Do the Big Five Personality Factors affect knowledge sharing behaviour? A study of Malaysian universities

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ABSTRACT

This study aims to develop an integrative understanding of the Big Five Personality (BFP) factors supporting or inhibiting individuals' online entertainment knowledge sharing behaviours. Survey data are collected from 255 university students from two Malaysian universities. As hypothesised, structural equation modelling shows that extraversion and neuroticism are positively related to the attitude towards knowledge sharing. Openness to experience is found to have an inverse relationship with the attitude towards knowledge sharing. Subjective norm is positively related to the attitude towards knowledge sharing. Both attitude towards knowledge sharing and subjective norm are found to be independently and significantly related to the intention to share knowledge, which significantly influences the knowledge sharing behaviour. The research model proposed in the present study is useful to other researchers seeking to understand the personality factors that influence the knowledge sharing behaviour among the organisational communities. The results of this study provide empirical evidence for a new model that shows that the BFP factors are implicated in individuals' knowledge sharing behaviour. This study and its findings have filled the research gap in the literature of the BFP factors and knowledge sharing behaviours. Furthermore, the inclusion of the BFP factors in the Theory of Reasoned Action framework is an important distinction that other studies have not established.

Keywords: Big Five Personality; Knowledge sharing behaviour; Structural Equation Modelling; Online entertainment; Higher education; Malaysia

INTRODUCTION

The growth of Internet users worldwide has increased tremendously in this digital era. Within the Malaysian context, Internet users (16.9 millions) comprise 65.7 percent of its total population (25.7 million) (Internet World Statistics 2010). This figure is much higher than Internet penetration in other ASEAN countries, namely the Philippines (24.5%), Thailand (24.4%), Vietnam (20.1%), Indonesia (12.5%), Laos (7.7%), Cambodia (0.5%) and Myanmar (0.2%) (Internet World Statistics 2010). In fact, Malaysia is ranked No. 9 in the top 10 Asian countries of Internet users (Internet World Statistics 2010). The increase of Internet users in Malaysia could be attributed to the improved Information and Communication Technology (ICT) infrastructures provided by the Malaysian government.

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Specifically, all the universities in Malaysia are equipped with Internet connectivity, and a progression of user-generated media such as *YouTube* and *Facebook* has gained widespread acceptance among university students. In the Library and Information Science (LIS) literature, several studies (such as Liu 2005; Du 2009) have examined the impact of digital media on reading. With the various online resources available to facilitate readers and librarians in their information search (Adkins and Bossaler 2007), the digital media has begun to increase the online entertainment and social networking activities among the university students. Library web pages have been used as a tool to promote young adult programmes, books, music reviews and other digital media (Jones, 1997). Librarians also provide virtual reference services in recognizing library users' reliance on the Internet (Walter and Mediavilla 2005). In this regard, many university students have engaged in online entertainment by using the Internet as a leisure resource to download music and movies, read music reviews, browse library website for information about a hobby and online gaming, as well as view sports online (Griffiths, Davies and Chappell 2004; Hsu and Lu 2004).

According to Zainab, Abrizah and Edzan (2002), the development in ICT breaks all natural, cultural, social and hierarchical barriers to knowledge sharing. Increasing popularity of online entertainment such as viewing entertainment-related broadcasts and playing games online has been reinforced by the openness of knowledge sharing. However, individuals differ in their knowledge sharing behaviours. Some students have an intrinsic desire to share knowledge with more friends, while others seem uninterested. There are several factors, both personal and contextual, that explain these individual differences. Within the personal dimension, personality is a vital psychological mechanism that directs behaviours (Halder, Roy and Chakraborty 2010). Therefore, personality is one important factor that influences individuals' behaviours to share online entertainment knowledge. In the literature of *Personality and Individual Differences*, the core aspects of personality are best described by the Big Five Personality (BFP) factors involving extraversion, neuroticism, openness to experience, agreeableness and conscientiousness (Costa and McCrae 1992; Duff et al. 2004; Petrides et al. 2010). While a number of studies have examined the relationships between the BFP factors and university students' academic performance (Duff et al. 2004), academic motivation (Komarraju and Karau 2005), learning approaches (Busato et al. 1999; Zhang 2003), and general health (Greven et al. 2008), very few studies have focused on the impacts of BFP factors on online entertainment knowledge sharing behaviours.

The present study aims to add to the collective understanding of the BFP factors likely to underlie individuals' attitudes towards online entertainment knowledge sharing behaviours. Since knowledge sharing behaviour could be influenced by personal factors, this study proposes to modify the Theory of Reasoned Action (TRA) by including the BFP factors, as variables which affect an individual's attitude towards knowledge sharing.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The BFP factors, often known as extraversion, neuroticism, openness to experience, agreeableness and conscientiousness, account for the different personality traits observed within and across organisational communities. Since these BFP dimensions have become a robust taxonomy of personality (Digman 1990), this study intends to examine each of these five dimensions separately as they may relate to the attitude towards knowledge sharing.

This section describes these BFP characteristics and proposes hypotheses for the relationships of these dimensions with knowledge sharing.

Individuals high in extraversion have the inclination to be sociable (Besser and Shackelford 2007). Extroverts are enthusiastic, energetic and optimistic. Studies have suggested that extroverts are positively affective, and therefore are likely to have positive emotions and contribute to greater team satisfaction (Watson and Clark 1984; McCrae and Costa 1987; Barrick et al. 1998). Because extroverts tend to be emotionally positive and are satisfied when working with teams, they might increase knowledge sharing among group members to ensure that the team will remain viable. For example, when completion of group assignment depends on online sources from library website, university students who are extraverted tend to share the library information with team-mates to accomplish group assignment. Hence, we hypothesise that:

H1: There is a positive relationship between extraversion and the attitude towards knowledge sharing.

Agreeableness describes the individual's propensity to be interpersonally pleasant (Besser and Shackelford 2007). People high in agreeableness are good-natured, forgiving, courteous, helpful, generous, cheerful and cooperative (Barrick and Mount 1991). In fact, agreeableness has been shown to influence job performance most when collaboration and cooperation amongst workers are essential (Witt et al. 2002). Since knowledge sharing is a particular form of individual helpfulness, cooperation and collaboration, and entails "getting along with others" within interpersonal relationships with university course-mates and friends, individual high in agreeableness are more likely to share knowledge. Therefore, the following hypothesis is proposed:

H2: There is a positive relationship between agreeableness and the attitude towards knowledge sharing.

Conscientiousness summarises traits related to dependability, achievement orientation and perseverance (Thoms, Moore and Scott 1996). Individuals with high conscientiousness are more dutiful, dependable, reliable, responsible, organised and hardworking (Barrick and Mount 1991). In a situation where interdependence and good interpersonal relationships are important success factors, a person high on conscientiousness is more cooperative with others compared with those who have lower level of conscientiousness (Lepine and Dyne 2001). In the university environment, conscientious students tend to engage in more knowledge sharing activities such as sharing information about hobby, movie and music reviews published in the library website. Following this assertion, we hypothesise:

H3: There is a positive relationship between conscientiousness and the attitude towards knowledge sharing.

Neuroticism contrasts emotional stability with different negative moods such as anxiety, sadness and nervous tension (Benet-Martinez and John 1998). According to Lepine and Dyne (2001), people with high neuroticism often express their attitudes toward co-workers. In this regard, it is likely that students who score high in neuroticism would interact and share information with others. We therefore hypothesise:

H4: There is a positive relationship between neuroticism and the attitude towards knowledge sharing.

Openness to experience involves a broad range of characteristics such as being curious, open-minded and artistic (Thoms, Moore and Scott 1996). McCrae and Costa (1987) posited that openness to experience reflects individual's independent, liberal, and daring behaviour. However, individual differences in openness to experience are grounded on cultures. In an article published in *Psychological Science*, Chen, Lee and Stevenson (1995) reported that Japanese and Chinese students are more likely than American and Canadian students to be neutral regardless of their opinion. In other words, these Japanese and Chinese students have lower levels of openness to experience. They further explained that the difference in response style between Western and Asians was consistent with the distinction often made between individualist and collectivist cultures. Given this description, university students who score high in openness to experience and reside in the Asian countries generally demonstrate higher levels of collectivism, would be less willing to express their opinion and share their knowledge with others in the university. Thus, we hypothesise:

H5: There is a negative relationship between openness to experience and the attitude towards knowledge sharing.

The TRA has been largely used in social psychological research to investigate knowledge sharing behaviours of different people, including MBA students (Huang, Davison and Gu 2008), industrial managers (Bock and Kim 2002; Bock et al. 2005), and hospital physicians (Ryu, Ho and Han 2003). In this regard, the proposed model of this study draws from the TRA (Fishbein and Ajzen 1975), which has been extensively validated and applied in various instances of human behaviour.

The TRA assumes that an individual's behaviour is determined by his or her intention to act upon the behaviour, and that this behavioural intentional is jointly predicted by individual's attitudes and subjective norms (Liao, Lin and Liu 2010). Attitudes towards behaviour refer to a person's common feelings about the behaviour (Huang, Davison and Gu 2008). Thus, according to the TRA, students are likely to have intention to share online entertainment knowledge if their common feelings towards the sharing behaviours are positive. Subjective norm refers to a person's perception of normative beliefs (e.g. perceived pressures and motivation to pursue) and how people important to him or her assess the behaviour (Huang, Davison and Gu 2008). Previous studies (e.g. Vallerand et al. 1992; Chang 1998) have shown that subjective norm is found to influence attitude. With respect to subjective norms, if a university student feels that his friends expect him to share his online entertainment knowledge with them, and if he would like to enact it, then he has the intention to share his knowledge. Intention is an indicator used to capture the factors that influence a desired behaviour (Ajzen 1991). In this case, a behavioural intention measure will predict the online entertainment knowledge sharing behaviours.

Based on TRA and the abovementioned assertions regarding individuals' attitude towards knowledge sharing, subjective norm, behavioural intention and knowledge sharing behaviour, the following hypotheses are proposed:

H6: There is a positive relationship between the subjective norm to share online entertainment knowledge and the attitude towards online entertainment knowledge sharing.

H7: There is a positive relationship between the subjective norm to share online entertainment knowledge and the intention to share online entertainment knowledge.

H8: There is a positive relationship between the attitude towards online entertainment knowledge sharing and the intention to share online entertainment knowledge.

H9: There is a positive relationship between the intention to share online entertainment knowledge and the online entertainment knowledge sharing behaviours.

METHOD

Measures

The five dimensions of BFP [(1) extraversion; (2) agreeable; (3) conscientiousness; (4) neuroticism; and (5) openness to experience] are measured using the instrument developed by John (1990). Respondents indicate how they generally feel by rating the degree of their feelings on a six-point scale where 1="extremely disagreed", 2="very disagreed", 3="somewhat disagreed", 4="somewhat agreed", 5="very agreed", and 6="extremely agreed".

The items for attitude towards knowledge sharing, subjective norm, intention to share knowledge, and knowledge sharing behaviour constructs are adapted from Cheng and Chen (2007). The response format is also a six-point Likert type scale ranging from "extremely disagreed" to "extremely agreed". The item descriptions are detailed in the Appendix.

Samples and Procedures

The unit of analysis for this research is the individual, that is, the university student. The participants sampled are students from both public and private Malaysian universities. Stratified random sampling method is employed in this study. The strata used in this sampling are students' experience of using Internet and students' accessibility of Internet facilities on campus.

In this study, the students are selected from two Malaysian universities, namely, a public university – University of Malaya (UM) and a private university – Multimedia University (MMU). These selections are made because UM is ranked No. 39 and MMU is positioned at No. 171 in the list of 2009 edition of the QS.com Asian University Rankings (QS Quacquarelli Symonds Asian University Rankings, 2009). According to QS Quacquarelli Symonds Asian University Rankings (2009), Universiti Kebangsaan Malaysia (UKM) is ranked 51st, Universiti Sains Malaysia (USM) is ranked No. 69, Universiti Teknologi Malaysia (UTM) is positioned at No. 82, and Universiti Putra Malaysia (UPM) is ranked 90th, and by such measures, UM has surpassed other public Malaysian universities in terms of overall academic performance. In year 2009, the Centre for Information Technology in UM has upgraded the leased-line infrastructure from 250Mbps to 300Mbps, allowing faster and more efficient web surfing, direct internet connection and other online applications experience among the students (Universiti of Malaya 2010). On the other hand, being the only private Malaysian university ranked in the Asian University Rankings, MMU provides another appropriate context for this research. MMU is located at Cyberjaya, which has a communication backbone operating on fibre optics known as Cyberjaya Metro Fibre Network, and a wide broadband access covering wireless and fixed line. In this regard, MMU is equipped with necessary ICT infrastructure, services and resources allowing for

faster and more stable internet connectivity. Under such conducive environment, MMU students have the privilege to access several Internet facilities including hostel network (both wired and wireless communication), email (i.e., MMU webmail), student personal homepage, virtual private network (VPN), and webhosting (for students' club and society) (Multimedia University 2010). These ICT facilities criteria are important in this study because provision of the Internet facilities on campus allows students to access online entertainment applications and share their online entertainment knowledge with others.

A total of 400 questionnaires were personally administered to the students from the abovementioned universities. Of the 400, 303 questionnaires (128 from UM and 175 from MMU) were completed and returned. Forty-eight samples were excluded after performing preliminary univariate statistical analysis to screen the data. As a result, 255 survey questionnaires were used for data analysis in this study, with a net response rate of 63.75%. The demographic information of the respondents is shown in Table 1.

Table 1: Profiles of the Respondents

Profile	**Frequency (N=255)**	**Percentage (100%)**	**Profile**	**Frequency (N=255)**	**Percentage (%)**
Gender			***Age***		
Female	142	55.7%	18-19 years old	4	1.6%
Male	113	44.3%	20-21 years old	80	31.4%
			22-23 years old	116	45.5%
			24-25 years old	37	14.5%
			>25 years old	18	7.0%
Education (Course)			***Experience using Internet***		
Creative Multimedia	20	7.8%	>1-2 years	14	5.5%
Management	29	11.4%	>2-3 years	24	9.4%
Economics	145	56.9%	>3-4 years	25	9.8%
Marketing	18	7.1%	>4-5 years	28	11.0%
Finance	36	14.1%	>5-6 years	33	12.9%
Others	7	2.7%	>6-7 years	27	10.6%
			>7-8 years	17	6.7%
			>8-9 years	26	10.2%
			>9-10 years	21	8.2%
			>10 years	40	15.7%

RESULTS

Scale Validation

The scale means, standard deviations, and inter-correlations are presented in Table 2. To measure the internal consistency of items in each construct, reliability test using Cronbach's Alpha is conducted on all the variables. In addition to this, reliabilities of the latent constructs are measured by calculating the composite reliability using formula $\rho = (\sum\lambda_i)^2 / [(\sum\lambda_i)^2 + (\sum\vartheta_i)]$, where λ_i refers to the ith factor loading and ϑ_i refers to the ith random measurement error for each loading. The interpretation of this coefficient is similar to Cronbach's alpha, but it releases the assumption that each item is equally weighted in establishing the composite, that is, the actual factor loadings (Perugini and Bagozzi 2001).

As shown in Table 3, the composite reliabilities of all variables are greater than the desirable values of 0.60 recommended by Bagozzi and Yi (1988), except for the variable of conscientiousness (i.e., composite reliability=0.53). However, the Cronbach's alpha for the variable of conscientiousness is 0.66. According to Hair et al. (2010, p. 92), "Measures of reliability that ranges from 0 to 1, with values of 0.60 to 0.70 deemed the lower limit of acceptability." In this regard, a Cronbach alpha value of 0.60 or above is deemed as an acceptable cut-off point in assessing the reliability of the variables of this study.

Table 2: Correlation between Constructs

	EX	AG	CO	NE	OP	SN	AT	IT	KS
EX									
AG	0.147 **								
CO	0.363 **	0.307 **							
NE	-0.281 **	-0.296 **	-0.387 **						
OP	0.509 **	0.203 **	0.278 **	-0.086					
SN	0.175 **	0.010	-0.054	-0.003	0.165 **				
AT	0.207 **	0.124 *	-0.013	0.028	0.186 **	0.690 **			
IT	0.220 **	0.001	-0.020	0.007	0.144 **	0.677 **	0.683 **		
KS	0.217 **	-0.002	-0.042	0.068	0.168 **	0.630 **	0.639 **	0.779 **	
M	3.810	4.188	3.712	3.424	4.201	3.897	4.066	3.871	3.878
SD	0.648	0.610	0.535	0.647	0.706	0.931	0.982	1.023	0.961

Note: N=255; ** p < 0.01; EX=Extraversion; AG=Agreeableness; CO=Conscientiousness; NE=Neuroticism; OP=Openness; SN=Subjective Norm; AT=Attitude towards Knowledge Sharing; IT=Intention to Share; KS=Knowledge Sharing Behaviour; M=Mean; SD=Standard Deviation.

For the validity test, measurement models which specified through the confirmatory factor analysis (CFA) are examined to validate the degree of convergent and discriminant validity of variables (e.g. Perugini and Bagozzi 2001; Sambasivan, Wemyss and Rose 2010). The convergent validity is evaluated from the measurement model by determining whether each indicator's estimated coefficient on its posited construct factor is significant, and the value is greater than twice its standard error (Anderson and Gerbing 1988). Results show that all the values of the standard errors associated with the parameter estimates are low, in a range of 0.053 to 0.206. Furthermore, each indicator's estimated coefficient on its posited construct factor is significant at 0.001 level, as well as greater than twice its standard error, indicating that the convergent validity is assumed. Discriminant validity is assessed by conducting chi-square difference tests using measures of each pair of constructs (Anderson and Gerbing 1988). Results indicate that discriminant validity is achieved for all measures.

A post hoc analysis to check for common method bias is also performed. This statistical analysis is known as Harman's single factor test. The results of this study indicated that more than one factor are produced. The largest factor explained 35.87% of the total variance, indicating that there is no single or general factor present. As a result, the problem of common method bias is not substantial in the study.

Table 3: Reliability and Composite Reliability of Instrument

Latent Constructs	Items	Standardised Loadings	Reliability (Cronbach's α)	Composite Reliability
EX	EX1	0.525	0.702	0.702
	EX2	0.717		
	EX3	0.661		
	EX4	0.228		
	EX5	0.535		
	EX6	0.133		
	EX7	0.639		
AG	AG1	0.174	0.660	0.625
	AG2	0.611		
	AG3	0.221		
	AG4	0.531		
	AG5	0.427		
	AG6	0.672		
	AG7	0.103		
	AG8	0.516		
CO	CO1	0.494	0.605	0.530
	CO2	0.079		
	CO3	0.533		
	CO4	0.092		
	CO5	0.182		
	CO6	0.672		
	CO7	0.611		
	CO8	0.264		
	CO9	-0.011		
NE	NE1	0.365	0.643	0.653
	NE2	0.646		
	NE3	0.587		
	NE4	0.497		
	NE5	0.322		
	NE6	0.414		
	NE7	0.372		
OP	OP1	0.612	0.785	0.792
	OP2	0.521		
	OP3	0.669		
	OP4	0.667		
	OP5	0.524		
	OP6	0.692		
	OP7	0.459		
SN	SN1	0.794	0.832	0.837
	SN2	0.902		
	SN3	0.678		
	SN4	0.605		
AT	AT1	0.869	0.901	0.901
	AT2	0.805		
	AT3	0.877		
	AT4	0.783		
IT	IT1	0.840	0.891	0.891
	IT2	0.860		
	IT3	0.864		
KS	KS1	0.728	0.829	0.831
	KS2	0.833		
	KS3	0.800		

Note: EX=Extraversion; AG=Agreeableness; CO=Conscientiousness; NE=Neuroticism; OP=Openness; SN=Subjective Norm; AT=Attitude towards Knowledge Sharing; IT=Intention to Share; KS=Knowledge Sharing Behaviour.

Hypotheses Testing

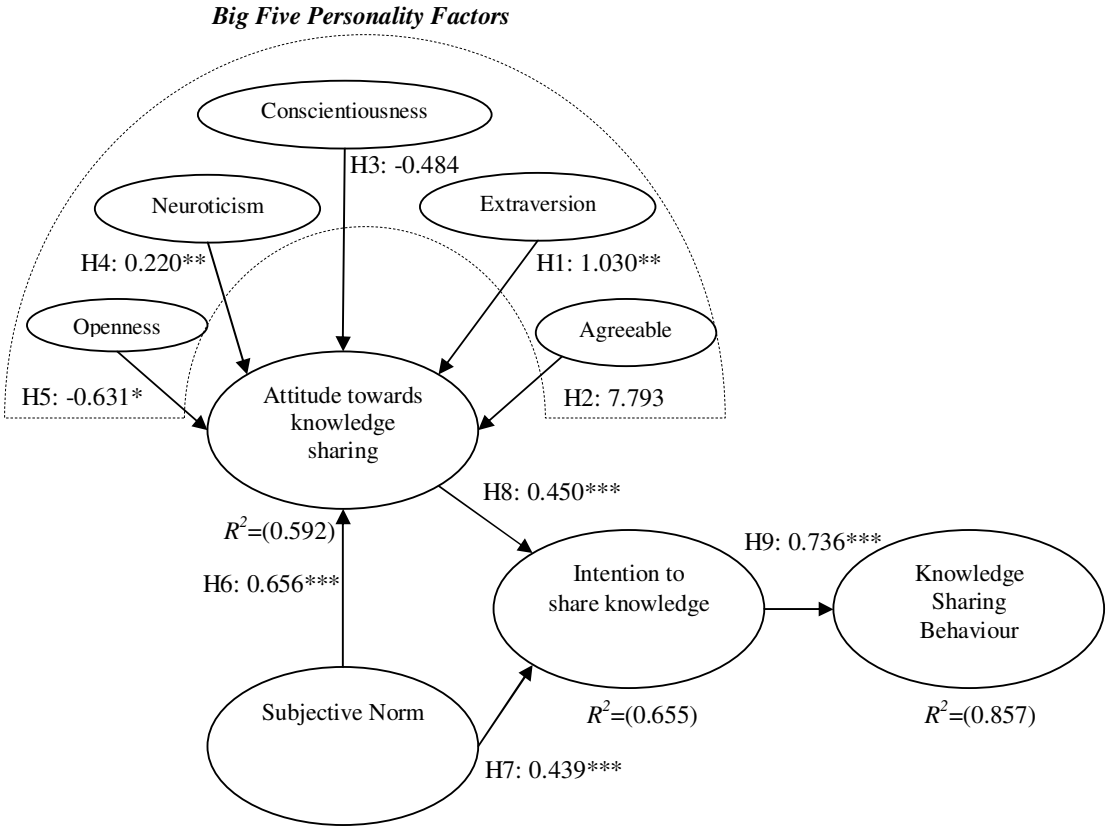
A path diagram is specified in Analysis of Moment Structures (AMOS) 16.0 to test the hypothesised relationships between the different dimensions of BFP, attitude towards knowledge sharing, subjective norm, intention to share knowledge, and knowledge sharing behaviour. The estimation of parameters in the model is measured using maximum likelihood estimation. Model fit indices including chi square (χ^2) test statistics/degrees of freedom (*d.f.*) ratio, goodness-of-fit (GFI) index, adjusted goodness-of-fit (AGFI) index, root mean square error of approximation (RMSEA), normed fit index (NFI), comparative fit index (CFI), and Tucker Lewis index (TLI) are taken into account to confirm the model fit to the data. In the present study, the model fit statistics yield a good fit to data: (χ^2)/*d.f.* ratio = 1.376, GFI = 0.855, AGFI= 0.829, RMSEA = 0.038, NFI = 0.808, CFI = 0.938, and TLI = 0.930. These values are within the threshold limits suggested in the SEM literature (e.g. Browne and Cudeck 1993; Vandenberg and Scarpello 1994; Forza and Filippini 1998; Mak and Sockel 2001; Hair et al. 2010)

Figure 1 shows the path coefficients, their significance levels, and the R^2 values of the full model. Extraversion significantly influences the attitude towards knowledge sharing (β = 1.030, p < 0.01). Neuroticism is positively related to the attitude towards knowledge sharing (β = 0.220, p < 0.01). In the case of openness to experience, the direction of the beta value is negative (β = -0.631, p < 0.05), indicating that the lower levels of openness are associated with more favourable the attitude towards knowledge sharing. Both variables of agreeable (β = 7.793, p > 0.05) and conscientiousness (β = -0.484, p > 0.05) are found to have no significant relationship with the attitude towards knowledge sharing, respectively. As expected, subjective norm is reported to be significantly related to the attitude towards knowledge sharing (β = 0.656, p < 0.001), and the intention to share knowledge (β = 0.439, p < 0.001). Similarly, attitude towards knowledge sharing is found to be significantly related to the intention to share knowledge (β = 0.450, p < 0.001). Intention to share knowledge also significantly affects the knowledge sharing behaviour (β = 0.736, p < 0.001). As shown in Table 4, the hypotheses H1, and H4 through H9 are supported.

Table 4: Results of Structural Model Estimates

Hypotheses	Causal Path	Path Coefficients	Standard Errors	Critical Ratios	*p*-value
H1	EX → AT	1.030	0.371	2.780	0.005**
H2	AG → AT	7.793	16.342	0.477	0.633
H3	CO → AT	-0.484	0.247	-1.956	0.050
H4	NE → AT	0.220	0.081	2.702	0.007**
H5	OP → AT	-0.631	0.263	-2.397	0.017*
H6	SN → AT	0.656	0.064	10.184	0.000***
H7	SN → IT	0.439	0.073	6.052	0.000***
H8	AT → IT	0.450	0.076	0.076	0.000***
H9	IT → KS	0.736	0.058	12.799	0.000***

Note: * p < 0.05; ** p < 0.01; *** p < 0.001; EX=Extraversion; AG=Agreeableness; CO=Conscientiousness; NE=Neuroticism; OP=Openness; SN=Subjective Norm; AT=Attitude towards Knowledge Sharing; IT=Intention to Share; KS=Knowledge Sharing Behaviour.



Note: * p < 0.05; ** p < 0.01; *** p < 0.001; Values not in parentheses are unstandardised path coefficients; Values in parentheses are R square values.

Figure 1: Results of SEM Analysis

DISCUSSIONS

The findings in this study indicate that three aspects of BFP are related to individuals' attitude towards online entertainment knowledge sharing behaviour. First, university students with higher levels of extraversion have more favourable attitude towards online entertainment knowledge sharing. This is further supported by Hamburger and Ben-Artzi's (2000) findings, in which extraversion was positively related to the use of leisure services in the Internet. Supporting this line of reasoning is that the extrovert university students who are sociable are more likely to share online entertainment knowledge in order to seek company and desires excitement.

Second, university students with higher levels of neuroticism have more favourable attitude towards online entertainment knowledge sharing. This is also consistent with Hamburger and Ben-Artzi (2000), in which neuroticism was positively related to the use of social services (e.g., chatting and participating in forums) in the Internet. Similarly, Guadagno, Okdie and Eno (2008) found that people who are high in neuroticism are likely to be bloggers who express personal content using a blog, a new form of online self-presentation and self-expression. One explanation for the present findings may be because the Internet provides a platform that neurotic students feel secure enough to share online

entertainment knowledge and socialise with other members in order to improve their emotional stability.

Third, the findings reveal that university students with higher levels of openness to experience have less favourable attitude towards online entertainment knowledge sharing. This result contradicts with research done by Cabrera, Collins and Salgado (2006) and Matzler et al. (2008), in which, they reported that openness to experience was positively related to individual's self report of knowledge exchange. The individuals tend to have a high level of curiosity resulting in a pique interest to seek others' ideas and insights (Cabrera, Collins and Salgado 2006; Matzler et al. 2008). Upon review of the survey questionnaire in the present study, it appears that the survey items in the online entertainment scale relate to a range of entertainment available online including downloading music and films, and viewing material with pornographic content, which may in part explain the results of this study. This may be derived from the issues of evaluation apprehension. Evaluation apprehension inhibits knowledge sharing (Bordia, Irmer, and Abusah 2006) and it may result from self-perception that activities such as sharing online material with pornographic content, and sharing websites for illegal music and movies downloads are transgressions that may lead to severe penalties, resulting in embarrassment, shame and unfavourable criticism from others. Hence, the present result indicates that university students who are curious and open-minded to access a variety of healthy and harmful online entertainment information are less likely to share their online entertainment knowledge with others.

Although it may seem logical that conscientiousness and agreeableness would influence the attitude towards knowledge sharing, the present study does not support these predictions. On the other hand, the result of this study shows that the path coefficient from subjective norm to attitude towards knowledge sharing is significant, which is consistent with previous research (e.g. Bock et al. 2005; Liao, Lin and Liu 2010). The findings imply that the students' attitude towards knowledge sharing is influenced by their perception of social pressure to share or not to share online entertainment knowledge.

Additionally, the causal path from subjective norm to the intention to share online entertainment knowledge is significant, indicating that the greater the subjective norm to share knowledge is, the greater the intention to share knowledge will be. This result is in line with the findings of previous studies (e.g. Ryu, Ho and Han 2003; Bock et al. 2005), which conclude that a favourable subjective norm need to be developed to reinforce the behavioural intention to share knowledge.

The findings also report that attitude towards online entertainment knowledge sharing has a positive and significant relationship with the intention to share online entertainment knowledge. This result is in accordance with the past research by Bock and Kim (2002), Ryu, Ho and Han (2003) and Huang, Davison and Gu (2008).

Lastly, behavioural intention to share knowledge is found to be significantly related to the knowledge sharing behaviours, which is consistent with prior research (e.g. Bock and Kim 2002; Ryu, Ho and Han 2003). As a result, the behavioural intention is confirmed as the predicted variable that stimulates the actual online entertainment knowledge sharing behaviours among the university students.

CONCLUSION

Some research limitations may restrict the conclusions drawn from this study, two of which warrant particular discussion. First, the knowledge sharing behaviour is temporal in nature but the present study used cross-sectional data in the analysis. Although the cross-sectional measures in this study are amenable to evaluation using SEM, future research is encouraged to test the model with longitudinal data. The second is reliance on sample data collected from Malaysia. Since international research will contribute to greater generalisation of the model proposed, a replication of this study should be performed in other countries with larger sample size.

In conclusion, this study has addressed a significant gap in the BFP factors and knowledge sharing literature. In particular, the present study contributes in two ways: (1) To our knowledge, none of the studies conducted in the areas of BFP factors and knowledge sharing have formulated, examined and established a research model linking the TRA and BFP factors. (2) The findings provide important insights into the role of the BFP factors in knowledge sharing behaviour. Since the model of this study allows an analysis of independent dimensions of the BFP factors in relation to knowledge sharing, this study provides a better understanding of the different personality traits of individual students who are keen or not keen to share online entertainment knowledge. The results of this study show that individuals with higher levels of extraversion and neuroticism have the motive to share online entertainment knowledge with others. In contrast, individuals with a strong openness to experience personality trait are less likely to share online entertainment knowledge. Given the importance of knowledge sharing in today's society, it is hoped that the research model proposed in this study will be useful to other researchers seeking to understand the personality factors that influence the knowledge sharing behaviour among the organisational communities.

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APPENDIX

Item Description for Measures Used

Constructs	Items
Extraversion	1. I see myself as someone who is talkative.
	2. I see myself as someone who is full of energy.
	3. I see myself as someone who generates a lot of enthusiasm.
	4. I see myself as someone who tends to be quiet.
	5. I see myself as someone who has an assertive personality.
	6. I see myself as someone who is sometimes shy, inhibited.
	7. I see myself as someone who is outgoing, sociable.
Agreeableness	1. I see myself as someone who tends to find fault with others.
	2. I see myself as someone who is helpful and unselfish with others.
	3. I see myself as someone who starts quarrels with others.
	4. I see myself as someone who has a forgiving nature.
	5. I see myself as someone who is generally trusting.
	6. I see myself as someone who is considerate and kind to almost everyone.
	7. I see myself as someone who is sometimes rude to others.
	8. I see myself as someone who likes to cooperate with others.
Conscientiousness	1. I see myself as someone who does a thorough job.
	2. I see myself as someone who can be somewhat careless.
	3. I see myself as someone who is a reliable worker.
	4. I see myself as someone who tends to be disorganized.
	5. I see myself as someone who tends to be lazy.
	6. I see myself as someone who perseveres until die task is finished.
	7. I see myself as someone who does things efficiently.
	8. I see myself as someone who makes plans and follows through with them.
	9. I see myself as someone who is easily distracted.
Neuroticism	1. I see myself as someone who is depressed, blue.
	2. I see myself as someone who is relaxed, handles stress well.
	3. I see myself as someone who worries a lot.
	4. I see myself as someone who is emotionally stable, not easily upset.
	5. I see myself as someone who can be moody.
	6. I see myself as someone who remains calm in tense situations.
	7. I see myself as someone who gets nervous easily.
Openness	1. I see myself as someone who is original, comes up with new ideas.
	2. I see myself as someone who is curious about many different things.
	3. I see myself as someone who is ingenious, a deep thinker.
	4. I see myself as someone who has an active imagination.
	5. I see myself as someone who is inventive.
	6. I see myself as someone who values artistic, aesthetic experiences.
	7. I see myself as someone who is sophisticated in art, music, or literature.
Subjective norms	1. Most people who are important to me think that I should share knowledge of online entertainment with others.
	2. People whose opinions I value would approve of my behaviour to share knowledge of online entertainment with others.
	3. I have the duty to share knowledge of online entertainment with others for I am a team member.
	4. Most people who are concerned with me share their online entertainment knowledge with others.
Attitude toward knowledge sharing	1. If I share my online entertainment knowledge with other members, I feel very beneficial.
	2. If I share my online entertainment knowledge with other members, I feel very pleasant.
	3. If I share my online entertainment knowledge with other members, I feel very meaningful.
	4. It is a wise move if I share my online entertainment knowledge with other members.
Intention to share knowledge	1. I always will intend initiatively to share online entertainment knowledge with others.
	2. I always will make an effort to share online entertainment knowledge with others.
	3. I always will plan to share online entertainment knowledge with others.
Knowledge sharing behaviour	1. I will necessarily share online entertainment knowledge with others obtained from friends.
	2. I will immediately share online entertainment knowledge with my good friends obtained from course-mates.
	3. I will instantly share online entertainment knowledge with other people obtained from the multimedia technology.