MIS Quarterly

RESEARCH NOTE

INTEGRATING TECHNOLOGY ADDICTION AND USE: AN EMPIRICAL INVESTIGATION OF ONLINE AUCTION USERS

Ofir Turel
Steven G. Mihaylo College of Business and Economics, California State University, Fullerton,
800 N. State College Boulevard, Fullerton, CA 92834 U.S.A. {oturel@fullerton.edu}

Alexander Serenko
Faculty of Business Administration, Lakehead University, 955 Oliver Road,
Thunder Bay, ON P7B 5E1 CANADA {aserenko@lakeheadu.ca}

Paul Giles
Hardy Giles Consulting, 656 City Doad, Thunder Bay, ON P7G 1K3 CANADA {psgiles@lakeheadu.ca}

Appendix A

Scales (Excluding Addiction)

Table A1. Constructs, Measure Sources, and Items (Excluding Addiction Scales)

Construct	Measure Source	Items
Perceived Usefulness	Gefen et al. (2003)	**PU1.** EBay.com is useful for searching and buying products. **PU2.** EBay.com improves my performance in product searching and buying. **PU3.** EBay.com enables me to search and buy products faster. **PU4.** EBay.com enhances my effectiveness in product searching and buying. **PU5.** EBay.com makes it easier to search for and purchase products. **PU6.** EBay.com enhances my productivity in searching and buying products.
Perceived Ease of Use	Gefen et al. (2003)	**PEOU1.** EBay.com is easy to use. **PEOU2.** It is easy to become skillful at using eBay.com. **PEOU3.** Learning to operate eBay.com is easy. **PEOU4.** EBay.com is flexible to interact with. **PEOU5.** My interaction with eBay.com is clear and understandable. **PEOU6.** It is easy to interact with eBay.com.

Table A1. Constructs, Measure Sources, and Items

Construct	Measure Source	Items
Perceived Enjoyment	Davis et al. (1992)	**PE1.** Using eBay.com is enjoyable. **PE2.** Using eBay.com is pleasurable. **PE3.** Using eBay.com is fun. **PE4.** Using eBay.com is exciting. **PE5.** Using eBay.com is interesting.
Behavioral Intentions	Gefen et al. (2003)	**BI1.** Assuming I have access to eBay.com, I intend to use it in future. **BI2.** Given that I have access to eBay.com, I predict that I would use it in future. **BI3.** If I have access to eBay.com, I predict that I would use it frequently in future.
Social Desirability Bias	Reynolds (1982)	Please indicate whether the statements below are true or false with respect to yourself: **SDB1.** It is sometimes hard for me to go on with my work if I am not encouraged. (F) **SDB2.** I sometimes feel resentful when I don't get my way. (F) **SDB3.** On a few occasions, I have given up doing something because I thought too little of my ability. (F) **SDB4.** There have been times when I felt like rebelling against people in authority even though I knew they were right. (F) **SDB5.** No matter who I'm talking to, I'm always a good listener. (T) **SDB6.** There have been occasions when I took advantage of someone. (F) **SDB7.** I'm always willing to admit it when I make a mistake. (T) **SDB8.** I sometimes try to get even, rather than forgive and forget. (F) **SDB9.** I am always courteous, even to people who are disagreeable. (T) **SDB10.** I have never been irked when people expressed ideas very different from my own. (T) **SDB11.** There have been times when I was quite jealous of the good fortune of others. (F) **SDB12.** I am sometimes irritated by people who ask favors of me. (F) **SDB13.** I have never deliberately said something that hurt someone's feelings. (T)

Appendix B

Mapping Addiction Items to Addiction Symptoms

Several scales were used in this study to capture the latent variable–eBay addiction. In order to understand the scope of each scale and the addiction symptoms it taps, a procedure similar to the one described by Moore and Benbasat (1991) was followed. Three individuals in the medical field who use the DSM to diagnose addictions frequently (a licensed psychologist, a licensed pediatrician, and a psychology professor studying and treating addictions) were given a copy of Table 3 with no X's. They were asked to link items to symptoms by placing an X in the relevant intersections. Multiple symptoms per item were allowed, because a single item may tap into more than one symptom. The average initial raw agreement (simple percentage of agreement among all raters) was 71 percent, and the average Cohen's Kappa (agreement adjusted for agreement due to chance) was 65 percent. In the second round, each rater was given the ratings of the other two, and asked to independently consider adjusting his or her classification (adding or removing an X) and/or commenting on the classification of the others, when appropriate. The raw agreement in the second stage was 94 percent, and the average Kappa was 100 percent. Even though no perfect agreement was reached, these are acceptable agreement indices, demonstrating that the classification of addiction items to symptoms portrayed in Table 3 is valid.

The table provides in each cell the number or raters who agreed on the classification. While the number 3 indicates perfect agreement and strong likelihood that the item captures the indicated symptom, the number 2 indicates imperfect agreement, and can be interpreted as a less-obvious, yet viable, potential classification of items to symptoms.

Appendix C

Reliability and Validity Assessments: Study 1

Table C1. Item and Construct Statistics

Item	Item Mean	Item Std. Dev.	Item-Total Correlation	Cronbach's Alpha	Scale Mean
FOGS1	1.47	1.01	0.73	0.92	1.52
FOGS2	1.49	0.95	0.81		
FOGS3	1.55	0.98	0.85		
FOGS4	1.56	0.98	0.79		
FOGS5	1.72	1.11	0.71		
FOGS6	1.22	0.73	0.64		
FOGS7	1.61	1.17	0.77		
PU1	5.59	1.52	0.75	0.94	5.10
PU2	4.86	1.61	0.79		
PU3	4.98	1.58	0.86		
PU4	4.98	1.61	0.88		
PU5	5.21	1.58	0.88		
PU6	4.97	1.61	0.91		
PEOU1	5.55	1.48	0.90	0.97	5.45
PEOU2	5.51	1.45	0.90		
PEOU3	5.47	1.54	0.94		
PEOU4	5.40	1.41	0.91		
PEOU5	5.38	1.50	0.94		
PEOU6	5.39	1.51	0.95		
PE1	5.00	1.52	0.92	0.96	4.93
PE2	4.79	1.54	0.92		
PE3	5.03	1.51	0.93		
PE4	4.67	1.61	0.87		
PE5	5.15	1.46	0.83		
BI1	5.63	1.56	0.98	0.98	5.65
BI2	5.67	1.51	0.98		

Table C2. Measurement Model Reliability Assessment

Item	Loading	Residual Variance	Composite Reliability	AVE
FOGS1	0.82	0.32	0.94	0.68
FOGS2	0.87	0.24		
FOGS3	0.91	0.18		
FOGS4	0.85	0.28		
FOGS5	0.81	0.34		
FOGS6	0.68	0.54		
FOGS7	0.81	0.34		
PU1	0.83	0.31	0.96	0.80
PU2	0.84	0.29		
PU3	0.91	0.18		
PU4	0.92	0.16		
PU5	0.92	0.15		
PU6	0.94	0.12		
PEOU1	0.93	0.13	0.98	0.90
PEOU2	0.93	0.14		
PEOU3	0.96	0.09		
PEOU4	0.94	0.12		
PEOU5	0.96	0.08		
PEOU6	0.97	0.07		
PE1	0.95	0.09	0.97	0.87
PE2	0.95	0.10		
PE3	0.95	0.09		
PE4	0.92	0.16		
PE5	0.89	0.20		
BI1	0.99	0.01	0.99	0.99
BI2	0.99	0.01		

Table C3. Correlations Matrix and Discriminant Validity Assessment (Items on the diagonal represent the square root of AVE)

Construct	FOGS	PU	PEOU	PE	BI
FOGS	**0.82**				
PU	0.21	**0.89**			
PEOU	0.08	0.68	**0.95**		
PE	0.27	0.69	0.75	**0.93**	
BI	0.26	0.71	0.74	0.84	**0.99**

Table C4. Cross-Loadings Matrix

	FOGS	PU	PEOU	PE	BI
FOGS1	**0.82**	0.18	0.06	0.26	0.16
FOGS2	**0.87**	0.17	0.05	0.21	0.21
FOGS3	**0.91**	0.18	0.09	0.28	0.24
FOGS4	**0.85**	0.15	0.05	0.19	0.19
FOGS5	**0.81**	0.18	0.16	0.25	0.25
FOGS6	**0.68**	0.09	-0.04	0.11	0.05
FOGS7	**0.81**	0.11	-0.04	0.16	0.14
PU1	0.14	**0.83**	0.66	0.64	0.50
PU2	0.21	**0.84**	0.50	0.59	0.40
PU3	0.16	**0.91**	0.62	0.65	0.51
PU4	0.21	**0.92**	0.57	0.61	0.50
PU5	0.19	**0.92**	0.65	0.63	0.55
PU6	0.21	**0.94**	0.60	0.60	0.49
PEOU1	0.08	0.59	**0.93**	0.76	0.54
PEOU2	0.07	0.52	**0.93**	0.69	0.47
PEOU3	0.06	0.56	**0.96**	0.69	0.49
PEOU4	0.11	0.63	**0.94**	0.72	0.52
PEOU5	0.06	0.56	**0.96**	0.71	0.50
PEOU6	0.07	0.54	**0.97**	0.72	0.50
PE1	0.23	0.54	0.78	**0.95**	0.61
PE2	0.26	0.51	0.71	**0.95**	0.56
PE3	0.26	0.52	0.68	**0.95**	0.60
PE4	0.30	0.48	0.64	**0.92**	0.54
PE5	0.22	0.58	0.71	**0.89**	0.62
BI1	0.25	0.56	0.74	0.83	**0.99**
BI2	0.27	0.55	0.73	0.83	**0.99**

Appendix D

Reliability and Validity Assessments: Study 2

Table D1. Item and Construct Statistics

Item	Item Mean	Item Std. Dev.	Item-Total Correlation	Cronbach's Alpha	Scale Mean
FOGS1	1.27	0.71	0.60	0.88	1.35
FOGS2	1.28	0.69	0.69		
FOGS3	1.43	0.83	0.73		
FOGS4	1.35	0.77	0.62		
FOGS5	1.73	0.98	0.59		
FOGS6	1.13	0.47	0.71		
FOGS7	1.29	0.70	0.62		
CTAS1	1.71	1.22	0.82	0.95	1.53
CTAS2	1.49	0.96	0.90		
CTAS3	1.88	1.32	0.64		
CTAS4	1.41	0.92	0.86		
CTAS5	1.57	1.13	0.71		
CTAS6	1.52	1.07	0.85		
CTAS7	1.44	1.01	0.82		
CTAS8	1.37	0.99	0.79		
CTAS9	1.40	0.91	0.86		
CBS1	2.88	1.80	0.71	0.87	2.21
CBS2	1.83	1.35	0.58		
CBS3	1.56	1.07	0.54		
CBS4	2.38	1.63	0.73		
CBS5	2.58	1.78	0.73		
CBS6	2.05	1.56	0.69		
CUW1	1.69	1.30	0.75	0.92	1.71
CUW2	1.60	1.25	0.81		
CUW3	1.55	1.18	0.78		
CUW4	1.84	1.45	0.64		
CUW5	1.76	0.98	0.72		
CUW6	1.97	1.33	0.67		
CUW7	1.56	1.24	0.71		
CUW8	1.55	1.20	0.65		
CUW9	1.98	1.39	0.63		
CUW10	1.60	0.98	0.70		
CPAU1	1.69	1.24	0.79	0.94	1.72
CPAU2	1.60	1.15	0.83		
CPAU3	1.61	1.13	0.80		
CPAU4	1.96	1.39	0.70		
CPAU5	1.80	1.08	0.66		
CPAU6	1.84	1.25	0.74		

Table D1. Item and Construct Statistics (Continued)					
Item	**Item Mean**	**Item Std. Dev.**	**Item-Total Correlation**	**Cronbach's Alpha**	**Scale Mean**
CPAU7	1.54	1.15	0.82		
CPAU8	1.50	1.02	0.82		
CPAU9	2.00	1.46	0.64		
CPAU10	1.69	1.04	0.68		
PU1	5.85	1.01	0.62	0.92	5.10
PU2	5.07	1.23	0.77		
PU3	4.83	1.28	0.72		
PU4	4.89	1.22	0.86		
PU5	5.07	1.26	0.78		
PU6	4.91	1.22	0.83		
PEOU1	5.55	1.23	0.82	0.94	5.37
PEOU2	5.25	1.30	0.82		
PEOU3	5.38	1.22	0.86		
PEOU4	5.18	1.25	0.82		
PEOU5	5.52	1.18	0.79		
PEOU6	5.33	1.20	0.84		
PE1	4.87	1.21	0.86	0.96	4.73
PE2	4.60	1.29	0.90		
PE3	4.67	1.30	0.93		
PE4	4.55	1.28	0.89		
PE5	4.97	1.20	0.83		
BI1	5.19	1.31	0.77	0.84	4.94
BI2	5.33	1.21	0.78		
BI3	4.29	1.39	0.58		

Table D2. Measurement Model Reliability Assessment: FOGS				
Item	**Loading**	**Residual Variance**	**Composite Reliability**	**AVE**
FOGS1	0.73	0.47	0.91	0.59
FOGS2	0.79	0.38		
FOGS3	0.83	0.31		
FOGS4	0.73	0.46		
FOGS5	0.76	0.43		
FOGS6	0.78	0.40		
FOGS7	0.74	0.45		
PU1	0.74	0.46	0.93	0.70
PU2	0.85	0.28		
PU3	0.79	0.37		
PU4	0.90	0.19		
PU5	0.84	0.29		
PU6	0.88	0.22		
PEOU1	0.88	0.23	0.95	0.78
PEOU2	0.87	0.24		
PEOU3	0.90	0.19		
PEOU4	0.88	0.23		
PEOU5	0.86	0.26		
PEOU6	0.89	0.21		
PE1	0.91	0.18	0.97	0.85
PE2	0.93	0.13		
PE3	0.95	0.09		
PE4	0.93	0.14		
PE5	0.89	0.21		
BI1	0.90	0.18	0.91	0.76
BI2	0.91	0.18		
BI3	0.81	0.35		

Table D3. Correlations Matrix and Discriminant Validity Assessment: FOGS (items on the diagonal represent the square root of AVE)					
Construct	**FOGS**	**PU**	**PEOU**	**PE**	**BI**
FOGS	**0.77**				
PU	0.29	**0.84**			
PEOU	0.21	0.55	**0.88**		
PE	0.38	0.63	0.60	**0.92**	
BI	0.32	0.55	0.43	0.63	**0.87**

Table D4. Cross-Loadings Matrix: FOGS

	FOGS	PU	PEOU	PE	BI
FOGS1	**0.73**	0.20	0.17	0.30	0.22
FOGS2	**0.79**	0.23	0.12	0.25	0.23
FOGS3	**0.83**	0.22	0.16	0.32	0.21
FOGS4	**0.73**	0.20	0.14	0.26	0.18
FOGS5	**0.76**	0.32	0.20	0.37	0.26
FOGS6	**0.78**	0.15	0.12	0.20	0.17
FOGS7	**0.74**	0.16	0.15	0.27	0.16
PU1	0.07	**0.74**	0.55	0.50	0.44
PU2	0.27	**0.85**	0.42	0.51	0.46
PU3	0.30	**0.79**	0.34	0.54	0.33
PU4	0.28	**0.90**	0.45	0.52	0.42
PU5	0.24	**0.84**	0.49	0.52	0.38
PU6	0.31	**0.88**	0.50	0.57	0.47
PEOU1	0.18	0.52	**0.88**	0.51	0.43
PEOU2	0.25	0.50	**0.87**	0.51	0.45
PEOU3	0.14	0.46	**0.90**	0.44	0.40
PEOU4	0.26	0.47	**0.88**	0.55	0.45
PEOU5	0.11	0.50	**0.86**	0.58	0.49
PEOU6	0.15	0.45	**0.89**	0.55	0.42
PE1	0.25	0.60	0.60	**0.91**	0.52
PE2	0.39	0.57	0.54	**0.93**	0.55
PE3	0.37	0.59	0.53	**0.95**	0.53
PE4	0.40	0.55	0.50	**0.93**	0.52
PE5	0.35	0.59	0.58	**0.89**	0.55
BI1	0.21	0.44	0.41	0.53	**0.90**
BI2	0.21	0.48	0.44	0.57	**0.91**
BI3	0.42	0.45	0.32	0.54	**0.81**

Table D5. Measurement Model Reliability Assessment: CTAS				
Item	**Loading**	**Residual Variance**	**Composite Reliability**	**AVE**
CTAS1	0.85	0.27	0.96	0.73
CTAS2	0.93	0.14		
CTAS3	0.73	0.46		
CTAS4	0.89	0.21		
CTAS5	0.74	0.45		
CTAS6	0.89	0.21		
CTAS7	0.87	0.22		
CTAS8	0.86	0.25		
CTAS9	0.90	0.20		
PU1	0.74	0.45	0.93	0.70
PU2	0.85	0.28		
PU3	0.79	0.37		
PU4	0.90	0.19		
PU5	0.84	0.29		
PU6	0.88	0.22		
PEOU1	0.88	0.23	0.95	0.78
PEOU2	0.87	0.24		
PEOU3	0.90	0.19		
PEOU4	0.88	0.23		
PEOU5	0.86	0.26		
PEOU6	0.89	0.21		
PE1	0.91	0.17	0.97	0.85
PE2	0.93	0.13		
PE3	0.95	0.09		
PE4	0.93	0.14		
PE5	0.89	0.21		
BI1	0.91	0.18	0.91	0.76
BI2	0.91	0.18		
BI3	0.81	0.35		

Table D6. Correlations Matrix and Discriminant Validity Assessment: CTAS (Items on the diagonal represent the square root of AVE)					
Construct	**CTAS**	**PU**	**PEOU**	**PE**	**BI**
CTAS	**0.85**				
PU	0.20	**0.84**			
PEOU	0.10	0.55	**0.88**		
PE	0.25	0.63	0.60	**0.92**	
BI	0.24	0.55	0.43	0.63	**0.87**

Table D7. Cross-Loadings Matrix: CTAS					
	CTAS	**PU**	**PEOU**	**PE**	**BI**
CTAS1	**0.85**	0.15	0.04	0.24	0.23
CTAS2	**0.93**	0.14	0.08	0.20	0.16
CTAS3	**0.73**	0.18	0.08	0.28	0.20
CTAS4	**0.89**	0.15	0.09	0.17	0.13
CTAS5	**0.74**	0.09	-0.03	0.08	0.14
CTAS6	**0.89**	0.21	0.11	0.18	0.20
CTAS7	**0.89**	0.23	0.16	0.26	0.19
CTAS8	**0.86**	0.14	0.08	0.22	0.20
CTAS9	**0.90**	0.17	0.08	0.19	0.16
PU1	0.03	**0.74**	0.55	0.50	0.44
PU2	0.14	**0.85**	0.42	0.51	0.46
PU3	0.23	**0.79**	0.34	0.54	0.33
PU4	0.18	**0.90**	0.45	0.52	0.42
PU5	0.20	**0.84**	0.49	0.52	0.38
PU6	0.24	**0.88**	0.50	0.57	0.47
PEOU1	0.07	0.52	**0.88**	0.51	0.43
PEOU2	0.13	0.50	**0.87**	0.51	0.45
PEOU3	0.06	0.46	**0.90**	0.44	0.40
PEOU4	0.14	0.47	**0.88**	0.55	0.45
PEOU5	0.01	0.50	**0.86**	0.58	0.49
PEOU6	0.01	0.46	**0.89**	0.55	0.42
PE1	0.18	0.60	0.60	**0.91**	0.52
PE2	0.23	0.57	0.54	**0.93**	0.55
PE3	0.24	0.59	0.53	**0.95**	0.53
PE4	0.22	0.55	0.50	**0.93**	0.52
PE5	0.22	0.59	0.58	**0.89**	0.55
BI1	0.11	0.44	0.41	0.53	**0.91**
BI2	0.15	0.48	0.44	0.57	**0.91**
BI3	0.31	0.45	0.32	0.54	**0.81**

Table D8. Measurement Model Reliability Assessment: Second Order				
Item	**Loading**	**Residual Variance**	**Composite Reliability**	**AVE**
CBS1	0.74	0.46	0.89	0.59
CBS2	0.76	0.43		
CBS3	0.74	0.46		
CBS4	0.75	0.44		
CBS5	0.78	0.39		
CBS6	0.82	0.32		
CUW1	0.83	0.31	0.94	0.61
CUW2	0.86	0.26		
CUW3	0.85	0.28		
CUW4	0.73	0.47		
CUW5	0.74	0.46		
CUW6	0.78	0.39		
CUW7	0.78	0.39		
CUW8	0.77	0.41		
CUW9	0.72	0.49		
CUW10	0.75	0.44		
CPAU1	0.86	0.26	0.95	0.67
CPAU2	0.89	0.21		
CPAU3	0.86	0.26		
CPAU4	0.76	0.42		
CPAU5	0.74	0.46		
CPAU6	0.81	0.34		
CPAU7	0.88	0.23		
CPAU8	0.85	0.27		
CPAU9	0.72	0.48		
CPAU10	0.75	0.44		
PU1	0.74	0.46	0.93	0.70
PU2	0.85	0.28		
PU3	0.79	0.37		
PU4	0.90	0.19		
PU5	0.84	0.29		
PU6	0.88	0.22		
PEOU1	0.88	0.23	0.95	0.78
PEOU2	0.87	0.24		
PEOU3	0.90	0.19		
PEOU4	0.88	0.23		
PEOU5	0.86	0.26		
PEOU6	0.89	0.22		
PE1	0.90	0.18	0.97	0.85
PE2	0.93	0.13		
PE3	0.95	0.09		
PE4	0.93	0.14		
PE5	0.89	0.22		
BI1	0.90	0.18	0.91	0.76
BI2	0.91	0.18		
BI3	0.81	0.35		

Table D9. Correlations Matrix and Discriminant Validity Assessment: Second Order (items on the diagonal represent the square root of AVE)

Construct	CBS	CUW	CPAU	PU	PEOU	PE	BI
CBS	**0.77**						
CUW	0.58	**0.78**					
CPAU	0.59	0.70	**0.82**				
PU	0.33	0.26	0.27	**0.84**			
PEOU	0.23	0.09	0.16	0.55	**0.88**		
PE	0.36	0.32	0.31	0.63	0.60	**0.92**	
BI	0.35	0.31	0.28	0.54	0.43	0.63	**0.87**

Table D10. Cross-Loadings Matrix: Second Order							
	CBS	**CUW**	**CPAU**	**PU**	**PEOU**	**PE**	**BI**
CBS1	**0.74**	0.11	0.33	0.21	0.10	0.21	0.18
CBS2	**0.76**	0.42	0.52	0.21	0.18	0.33	0.29
CBS3	**0.74**	0.38	0.57	0.27	0.20	0.32	0.26
CBS4	**0.75**	0.17	0.38	0.24	0.14	0.23	0.08
CBS5	**0.78**	0.17	0.35	0.28	0.17	0.24	0.23
CBS6	**0.82**	0.32	0.48	0.28	0.25	0.29	0.25
CUW1	0.54	**0.83**	0.57	0.22	0.05	0.25	0.24
CUW2	0.42	**0.86**	0.60	0.19	0.04	0.20	0.15
CUW3	0.45	**0.85**	0.57	0.22	0.10	0.28	0.17
CUW4	0.36	**0.73**	0.53	0.20	0.02	0.21	0.19
CUW5	0.30	**0.74**	0.50	0.16	0.07	0.24	0.18
CUW6	0.59	**0.78**	0.56	0.36	0.22	0.39	0.35
CUW7	0.46	**0.78**	0.58	0.15	0.12	0.21	0.15
CUW8	0.47	**0.77**	0.56	0.18	0.09	0.27	0.18
CUW9	0.57	**0.72**	0.56	0.20	0.03	0.27	0.24
CUW10	0.38	**0.75**	0.48	0.13	-0.02	0.20	0.19
CPAU1	0.56	0.47	**0.86**	0.25	0.15	0.31	0.26
CPAU2	0.51	0.51	**0.89**	0.22	0.13	0.28	0.18
CPAU3	0.41	0.44	**0.86**	0.21	0.12	0.24	0.18
CPAU4	0.40	0.34	**0.76**	0.23	0.08	0.20	0.21
CPAU5	0.26	0.29	**0.74**	0.08	0.08	0.12	0.12
CPAU6	0.62	0.47	**0.81**	0.33	0.24	0.35	0.29
CPAU7	0.53	0.53	**0.88**	0.21	0.11	0.25	0.17
CPAU8	0.52	0.46	**0.85**	0.15	0.12	0.24	0.20
CPAU9	0.52	0.34	**0.72**	0.29	0.14	0.32	0.24
CPAU10	0.37	0.35	**0.75**	0.15	0.09	0.16	0.13
PU1	0.08	-0.01	0.04	**0.74**	0.55	0.50	0.44
PU2	0.24	0.09	0.19	**0.85**	0.42	0.51	0.46
PU3	0.25	0.09	0.22	**0.79**	0.34	0.54	0.33
PU4	0.22	0.07	0.21	**0.90**	0.45	0.52	0.42
PU5	0.20	0.05	0.14	**0.84**	0.49	0.52	0.38
PU6	0.24	0.07	0.19	**0.88**	0.50	0.57	0.47
PEOU1	0.11	-0.05	0.05	0.52	**0.88**	0.51	0.43
PEOU2	0.21	-0.01	0.12	0.50	**0.87**	0.51	0.45
PEOU3	0.14	-0.04	0.07	0.46	**0.90**	0.44	0.40
PEOU4	0.22	0.04	0.17	0.47	**0.88**	0.55	0.45
PEOU5	0.10	-0.03	0.06	0.50	**0.86**	0.58	0.49
PEOU6	0.11	-0.01	0.06	0.45	**0.89**	0.55	0.42
PE1	0.18	0.08	0.15	0.60	0.60	**0.90**	0.52
PE2	0.27	0.19	0.23	0.57	0.54	**0.93**	0.55
PE3	0.23	0.17	0.22	0.59	0.53	**0.95**	0.53
PE4	0.26	0.15	0.21	0.55	0.50	**0.93**	0.52
PE5	0.24	0.16	0.19	0.59	0.58	**0.89**	0.55
BI1	0.19	0.03	0.12	0.44	0.41	0.53	**0.90**
BI2	0.17	0.05	0.13	0.48	0.44	0.57	**0.91**
BI3	0.29	0.19	0.27	0.45	0.32	0.53	**0.81**

Appendix E

Reliability and Validity Assessments: Study 1 & 2 Combined: FOGS

Table E1. Item and Construct Statistics: FOGS

Item	Item Mean	Item Std. Dev.	Item-Total Correlation	Cronbach's Alpha	Scale Mean
FOGS1	1.35	0.84	0.68	0.90	1.42
FOGS2	1.36	0.81	0.76		
FOGS3	1.47	0.89	0.79		
FOGS4	1.43	0.86	0.72		
FOGS5	1.73	1.03	0.64		
FOGS6	1.17	0.58	0.67		
FOGS7	1.41	0.92	0.71		
PU1	5.75	1.23	0.69	0.93	5.10
PU2	4.99	1.38	0.77		
PU3	4.89	1.40	0.79		
PU4	4.92	1.38	0.87		
PU5	5.12	1.38	0.83		
PU6	4.93	1.38	0.87		
PEOU1	5.55	1.33	0.86	0.96	5.40
PEOU2	5.35	1.36	0.85		
PEOU3	5.41	1.34	0.90		
PEOU4	5.26	1.31	0.86		
PEOU5	5.47	1.31	0.86		
PEOU6	5.35	1.32	0.89		
PE1	4.92	1.33	0.89	0.96	4.81
PE2	4.67	1.39	0.91		
PE3	4.81	1.39	0.93		
PE4	4.60	1.41	0.88		
PE5	5.04	1.30	0.83		
BI1	5.36	1.42	0.77	0.84	5.04
BI2	5.46	1.34	0.78		
BI3	4.29	1.39	0.58		

Table E2. Correlations Matrix and Discriminant Validity Assessment: FOGS (Items on the diagonal represent the square root of AVE)

Construct	FOGS	PU	PEOU	PE	BI
FOGS	**0.79**				
PU	0.24	**0.87**			
PEOU	0.14	0.61	**0.91**		
PE	0.33	0.66	0.67	**0.93**	
BI	0.30	0.59	0.550	0.71	**0.89**

Table E3. Measurement Model Reliability Assessment: FOGS				
Item	**Loading**	**Residual Variance**	**Composite Reliability**	**AVE**
FOGS1	0.78	0.39	0.92	0.63
FOGS2	0.83	0.31		
FOGS3	0.87	0.25		
FOGS4	0.79	0.37		
FOGS5	0.78	0.40		
FOGS6	0.73	0.47		
FOGS7	0.78	0.39		
PU1	0.78	0.39	0.95	0.75
PU2	0.84	0.30		
PU3	0.85	0.27		
PU4	0.91	0.18		
PU5	0.88	0.22		
PU6	0.91	0.18		
PEOU1	0.91	0.18	0.97	0.83
PEOU2	0.89	0.20		
PEOU3	0.93	0.14		
PEOU4	0.91	0.18		
PEOU5	0.91	0.18		
PEOU6	0.93	0.14		
PE1	0.93	0.14	0.97	0.86
PE2	0.94	0.12		
PE3	0.95	0.10		
PE4	0.92	0.15		
PE5	0.89	0.21		
BI1	0.94	0.13	0.92	0.79
BI2	0.93	0.13		
BI3	0.79	0.38		

Table E4. Cross-Loadings Matrix: FOGS					
	FOGS	**PU**	**PEOU**	**PE**	**BI**
FOGS1	**0.78**	0.19	0.12	0.29	0.20
FOGS2	**0.83**	0.19	0.09	0.24	0.23
FOGS3	**0.87**	0.19	0.13	0.31	0.23
FOGS4	**0.79**	0.16	0.10	0.23	0.19
FOGS5	**0.78**	0.24	0.18	0.31	0.25
FOGS6	**0.73**	0.11	0.04	0.15	0.12
FOGS7	**0.78**	0.12	0.05	0.22	0.16
PU1	0.10	**0.78**	0.60	0.56	0.43
PU2	0.22	**0.84**	0.46	0.54	0.41
PU3	0.23	**0.85**	0.48	0.59	0.39
PU4	0.24	**0.91**	0.51	0.56	0.44
PU5	0.21	**0.88**	0.57	0.57	0.44
PU6	0.25	**0.91**	0.55	0.58	0.47
PEOU1	0.13	0.56	**0.91**	0.63	0.46
PEOU2	0.17	0.50	**0.89**	0.59	0.46
PEOU3	0.10	0.52	**0.93**	0.56	0.43
PEOU4	0.19	0.55	**0.91**	0.63	0.47
PEOU5	0.07	0.54	**0.91**	0.64	0.48
PEOU6	0.11	0.51	**0.93**	0.63	0.44
PE1	0.24	0.57	0.69	**0.93**	0.55
PE2	0.32	0.54	0.62	**0.94**	0.55
PE3	0.32	0.55	0.60	**0.95**	0.55
PE4	0.35	0.52	0.57	**0.92**	0.52
PE5	0.29	0.59	0.65	**0.89**	0.57
BI1	0.24	0.50	0.57	0.67	**0.94**
BI2	0.25	0.52	0.58	0.70	**0.93**
BI3	0.43	0.50	0.29	0.55	**0.79**

Appendix F

Assessment of Common Method Variance

Common method variance (CMV) can be a problem in any single-source survey-based research. While some argue that CMV does not make significant differences in MIS research and that this concern may be over-inflated and unjustified (Malhotra et al. 2006), others show that it can influence key MIS relationships (Sharma et al. 2009) and call for further investigation (Straub 2009). Given that all data in this study were self-reported, it may be desirable to minimize and then to assess the potential effects of CMV.

We first tried to alleviate the risk of CMV by including several negatively worded items in the model's constructs (Lindell and Whitney 2001). Subsequently, we further tested for the potentially biasing effects of CMV. Several techniques were applied to each of our two data sets, because no single approach is perfect and combining evidence based on multiple tests can be advantageous (Podsakoff et al. 2003).

We first conducted Harman's single factor test. The first data set of 132 eBay users produced 5 factors, and the first factor accounted for only 50 percent of the variance. The second data set of 223 eBay users produced 11 factors and the first one explained only 33 percent of the

variance. Items in both data sets significantly loaded on more than one principal component, indicating no single dominant factor (Harman 1976).

We subsequently applied the procedure specified by Pavlou et al. (2007) and examined the correlation matrixes of all data sets (see Appendices C, D, and E). Inter-construct correlations of over 0.9 raise the suspicion of CMV. The correlations ranged from 0.08 to 0.84, and none of the observed correlations surpassed the 0.9 threshold. The existence of low correlations (several correlations below 0.10) among some of the constructs further indicates that there is no single factor that influences all constructs (Pavlou et al. 2007).

Finally, we applied a modified version of the Lindell and Whitney (2001) procedure as described in Pavlou et al. (2007). We did not have a marker variable that is unrelated to the model's constructs (to economize on survey items), so we used the social desirability bias (SDB) scale which was expected to negatively weakly correlate with socially undesirable behaviors such as addiction, but not with other constructs. This scale was measured for both data sets, and its correlations with the main model's constructs were assessed. SDB marginally correlated with some addiction measures (rho values between -0.13 and -0.06; two out of three measures of addiction were marginally correlated with SDB at $p < 0.05$, the third measure had no significant correlation with SDB). As expected, SDB had no significant correlations with the other constructs of the model (rho values between -0.09 and 0.01; all nonsignificant). This further suggests that there was no systematic bias in the data.

Overall, the combination of results from the abovementioned tests suggests that CMV is unlikely to have a major influence on the data. However, these results should be interpreted with caution. The techniques we used are imperfect, and may have uncertain benefits (Richardson et al. 2009). While CMV was not evident based on these techniques, more research using multiple methods would be needed to increase confidence in the conclusion.

References

Davis, F. D., Bagozzi, R. P., and Warshaw, P. R. 1992. "Extrinsic and Intrinsic Motivation to Use Computers in the Workplace," *Journal of Applied and Social Psychology* (22:14), pp. 1111-1132.

Gefen, D., Karahanna, E., and Straub, D. W. 2003. "Trust and TAM in Online Shopping: An Integrated Model," *MIS Quarterly* (27:1), pp. 51-90.

Harman, H. H. 1976. *Modern Factor Analysis* (3rd ed,.), Chicago: The University of Chicago Press.

Lindell, M. K., and Whitney, D. J. 2001. "Accounting for Common Method Variance in Cross-Sectional Research Designs," *Journal of Applied Psychology* (86:1), pp. 114-121.

Malhotra, N. K., Kim, S. S., and Patil, A. 2006. "Common Method Variance in IS Research: A Comparison of Alternative Approaches and a Reanalysis of Past Research," *Management Science* (52:12), pp. 1865-1883.

Moore, G. C., and Benbasat, I. 1991. "Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation," *Information Systems Research* (2:3), pp. 192-222.

Pavlou, P. A., Liang, H. G., and Xue, Y. J. 2007. "Understanding and Mitigating Uncertainty in Online Exchange Relationships: A Principal–Agent Perspective," *MIS Quarterly* (31:1), pp. 105-136.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., and Podsakoff, N. P. 2003. "Common Method Bias in Behavioral Research: A Critical Review of the Literature and Recommended Remedies," *Journal of Applied Psychology* (88:5), pp. 879-903.

Reynolds, W. M. 1982. "Development of Reliable and Valid Short Forms of the Marlowe–Crowne Social Desirability Scale," *Journal of Clinical Psychology* (38:1), pp. 119-125.

Richardson, H. A., Simmering, M. J., and Sturman, M. C. 2009. "A Tale of Three Perspectives Examining Post Hoc Statistical Techniques for Detection and Correction of Common Method Variance," *Organizational Research Methods* (12:4), pp. 762-800.

Sharma, R., Yetton, P., and Crawford, J. 2009. "Estimating the Effect of Common Method Variance: The Method–Method Pair Technique with an Illustration from TAM Research," *MIS Quarterly* (33:3), pp 473-490.

Straub, D. W. 2009. "Creating Blue Oceans of Thought Via Highly Citable Articles," *MIS Quarterly* (33:4), pp. iii-vii.