

THE VALUE OF IT-ENABLED RETAILER LEARNING: PERSONALIZED PRODUCT RECOMMENDATIONS AND CUSTOMER STORE LOYALTY IN ELECTRONIC MARKETS

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Appendix A

List of Measurement Items

Theoretical Constructs	Items
<i>Quality of PPRs</i>	PPR1: In general, most items on this list match my preferences very well. PPR2: In general, most items on this list fit my tastes very well. PPR3: In general, most items on this list are interesting to me.
<i>Website Knowledge</i>	WBKN1: I always know where I can find the products/information I am looking for at Amazon.com's website. WBKN2: I visit Amazon.com very often. WBKN3: I have been to Amazon.com many times.
<i>Product Evaluation Cost (reverse coded)</i>	PEC1: It was very easy for me to make this purchase decision. PEC2: I had no difficulty deciding which item would be best for me. PEC3: Making this purchase decision was an easy task for me.
<i>Product Screening Cost (reverse coded)</i>	PSC1: I had no problem locating the items I was interested in at Amazon.com. PSC2: It was very easy for me to locate the items I was interested in at Amazon.com. PSC3: Locating the items I was interested in at Amazon.com was very easy.
<i>Decision-making Quality</i>	DMQ1: I have picked the items that best fit my taste among all DVDs available at Amazon.com. DMQ2: I have selected the items I like the most among all DVDs available at Amazon.com. DMQ3: These two items are my favorite among all DVDs available at Amazon.com.
<i>Repurchase Intention</i>	REPUR1: I will consider Amazon.com the first choice to buy similar products in the future. REPUR2: I will buy more similar products at Amazon.com in the future. REPUR3: I will come back to Amazon.com to buy similar products in the future.

Control Variables	Items
<i>Website Usability</i>	DEGN1: The website was very user-friendly. DEGN2: The website was easy to use. DEGN3: The website was well organized.
<i>Product Selection</i>	PRDSL1: This website had a good selection of DVDs. PRDSL2: This website had a wide variety of DVDs that interest me. PRDSL3: I could find any DVDs I like on this website.
<i>Quality of Product Information</i>	PRDINF1: The detailed product information was very helpful. PRDINF2: The detailed product information was very useful. PRDINF3: The detailed product information was very informative.
<i>Decision-making Involvement</i>	DMINV1: It is very important for me to pick the right items for myself. DMINV2: I am very motivated to reach a good purchase decision. DMINV3: I really want to pick the right items for myself.
<i>Price Perception</i>	PRICE1: The prices charged by Amazon.com for these two items are very reasonable. PRICE2: Amazon.com is offering a good deal on these two DVD items. PRICE3: Amazon.com is offering the lowest prices for these two DVD items.

Note: Product knowledge is a single item objective measure of number of DVDs watched from Amazon's top DVD list.

Appendix B

Results of Factor Analysis (n = 253)

	PSC	PRICE	PRDINF	DMINV	PEC	PPR	REPUR	DEGN	WBKN	DMQ	PRDSL
WBKN1	-0.09	0.02	0.12	0.15	-0.08	0.02	0.10	0.01	[0.78]	0.03	0.14
WBKN2	-0.16	0.11	0.13	0.04	-0.07	0.13	0.16	0.17	[0.81]	0.02	0.03
WBKN3	-0.16	0.01	0.10	0.13	-0.06	0.06	0.09	0.14	[0.87]	-0.04	0.11
PPR1	-0.16	0.07	0.04	0.09	0.14	[0.86]	0.01	0.03	0.12	0.06	0.11
PPR2	-0.24	0.10	0.13	0.07	0.06	[0.85]	0.12	0.00	0.07	0.16	0.10
PPR3	-0.23	0.05	0.07	0.10	0.13	[0.83]	0.16	0.13	0.02	0.09	0.14
DMINV1	-0.11	0.11	0.11	[0.80]	-0.17	0.07	0.14	0.16	0.05	0.15	0.15
DMINV2	-0.09	0.09	0.15	[0.83]	-0.05	0.11	0.17	0.10	0.18	0.14	0.08
DMINV3	-0.09	0.05	0.11	[0.89]	-0.13	0.08	0.09	0.11	0.13	0.16	0.11
DEGN1	-0.10	0.15	0.18	0.16	-0.22	0.07	0.11	[0.78]	0.16	0.09	0.23
DEGN2	-0.17	0.09	0.22	0.19	-0.17	0.05	0.12	[0.81]	0.14	0.14	0.21
DEGN3	-0.11	0.10	0.20	0.10	-0.17	0.07	0.17	[0.80]	0.11	0.15	0.23
PRDINF1	-0.08	0.17	[0.81]	0.11	-0.02	0.12	0.15	0.23	0.17	0.11	0.19
PRDINF2	-0.14	0.14	[0.87]	0.11	-0.11	0.07	0.16	0.18	0.12	0.10	0.13
PRDINF3	-0.14	0.12	[0.82]	0.20	-0.14	0.08	0.16	0.15	0.16	0.10	0.20
PRDSL1	-0.14	0.20	0.16	0.15	-0.08	0.11	0.08	0.25	0.16	0.04	[0.79]
PRDSL2	-0.15	0.14	0.21	0.14	-0.13	0.13	0.13	0.21	0.19	0.07	[0.82]
PRDSL3	-0.14	0.09	0.17	0.11	-0.19	0.19	0.14	0.19	0.02	0.16	[0.75]
PSC1	[0.91]	-0.02	-0.09	-0.11	0.04	-0.19	-0.09	-0.08	-0.14	-0.08	-0.12
PSC2	[0.89]	0.02	-0.09	-0.11	0.08	-0.24	-0.13	-0.13	-0.15	-0.09	-0.13
PSC3	[0.90]	-0.04	-0.13	-0.08	0.07	-0.21	-0.10	-0.12	-0.16	-0.06	-0.11
PEC1	-0.04	-0.06	-0.04	-0.09	[0.84]	0.07	0.04	-0.14	-0.12	-0.04	-0.12
PEC2	0.09	-0.06	-0.12	-0.08	[0.88]	0.10	-0.07	-0.09	-0.03	-0.13	-0.06
PEC3	0.12	-0.04	-0.06	-0.14	[0.84]	0.18	-0.08	-0.17	-0.05	-0.05	-0.12
DMQ1	-0.09	0.11	0.00	0.20	-0.08	0.13	0.12	0.05	0.06	[0.81]	0.11
DMQ2	-0.03	-0.03	0.11	0.11	-0.11	0.11	0.12	0.10	-0.05	[0.88]	0.10
DMQ3	-0.07	0.07	0.12	0.08	-0.03	0.08	0.03	0.12	0.01	[0.85]	0.00
REPUR1	-0.12	0.35	0.14	0.17	-0.12	0.14	[0.77]	0.09	0.12	0.11	0.10
REPUR2	-0.09	0.27	0.19	0.15	-0.03	0.11	[0.84]	0.18	0.17	0.12	0.14
REPUR3	-0.10	0.27	0.19	0.18	-0.00	0.10	[0.84]	0.15	0.20	0.14	0.13
PRICE1	0.04	[0.87]	0.07	0.08	-0.13	0.08	0.16	0.18	0.03	0.00	0.17
PRICE2	-0.02	[0.88]	0.10	0.09	-0.10	0.08	0.24	0.13	0.03	0.01	0.12
PRICE3	-0.05	[0.80]	0.19	0.06	0.06	0.05	0.25	-0.02	0.06	0.15	0.06
Eigenvalue	11.20	3.21	2.74	2.23	1.76	1.56	1.40	1.24	1.03	0.93	0.91
Variance Explained (%)	33.94	9.71	8.31	6.77	5.32	4.73	4.24	3.77	3.13	2.83	2.75
Total Variance Explained (%)	85.50										

PSC – Product Screening Cost; PRICE – Price Perception; PRDINF – Product Information Quality; DMINV – Decision-Making Involvement; PEC – Product Evaluation Cost; PPR – Quality of PPRs; REPUR – Repurchase Intention; DEGN – Website Usability; WBKN – Website Knowledge; DMQ – Decision-Making Quality; PRDSL – Product Selection.

Product knowledge is a single item measure and is not included in the factor analysis.

Appendix C

Inter-Construct Correlations (n = 253)

	PEC	PSC	DMQ	WBKN	PPR	DMINV	DEGN	PRDINF	PRDSL	PRICE	REPUR
PEC	.86										
PSC	.17	.97									
DMQ	-.20	-.40	.86								
WBKN	-.20	-.37	.10	.86							
PPR	.24	-.48	.29	.23	.90						
DMINV	.31	-.10	.37	.33	.26	.91					
DEGN	-.41	-.36	.32	.38	.24	.44	.93				
PRDINF	-.26	-.34	.29	.39	.28	.41	.54	.93			
PRDSL	-.33	-.39	.28	.36	.36	.41	.40	.42	.92		
PRICE	-.17	-.11	.18	.19	.21	.27	.34	.37	.38	.89	
REPUR	-.18	-.26	.31	.39	.32	.44	.45	.49	.43	.58	.95

PEC– Product Evaluation Cost; PSC – Product Screening Cost; DMQ – Decision-Making Quality; WBKN – Website Knowledge; PPR – Quality of PPRs; DMINV – Decision-Making Involvement; DEGN – Website Usability; PRDINF – Quality of Product Information; PRDSL – Product Selection; PRICE – Price Perception; REPUR – Repurchase Intention

Appendix D

PLS Outer Model Loadings (n = 253)

Construct	Indicator	Loading
<i>Quality of PPRs</i>	PPR1	.88
	PPR2	.94
	PPR3	.91
<i>Website Knowledge</i>	WBKN1	.84
	WBKN2	.89
	WBKN3	.87
<i>Product Screening Cost</i>	PSC1	.93
	PSC2	.96
	PSC3	.97
<i>Product Evaluation Cost</i>	PEC1	.86
	PEC2	.90
	PEC3	.91
<i>Decision-making Quality</i>	DMQ1	.87
	DMQ2	.90
	DMQ3	.85
<i>Repurchase Intention</i>	REPUR1	.92
	REPUR2	.97
	REPUR3	.97
<i>Website Usability</i>	DEGN1	.91
	DEGN2	.95
	DEGN3	.92
<i>Product Selection</i>	PRDSL1	.90
	PRDSL2	.95
	PRDSL3	.88
<i>Quality of Product Information</i>	PRDINF1	.92
	PRDINF2	.95
	PRDINF3	.95
<i>Decision-making Involvement</i>	DMINV1	.91
	DMINV2	.89
	DMINV3	.94
<i>Price Perception</i>	PRICE1	.91
	PRICE2	.94
	PRICE3	.86

Appendix E

Results of PLS Analysis: Path Coefficients (n = 253)

Dependent Variable	Independent Variable	Path Coefficient	Path Coefficient (After dropping nonsignificant control variables)
<i>Product Screening Cost</i>	Quality of PPRs	-0.36***	-0.42***
	Website Knowledge	-0.20**	-0.29***
	<i>Product Knowledge</i>	-0.12*	-0.07
	<i>Website Usability</i>	-0.13	(dropped)
	<i>Product Selection</i>	-0.11	(dropped)
	<i>Quality of Product Information</i>	-0.05	(dropped)
<i>Product Evaluation Cost</i>	Quality of PPRs	0.34***	0.34***
	<i>Product Knowledge</i>	0.03	(dropped)
	<i>Decision-Making Involvement</i>	0.18**	0.19**
	<i>Website Usability</i>	-0.28***	-0.30***
	<i>Product Selection</i>	-0.19**	-0.20*
	<i>Quality of Product Information</i>	-0.03	(dropped)
<i>Decision-Making Quality</i>	Quality of PPRs	0.16**	0.17**
	Website Knowledge	0.13*	0.12*
	<i>Product Knowledge</i>	0.06	(dropped)
	<i>Decision-Making Involvement</i>	0.26***	0.28***
	<i>Website Usability</i>	0.17**	0.21*
	<i>Product Selection</i>	0.04	(dropped)
<i>Repurchase Intention</i>	Product Screening Cost	-0.16***	-0.16**
	Product Evaluation Cost	0.03	0.03
	Decision-Making Quality	0.18**	0.18***
	<i>Price Perception</i>	0.53***	0.53***

*significant at $\alpha = 0.05$ **significant at $\alpha = 0.01$ ***significant at $\alpha = 0.001$

The R-squares after dropping all the non-significant control variables are as follows: product screening cost (35.2%), product evaluation cost (29.4%), decision-making quality (20.7%), and repurchase intention (41.9%).

Appendix F

Summary of ANOVA Results (n = 253)

Dependent Variable – Product Screening Cost				
Group	Number of Items Rated	Number of Subjects	Mean (Std)	F Statistics
Low Input	5	127	3.30 (1.46)	7.93 **
High Input	15	126	2.81 (1.27)	
Dependent Variable – Product Evaluation Cost				
Group	Number of Items Rated	Number of Subjects	Mean (Std)	F Statistics
Low Input	5	127	2.69 (1.06)	7.61 **
High Input	15	126	3.10 (1.29)	
Dependent Variable – Decision-Making Quality				
Group	Number of Items Rated	Number of Subjects	Mean (Std)	F Statistics
Low Input	5	127	4.62 (1.43)	7.79 **
High Input	15	126	5.07 (1.12)	
Dependent Variable – Repurchase Intention				
Group	Number of Items Rated	Number of Subjects	Mean (Std)	F Statistics
Low Input	5	127	4.40 (1.49)	9.56 **
High Input	15	126	4.95 (1.34)	

*significant at $\alpha = 0.05$ **significant at $\alpha = 0.01$ ***significant at $\alpha = 0.001$