Name of author:

Saeran Doh, Ph.D.

Associate Professor of Marketing

Department of Food Business Management

School of Food, Agricultural and Environmental Science

Miyagi University

University Address:

2-2-1 Hatatate, Taihaku-ku, Sendai, Miyagi, 982-0215, JAPAN

Department of Food Business Management

School of Food, Agricultural and Environmental Sciences

Miyagi University

Tel : +81-22-245-1354

E-mail : saeran10@myu.ac.jp

Flow Construct: Its Mediating Roles in an On-line Search Model

Abstract

This paper examines the role of flow construct in consumers' on-line information search behavior. The existing studies of consumer information search have focused on the cost-benefit framework. However, some consumers exhibit information search behavior which does not fit in this framework, especially in an on-line environment. They engage in the information search even when information search cost exceeds its benefit.

Therefore, the introduction of "flow" construct to cost-benefit framework produces an important extension of consumer information search model. This paper tries to extend the cost-benefit framework model by incorporating flow construct.

Key Words

on-line environment, flow, information search, hedonic perspectives

□. Introduction and Objectives

This paper examines how "flow" construct influences online information search behavior. The introduction of hedonic perspectives produces an important extension of the cost –benefit framework of consumer information search model. The existing research of consumer information search has focused on cost-benefit framework. However, some consumers exhibit information search behavior which does not fit in the cost–benefit framework, especially in on-line search. They engage in information search even when information search cost is greater than its benefit. One conceivable factor which may explain this type of consumer behavior is the hedonic or experiential aspect of consumer behavior. In on-line environment, hedonic value is manifested when consumers engage in continuing information search activity such as web surfing and browsing, even if it incurs extra cost.

This paper examines how flow influences the cost-benefit framework in an on-line information search model. The framework of existing information search models does not fully explain the "playfulness" of information search behavior. According to Csikszentmihalyi(1990), flow is the state in which people are so intensely involved in an activity that nothing seems to matter. The experience itself is so enjoyable that people will do

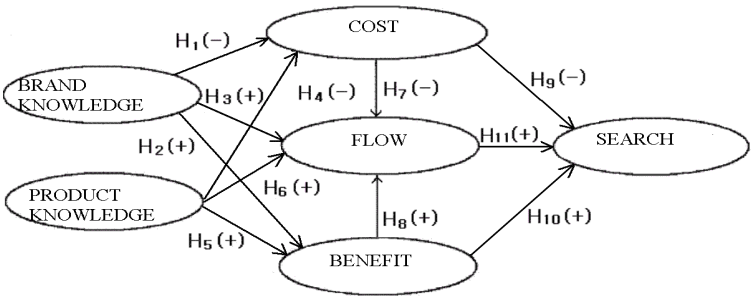
it even at great cost for the sheer sake of doing it. Flow is also characterized by total concentration and having enjoyment in what you are doing (Ghani and Deshpande 1994). This paper attempts to extend the cost-benefit framework model by introducing the flow construct.

□. Literature Review and Research Model

In the past studies, the framework mostly used to analyze consumer information search behavior has been the cost-benefit framework (Punj and Staelin 1983; Srinivasan and Ratchford 1991). But some consumers engage in continuous searching for information whatever cost it takes. This shows one of the limitations of the cost-benefit framework. The cost-benefit framework cannot fully explain this hedonic aspect of consumer information search behavior, especially in an on-line environment.

As is shown in Figure 1, the proposed new model is composed of six constructs: Brand Knowledge and Product Knowledge as exogenous latent variables; Cost, Benefit, Flow and Search as endogenous latent variables.

Figure 1 Flow Mediating Model



The thrust of this mediating model analysis is to examine how brand knowledge and product knowledge influence the information search through mediating flow in addition to the cost-benefit framework. Brand Knowledge refers to the awareness of brands. If people are so addicted to playing on-line games, they would be very familiar with available brands and

items of games. Product Knowledge refers to the consciousness or knowledge about the products. Cost means the perceived size of burden to bear when people search for something. It is characterized into four kinds: Time cost, Economic Cost, physical Cost, and Psychological Cost (Doh 1997). Benefit refers to the advantages or profit which one derives while they are engaged in an on-line activity. Flow is the state in which people get immensely involved in what they are doing and they experience enjoyment for doing that. Search refers to seeking for the information amount needed while they are playing on-line game.

The hypotheses of this model are as follows:

According to existing Brand Knowledge research (Brucks 1986, Doh 1997), Brand Knowledge includes the name of the brand, merits and demerits of each game character, game events, paid games or not, and each game maker/distributor. If consumers have this knowledge, they can reduce costs such as time, economic, physical, and psychological costs. In other words, search cost can be reduced to the extent consumers have brand knowledge. Consequently, if consumers have enough brand knowledge, they can enjoy larger search benefit. Csikszentmihalyi (1975, 1990) also mentioned that people can feel flow easily when they have much knowledge about what they are trying to do.

H1: Brand Knowledge influences Search Cost negatively.

H2: Brand Knowledge influences Search Benefit positively.

H3: Brand Knowledge influences Flow positively.

Product knowledge includes a product's function, ability, and technology (Brucks 1986). If consumers have much of this knowledge, they can reduce the information search costs such as time, economic, physical, and psychological costs. If consumers know much about each game pattern, the differences of the similar game genre and each game interface (i.e. screen formation, operation), and game terminology, they can better get the search benefit.

H4: Product Knowledge influences Search Cost negatively.

Srinivasan and Ratchford (1991) hypothesized that the product knowledge influences the perceived benefit positively. They also found the positive relationship between them. If a consumer has much product knowledge, that would help his/her search behavior. Finding a most suited game, in terms of characters and difficulty of the game, is critical in obtaining

satisfaction from game playing, and product knowledge helps a game player to find a game he /she is looking for. So, if consumers have the more product knowledge, the more benefit they can get during information search.

H5: Product Knowledge influences Search Benefit positively.

Hoffman and Novak (1996) mentioned that flow is accompanied by recognition and self-reinforcement. The substance of the flow is the continuous response such as mechanical communication and internal enjoyment. As previously mentioned, if people have much product knowledge on online games, they can feel flow easily.

H6: Product Knowledge influences Flow positively.

If people take cost to search information, they are less likely to feel flow. However, if people take benefit to search information, they can feel flow easily in an online game.

H7: Search Cost influences Flow negatively.

H8: Search Benefit influences Flow positively.

Srinivasan and Ratchford (1991) hypothesized that the search cost influences the Information search negatively. They found the negative relationship between them. If people seriously consider cost, people might search less.

H9: Search Cost influences Information Search negatively.

Srinvasan and Ratchford (1991) found out that the relationship between ‘perceived benefit’ and ‘search amount’ are positive. If people can expect more benefit from searching, they can increase the intention of search.

H10: Search Benefit influences Information Search positively.

Csikszentmihalyi (1975) mentioned that flow, which becomes the happiness and optimal experience tasted, is to increase interest in the search. Hoffman and Novak (1996) suggested that flow is intrinsic enjoyment accompanied by recognition and self-reinforcement. If people can experience flow through search, they can get more information search. In addition, Korzan (2003) found that flow positively affects online search activity.

H11: Flow influences Information Search positively.

□. Method

Using SPSS 12.0,we got the Cronbach alpha values for examining the reliability of each construct. We used LISREL 8.73 to test the relationships between each constructs.

1. Demographic Characteristics

This research sample is of 627 students who are in college in a metropolitan city's suburb. Male students are 72% (451 subjects) and female students are 28 % (176 subjects). As for the age, subjects below 20 years old are 3.7% (23 subjects), 20-25 years old subjects are 74.6% (468 subjects), and 26-32 year old subjects are 21.7% (136 subjects). As for the grade, freshman students are 36.7% (232 subjects), sophomore students are 12.1% (75 subjects), junior students are 21.2% (132 subjects), and senior students are 30% (188 subjects).

2. Examination of Reliability and Validity

The author examined the reliability and validity of the variables used for testing the hypothesis. The measurement was done by 7 point Likert scale. Reliability is the degree of consistency in measurement scores. Validity is directly assessing whether or not the concept is measured correctly. Therefore, before conducting the hypothesis test, it is necessary to examine the reliability and validity of measurement of each construct.

1) Reliability Examination

The variables' reliability was tested by Cronbach alpha that indicates internal consistency between measuring items and Squared Multiple Correlations (SMC) suggested by LISREL 8.73. Cronbach alpha value indicates the measured reliability of each construct as an index, while SMC suggests reliability coefficient as each index within each construct. Table 1 shows the test results of the reliability for each variable. In addition, to evaluate the convergent validity of the measuring variables of model, we used Confirmatory Factor Analysis (CFA) which is shown in Table 2.

<Table 1> Reliability Index and Cronbach α

Constructs	Index	SMC	Composite Reliability (CR)	Average variance Extracted (AVE)	Cronbach α
Brand Knowledge (BK)	X1	0.702	0.930	0.688	0.928
	X2	0.749			
	X3	0.604			
	X4	0.605			
	X5	0.766			
	X6	0.702			
Product Knowledge (PK)	X7	0.706	0.944	0.771	0.943
	X8	0.751			
	X9	0.790			
	X10	0.786			
	X11	0.823			
Information Search Cost(Cost)	Y1	0.553	0.860	0.610	0.849
	Y2	0.820			
	Y3	0.655			
	Y4	0.368			
Information Search Benefit (BE)	Y5	0.636	0.934	0.740	0.933
	Y6	0.800			
	Y7	0.777			
	Y8	0.762			
	Y9	0.725			

Constructs	Index	SMC	Composite Reliability (CR)	Average variance Extracted (AVE)	Cronbach α
Flow (Flow)	Y10	0.636	0.868	0.492	0.835
	Y11	0.691			
	Y12	0.646			
	Y13	0.296			
	Y14	0.525			
	Y15	0.307			
	Y16	0.343			
Information Search (SR)	Y17	0.741	0.928	0.544	0.929
	Y18	0.722			
	Y19	0.696			
	Y20	0.741			
	Y21	0.403			
	Y22	0.482			
	Y23	0.281			
	Y24	0.298			
	Y25	0.540			
	Y26	0.585			
	Y27	0.499			

1) CR = composite reliability, AVE = average variance extracted. SMC =Squared Multiple Correlations.

2) (1) CR and AVE are calculated with the formula of Fornell and Lacker(1981).(2) SMC value indicates each index's reliability 3) Flow constitutes of 10 indices. However, 2 reverse items (Y4, Y8) and Y9's SMC had low values, 0.102, 0.019, 0.199, respectively .So we conducted our analysis with only 7 variables.

2) Validity Examination

<Table 2> Results of Confirmatory Factor Analysis

Parameter	Estimated Value	Standard Error	t Value
λ(x)11	1.448***	0.057	25.626
λ(x)21	1.558***	0.058	26.986
λ(x)31	1.114***	0.049	22.891
λ(x)41	1.461***	0.064	22.910
λ(x)51	1.446***	0.053	27.494
λ(x)61	1.312***	0.051	25.627
λ(x)72	1.417***	0.055	25.843
λ(x)82	1.552***	0.057	27.164
λ(x)92	1.510***	0.053	28.308
λ(x)10,2	1.601***	0.057	28.197
λ(x)11,2	1.590***	0.054	29.337
λ(y)11	1.294***	0.062	20.791
λ(y)21	1.459***	0.053	27.503
λ(y)31	1.355***	0.058	23.350
λ(y)41	1.050***	0.066	15.958
λ(y)52	1.318***	0.056	23.690
λ(y)62	1.532***	0.054	28,406
λ(y)72	1.485***	0.054	27.721
λ(y)82	1.594***	0.058	27.284
λ(y)92	1.520***	0.058	26.206
λ(y)10,3	1.409***	0.061	23.262

Parameter	Estimated Value	Standard Error	t Value
λ(y)11,3	1.358***	0.055	24.775
λ(y)12,3	1.270***	0.054	23.528
λ(y)13,3	0.897***	0.064	14.111
λ(y)14,3	1.037***	0.051	20.279
λ(y)15,3	0.803***	0.056	14.418
λ(y)16,3	0.868***	0.056	15.409
λ(y)17,3	1.402***	0.052	26.769
λ(y)18,3	1.265***	0.048	26.206
λ(y)19,3	1.394***	0.055	25.460
λ(y)20,4	1.667***	0.062	26.776
λ(y)21,4	1.057***	0.061	17.415
λ(y)22,4	0.993***	0.051	19.557
λ(y)23,4	0.641***	0.046	14.005
λ(y)24,4	0.846***	0.058	14.484
λ(y)25,4	1.393***	0.066	21.138
λ(y)26,4	1.371***	0.061	22.352
λ(y)27,4	1.278***	0.064	20.013

1) All t values to each factor loading are $t > 3.090$($p < 0.001$ [right side test]).

<Table 3> Discriminant Validity of CFA Model

Relationship between Constructs		Φ(Correlation)	99% Confidence Interval
Brand Knowledge (BK)	Product Knowledge(PK)	0.930***	$0.909 < \rho < 0.951$
	Search Cost (Cost)	0.018(ns)	$-0.096 < \rho < 0.132$
	Search Benefit (BE)	0.524***	$0.441 < \rho < 0.607$

	Flow(Flow)	0.667***	0.600 < ρ < 0.734
	Search Intention(SR)	0.790***	0.744 < ρ < 0.836
Product Knowledge (PK)	Search Cost (Cost)	0.018(ns)	-0.093 < ρ < 0.129
	Search Benefit (BE)	0.586***	0.511 < ρ < 0.661
	Flow (Flow)	0.717***	0.658 < ρ < 0.776
	Search Intention (SR)	0.832***	0.793 < ρ < 0.870
Search Cost (Cost)	Search Benefit (BE)	0.339***	0.238 < ρ < 0.440
	Flow (Flow)	-0.007(ns)	-0.123 < ρ < 0.109
	Search Intention (SR)	0.024(ns)	-0.090 < ρ < 0.138
Search Benefit (BE)	Flow (Flow)	0.555***	0.478 < ρ < 0.630
	Search Intention (SR)	0.619***	0.549 < ρ < 0.689
Flow (Flow)	Search Intention (SR)	0.659***	0.592 < ρ < 0.726

1) ns is p > 0 .05(two-tailed test).

2) ***: ｜t｜ > 2.58, p < 0 .01(two-tailed test)

3) About above all correlation, two-tailed test was done because hypotheses were not established.

<Table 2> and <Table 3> show the results of confirmatory factor analysis. All factor loadings in the <Table 2> are significant (p < 0.001[right side test]). In addition, all Composite Reliability (CR), all Cronbach α, and all Average Variance (AVE) are high and acceptable. Therefore, all constructs evaluated do not involve a problem in terms of the convergent validity (Bagozzi and Yi 1988; Bagozzi, Yi, and Phillips 1991). Discriminant Validity was examined as a confirmation whether or not it includes complete positive correlation (+) 1 or complete negative correlation (-)1 at 99% confidence level (Bagozzi and Dholakia 2006; Anderson and Gerbing 1988). This is an evidence of the discriminant validity.

As confirmed, the results of reliability, convergent validity, and discriminant validity tests indicate product knowledge (PK), brand knowledge (BK), information search cost (Cost), information search benefit (BE), flow (Flow), and information search (SR) are considered as

separate constructs. Then, we can establish the structural equation model and analyze the model based on these constructs.

□. Findings

The results of this study are as follows:

<Table4> Result of Mediating Model

Path	Parameter	Hypotheses	Estimate	Standardized Estimate	Standardized Error	t	Result
BK → Cost	γ 11	H1 (-)	-0.165	-0.186	0.143	-1.159	NOT SUPPORTED
BK → BE	γ 21	H2 (+)	-0.188	-0.208	0.120	-1.568	NOT SUPPORTED
BK → Flow	γ 31	H3 (+)	0.075	0.079	0.108	0.692	NOT SUPPORTED
PK → Cost	γ 12	H4 (-)	0.187	0.205	0.146	1.279	NOT SUPPORTED
PK → BE	γ 22	H5 (+)	0.741****	0.795	0.126	5.873	SUPPORTED
PK → Flow	γ 32	H6 (+)	0.558****	0.568	0.120	4.640	SUPPORTED
Cost→ Flow	β 31	H7 (-)	-0.100***	-0.093	0.034	-2.933	SUPPORTED
Cost → SR	β 41	H8 (-)	-0.084***	-0.077	0.033	-2.561	SUPPORTED
BE → Flow	β 32	H9 (+)	0.214****	0.203	0.043	4.990	SUPPORTED
BE → SR	β 42	H10 (+)	0.380****	0.355	0.043	8.918	SUPPORTED
Flow → SR	β 43	H11 (+)	0.522****	0.514	0.044	11.897	SUPPORTED

*: | t | > 1.645, p < 0.05(one-tailed test), ** : | t | > 1.960, p < 0.025(one- tailed test)

*** : | t | > 2.326, p < 0.01(one-tailed test),**** : | t | > 3.090, p < 0.001(one-tailed test)

Brand Knowledge does not influence Cost, Benefit, and Flow significantly; whereas, Product Knowledge has a significant effect on Benefit and Flow except for the Cost path.
Cost influences Flow and Information Search significantly. Benefit also has a significant influence on Flow and Information Search. The role of Cost and Benefit are shown well in this model. Flow has a significant mediating role except for the path between Brand Knowledge and Flow. Finally, this research shows that when people experience flow, they tend to search more.

□. Discussion

As shown in the first three columns of Table 1, in terms of Brand knowledge, (Brand Knowledge to Cost, Brand Knowledge to Benefit and Brand Knowledge to Flow), the hypotheses are not supported. This means there are no significant relationships between the constructs. In contrast, however, most of the hypotheses on Product Knowledge (Product Knowledge to Benefit, Product Knowledge to Flow) are supported except for the path from Product Knowledge to Cost. Knowledge, especially Brand knowledge is found to have no significant role in determining information search behavior. However, considering the conceivably important role of knowledge in the search behavior, we need to further examine the roles of knowledge constructs. It is suggested, therefore, that in future studies, we need to divide the respondents into two groups: high-flow group and low-flow group. Both Cost and Benefit are found to have a significant effect on information search behavior. In addition, the paths from Cost and Benefit to Flow are found to be significant. And the path from Flow to Search relationship is significant. This means the more people experience flow, the more they search information.

In the limitations of this paper, we did not study the state of flow while playing on-line games. We just investigated the characteristics of flow in the online game.
However, in the further research we plan to examine the neural mechanisms of flow using neuroscience experiments such as EEG,MEG and fMRI. By so doing, we will be able to test the state of flow in the real time while people are playing on-line game or web- surfing.

□. Managerial Implications

One business implication on the game markets is that flow encourages the development of product designs and game settings to attract customers to purchase their products and services. In addition, flow may be applied to internet shopping and the e-commerce market, navigating websites. When people feel flow while they are navigating the net, people are willing to visit more sites and also to extend the duration of their stay. In other words, they may increase their page view and the number of sites they visit and the duration of visiting. This increase in the duration of their stay may, in turn, lead to more purchasing activities on-line in the e-commerce market.

Bibliography

Saeran Doh, Ph.D.
Associate Professor of Marketing
Department of Food Business Management
School of Food, Agricultural and Environmental Sciences
Miyagi University
Interested area: Neuromarketing, Consumer Behavior, Marketing Strategy,
Social Media and Internet Marketing

Appendices: Questionnaire

Flow

1. I like playing online games.

Never Occasionally Always

□…□…□…□…□…□…□

2. I am unaware of time when I play online games.

Never Occasionally Always

□…□…□…□…□…□…□

3. I find pleasure and fun when I play online games.

Never Occasionally Always

□…□…□…□…□…□…□

4. I am sometimes late for appointments or meal times because of my game playing.

Never Occasionally Always

□…□…□…□…□…□…□

5. I feel I'm liberated from routine patterns when I play games.

Never Occasionally Always

□…□…□…□…□…□…□

Information Search Cost

6. I think collecting online game information is a time consuming job.

Strongly disagree Not sure Strongly agree

□…□…□…□…□…□…□

7. I think collecting online game information is mentally and psychologically taxing.

Strongly disagree Not sure Strongly agree

□…□…□…□…□…□…□

8. I think collecting online game information physically tiring.

Strongly disagree Not sure Strongly agree

□…□…□…□…□…□…□

9. I think gathering online game information is costly.

Strongly disagree Not sure Strongly agree

□…□…□…□…□…□…□

Brand Knowledge

10. I know the online game brands well.

Never Occasionally Always

□…□…□…□…□…□…□

11. I know the differences between similar types of games.

Never Occasionally Always

□…□…□…□…□…□…□

12. I know the game manufacturer's companies well.

Never Occasionally Always

□…□…□…□…□…□…□

13. I know the game distributors well.

Never Occasionally Always

□…□…□…□…□…□…□

Information Search

14. I collect more information about PC games than my friends who play games.

Never Occasionally Always

□…□…□…□…□…□…□

15. I research the basic information about computer games so much .

(manufacturers, distributors, scenarios, etc.)

Never Occasionally Always

□…□…□…□…□…□…□

16. I visit game manufacturers'/ distributors' websites when I collect game information.

Never Occasionally Always

□…□…□…□…□…□…□

17. I visit game related web communities when I collect game information.

Never Occasionally Always

□…□…□…□…□…□…□

18. I ask my friends or family about games when I collect game information.

Never Occasionally Always

□…□…□…□…□…□…□

19. I refer to books, magazines and newspapers to collect game information.

Never Occasionally Always

□…□…□…□…□…□…□

20. I notice outdoor advertising (bus, subway, etc) about computer games.

Never Occasionally Always

□…□…□…□…□…□…□

21. I refer to game channels on TV to collect game information.

Never Occasionally Always

□…□…□…□…□…□…□

22. I refer to user's reviews to collect game information.

Never Occasionally Always

□…□…□…□…□…□…□

23. I collect game information when chatting with other users online.

Never Occasionally Always

□…□…□…□…□…□…□

24. I pay attention to the information about the game while game information searching.

Never Occasionally Always

□…□…□…□…□…□…□

Information Search Benefit

25. I feel I can find out the items I need while gathering information about games.

Strongly disagree Not sure Strongly agree

□…□…□…□…□…□…□

26. I feel that I could choose the characters I want by gathering information about a game.

Strongly disagree Not sure Strongly agree

□…□…□…□…□…□…□

27. I feel I could select the right games for me after collecting game information.

Strongly disagree Not sure Strongly agree

□…□…□…□…□…□…□

28. I think I could solve quests (missions on game) through gathering game information.

Strongly disagree Not sure Strongly agree

□…□…□…□…□…□…□

29. I think if I continue to collect game information, I will find out about newly released games .

Strongly disagree Not sure Strongly agree

□…□…□…□…□…□…□

Product Knowledge

30. I think I know more about online games than my friends.

Never Occasionally Always

□…□…□…□…□…□…□

31. I think I know game pattern well.

Never Occasionally Always

□…□…□…□…□…□…□

32. I know each game's events well.

Never Occasionally Always

□…□…□…□…□…□…□

33. I think I know different characters' strengths and weaknesses.

Never Occasionally Always

□…□…□…□…□…□…□

34. I think I know each game's interfaces (screen composition, operation) very well.

Never Occasionally Always

□…□…□…□…□…□…□

35. I know which game is free and not free.

Never Occasionally Always

□…□…□…□…□…□…□

36. I think I know game terms very well.

Never Occasionally Always

□…□…□…□…□…□…□

37. I think I am skilled at playing games.

Never Occasionally Always

□…□…□…□…□…□…□

The following are general questions about you. Please complete each question:

Gender

Male Female

Age:

Academic year:

Major:

Your monthly expense on games (including online game cost and internet café fees)?

Approximate amount of time per week for information gathering?

Approximate amount of time you play games?

What kinds of games are you purchasing these days?

References

Anderson, James C. and David W. Gerbing(1988), "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach," *Psychological Bulletin,* 103(3), 411-425.

Bagozzi, Richard P. and Utpal M. Dholakia (2006), "Antecedents and Purchase Consequences of Customer Participation in Small Group Brand Communities," *International Journal of Research in Marketing,* 23(March), 45-61.

_____ and Youjae Yi (1988), "On the Evaluation of Structural Equation Models," *Journal of the Academy of Marketing Science,* 16 (Spring), 74-94.

_____, Youjae Yi, and Lynn W. Phillips (1991), "Assessing Construct Validity in Organizational Research," *Administrative Science Quarterly,* 36 (September), 421-458.

Brucks, Merrie (1986), "A Typology of Consumer Knowledge Content," *Advances in Consumer Research, Provo, UT*: Association for Consumer Research, Richard J. Lutz, 13, 58-63.

Csikszentmihalyi, Mihaly (1975), *Beyond Boredom and Anxiety: Experiencing Play in Work and Games,* Jossey-Bass.

_____ (1990), *Flow: The Psychology of Optimal Experience*, New York: Harper and Row.

Doh, Saeran (1997), "Prior Knowledge and Information Search,"*Japan Marketing Science*, 6(1), 30-46.

Fornell, Claes and David F. Lacker(1981), "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," *Journal of Marketing Research*, 18(February), 39-50,

Ghani, Jawaid A. and Satish P. Deshpande (1994), "Task Characteristics and the Experience

of Optimal Flow in Human-Computer Interaction," *Journal of Psychology*, 128 (4), 381-391.

Hoffman, Donna L. and Thomas P. Novak (1996), "Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations," *Journal of Marketing*, 60 (July), 50-68.

Korzan, Melinda L. (2003), "Going with the Flow:Predicting Online Purchase Intentions," *Journal of Computer Information Systems*, 43 (Summer), 25-31.

Punj, Girish N. and Richard Staelin (1983), "A Model of Consumer Information Search Behavior for New Automobiles," *Journal of Consumer Research,* 9 (March), 366-380.

Srinivasan, Narasimhan and Brian T. Ratchford (1991), "An Empirical Test of a Model of External Search for Automobiles," *Journal of Consumer Research,* 18 (September), 233-242.