

RELATIONSHIP OF BEHAVIOURAL INTENTIONS WITH ACADEMIC KNOWLEDGE TRANSFER BEHAVIOUR

Siti Nur Shahira Dahari¹ and Rosalie Hall²

¹Ms., Durham University, United Kingdom, dahari.s.shahira@durham.ac.uk

²Prof., Durham University, United Kingdom, rosalie.hall@durham.ac.uk

Abstract

The current study investigated attitudinal components that potentially impact the Knowledge Transfer Behaviour (KTB) of academics. It focused specifically on the role of behavioural intentions in the academic research process, and the resulting knowledge productivity, utilising a large sample of academics from a Malaysian Public University. The study contributes theoretically and empirically by demonstrating the relationships of the variables comprising the Theory of Planned Behaviour (i.e., attitudes, subjective norms, perceived behavioural control and intentions) on performance outcomes related to Knowledge Transfer Behaviour. The study also has practical significance based on its implications for university faculty members, providing suggestions for better understanding of how they might increase their success at Knowledge Transfer activities. This study adopts a quantitative method and online questionnaires were used as the instruments for data collection. The on-line survey was administered by emailing potential respondents a link. Volunteer respondents were academics from Malaysia Public University ($N=985$). Path analysis was conducted to test the research hypotheses, using a structural equation modelling (SEM) approach. The results revealed that behavioural intentions significantly predicted KTB, and Attitude and PBC significantly predicted Behavioural Intentions. However, Subjective Norms did not predict behavioural intentions on Knowledge Transfer Behaviour (KTB) of academics. When further modifications were made to the model, Knowledge Transfer behaviour was predominantly uniquely explained by perceived behavioural control. Further recommendations were made for this study by adding other theories such as concept of the Triple Helix of university-industry-government relationships for expanding further research. It is hoped that the findings of this study can add valuable information to other researchers and thus contribute theoretically and empirically to a broader literature on Theory of Planned Behaviour.

Keywords: Knowledge Transfer, Theory of Planned Behaviour and Academic research productivity.

1. INTRODUCTION TO KNOWLEDGE TRANSFER BEHAVIOR (KTB)

In this dynamic knowledge-based oriented society, enhancing productivity has taken on more significance in the contemporary study of human performance (Ka"pyla" et al., 2010) especially towards higher education institutions focusing on knowledge-based activities such as the research outputs in universities (Flagg et al., 2011; Levitan & Ray, 1992; Long et al., 1998). According to Dev (2010), thriving educational institutions are those that constantly create new knowledge and disseminate it widely through their operations and systems.

Such profound emphasis on creation and transmission of knowledge have turned out to prominent recognized performance indicators for most higher education institutions universities globally.

This activity can be seen in Knowledge Transfer activities which involve documentation and communication (Disterer, 2001). In higher education settings, the conveyance and transmission of scholars is commonly done through informal social interactions, through informal social interactions, more formal presentations at events such as lectures and conferences, and the production of documents. Tacit knowledge that exists within individual academics becomes explicit as it is communicated verbally or in documents to students, colleagues or practitioners.

Knowledge Transfer activities in academic settings involve the conduct of original research activities, the provision of training and teaching (e.g., learning activities), and the documentation and/or publication of explicit knowledge and transmission of explicit and tacit knowledge both to colleagues and research team members, as well as outsiders (Abreu & Grinevich, 2013; D'Este & Patel, 2007; Molas-Gallart et al. 2002). The current study focuses primarily on all facets of research, including the dissemination of research knowledge. These research-related activities may be carried out by academics acting alone or commissioned in some manner by non-academic organizations.

2. LITERATURE REVIEW

In the current empirical study, the author adopts Ajzen's (1991) Theory of Planned Behaviour (TPB) as a theoretical basis for predicting the extent to which academic staff engagement in Knowledge Transfer Behaviours (KTB). According to Ajzen (1991), the Theory of Planned Behaviour suggests that an individual's intention to perform a given behaviour depends upon individual attitude towards that behaviour, in conjunction with subjective norms and perceptions of behavioural control.

To date, the Theory of Planned Behaviour (TPB) has been successfully applied to the prediction of intentions and behaviours across multiple studies context (Harrison, Mykytyn, & Riemenschneider, 1997; Mutaz, 2013), with disciplines ranging from management (Ye, Chen & Jin, 2006), marketing and consumer behaviour (Ajzen, 2011; Kalafatis, 1999), sociology (Kim & Karpova, 2007), computer science (Siponen, 2000), information systems (Huang & Chuang, 2007), and technology adoption and use (Dickinger, Arami, & Meyer, 2008; Titah Riyadh & Henri Barki, 2009), as well as many others.

The Theory of Planned Behaviour posits that specific behaviours are more likely to result when individuals hold strong behavioural intentions for them. For purposes of the current study, *Behavioural Intention* specifically refers to an individual's intention to engage in a set of behaviours that we call Knowledge Transfer Behaviours, i.e., activities that lead to consultancy, training and research activities. The strength of behavioural intentions, in turn, depends upon three factors; an individual's attitude towards the specific behaviour in question, subjective norms related to that behaviour, and the perceived behavioural control of the individual who might engage in the behaviour (Ajzen, 1991).

Attitude is defined as extend to which an individual has a favourable or unfavourable orientation towards a set of specific Knowledge Transfer Behaviour activities. *Subjective norm* is described as the degree to which an individual perceives various Knowledge Transfer Behaviour activities as expected among people who are important to the individual and associated with. Meanwhile *Perceived behavioural control* is referred as the capacity of control an individual believes that he or she will have when undertaking Knowledge Transfer Behaviour activities.

It is important to study intentions towards a behaviour because the stronger the intention, the more likely the performance of the behaviour (Ajzen, 1991). The theoretical model in Figure 1 summarizes the key variables that were studied and the proposed relationships amongst them. Related hypotheses are stated below the figure.

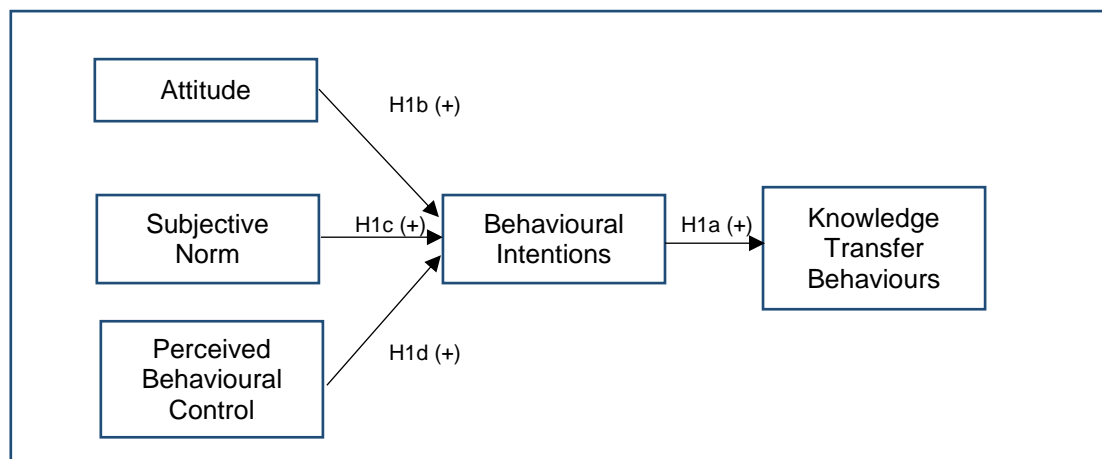


Figure 1: Model 1 of Knowledge Transfer Behaviour (KTB).

H1: The Theory of Planned Behaviour components predict academics' tendencies to engage in Knowledge Transfer Behaviours.

H1a. Behavioural Intentions have a direct, positive effect on KTB.

H1b. Attitude has a positive effect on KTB via Behavioural Intentions.

H1c. Subjective Norms have a direct, positive effect on KTB via Behavioural Intentions.

H1d. Perceived Behavioural Control has a positive effect on KTB via Behavioural Intentions.

3. METHODOLOGY AND RESULTS

3.1 Methods

A quantitative survey methodology was used. The questionnaire was administered by emailing potential respondents a link to an online survey administered by SmartSurvey. A total of one thousand and eleven (1011) volunteer respondents (academics) from Malaysia Public University were involved. Prior to conducting the primary analyses however, this sample size was reduced in the data cleaning process (i.e., eliminating non-research positions and careless/incomplete responses), resulting in useable sample of N = 985.

The theory of Planned Behaviour (TPB) items used to assess each of the theory's major constructs was formulated to fit the academic context of the study, and was pilot tested. Following procedures described in Ajzen (2006), items were formulated to assess each of the theory's major constructs: this procedure resulted in items measuring: Attitude (7 items), Subjective Norms (9 items), Perceived Behavioural Control (PBC: 7 items), and Behavioural Intentions (7 items). Responses to all TPB items were made using a 7-point Likert-style response format. For example, one attitudinal item asked "I look forward to those aspects of my job that will allow me to present and publish peer-reviewed papers, is" and the 7 point response had anchors of "agree: _1_2_3_4_5_6_7_: disagree".

Eight Knowledge Transfer Behaviour (KTB) items were also developed by the researcher after consulting conceptually similar measures used in existing research (Bok & Kim, 2002; Huang, 2014; Dahari, et al, 2014; Hsu, et. al, 2001), then modifying them as needed to fit the academic context of the current study. The resulting items were then pilot tested. Responses to the items were made using a 5-point Likert-style response format indicating the frequency with which specific Knowledge Transfer Behaviour was engaged in. An example of an item developed to measure Knowledge Transfer is, "I worked on one or more books or book chapter reporting my research findings". The response anchors ranged from '1 =not at all; 2= 1-2 times this past 12 months; 3= 1-2 times per semester; 4= 1-2 times most months and 5=1-2 times most weeks.'

SPSS version 20 was used to perform descriptive analysis of the data, as well as preliminary tests of the main effects research hypotheses using correlations. Reliability estimation (Cronbach's alpha) was carried out to test the internal consistency of all scales and inferential statistical analysis (i.e., correlation, regression and factor analysis). In addition, this study also used Mplus v. 6.12 (Muthén & Muthén, 1998-2017) to estimate a latent variable path model used to test the specific hypotheses.

3.2 Descriptive Analyses

The summary in Table 3.2, shows the results of descriptive statistics, correlations, and reliabilities for study variables. All focal variables had good reliability, with alphas ranging from .84 to .94. Furthermore, the results show a strong positive correlation between the TPB and KTB, with Pearson correlations in the range of .26 and above.

Table 3.2: Descriptive statistics, correlations, and reliabilities for study variables

		M	SD	1	2	3	4	5
1	Knowledge Transfer Behaviours	2.21	.75	.92	.39**	.30**	.26**	.50**
2	Behavioural Intentions	5.70	1.02		.94	.65**	.55**	.68**
3	Attitude	6.11	.74			.87	.61**	.45**
4	Subjective Norm	5.50	.84				.84	.51**
5	Perceived Behavioural Control	5.10	1.04					.88

Note. Values of Cronbach's alpha are reported on the matrix diagonal.

**M (Mean)

**SD (Standard Deviation)

3.3 Latent Variable Path Analysis

To test the research hypotheses, a latent variable path model consistent with Figure 1 was specified. In this model (M1), latent constructs were specified for each of the four Theory of Planned Behaviour (TPB) variables, and for Knowledge Transfer Behaviour. Item parcels were used as measured indicators for each of the TPB constructs (3 item parcels each), and the four item-level responses for the Knowledge Transfer Behaviour (KTB) construct. In the initial model, Behavioural Intentions directly influenced Knowledge Transfer Behaviour, and the effects of Attitudes, Subjective Norms, and Perceived Behavioural Control on KTB were fully mediated through Behavioural Intentions.

Overall, all fit indices except for the statistically significant chi-square value, suggest that this initial model fit the data fairly well, with $\chi^2 = 403.216$, $df = 83$, $p < .0001$, $RMSEA = .072$, $CFI = .962$, $SRMR = .054$. A meaningful amount of variance in Knowledge Transfer Behaviours, $R^2 = .18$, $p < .001$, was explained by the model. The model also explained substantial variance in behavioural intentions, $R^2 = .71$, $p < .001$. The estimates of the path coefficients from this model are listed in the top section of Table 3.3.

Specifically, as proposed, behavioural intentions significantly predicted KTB, and attitude and PBC significantly predicted Behavioural Intentions. However, Subjective Norms did not predict behavioural intentions. In addition, the tests of the mediated (i.e., indirect) effects of Attitude on KTB ($standardized\ ab = .15$, $p < .001$) and of PBC on KTB ($standardized\ ab = .24$, $p < .001$) indicated that both of these indirect effects carried through Behavioural Intentions were statistically significant. Thus, results of this model were broadly supportive of the classical Theory of Planned Behaviour, with the exception of the null effect of subjective norms.

Table 3.3: Path coefficients from initial SEM model (DV = KTB factor).

Model & Paths	Unstandardized Coefficients			Std. Coeff.
	B	se	p	β
Model 1 (Hypothesized Model)				
Behavioural Intentions to KTB	.27	.02	<.001	.42***
Attitude to Behavioural Intentions	.50	.07	<.001	.35***
Subjective Norm to Behavioural Intentions	.04	.08	.63	.03
PBC to Behavioural Intentions	.65	.05	<.001	.57***
Model 2 (Model freeing direct PBC path)				
Behavioural Intentions to KTB	-.04	.04	.36	-.06
PBC to KTB	.43	.05	<.001	.60***
Attitude to Behavioural Intentions	.50	.07	<.001	.35***
Subjective Norm to Behavioural Intentions	.05	.08	.54	.03
PBC to Behavioural Intentions	.62	.05	<.001	.56***

However, the initial model had a large modification index (MI = 66.209) for adding the direct effects of PBC on KTB, in addition to the already present effects which were mediated through Behavioural Intentions. This

new model (M2) fit the data better than did the previous model, $\chi^2 = 331.895$, $df = 82$, $p < .0001$, $RMSEA = .064$, $CFI = .971$, $SRMR = .036$. In this model, as would be expected, the variance explained in Behavioural Intentions stayed the same as for the previous model as would be expected, however, the variance explained in KTB increased to $R^2 = .30$, $p < .001$. In this model, once the additional direct effects of PBC were included, the effect of Behavioural Intentions on KTB was no longer statistically significant, as can be seen in the second set of parameter estimates in the bottom half of Table 3.3.

3.4 Summary of Results

Table 3.4 shows the conclusions with respect to hypothesis testing based on the estimation of Model 1, again indicating that all except H1c were supported in this model. However, these results should be interpreted in light of the results of testing exploratory Model 2, which indicated that when Perceived Behavioural Control was allowed to have direct, as well as mediated, effects on Knowledge Transfer Behaviours, the high relationship of PBC with other the remaining predictors and mediator variable meant that they no longer had any statistically significant unique effects.

Table 3.4: Summary of Model 1 Hypothesis Testing

	Statement of hypotheses	Significant Value	Results
H1a	<i>Behavioural Intentions have a direct, positive effect on KTB</i>	<.001	Supported
H1b	<i>Attitude has a positive effect on KTB via Behavioural Intentions</i>	<.001	Supported
H1c	<i>Subjective Norms have a direct, positive effect on KTB via Behavioural Intentions.</i>	.63	Not supported
H1d	<i>Perceived Behavioural Control has a positive effect on KTB via Behavioural Intentions.</i>	<.001	Supported

4. CONCLUSION AND RECOMMENDATION

Overall in this study, there is a suggestion with the results from Model 1 that Attitude and Perceived Behavioural Control influence academics' Knowledge Transfer Behaviour (KTB) through their effects on Behavioural Intentions. However, estimation of an exploratory model which adds a direct path from PBC to KTB suggests that for these academics, a key component of the Theory of Planned Behaviour (TPB) model is their perceptions of the controllability of the activities that allow them to engage in Knowledge Transfer, to the extent that this variable appears to overwhelm the effects of other components of the TPB model.

This result suggests that an effective way to increase the Knowledge Transfer Behaviours of academics might be to increase their perceived control over factors needed to engage in the relevant behaviours, likely to be done by increasing their actual control over such behaviours. As the conclusion, from the discussion of the result, it is hoped that this study can bring insight by adding our knowledge on the theory of planned behaviour. Other than that, this research also can add other theories such as by looking at the concept of the Triple Helix of university-industry-government relationships for expanding further research and increase more precise and details results on the academics Knowledge Transfer Behaviour. It is hoped that the findings of this study can add valuable information to other researchers and thus contributes theoretically and empirically in Theory of Planned Behaviour literature.

REFERENCE LIST

- Abreu, M. and Grinevich, V. (2013). The nature of academic entrepreneurship in the UK: Widening the focus on entrepreneurial activities. *Research Policy*, 42(2), 408- 422
- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50 (2), 179–211.
- Ajzen, I. (2006). *Constructing a TPB Questionnaire: Conceptual and Methodological Considerations*. [http://www.uni-bielefeld.de/ikg/zick/ajzen%20 construction%20a%20tpb%20questionnaire.pdf](http://www.uni-bielefeld.de/ikg/zick/ajzen%20construction%20a%20tpb%20questionnaire.pdf)
- Ajzen, I. (2011). *Attitudes, personality and behavior*. Maidenhead, England: McGraw-Hill/Open University Press.
- Bock, G.-W., & Kim, Y.-G. (2002). Breaking the Myths of Rewards: An Exploratory Study of Attitudes about Knowledge Sharing. *Information Resources Management Journal*, 15, 2, 14-21.
- Dahari, S. N. S. B., Rahman, A. L. B. A., Sawal, M. Z. H. B. M., & Tanuri, Z. A. B. M. (2014). *Librarian knowledge productivity behaviour: A conceptual model*. In The Role of Service in the Tourism and Hospitality Industry - Proceedings of the 2nd International Conference on Management and Technology in Knowledge, Service, Tourism and Hospitality, SERVE 2014. (pp. 209-213). CRC Press/Balkema.
- D'Este, P., and Patel, P. (2007). University-industry linkages in the UK: What are the factors underlying the variety of interactions with industry? *Research Policy*, 36(9), 1295-1313.
- Dev Raj Adhikari, (2010). Knowledge management in academic institutions. *International Journal of Management Review*, 41 (2), 79-94.
- Dickinger, A., Arami, M. & Meyer, D. *Eur J Inf Syst* (2008) 17: 4. doi:10.1057/palgrave.ejis.3000726
- Disterer, G. (2001). Individual and social barriers to knowledge transfer. *Journal Of Business Administration*, 34(1), 1-7.
- Flagg, D., Gilley, O. and Park, J. (2011). Job market signaling: what drives the productivity of finances Ph.D.s?. *Financial Management*, 40, 483-513.
- Harrison, D. A., Mykytyn, P. P., & Riemenschneider, C. K. (1997). Executive decisions about adoption of information technology in small business: Theory and empirical tests. *Information Systems Research*, 8(2), 171–195.
- Hsu, M.-H., Ju, T. L., Yen, C.-H., & Chang, C.-M. (January 01, 2007). Knowledge sharing behavior in virtual communities: The relationship between trust, self-efficacy, and outcome expectations. *International Journal of Human - Computer Studies*, 65, 2, 153-169.
- Huang, E., & Chuang, M. (2007). Extending the theory of planned behaviour as a model to explain post-merger employee behaviour of IS use. *Computers in Human Behavior*, 23 (1), 240–257.
- Huang, Y.-H. (September 01, 2014). Measuring Individual and Organizational Knowledge Activities in Academic Libraries with Multilevel Analysis. *The Journal of Academic Librarianship*, 40, 5, 436-446
- Ka"pyla", J., Ja"askela"inen, A. and Lo"nnqvist, A. (2010), "Identifying future challenges for productivity research: evidence from Finland", *International Journal of Productivity and Performance Management*, 59, 607-23.
- Kalafatis, S., Pollard, M., East, R., & Tsogas, M. (1999). Green marketing and Ajzen's theory of planned behaviour: A cross-market examination. *Journal of Consumer Marketing*, 16 (5), 441–460.
- Kim, H. & Karpova, E., (2010). Consumer attitudes toward fashion counterfeits: application of the theory of planned behaviour. *Clothing and Textiles Research Journal* 28 (2), 79–94.
- Levitan, A.S. and Ray, R. (1992), "Personal and institutional characteristics affecting research productivity of academic accountants", *Journal of Education for Business*, 67, 335-41.
- Long, R., Bowers, W., Barnett, T. and White, M. (1998), "Research productivity of graduates in management: effects of academic origin and academic affiliation", *Academy of Management Journal*, 41, 704-14.
- Molas-Gallart, J., Salter, A., Pastel, P., Scott, A. and Duran, X. (2002). *Measuring Third Stream Activities*. Final Report to the Russell Group of Universities. Science and Technology Policy Research (SPRU), University of Sussex. Brighton (UK).

Mutaz M Al-Debei, Enas Al-Lozi, & Papazafeiropoulou, A. (2013). Why people keep coming back to Facebook: Explaining and predicting continuance participation from an extended theory of planned behaviour perspective. *Decision Support Systems* 55, 43–54.

Muthén, L.K. and Muthén, B.O. (1998-2017). *Mplus User's Guide*. Eighth Edition. Los Angeles, CA: Muthén & Muthén

Sh. Ye, Chen, H. & Jin, X. (2006). *Exploring the moderating effects of commitment and perceived value of knowledge in explaining knowledge contribution in virtual communities*. The Tenth Pacific Asia Conference on Information Systems (PACIS), 2006.

Siponen, M. (2000). A conceptual foundation for organizational information security awareness, *Journal of Information Management and Computer Security* 8 (1), 31–41.

Titah, R., & Barki, H. (January 01, 2009). Nonlinearities Between Attitude and Subjective Norms in Information Technology Acceptance: A Negative Synergy?. *Mis Quarterly : Management Information Systems*, 34(0), 4, 827.

Triple-helix. Retrieved from https://triplehelix.stanford.edu/3helix_concept