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2015

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Concerning Mobile Multitasking Post-Behaviour State of Mind

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Abstract

With the growing popularity of mobile web service and mobile devices, mobile multitasking behaviour is becoming an important issue for mobile commerce among practitioners and academics. The purpose of this study is to investigate the effect of polychronicity preference, mobile self-efficacy and anxious trait on multitasking behaviour and the multitasking post-behaviour state of mind. The result shows that polychronicity preference has direct influence on users' multitasking behaviours and negative influence toward easiness state of mobile multitasking post-behaviour state of mind. Mobile self-efficacy has positive influence on mobile multitasking behaviours while anxiety trait only has negative influence on a portion of the mobile multitasking behaviours. Mobile multitasking has direct influence on post-behaviour state of mind.

Keywords: Polychronicity Preference, Mobile Multitasking Behaviour, State of Mind, Anxiety State, Mobile Self-Efficacy.

1 INTRODUCTION

In recent years, the progress of mobile devices, mobile communication technology, cloud computing, and big data analysis, has resulted in the rapid growth of mobile commerce. According to IDC (IDC Worldwide Quarterly Mobile Phone Tracker 2012), 2012 annual growth rate of mobile phones had reached 45.1%. Therefore, the impact of mobile computing environment on consumers' behaviours and decisions would be the focus of subsequent mobile commerce studies. Although people's multitasking behaviours (Judd & Kennedy 2011; Stephens et al. 2012; Nicholas et al. 2011; Janssen et al. 2011; Ie et al. 2012; Adler & Benbunan-Fich 2012; Bishop & Johnson 2011) had increased since post-industrial society (Bell 1974), in the literatures relevant to organizational performance, multitasking behaviours often are the research focus. There are a large number of studies investigating the relationships between multitasking behaviours and various indicators of performance (Bluedorn et al. 1999; Bühner et al. 2006; Cotte & Ratneshwar 1999; König et al. 2005; Lindbeck & Snower 2000; Madjar & Oldham 2006; Stephens & Ballard 2012; Adler & Benbunan-Fich 2012; Persing 1999). However, in the previous literature, researchers rarely distinguished the difference between multitasking behaviours and polychronicity preference. Until recent years, Poposki & Oswald (2010) stated that polychronicity is a personality trait and multitasking is a behaviour. Kaufman-Scarborough & Lindquist (1999) and Lindquist & Kaufman-Scarborough (2007) also suggested that polychronicity should be considered as a measure of personal preference or personality trait. Thus, in this study we differentiate trait from behaviour, with polychronicity being a trait of preference and multitasking being the behaviours. The multitasking behaviour which involves mobile devices is termed mobile multitasking. In recent years, studies on mobile multitasking began to appear in literatures (Bannister & Remenyi 2009), showing issues concerning mobile multitasking is gaining attention. This study is attempting to explain mobile multitasking and mobile post-behaviour state of mind with polychronicity preference. A number of literatures (Slocobme 1999; Slocombe & Bluedorn 1999; Lindquist & Kaufman-Scarborough 2007; Bluedorn et al. 1999; Bluedorn et al. 1992; Poposki & Oswald 2010) suggested that people with polychronicity preference tend to have multitasking behaviours in their lives, and the moods arose from multitasking behaviours are positive. However, as mobile multitasking becomes the universal behaviour pattern, we must ask whether different types of mobile multitasking lead to similar post-behaviour state of mind. Hence our research purpose is to investigate whether mobile multitasking behaviours are the common behaviours independent from personal traits in the context of mobile internet, and examine the relationship between types of mobile multitasking and mobile post-behaviour state of mind.

2 LITERATURE REVIEW

2.1 Polychronicity Preference

Individuals with polychronicity preference tend to process more than one activity simultaneously. They can quickly switch between different activities (Slocombe & Bluedorn 1999). Previous studies had proved the relationship between polychronicity and performance (Arndt & Arnold 2006; Conte & Gintoft 2005; Nonis et al. 2005; Hecht & Allen 2005; Conte & Jacobs 2003; Nonis et al. 2005; Konig & Waller 2010). Suggested that polychronicity preference brings up the positive work performance was because individuals' polychronicity level just fit the environment or the needs from their works. To measure the polychronicity preference, many previous studies had developed scales (e.g., Conte et al. 1999; Kaufman et al. 1991; Bluedorn et al. 1999). The Inventory of Polychronic Values (IPV) developed by Bluedorn et al. (1999) measures polychronicity at cultural level and it's the latest and the most comprehensive inventory. Since mobile environment is the condition that fit for polychronicity, when people's polychronicity preference match the mobile environment, they would experience greater positive emotions and relatively less negative emotions. Therefore, in the multitasking environment, individuals with less polychronicity preference would be easier to experience anxiety. Based on above discussions and the perspective of person-environment fit, we hypothesized:

Hypothesis 1: Polychronicity preference is negatively related to anxiety state of mobile multitasking post-behaviour of mind.

2.2 Mobile Multitasking Behaviour

Multitasking is a behaviour of alternating different tasks at the same time (Davis et al. 2009). Many literatures showed that people with polychronicity preference tend to have multitasking behaviours in their lives since multitasking behaviours make them feel the sense of pleasure and accomplishment (Slocobme 1999; Slocombe & Bluedorn 1999; Lindquist & Kaufman-Scarborough 2007; Bluedorn et al. 1999; Bluedorn, et al. 1992). As mobile internet becomes popular, people access internet anytime and anywhere through their mobile devices. Hence, mobile environment is an environment suitable for multitasking. People with higher polychronicity preference would have higher preference on mobile multitasking and would have more mobile multitasking behaviours. Thus we hypothesized:

Hypothesis 2: Polychronicity preference is positively related to mobile multitasking behaviours.

2.3 Post-Behaviour State of Mind

With the growing popularity of internet, people are becoming over rely on internet as a medium to communicate. Even multitasking behaviour already is becoming an inevitable trend and bring up many positive benefits, it also rise up some mental health problem at the same time (Shapira et al. 2003; Moody 2001; Lee et al. 2011). For instance, Becker, Alzahabi, & Hopwood (2013) found that media multitasking behaviour would increase individual's depression and social anxiety. Bar-Haim et al. (2007) further suggested that people's lack of concentration is one of the important factors that lead to anxiety. Other than anxiety, multitasking behaviours are also likely to make people experience negative emotions such as depression, regret, and self-blame. Hence this study suggested that in the context of mobile multitasking, multitasking behaviours would cause anxiety.

Hypothesis 3: Mobile multitasking is positively related to anxiety state of mobile multitasking post-behaviour of mind.

2.4 Anxious Trait

When tension and pressure have reached a critical point, people would feel anxious (Fluck et al. 2001). Researchers had distinguished anxiety into trait and state (Cattell et al. 1961; Spielberger 1966, 1975). Spielberger et al. (1970) had developed STAI (State-Trait Anxiety Inventory) scale to measure anxiety trait as well as the anxiety state (Spielberger 1983). Anxiety would contribute negative influence on people's use of information technology (Compeau et al. 1999; Fagan et al. 2003; Lu & Su 2009). In the time of widespread computer usage, people's anxiety toward computers would contribute negative influence on their multitasking behaviours (Davis et al. 2009). Therefore, apart from anxiety after mobile multitasking, our study is also going to explore whether trait would affect multitasking behaviours. We infer that when an individual feels anxious toward multitasking behaviours, his multitasking behaviours would increase. Hypothesis 4 is as follows:

Hypothesis 4: Anxiety trait is negatively related to mobile multitasking behaviours.

2.5 Mobile Self-Efficacy

In social cognitive theory, self-efficacy had been seen as one of the important factors that affect behaviours (Bandura 1997). Self-efficacy refers to individuals' subjective perception to their ability of control and operates something (Bandura 2002). Previous studies already prove that individual's computer self-efficacy will affect their future computer use (Compeau & Higgins 1995; Bedard et al. 2003; Barbeite & Weiss 2004; Wu et al. 2007). Lu and Su (2009) believe that mobile self-efficacy has important implications to mobile related services. They also suggested that when investigating self-efficacy of mobile devices, impact from skillfulness should be consider. Hence, this study uses consumers' self-efficacy for mobile devices as moderator. We believe that self-efficacy to mobile device not only has direct effect to users' multitasking behaviours, it would also moderates the relationship between polychronicity preference and multitasking behaviours.

Hypothesis 5: Mobile self-efficacy is positively related to mobile multitasking behaviours.

Hypothesis 6: Mobile self-efficacy moderates the relationship between polychronicity preference and mobile multitasking behaviours

3 RESEARCH METHOD

This study used questionnaire survey to conduct empirical analysis. Research framework was constructed from related literatures. Pretest had conducted to clarify and revise the items with ambiguous semantics.

3.1 Variable Development and Questionnaire Design

According to literatures, since multitasking behaviours could bring people joy and accomplishment, people with polychronicity preference tend to have more multitasking behaviours in their lives (Slocobme 1999; Slocombe & Bluedorn 1999; Lindquist & Kaufman-Scarborough 2007; Bluedorn et al., 1999; Bluedorn et al. 1992). For polychronicity construct, we used Bluedorn et al. (1999) Inventory of Polychronic Values (IPV) as the measuring scale, 10 items in total. For multitasking behaviour, we divided the services on mobile devices into 3 categories: on-task, off-task, and assistance. From these 3 categories, we sorted out 27 mobile services that users commonly use. For the mobile multitasking post-behaviour of mind, we used anxiety state to measure user anxious level. There were 6 items in total. For mobile self-efficacy, we referred to Lu and Su's (2009) 6-item scale. We only use skillfulness to measure user technical proficiency. For anxiety trait, we referred to STAI (State-Trait Anxiety Inventory) scale developed by Spielberger, Gorsuch, and Lushene (1970). This scale is used to measure user's anxiety trait. There were 6 items in total. This study, we chose mobile service users as our object. Research questionnaire employed Likert five-scales, where 1 stands for strongly disagree and 5 stands for strongly agree.

3.2 Pretest and Factor Analysis

This study has conducted a pretest and yielded 106 responses. The 100 valid responses were collected. Result of reliability testing showed that Cronbach's α of anxious trait was 0.67, which had medium reliability. Other than anxious trait, every constructs all had Cronbach's α greater than 0.7, which represented high reliability (Nunnally & Bernstein 1994). After pretest, based on respondents' opinions 9 questions had been adjusted in their semantics. There were 6 questions from multitasking behaviours that were unable to be classified by factor analysis, so we decided to eliminate from the questionnaire. After these modifications, the formal questionnaire was determined.

This study used varimax to execute factor analysis. The results showed that KMO value of each construct were all greater than 0.7 and all Bartlett values had achieved significant level. Hence it's capable to conduct factor analysis. When conducting factor analysis, all of constructs can be divided into two factors. But, one factor for polychronicity preference was monochronicity preference, which was not the focus so we decided to exclude from this study. The anxiety state could be differentiated into two factors named as anxiety state and easiness state respectively. Another factor from anxiety trait construct was confident trait, which was not the factor we intend to study, so we removed it from the construct. In addition, mobile multitasking behaviour can be differentiated into three factors, which were named as entertainment, communication, and data assistance.

3.3 Structural Equation Model of Conceptual Framework and Sampling Design

After conducting factor analysis, this study applied the principle of parsimony to formulate structural equation model. In our study, we only retained and analyzed the constructs we have focused. Some constructs did not have clear distinction in previous studies. After clarifying each construct, we excluded the constructs which were unrelated to our research focus. Structural equation model is as shown in Figure 1, and the adjusted hypotheses are as shown follows:

Hypothesis 1-1: Polychronicity preference is negatively related to anxiety state of mobile multitasking post-behaviour of mind

Hypothesis 1-2: Polychronicity preference is negatively related to easiness state of mobile multitasking post-behaviour of mind

Hypothesis 2-1: Polychronicity preference is positively related to mobile multitasking behaviours in entertainment

Hypothesis 2-2: Polychronicity preference is positively related to mobile multitasking behaviours in communication

Hypothesis 2-3: Polychronicity preference is positively related to mobile multitasking behaviours in personal data assistance

Hypothesis 3-1: Mobile multitasking behaviours in entertainment is positively related to anxiety state of mobile multitasking post-behaviour of mind

Hypothesis 3-2: Mobile multitasking behaviours in entertainment is positively related to easiness state of mobile multitasking post-behaviour of mind

Hypothesis 3-3: Mobile multitasking behaviours in communication is positively related to anxiety state of mobile multitasking post-behaviour of mind

Hypothesis 3-4: Mobile multitasking behaviours in communication is positively related to easiness state of mobile multitasking post-behaviour of mind

Hypothesis 3-5: Mobile multitasking behaviours in personal data assistance is positively related to anxiety state of mobile multitasking post-behaviour of mind

Hypothesis 3-6: Mobile multitasking behaviours in personal data assistance is positively related to easiness state of mobile multitasking post-behaviour of mind

Hypothesis 4-1: Anxiety trait is negatively related to mobile multitasking behaviours in entertainment

Hypothesis 4-2: Anxiety trait is negatively related to mobile multitasking behaviours in communication

Hypothesis 4-3: Anxiety trait is negatively related to mobile multitasking behaviours in personal data assistance

Hypothesis 5-1: Mobile self-efficacy is positively related to mobile multitasking behaviours in entertainment

Hypothesis 5-2: Mobile self-efficacy is positively related to mobile multitasking behaviours in communication

Hypothesis 5-3: Mobile self-efficacy is positively related to mobile multitasking behaviours in personal data assistance

Hypothesis 6-1: Mobile self-efficacy moderates the relationship between polychronicity preference and mobile multitasking behaviours in entertainment

Hypothesis 6-2: Mobile self-efficacy moderates the relationship between polychronicity preference and mobile multitasking behaviours in communication

Hypothesis 6-3: Mobile self-efficacy moderates the relationship between polychronicity preference and mobile multitasking behaviours in personal data assistance
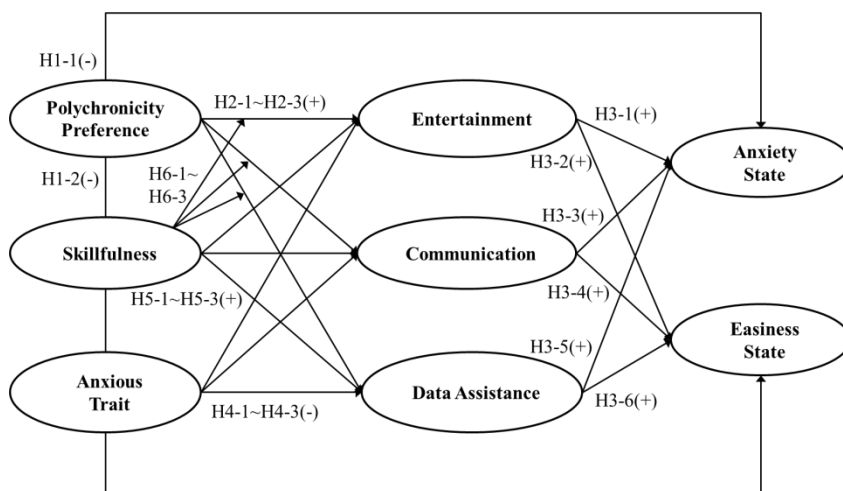

Figure 1. Structural equation model and research hypotheses.

4   DATA ANALYSIS

We used structural equation model (SEM) to verify causality between variables in the research framework. Since our research framework was a complex structural model with multi-construct, we used

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partial least squares (PLS) to analyze the model (Henseler et al. 2009). Software version was Smart PLS 2.0.M3 (Ringle et al. 2005).

Based on Anderson and Gerbing's (1988) description, structural equation model was executed in two phases: measurement model and structural model. The first phase was used to test whether the observed variables could correctly measure the latent variables in research model. The second was using structural model to examine the causality and explanatory power between latent variables of the overall research model. In addition, we used bootstrapping resampling technique (Efron 1979) to analyze the causality path.

4.1 Data Collection and Structure Analysis

After inviting participants to response the web questionnaire, 610 participants were collected and eliminated 8 invalid samples (samples without mobile devices and the inconsistent questionnaire), we got a total of 602 valid questionnaire s with effective response rate 98.69%. Demographic information of participants is as shown in Table 1.

Characteristics	Freque ncy	Ratio (%)	Characteristics	Freque ncy	Ratio (%)	Characteristics	Freque ncy	Ratio (%)
Gender			Residence			Publishing	2	.3
Male	279	46.3	North of Taiwan	399	66.3	Government	2	.3
Female	323	53.7	Middle of Taiwan	104	17.3	Education	60	10.0
Age			South of Taiwan	71	11.8	Art	1	.2
Below 15	1	.2	East of Taiwan	10	1.7	Designing	2	.3
Age 16~18	46	7.6	Outer islands of Taiwan	3	.5	Housekeeper	3	.5
Age 19~22	163	27.1	Oversea	15	2.5	Banking and Insurance	19	3.2
Age 23~28	167	27.7	Place of living			Freelance	9	1.5
Age 29~35	91	15.1	Urban	492	81.7	Retired	14	2.3
Age 36~40	61	10.1	Suburban	96	15.9	Unemployed	18	3.0
Age 41~45	25	4.2	Rural	14	2.3	Student	273	45.3
Age 46~50	12	2.0	Having tablets or smartphones			Traditional Manufacturing	17	2.8
Age 51~55	10	1.7	Having both	237	39.4	High-tech Manufacturing	26	4.3
Age 56~60	18	3.0	Only tablet	14	2.3	Information Service	63	10.5
Age 61~65	7	1.2	Only smartphones	351	58.3	Legal profession	3	.5
Above 65	1	.2	Occupation			Building	5	.8
Education			Agriculture, Forestry, Pasturage and Fishery	2	.3	Computer Communication Software	29	4.8
High school	32	5.3	Media	3	.5	Commerce	17	2.8
College	336	55.8	Catering	5	.8	Others	12	2.0
Master	200	33.2	Tourism and Transport	3	.5			
PhD	34	5.6	Medical	14	2.3			

Table 1. Demographic information of participants.

4.2 Measurement model analysis

To validate the measurement model, we've assessed reliability, convergent and discriminant validity of every construct. In this study, reliability and validity were tested by Cronbach's α, component reliability (CR) and average variance extracted (AVE) (Hair et al. 1992). Nunnally(1979) recommended that Cronbach's α > 0.7 indicates high reliability. Assessment of convergent validity was based on Fornell and Larcker's(1981) principle, that is, standardized factor loading > 0.7, CR > 0.6, and AVE > 0.5. The result show that Cronbach's α of each construct were higher or close to 0.7, this demonstrates a fair and consistent reliability of each construct. In CR analysis, every construct was higher than 0.7, and AVE was nearly higher or close to 0.5. It showed that every construct had meet the criteria of the principle, and convergent validity between constructs was good, as shown in Table 2.

We used AVE to assess discriminant validity as recommended by Fornell and Larcker(1981). If square root of AVE is greater than any other correlation coefficient within the inter-construct, the construct has good discriminant validity. Table 3 shows that square root of AVE on the diagonal line were all greater than the values below, indicating good discriminant validity. Thus was capable for subsequent structural equation model analysis.

	AVE	Composite Reliability (CR)	Cronbach's Alpha	R Square
Polychronicity Preference	0.47	0.81	0.72	
Anxious Trait	0.54	0.78	0.61	
Anxiety State	0.77	0.91	0.85	0.05

	AVE	Composite Reliability (CR)	Cronbach's Alpha	R Square
Easiness State	0.66	0.85	0.74	0.22
Skillfulness	0.58	0.89	0.86	
Communication	0.80	0.89	0.75	0.09
Entertainment	0.44	0.89	0.86	0.15
Data Assistance	0.59	0.89	0.86	0.09

Table 2. Latent variables of measuring model.

	Polychronicity Preference	Entertainment	Communication	Data Assistance	Anxious State	Easiness State	Anxious Trait	Skillfulness
Polychronicity Preference	**0.69**							
Entertainment	0.23	**0.66**						
Communication	0.23	0.44	**0.89**					
Data Assistance	0.19	0.56	0.48	**0.77**				
Anxious State	0.08	-0.08	0.07	0.11	**0.88**			
Easiness State	-0.22	-0.42	-0.33	-0.35	0.11	**0.81**		
Anxious Trait	-0.16	-0.15	-0.01	-0.05	-0.11	0.11	**0.74**	
Skillfulness	0.26	0.31	0.19	0.19	-0.30	-0.33	-0.04	**0.76**

Table 3. Discriminate validity & latent variable correlations.

4.3 Structural model analysis

In this study, PLS was used to test the overall structural model in order to estimate the path coefficient and explanatory power (R^2) of each construct (Fornell & Larcker 1981). Standardized path coefficients, t-values, p-values and the result of hypotheses testing are shown in Table 4. Testing result of research model is shown in Figure 2. Figure 2 demonstrates that the explanatory power of anxiety state was 5%, easiness state was 22%, communication was 9%, entertainment was 15%, personal data assistance was 9%. In 20 research hypotheses, 9 had reached the significant level.

Path	Hypothesis	Path coefficient	t value	p value	Result
Polychronicity Preference → Anxious State	H1-1	0.09	1.91	0.056	Not supported
Polychronicity Preference → Easiness State	**H1-2**	**-0.10**	**2.38**	**0.018***	**Supported**
Polychronicity Preference → Entertainment	**H2-1**	**0.15**	**3.24**	**0.001****	**Supported**
Polychronicity Preference → Communication	**H2-2**	**0.18**	**4.17**	**0.000*****	**Supported**
Polychronicity Preference → Data Assistance	**H2-3**	**0.15**	**3.44**	**0.001****	**Supported**
Entertainment → Anxious State	H3-1	-0.24	4.51	0.000***	Not supported
Entertainment → Easiness State	H3-2	-0.27	6.11	0.000***	Not supported
Communication → Anxious State	H3-3	0.06	1.09	0.276	Not supported
Communication → Easiness State	H3-4	-0.14	3.26	0.001**	Not supported
Data Assistance → Anxious State	**H3-5**	**0.20**	**3.52**	**0.000*****	**Supported**
Data Assistance → Easiness State	H3-6	-0.11	2.47	0.014*	Not supported
Anxious Trait → Entertainment	**H4-1**	**-0.10**	**2.24**	**0.025***	**Supported**
Anxious Trait → Communication	H4-2	0.04	0.80	0.426	Not supported
Anxious Trait → Data Assistance	H4-3	0.00	0.01	0.991	Not supported
Skillfulness → Entertainment	**H5-1**	**0.25**	**6.58**	**0.000*****	**Supported**
Skillfulness → Communication	**H5-2**	**0.14**	**3.59**	**0.000*****	**Supported**
Skillfulness → Data Assistance	**H5-3**	**0.14**	**3.53**	**0.000*****	**Supported**
Polychronicity Preference * Skillfulness → Entertainment	H6-1	-0.14	0.81	0.417	Not supported
Polychronicity Preference * Skillfulness → Communication	H6-2	-0.14	0.78	0.437	Not supported
Polychronicity Preference * Skillfulness → Data Assistance	H6-3	-0.18	0.88	0.380	Not supported

Table 4. Results of hypothesis testing.

4.4 Discussion

Both polychronicity preference and multitasking behaviours had significant impact on mobile multitasking behaviours, while anxiety state only affect multitasking behaviour of entertainment. Moreover, other than communication, which had no significant influence on anxiety state, other two types of mobile multitasking behaviours had direct effect on the mobile post-behaviour of mind, including anxiety state and easiness state.

This study found that polychronicity preference had negative impact on easiness state. Implying that people with higher polychronicity are less likely to feel ease. Though polychronicity preference on anxiety state did not reach the statistical significant level, they had a positive relationship, showing that polychronicity preference and anxiety state are likely to be related. That is, people with polychronicity preference are unlikely to experience ease but would feel anxious. Although the findings were different from previous studies, it revealed that users with polychronicity preference in mobile context would not be in easiness state. In the context of mobile devices, people's polychronicity preference would positively affect their mobile multitasking behaviours, including entertainment, communication and personal data assistance. This result is consistent with previous studies. Users with polychronicity preference would have higher frequency of use on these three types of mobile multitasking behaviours.

This study had proven that mobile self-efficacy had positive effect on all three types of mobile multitasking behaviours, showing that nowadays is the era of mobile information technology. Most mobile device users are high in mobile self-efficacy, and they have no problem with learning using new technology. This is corresponding to previous studies (Lu & Su 2009), also suggested that people with higher skillfulness would perform more mobile multitasking behaviours. Furthermore, anxiety trait only had negative effect on entertaining mobile multitasking behaviours, indicating that users with higher anxiety trait would perform less mobile multitasking behaviours on entertainment.
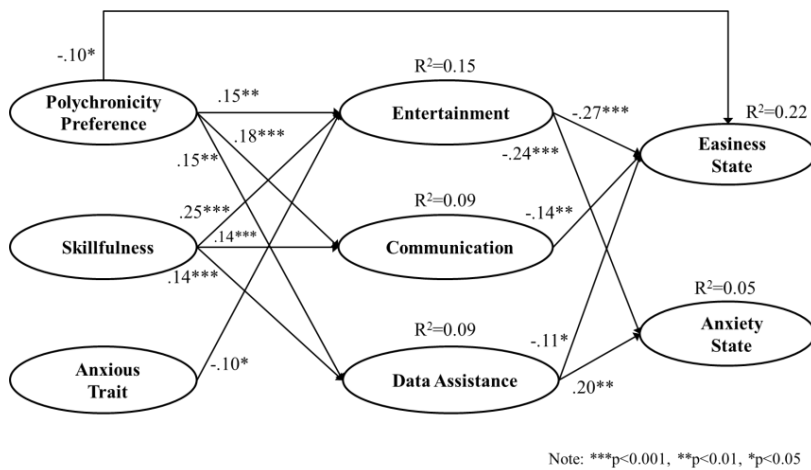

Figure 2. Result of structural model.

5 CONCLUSION

This study first clarified the definitions of polychronicity preference and multitasking, and then further proposed the causality between the two and their effects on the mobile multitasking post-behaviour of mind. In this study, we divided mobile multitasking behaviours into three types: entertainment, communication and personal data assistance. Our study found that both polychronicity preference and mobile self-efficacy have positive effect on multitasking behaviour of entertainment, communication and personal data assistance significantly, while anxiety trait only had negative effect on multitasking behaviour of entertainment. On the other hand, in the investigation of mobile multitasking post-behaviour of mind, our study found that polychronicity preference had direct negative influence on the easiness state on mobile multitasking post-behaviour of mind. In addition, other than communication, which had no influence on easiness state, all three types of mobile multitasking behaviours had direct influence on mobile multitasking post-behaviour state of mind, including anxiety state and easiness state. Other than investigating the relationship between traits and multitasking behaviour, this study also focus on exploring factors that would have influence on mobile multitasking post-behaviour of mind, providing a deep observation for the mobile phenomenon of the modern society. Users of mobile applications could understand the impact from mobile society, and enterprises attempt to engage in mobile commerce could have better understanding to users' state of mind, helping them to identify potential opportunities.

Reference

Adler, R. F., & Benbunan-Fich, R. (2012). Juggling on a high wire: Multitasking effects on performance. International Journal of Human-Computer Studies, 70(2), 156-168.

Anderson, J.C. and Gerbing, D.W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. Psychological Bulletin, 103(3), pp.411-423.

Arndt, A., Arnold, T. J., & Landry, T. D. (2006). The effects of polychromic-orientation upon retail employee satisfaction and turnover. Journal of Retailing, 82, 319-330.

Bandura, A. (1997). Self-efficacy: the exercise of control.

Bandura, A. (2002). Social cognitive theory in cultural context. Applied Psychology, 51(2), 269-290.

Bannister, R. & Remenyi, D. (2009). Multitasking: The uncertain impact of technology on knowledge workers and managers. Electronic Journal Information Systems Evaluation, 1-12.

Barbeite, F. G. & Weiss, E. M. (2004). Computer self-efficacy and anxiety scales for an Internet sample: testing measurement equivalence of existing measures and development of new scales. Computers in Human Behavior, 20(1), 1-15.

Bar-Haim, Y., Lamy, D., Pergamin, L., Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (2007). Threat-related attentional bias in anxious and nonanxious individuals: A meta-analytic study. Psychological Bulletin, 136(1), 1-24.

Bedard, J. C., Jackson, C., Ettredge, M. L., & Johnstone, K. M. (2003). The effect of training on auditors' acceptance of an electronic work system. International Journal of Accounting Information Systems, 4(4), 227-250.

Becker, M. W., Alzahabi, R., & Hopwood, C. J. (2013). Media multitasking is associated with symptoms of depression and social anxiety. Cyberpsychology, Behavior, and Social Networking, 16(2), 132-135.

Bishop, R. E. D., & Johnson, D. C. (2011). The mechanics of vibration. Cambridge University Press.

Bluedorn, A. C., Kaufman, C. F., & Lane, P. M. (1992). How many things do you like to do at once? An introduction to monochronic and polychronic time. The Executive, 6(4), 17-26.

Bluedorn, A. C., Kalliath, T. J., Strube, M. J., & Martin, G. D. (1999). Polychronicity and the Inventory of Polychronic Values (IPV): The development of an instrument to measure a fundamental dimension of organizational culture. Journal of Managerial Psychology, 14, 205-230.

Bühner, M., König, C. J., Pick, M., & Krumm, S. (2006). Working memory dimensions as differential predictors of the speed and error aspect of multitasking performance. Human Performance, 19(3), 253-275.

Cattell, R. B., & Scheier, H. I. (1961). The meaning and measurement of neuroticism and anxiety. New York: Ronald Press.

Compeau, D. R., & Higgins, C. A. (1995). Computer self-efficacy: Development of a measure and initial test. MIS quarterly, 19(2), 189-211.

Compeau, D., Higgins, C. A., & Huff, S. (1999). Social cognitive theory and individual reactions to computing technology: A longitudinal study. MIS Quarterly, 23(2), 145-158.

Conte, J. M., & Gintoft, J. N. (2005). Polychronicity, Big Five personality dimensions, and sales performance. Human Performance, 18, 427-444.

Conte, J. M., & Jacobs, R. R. (2003). Validity evidence linking polychronicity, Big Five personality dimensions to absence, lateness, and supervisory performance ratings. Human Performance, 16, 107-129.

Cotte, J., & Ratneshwar, S. (1999). Juggling and hopping: what does it mean to work polychronically? Journal of Managerial Psychology, 14(3/4), 184-205.

Davis, J. M., Lee, L. S., & Yi, M. Y. (2009). Time-user preference and technology acceptance: Measure development of computer polychronicity. American Journal of Business, 24(2), 23-31.

Efron, B. (1979). Bootstrap methods: Another look at the jackknife. Annals of Statistics, 7, 1-26.

Fagan, M. H., Neill, S., & Wooldridge, B. R. (2003). An empirical investigation into the relationship between computer self-efficacy, anxiety, experience, support and usage. Journal of Computer Information Systems, 44(2), 95-104.

Fluck, S. A., Harrigan, J. A., & Brindley, J. (2001). Children and young adults' recognition of anxiety. Journal of Nonverbal Behavior, 25(2), 127-146.

Fornell, C.R. and Larcker, D.F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. Journal of Marketing Research, 18(1), pp. 39-50.

Hair, J.F.Jr., Anderson, R.E., Tatham, R.L., and Black, W.C. (1992). Multivariate data analysis with reading, 3rd edition. New York, NY: Macmillan Publishing Company.

Hecht, T. D., & Allen, N. J. (2005). Exploring links between polychronicity and well-being from the perspective of person-job fit: Does it matter if you prefer to do only one thing at a time? Organizational Behavior and Human Decision Processes, 98, 155-178.

Ie, A., Haller, C. S., Langer, E. J., & Courvoisier, D. S. (2012). Mindful multitasking: The relationship between mindful flexibility and media multitasking. Computers in Human Behavior, 28(4), 1526-1532.

Igbaria, M., & Iivari, J. (1995). The effects of self-efficacy on computer usage. Omega, 23(6), 587-605.

Irby, T. L., & Strong, R. (2013). Agricultural Education Students' Acceptance and Self-Efficacy of Mobile Technology in Classrooms. NACTA Journal, 57(1), 82-87.

Islam, M. A., Khan, M. A., Ramayah, T., & Hossain, M. M. (2011). The adoption of mobile commerce service among employed mobile phone users in Bangladesh: self-efficacy as a moderator. International Business Research, 4(2), 80.

Janssen, C. P., Brumby, D. P., Dowell, J., Chater, N., & Howes, A. (2011). Identifying Optimum Performance Trade-Offs Using a Cognitively Bounded Rational Analysis Model of Discretionary Task Interleaving. Topics in Cognitive Science, 3(1), 123-139.

Judd, T., & Kennedy, G. (2011). Measurement and evidence of computer-based task switching and multitasking by 'Net Generation' students. Human Performance, 56, 625-631.

Kaufman-Scarborough, C., & Lindquist, J. D. (1999). Time management and polychronicity: Comparisons, contrasts, and insights for the workplace. Journal of Managerial Psychology, 14(3/4), 288-312.

Keith, M. J., Babb, J. S., Furner, C. P., & Abdullat, A. (2011, January). The role of mobile self-efficacy in the adoption of location-based applications: An iPhone experiment. In System Sciences (HICSS), 2011 44th Hawaii International Conference on IEEE, 1-10.

Konig, C. J., & Waller, M. J. (2010). Time for reflection: A critical examination of polychronicity. Human Performance, 23, 173-190.

Konig, C. J., Buhner, M., & Murling, G. (2005). Working memory, fluid intelligence, and attention are predictors of multitasking performance, but polychronicity and extraversion are not. Human Performance, 18(3), 243-266.

Lee, C. C., & Hsieh, M. C. (2009, June). The influence of mobile self-efficacy on attitude towards mobile advertising. In New Trends in Information and Service Science, 2009. NISS'09. International Conference on IEEE, 1231-1236.

Lee, P. S. N., Leung, L., Lo, V., Xiong, C., & Wu, T. (2011). Internet communication versus face-to-face interaction in quality of life. Social Indicators Research, 100(3), 375-389.

Lindbeck, A., & Snower, D. J. (2000). Multitask learning and the reorganization of work: from tayloristic to holistic organization. Journal of Labor Economics, 18(3), 353-376.

Lu, H. P., & Su, P. Y. J. (2009). Factors affecting purchase intention on mobile shopping web sites. Internet Research, 19(4), 442-458.

Madjar, N., & Oldham, G. R. (2006). Task rotation and polychronicity: Effects on individuals' creativity. Human Performance, 19, 117-131.

Moody, E. J. (2001). Internet use and its relationship to loneliness. CyberPsychology and Behavior, 4(3), 393-401.

Nicholas, D., Rowlands, I., Clark, D., & Williams, P. (2011, January). Google Generation II: web behaviour experiments with the BBC. In Aslib Proceedings 63(1), 28-45. Emerald Group Publishing Limited.

Nonis, S. A., Teng, J. K., & Ford, C. W. (2005). A cross-cultural investigation of time management practices and job outcomes. International Journal of International Relations, 29, 409-428.

Nunnally , J. C., & Bernstein, I. H. (1994). Psychological theory.

Nunnally, J., Psychometric theory, New York: McGraw-Hill, 2nd ed., 1979.

Persing, D. (1999). Managing in polychromic times: Exploring individual creativity and performance in intellectually intensive venues. Journal of Managerial Psychology, 14, 358-373.

Ringle, C.M., Wende, S., & Will, A. (2005). SmartPLS-Version 2.0. Germany: University at Hamburg. Retrieved on Oct. 2, 2012, from http://www.smartpls.de.

Persing, L. D. (1999). Managing in polychronic times: Exploring individual creativity and performance in intellectually intensive venues. Journal of Managerial Psychology, 14(5), 358-373.

Poposki, E. M., & Oswald, F. L. (2010). The multitasking preference inventory: Toward an improved measure of individual differences in polychronicity. Human Performance, 23(3), 247-264.

Shapira, N. A., Lessig, M. C., Goldsmith, T. D., Szabo, S. T., Lazoritz, M., Gold, M. S., & Stein, D. J. (2003). Problematic internet use: proposed classification and diagnostic criteria. Depression and Anxiety, 17(4), 207-216.

Slocombe, T. E. (1999). Applying the theory of reasoned action to the analysis of an individual's polychronicity. Journal of Managerial Psychology, 14(3/4), 313-324.

Slocombe, T. E., & Bluedorn, A. C. (1999). Organizational behavior implications of the congruence between preferred polychronicity and experienced work-unit polychronicity. Journal of Organizational Behavior, 20, 75-99.

Spielberger, C. D. (1966). Theory and research on anxiety. In C. D. Spielberger (Ed.), Anxiety and behavior (pp. 3-20). New York: Academic Press.

Spielberger, C. D. (1975). Anxiety: State-trait-process. In C. D. Spielberger & I. G. Sarason (Eds.), Stress and anxiety (Vol. 1, pp. 115-143). New York: Wiley.

Spielberger, C. D. (1983). Manual for the State-Trait Anxiety Inventory: STAI (From Y). Palo Alto, CA: Consulting Psychologists Press.

Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. (1970). STAI: Manual for the State-Trait Anxiety Inventory. Palo Alto, CA: Consulting Psychologists Press.

Stephens, K. K., Cho, J. K., & Ballard, D. I. (2012). Simultaneity, sequentiality, and speed: Organizational messages about multiple-task completion. Human Communication Research, 38(1), 23-47.

Wu, J.-H., Chen, Y.-C., & Lin, L.-M. (2007). Empirical evaluation of the revised end user computing acceptance model. Computers in Human Behavior, 23(1), 162–174.