (BB3 and BB7) were therefore deleted. According to Awang (2015), a maximum of 20% of the measurement items can be deleted in order to ensure the best fit for the measurement model. Since this study only deleted 3.4% of items (2/58), which is less than the recommended threshold level, the omission of items will not affect the measurement model fit. Sufficient modifications were made to ensure that the measurement model has an enhanced model fit and improved factor loadings (see Table 3.1).

In order to achieve convergent validity, the composite reliability, average variance extracted, and maximum shared variance results were determined and displayed in Table 3.2. A composite reliability test was carried out to determine the reliability of the studied constructs, and the results are shown in Table 3.2. The results indicate that all constructs achieved internal consistency because the CR values are in the range of 0.868 to 0.937, which is far above the recommended threshold value (Hair et al., 2012). Table 3.2 also indicates the average variance extracted values of all constructs. The values derived from AVE are in the range of 0.524 to 0.719, which are better than the suggested value of 0.50. Similar to the AVE, the maximum shared variance ensured convergent validity. The traditional Fornell-Larcker approach is usually used for discriminant validity, but another technique called the heterotrait-monotrait (HTMT) ratio of correlations was applied for a better result. Table 3.3 shows that the HTMT ratio test results fall in the range of 0.001 to 0.325, which indicates that all constructs are independent of each other, and therefore discriminant validity has been achieved.

In order to ascertain that the proposed model relationships are not spurious, this study measured the goodness of fit index for the measurement model. Hair et al. (2012) suggest that a model's goodness of fit should include Chi-square, the root mean square of error approximation, the Tucker-Lewis Index, comparative fit index, normed fit index, and Chi-square (χ^2)/ degree of freedom (df). The findings are shown in Table 3.4, which shows that all the values of this study's results fell within the acceptable range (Hair et al., 2012).

Table 3.1. Factor loadings

Construct	Item	Loading	
Attitude	AT1	.734	
	AT2	.712	
	AT3	.718	
	AT4	.818	
	AT5	.786	
Behavior beliefs	BB1	.783	
	BB2	.793	
	BB4	.751	
	BB5	.764	
	BB6	.710	
	BB8	.709	
	Subjective norm	SN1	.768
		SN2	.794
SN3		.732	
SN4		.735	
SN5		.786	
SN6		.777	
Normative beliefs	NB1	.768	
	NB2	.769	
	NB3	.801	

	NB4	.799
	NB5	.786
	NB6	.793
Perceived behavioral control	PBC1	.777
	PBC2	.766
	PBC3	.760
	PBC4	.782
	PBC5	.781
Control beliefs	CB1	.763
	CB2	.741
	CB3	.743
	CB4	.804
	CB5	.795
	CB6	.740
Organizational climate	OC1	.786
	OC2	.771
	OC3	.773
	OC4	.776
	OC5	.715
	OC6	.800
Perceived Trust	PT1	.757
	PT2	.752
	PT3	.750
	PT4	.746
	PT5	.760
	PT6	.790
Behavioral intention	BI1	.775
	BI2	.786
	BI3	.807
	BI4	.756
	BI5	.795
Actual behavior	AB1	.773
	AB2	.739
	AB3	.798
	AB4	.744
	AB5	.781

Table 3.2. Convergent validity

	CR	AVE	MSV	MaxR(H)	AT	BB	SN	PT	NB	OC	PBC	CB	BI	AB
AT	0.868	0.570	0.469	0.873	0.755									
BB	0.887	0.566	0.469	0.889	0.685***	0.752								
SN	0.895	0.586	0.440	0.896	0.607***	0.654***	0.766							
PT	0.891	0.577	0.410	0.891	0.558***	0.582***	0.584***	0.759						
NB	0.907	0.618	0.476	0.907	0.610***	0.630***	0.558***	0.598***	0.786					
OC	0.898	0.594	0.433	0.899	0.607***	0.618***	0.599***	0.584***	0.626***	0.771				
PBC	0.881	0.598	0.476	0.882	0.650***	0.685***	0.628***	0.587***	0.690***	0.642***	0.773			
CB	0.894	0.585	0.447	0.896	0.643***	0.642***	0.605***	0.579***	0.597***	0.626***	0.668***	0.765		
BI	0.889	0.615	0.440	0.889	0.614***	0.614***	0.664***	0.640***	0.630***	0.658***	0.636***	0.638***	0.784	
AB	0.877	0.589	0.397	0.879	0.577***	0.593***	0.556***	0.560***	0.601***	0.582***	0.630***	0.600***	0.624***	0.767

Note(s): AT = attitude. BB = behavioral beliefs. SN = subjective norm. NB = normative beliefs. PBC = perceived behavioral control. CB = control beliefs. OC = organizational climate. PT = perceived trust. BI = behavioral intention. AB = actual behavior. MSV = maximum shared variance. AVE = average variance extracted. CR = composite reliability. **Bold** = square root of AVE. Significance of correlation = $p < 0.100$, * $p < 0.050$, ** $p < 0.010$, *** $p < 0.001$.

Table 3.3. Heterotrait-Monotrait (HTMT)

	AT	BB	SN	PT	NB	OC	PBC	CB	BI	AB
AT										
BB	0.687									
SN	0.612	0.652								
PT	0.565	0.581	0.586							
NB	0.615	0.628	0.559	0.599						
OC	0.617	0.617	0.599	0.583	0.626					
PBC	0.652	0.682	0.626	0.586	0.691	0.640				
CB	0.648	0.640	0.609	0.580	0.600	0.632	0.673			
BI	0.619	0.617	0.665	0.639	0.631	0.662	0.635	0.641		
AB	0.587	0.591	0.557	0.562	0.605	0.581	0.630	0.601	0.623	

Note(s): AT = attitude. BB = behavioral beliefs. SN = subjective norm. NB = normative beliefs. PBC = perceived behavioral control. CB = control beliefs. OC = organizational climate. PT = perceived trust. BI = behavioral intention. AB = actual behavior.

Table 3.4. Measurement model

Index category	Index name	Threshold level	Statistic	Outcome
Absolute fit	Chi-square (χ^2)	≤ 3.5 to 0 (perfect fit) and ($p > .01$)	1485.882 (.19)	Achieved
	Degree of freedom (df)	The higher, the better	1439	Achieved
	Root mean square of error approximation (RMSEA)	≤ 0.08	0.009	Achieved
Incremental fit	Comparative fit index (CFI)	≥ 0.90	0.997	Achieved
	Normed fit index (NFI)	≥ 0.90	0.997	Achieved
Parsimonious fit	Tucker-Lewis index (TLI)	≥ 0.90	0.996	Achieved
	Chi-square (χ^2)/ degree of freedom (df)	≤ 3	1.033	Achieved

3.3. Structural model evaluation

The current research model can explain a 38% (see Figure 1) variance of academic knowledge sharing behavior through publishing research work in an indexed journal. A similar variance was derived from a research model that explained knowledge sharing through an e-learning platform among Saudi Arabian academics (Chandran & Alammari, 2020). Similarly, Al-Kurdi et al. (2020) investigated the knowledge sharing behavior of UK academics using the extended TPB model, and the model also explained a 40% variance of all independent constructs. Samad (2018) developed an ordinary TPB model to investigate nurses' knowledge sharing behavior in the context of a patient computer management system. The model explained 55% variance of attitude, subjective norm and perceived behavioral control.

Figure 1. Structural model path analysis

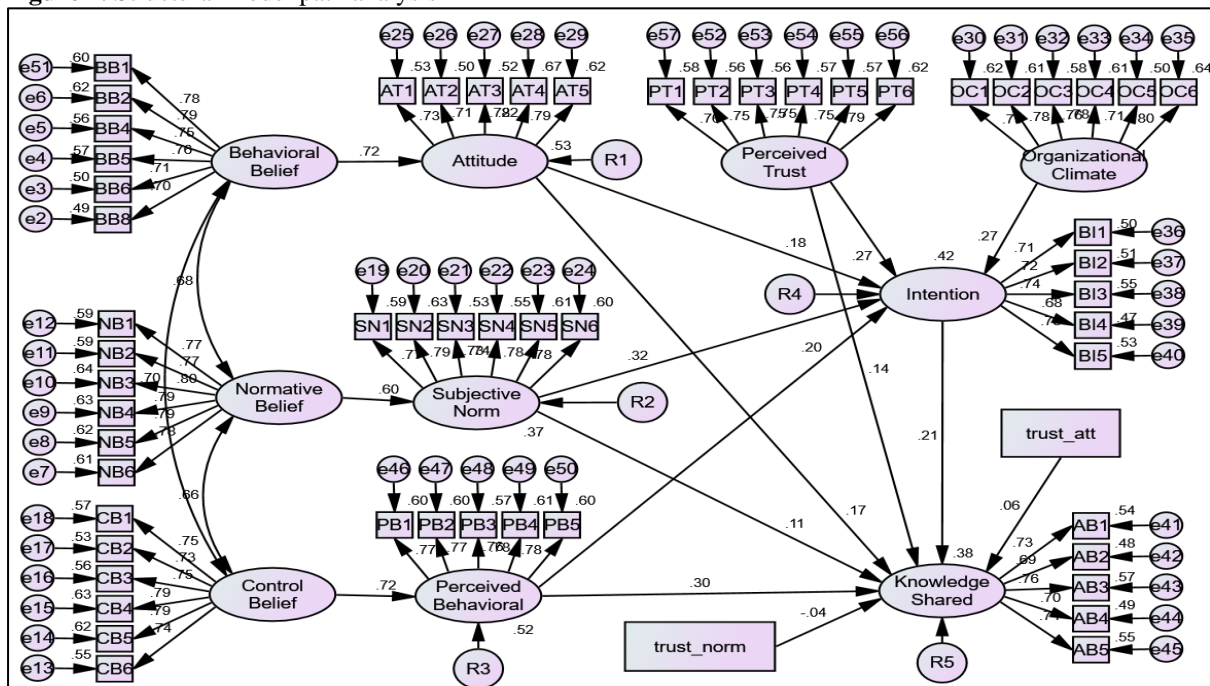


Table 4.1. Structural model

H	Path	Estimate	S.E.	C.R.	P-value	Result
H1	BB→AT	.748	.068	11.034	***	Supported
H2	NB→SN	.582	.055	10.531	***	Supported
H3	CB→PBC	.755	.064	11.867	***	Supported
H4	AT→BI	.169	.053	3.203	.001**	Supported
H5	SN→BI	.268	.046	5.797	***	Supported
H6	PBC→BI	.173	.047	3.662	***	Supported
H7	PBC→AB	.263	.051	5.193	***	Supported
H8	BI→AB	.211	.066	3.194	.001**	Supported
H10	AT→AB	.166	.055	3.046	.002**	Supported
H11	SN→AB	.094	.047	1.982	.047*	Supported
H12	PT→BI	.242	.046	5.298	***	Supported
H13	OC→BI	.229	.042	5.440	***	Supported

Note(s): H = hypothesis. AT = attitude. BB = behavioral beliefs. SN = subjective norm. NB = normative beliefs. PBC = perceived behavioral control. CB = control beliefs. OC = organizational climate. PT = perceived trust. BI

= behavioral intention. AB = actual behavior. S.E. = standard error. C.R. = critical ratio. Significance of path = *** $p < 0.001$, ** $p < 0.01$, and * $p < 0.05$.

Table 4.2. Mediation between attitude and actual behavior through intention

	Indirect effect	Direct effect
Bootstrapping estimate	0.037	0.173
Bootstrapping p-value	0.008	0.020
	Significant	Significant
Type of mediation	Partial mediation	

Table 4.3. Mediation between subjective norm and actual behavior through intention

	Indirect effect	Direct effect
Bootstrapping estimate	0.067	0.112
Bootstrapping p-value	0.001	0.098
	Significant	Not significant
Type of mediation	Full mediation	

Table 4.4. Mediation between perceived behavioral control and actual behavior through intention

	Indirect effect	Direct effect
Bootstrapping estimate	0.042	0.304
Bootstrapping p-value	0.007	0.002
	Significant	Significant
Type of mediation	Partial mediation	

Table 4.5. Moderation of perceived trust on attitude, subjective norm, and actual behavior

H	Path	Estimate	S.E.	C.R.	p-value	Result
H10a	AT*PT → AB	.014	.011	1.332	.183	Not supported
H11a	SN*PT → AB	-.008	.010	-.819	.413	Not supported

Note(s): H = hypothesis. AT = attitude. SN = subjective norm. PT = perceived trust. AB = actual behavior. S.E. = standard error. C.R. = critical ratio.

Figure 2. Moderating effect of perceived trust on the relationship between attitude and actual behavior

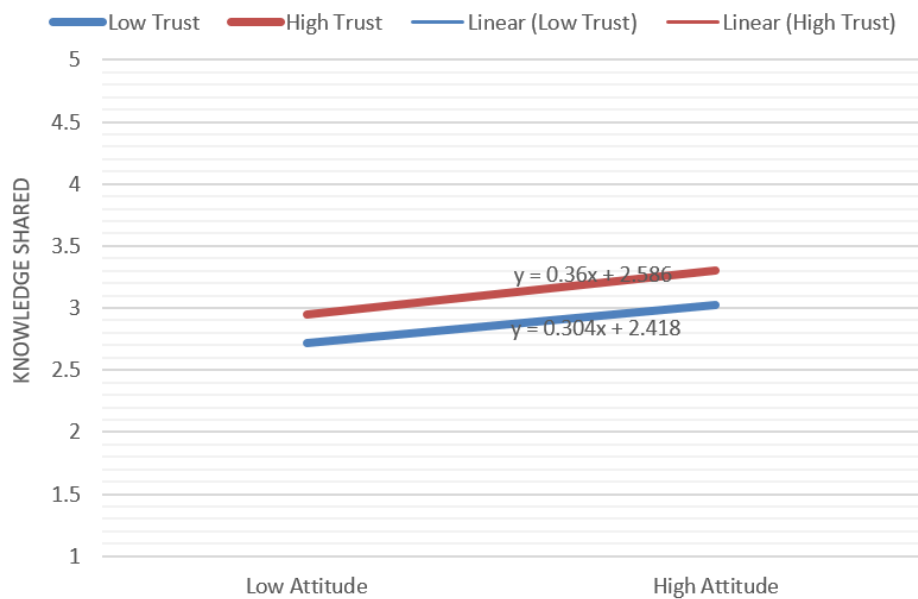
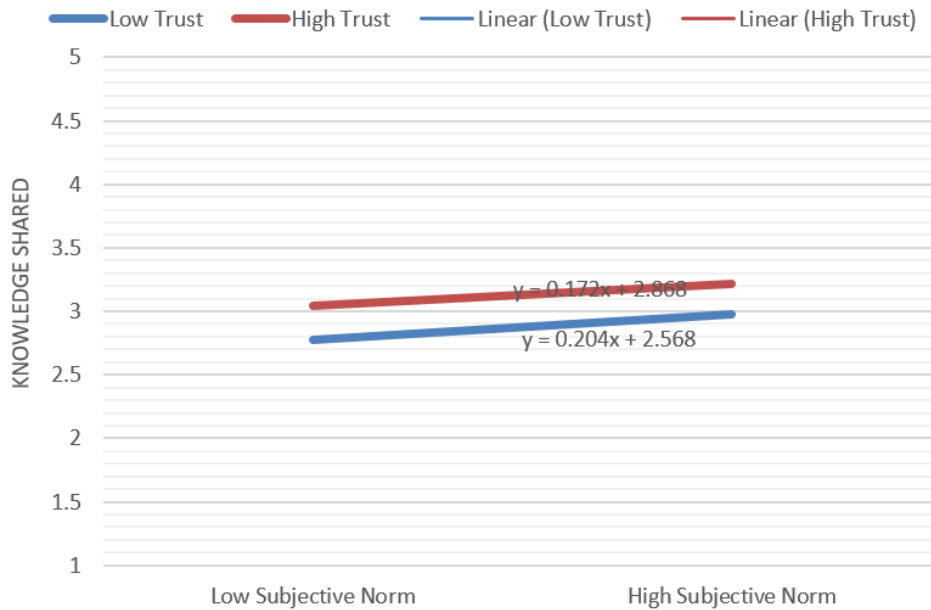


Figure 3. Moderating effect of perceived trust on the relationship between subjective norm and actual behavior



In order to provide a plausible and more insightful explanation of Malaysian private university academics’ knowledge sharing behaviour, this study examined the knowledge sharing phenomenon from a behavioural perspective through the full version of the TPB as well as two additional variables, including organizational climate and perceived trust. Three research objectives were also designed that could expose the possible reasons for knowledge sharing or hoarding among academics.

As this study involved the full version of TPB, the first objective was to examine how the academics’ attitude, subjective norm, and perceived behavioural control are influenced by salient beliefs (behavioural, normative, and control), respectively. A total of three essential hypotheses (H1 to H3) were established to achieve the first research objective. The findings indicate that the academics’ attitude, subjective norm, and perceived behavioural control have a significant impact on salient beliefs (behavioural, normative, and control), respectively (see table 4.1). More specifically, when academics hold a favourable belief towards knowledge sharing, it would ultimately influence the academics’ attitude, subjective norm, and perceived behavioural control.

Moreover, the second objective evaluates the structural relationships between TPB’s constructs (attitude, subjective norm, and perceived behavioural control) on academics’ intentional and actual knowledge sharing behaviour. To address the second objective, eight hypotheses (H4 to H9c) were developed. The findings (Table 4.1) postulates that attitude has a significant positive influence on the academics’ actual knowledge sharing behaviour. To elaborate, when an academic perceived that a favourable outcome will be awarded from this sharing, he/she will directly share the knowledge instead of only having a positive intention. Additionally, perceived behavioural control could influence the academics’ intention and hence hypothesis (H6) is supported, and perceived behavioural control has a significant impact on knowledge sharing behaviour. The probable reason of perceived behavioural control being significant is that when the academics have sufficient self-efficacy and institutional support, then they proceed to directly write a research article or share the knowledge instead of just forming a positive intention. Moreover, positive intention has assurance that the actual knowledge sharing will be executed. Furthermore, this study explored significant mediational effects of

attitude, subjective norm and perceived behavioural control through behavioural intention, which is less common in knowledge management literature.

This study appraised the direct and indirect relationships between the following TPB constructs: attitude, subjective norm, intentional behaviour and actual knowledge sharing; perceived trust and organisational climate. Therefore, a total of six hypotheses (H10, H10a, H11, H11a, H12, and H13) were developed. The results (table 4.1) indicate that academics would not share their valuable knowledge with others if they are not confident enough, even though important people such as the vice-chancellor or dean are promoting knowledge sharing, and thus hypothesis (H11) was supported. The findings (table 4.2/4) reveal that a partial mediation for both attitude and perceived behavioural control through intention has occurred, because both direct and indirect effects are significant, and the direct effect is greater than the indirect effect. Moreover, full mediation (table 4.3) is achieved concerning the relationship between subjective norm, intention, and actual knowledge sharing behaviour.

The moderation effect of perceived trust engendered by attitude and subjective norm on academics' actual knowledge sharing behaviour was assessed by developing two hypotheses (H10a and H11a) to investigate the third research objective. The result (table 4.5) indicates that perceived trust does not moderate the relationship between attitude and actual knowledge sharing behaviour and subjective norm of private university academics' actual knowledge sharing behaviour. Perceived trust is a vital factor for the academics' knowledge sharing. When the academics have a positive trust of their colleagues, it causes an increase in knowledge sharing. Finally, organizational climate has a significant positive impact on academic knowledge sharing. To elaborate, when academics believe that their colleagues are very cooperative in assisting each other, their knowledge-sharing tendency becomes more positive; hence hypothesis H13 is supported.

6. Conclusion

This study clearly demonstrates the knowledge sharing productivity of academics in private and public Malaysian universities. The statistics shows that most Scopus indexed research works are published by academics from public universities. This situation certainly puts more pressure on national policymakers. To examine this burning issue, this research developed a conceptual model grounded on the full version of TPB and two additional constructs. A total of 405 academics from private Malaysian universities were surveyed, and covariance-based structural equation modelling was employed to obtain statistical validation. Compared to other behavioral studies, this study used both procedural and statistical remedies for robustness checks. Similarly, this study used a higher boundary criterion known as the heterotrait-monotrait (HTMT) ratio of correlation to determine the discriminant validity, while most of the past researchers used the more traditional Fornell-Larcker approach.

This study substantially contributes to the existing knowledge management literature by examining the knowledge sharing phenomenon from a behavioral perspective, where both direct and indirect relationships were assessed. The findings indicate that academic attitudes, subjective norm, and perceived behavioral controls are significantly influenced by salient beliefs. These results offer new insights by inspecting the meaningful relationship between attitude and actual knowledge sharing, whereas most past studies only investigated the relationship between attitude and intention. Similarly, an insignificant relationship was found between subjective norm and actual knowledge sharing behavior, which is also paid significantly less attention in the literature. Behavioral intention was found to mediate relationships between attitudes, subjective norm, and actual knowledge sharing behavior, however, this study did not find any significant moderating effect from perceived trust

engendered by attitude and subjective norm on an academic's actual knowledge sharing behavior.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Ajzen, I. (2005). Attitude personality and behaviour. *New York: Open University Press*.
- Al-Husseini, S., & Elbeltagi, I. (2018). Evaluating the effect of transformational leadership on knowledge sharing using structural equation modelling: the case of Iraqi higher education. *International Journal of Leadership in Education*, 21(4), 506–517.
- Al-Kurdi, O. F., El-Haddadeh, R., & Eldabi, T. (2020). The role of organisational climate in managing knowledge sharing among academics in higher education. *International Journal of Information Management*, 50, 217–227.
- Awang, Z. (2015). SEM made simple: A gentle approach to learning structural equation modelling.
- Ballesteros-Rodríguez, J. L., De Saá-Pérez, P., García-Carbonell, N., Martín-Alcázar, F., & Sánchez-Gardey, G. (2020). The influence of team members' motivation and leaders' behaviour on scientific knowledge sharing in universities. *International Review of Administrative Sciences*, 2, 1-21.
- Berchin, I. I., Sima, M., de Lima, M. A., Biesel, S., dos Santos, L. P., Ferreira, R. V., ... & Ceci, F. (2018). The importance of international conferences on sustainable development as higher education institutions' strategies to promote sustainability: A case study in Brazil. *Journal of Cleaner Production*, 171, 756–772.
- Elrehail, H., Emeagwali, O. L., Alsaad, A., & Alzghoul, A. (2018). The impact of transformational and authentic leadership on innovation in higher education: The contingent role of knowledge sharing. *Telematics and Informatics*, 35(1), 55–67.
- Fullwood, R., Rowley, J., & McLean, J. (2019). Exploring the factors that influence knowledge sharing between academics. *Journal of Further and Higher Education*, 43(8), 1051–1063.
- Fauzi, M. A., Nya-Ling, C. T., Thurasamy, R., Ojo, A. O., & Shogar, I. (2019). Muslim academics' knowledge sharing in Malaysian higher learning institutions. *Journal of Islamic Marketing*, 10(2), 378–393.
- Gaspar, D., & Mabic, M. (2015). Creativity in Higher Education. *Universal Journal of Educational Research*, 3(9), 598–605.
- Ghabban, F., Selamat, A., & Ibrahim, R. (2018). New model for encouraging academic staff in Saudi universities to use IT for knowledge sharing to improve scholarly publication performance. *Technology in Society*, 55, 92–99.
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414–433.
- Hair, J. F., Gabriel, M., & Patel, V. (2014). AMOS covariance-based structural equation modeling (CB-SEM): Guidelines on its application as a marketing research tool. *Brazilian Journal of Marketing*, 13(2), 44–55.
- Ismail, N. A. M., & Ashmiza, N. (2012). *Key determinants of research-knowledge sharing in UK higher education institutions*. Portsmouth: University of Portsmouth.
<http://eprints.port.ac.uk/8492/>
- Li, X., Roberts, J., Yan, Y., & Tan, H. (2014). Knowledge sharing in China-UK higher education alliances. *International Business Review*, 23(2), 343–355.

- Omotayo, F. O., & Abdul-Rahman, H. T. (2021). Knowledge sharing practices among non-academic staff in a Nigerian university. In *Handbook of Research on Modern Educational Technologies, Applications, and Management* (pp. 483-497). IGI Global.
- Tseng, F. C., Huang, M. H., & Chen, D. Z. (2020). Factors of university–industry collaboration affecting university innovation performance. *Journal of Technology Transfer, 45*(2), 560–577.
- Zareie, B., & Jafari Navimipour, N. (2016). The impact of electronic environmental knowledge on the environmental behaviors of people. *Computers in Human Behavior, 59*, 1–8.