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EFFECTS OF CONSUMER LIFESTYLES ON PURCHASING BEHAVIOR ON THE INTERNET: A CONCEPTUAL FRAMEWORK AND EMPIRICAL VALIDATION

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Abstract

The purpose of this research is (1) to develop a theoretical model for consumer purchasing behavior on the Internet and (2) to test the effects of consumer lifestyles in the form of price-oriented, net-oriented, and time-oriented lifestyles, and perceived benefit and perceived risk on purchasing behavior. Structural equation modeling is applied to test a hypothesized research model using Graphics Visualization and Usability Center (GVUC) online survey data. Results show that a consumer whose lifestyle is more net-oriented will perceive more benefits and fewer risks to online purchasing. Consumers who are more time-oriented will perceive more benefits to buying goods online than less time-oriented ones. Consumers who have more disposable income are also more prone to purchase online.

Keywords: Consumer lifestyles, consumer purchasing behavior, conceptual framework, perceived risk, perceived benefit, valance framework

1. INTRODUCTION

Despite electronic commerce's potentiality and future importance to the economy, we do not have enough accumulated knowledge to understand why some people choose online (Internet) shopping instead of a traditional channel. For a better understanding of this industry-level phenomenon, it is important to study individual customers' behaviors. Using a research framework from marketing literature, we develop a model of consumers' Internet purchasing behavior. We suggest that online purchasing behavior depends on consumers' perceptions of risks and benefits, and consumers' characteristics such as lifestyles that are mediated by these perceptions. The purpose of this research is to develop and test a theoretical model for consumers' purchasing behavior on the Internet.

This paper presents a valence framework regarding perceived risk and perceived benefit as the basic theoretical framework of this study. It points out that consumer price-oriented, net-oriented, and time-oriented lifestyles may impact online shopping. Subsequently it proposes and tests an empirical research model.

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2. THE VALANCE FRAMEWORK

One fundamental assumption of classical economic theory regarding consumers' behavior is that a consumer's choice is based on complete and perfect information. In reality, these conditions occur rarely. Rather, consumers often act on information that is less than complete and far from perfect. As a result, consumers are often faced with at least some degree of risk in their purchase decisions.

In marketing management, scholars have incorporated the perception of risk in understanding consumer purchase behavior (Bauer 1960; Jacoby and Kaplan 1972; Petter and Ryan 1976; Zikmund and Scott 1973). In the case of Internet online shopping, two types of risk are said to be predominant: product category risk and financial risk (Bhatnagar et al. 2000). Product category risk is associated with the product itself, e.g., technological complexity or price of the product. Financial risk is not related to the product, but to the channel (Internet) itself being a safe mode of commerce. For example, submitting credit card information through the Internet evokes consumer apprehension due to the possibility of fraud (Fram and Grady 1997).

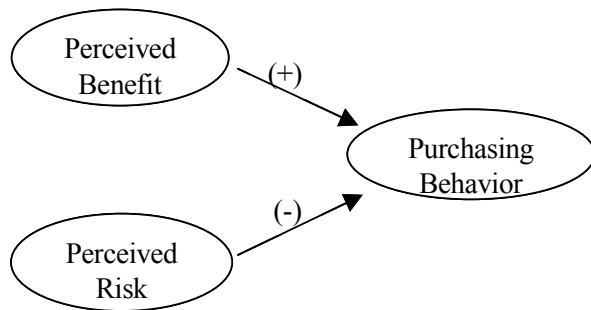


Figure 1. Basic Framework

However, perceived risk is not the only factor involved in consumer purchasing behavior. A past study (Wilkie and Pessemier 1973) provides strong evidence that consumers make purchase decisions to maximize expected gain, in other words, for perceived benefit. Consumers regard *the perceived benefit* as an incentive for the purchasing behavior.

Tarpey and Peter (1975) identified three fundamental frameworks of consumer decision making: (1) perceived risk framework, which characterizes consumers as motivated to minimize, or at least reduce any expected negative utility (perceived risk) associated with purchase behavior; (2) perceived benefit framework, which focuses on the consumers' perception toward benefits of the product; and (3) perceived value or a net valence, which is a combination of both the perceived

risk and perceived benefit frameworks. This framework assumes that consumers perceive products as having both positive and negative attributes. Figure 1 shows the basic model of this study. The underlying logic of this model is that consumers make a purchasing decision based on their perception of benefit and risk regarding Internet online shopping.

3. CONSUMER LIFESTYLES AND ONLINE PURCHASING

Several studies have discussed the relationship between consumer lifestyles and online purchasing (Li et al. 1999; Swaminathan et al. 1999). Recently Bhatnagar et al. (2000) are probably among the first to apply the valence framework to an online shopping purchasing model. In their model, the consumers' channel choice decision depends on a consumer's convenience and risk perception. Clearly individual characteristics such as a consumer's lifestyle need to be emphasized as key determinants of purchasing decisions (Bellman et al. 1999). Mowen (1987) points out that consumer lifestyle relates to how people live, how they spend their money, and how they allocate their time. Based on Mowen's description, we group replies into three empirical categories for online shoppers' lifestyles: price-oriented, net-oriented, and time-oriented style.

Price is an important aspect of online shopping. Price power is evident in the ranking of store formats. Some shoppers are highly price sensitive and consequently look for bargains. Such individuals will actively search and buy products on the Internet in order to obtain lower prices because lower prices are a main reason why online shoppers shop on the web (Forrester Research 1999). As consumers develop a more *price-oriented style*, their perception of benefit toward online shopping increases and their perception of risk decreases.

People who have been on the Internet for years, not just a few months, have a tendency toward a *net-oriented style*. They probably receive a large number of e-mail messages every day; they work on the Internet in their offices every week; and they tend to agree that the Internet and other developments in communication technology have improved their productivity at work. As consumers become more wired on the Internet, their perception of risk decreases and their perception of benefit increases.

As the total number of hours worked by members of a household increases, the less time there is to search for and buy products in the traditional way. For example, dual-income households seek new ways to find information and buy things that are faster and more convenient. As consumers become more *time-oriented*; in other words, the less discretionary time they have, the more their

perception of risk decreases and their perception of benefit increases. We believe the online shopper's price-oriented, net-oriented, and time-oriented lifestyles have predictive validity regarding purchasing behavior on the Internet.

4. RESEARCH FRAMEWORK AND HYPOTHESES

In addition to the underlying logic that consumers make a purchasing decision based on their perception of the benefit and risk of Internet online shopping, consumer lifestyles affect perceived benefit and perceived risk about online shopping. Among consumers' demographic characteristics, we add income as a control variable since we expect that consumers who have more disposable income engage in more purchasing in Internet shopping. Based on the above reasoning, we develop the following research model and hypotheses. Figure 2 shows the research model.

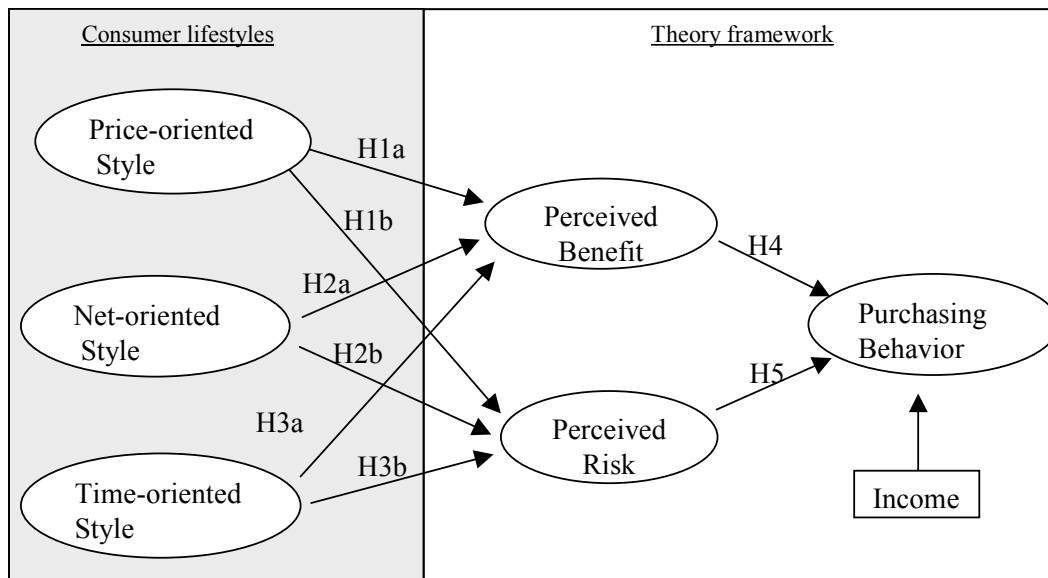


Figure 2. Research Model

- H1a. A consumer's price-oriented lifestyle is positively associated with the perceived benefit regarding online purchases.
- H1b. A consumer's price-oriented lifestyle is negatively associated with the perceived risk regarding online purchases.
- H2a. A consumer's net-oriented lifestyle is positively associated with the perceived benefit regarding online purchases.
- H2b. A consumer's net-oriented lifestyle is negatively associated with the perceived risk regarding online purchases.
- H3a. A consumer's time-oriented lifestyle is positively associated with the perceived benefit regarding online purchases.
- H3b. A consumer's time-oriented lifestyle is negatively associated with the perceived risk regarding online purchases.
- H4. Perceived benefit is positively associated with online purchases.
- H5. Perceived risk is negatively associated with online purchases.

5. DATA COLLECTION AND MEASUREMENT

We analyzed the online survey dataset collected by the Graphics, Visualization and Usability Center (*GVUC*) at the Georgia Institute of Technology. We thank and acknowledge *GVUC* for making the survey data available. The tenth survey was administered from October 10, 1998, through December 15, 1998. The sample includes 306 respondents.

We picked up items in the GVUC dataset that seemed most appropriate in representing the constructs we suggested. All survey items are summarized in Appendix A. *Purchasing behavior* measured the recent amounts and frequency that respondents purchased through online vendors. It was composed of four items in the GVUC dataset. Items included money spent and the frequency of online purchases during the past six and 12 months, as well as general purchasing frequency. Reliability alpha was .77 for this construct. *Perceived benefit* was composed of five items. A previous study shows that these items were loaded on a single factor (Bhatnagar et al. 2000). One sample item includes “WWW vendors offer more useful information about the choices available.” Reliability alpha was .67. We picked four items to capture *perceived risk*. Reliability alpha was .68. A customer’s *net-oriented style* was measured by such items as the frequency and amount of time of using a WWW browser and Internet skills. Reliability alpha was .57. *Price-oriented style* was measured by severity of financial costs/charges by continuing to shop with this Internet retailer, the attractiveness of special rewards and discounts from this Internet retailer, overall happiness with this Internet retailer’s price, and offering of a good economic value from this Internet retailer. Reliability alpha was .81. *Time-oriented style* was measured by four items. Reliability alpha was .88. *Income* was measured by a single item that asked for current household income

6. RESULTS

Table 1 presents descriptive statistics, scale reliabilities and intercorrelations of study variables. As can be seen, reliability coefficients of all variables other than net-oriented style ($\alpha = 0.57$) are higher than the minimum cutoff score of 0.65 (Lee and Kim 1999). In addition, the results of factor analyses showed one single factor for each variable. In addition, confirmatory factor analyses provided support for each variable as a reliable measure for subsequent analyses.

To test the hypothesized model, structural equation modeling was performed using AMOS 4.0. We used a two-step approach (Anderson and Gerbing 1988), first testing measurement models for each latent variable separately and then testing the whole structural model. Measurement models for six latent variables were quite acceptable; all values of Tucker-Lewis index (TLI) and comparative fit index (CFI) exceed the cutoff value of 0.96 (Hu and Bentler 1999), and values of Root-mean square error of approximation (RMSEA) also satisfied the cutoff of 0.06 (Hu and Bentler 1999), except RMSEA for purchasing behavior (see Table 2).

Table 1. Descriptive Statistics and Correlations Among Variables

Variable	Mean	S.D.	Price-oriented Style	Net-oriented Style	Time-oriented Style	Perceived Benefit	Perceived Risk	Income	Purchasing Behavior
Price-oriented Style	3.50	1.61	(.81)						
Net-oriented Style	6.27	1.07	.17**	(.57)					
Time-oriented Style	4.49	1.86	.80**	.15**	(.88)				
Perceived Benefit	3.37	.68	.26**	.20**	.28**	(.67)			
Perceived Risk	2.59	.81	-.21**	-.17**	-.21**	-.22**	(.68)		
Income ^a	5.93	2.46	.16**	.05	.19**	.11	-.25**	-	
Purchasing Behavior	2.99	1.18	.57**	.32**	.61**	.18**	-.19**	.21**	(.77)

Note: N = 306, ** significant at the 0.05% level.

Coefficient alpha reliability estimates are in parentheses on the diagonal.

^aIncome is a categorical variable. Mean score 5.93 represent approximately \$51,000

Table 2. Result of Measurement Models

Variable	χ^2 (N = 306)	Df	Sig.	TLI	CFI	RMSEA
Price-oriented Style	0.139	1	0.71	1.000	1	0
Net-oriented Style	0.132	1	0.716	1.000	1	0
Time-oriented Style	1.302	1	0.254	0.998	0.999	0.031
Perceived Benefit	4.984	4	0.289	0.988	0.995	0.028
Perceived Risk	0.428	1	0.513	1.000	1	0
Purchasing Behavior	3.989	1	0.046	0.989	0.999	0.064

Stage 2 is about testing the structural model. We started testing the hypothesized model (Model I) that we presented in Figure 2. The goodness-of-fit indices for the hypothesized model reflected an acceptable model ($\chi^2 = 471.9$, $df = 258$, $p = 0.000$, $TLI = 0.986$, $CFI = 0.989$, $RMSEA = 0.052$).

Table 3. Model Comparison

Model	χ^2 (N = 306)	Df	Sig.	TLI	CFI	RMSEA	χ^2 differences from previous model
Model I*	471.9	258	0.000	0.986	0.989	0.052	
Model II**	367.4	255	0.000	0.992	0.994	0.038	$\chi^2(3)=104.5$, $p=0.000$

Note: GFI: Goodness of Fit Index, TLI: Tucker-Lewis Index, CFI: Comparative Fit Index, RMSEA: Root-mean Square Error of Approximation

Model I: no direct effect from Price-oriented, Net-oriented and Time-oriented Style to Internet Purchasing Behavior

Model II: direct effects from Price-oriented, Net-oriented and Time-oriented Style to Internet Purchasing Behavior

*Originally hypothesized model. **Final accepted model.

To investigate the validity of our hypothesized model (Model I), we considered an alternative model and made comparisons. The alternative model (Model II) allowed direct effects from price-oriented, net-oriented, and time-oriented style to Internet purchasing behavior. Results showed that adding direct links between a customer's lifestyle variables and Internet purchasing behavior significantly increased model fit.

Chi-square changes between Model I and Model II are significant. Therefore, the model that best fits this data is Model II, which allows direct effects from price-oriented, net-oriented, and time-oriented style to the Internet purchasing behavior. Further hypothesis testing was based on the final model, Model II.

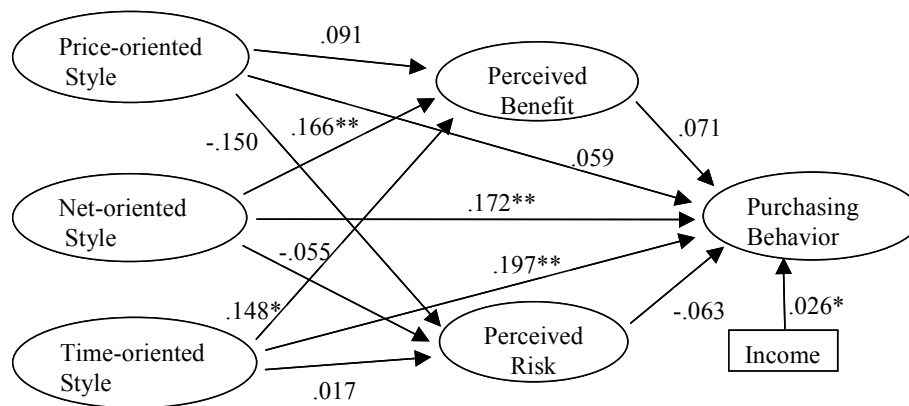
Table 4 and Figure 3 present the results of the hypothesis testing. Price-oriented style showed a positive effect on perceived benefit ($\beta = .091$), and a negative effect on perceived risk ($\beta = -.150$). Both are not significant. Net-oriented style showed a strong positive effect on perceived benefit ($\beta = .166$, $p < .01$) and a negative effect on perceived risk although its effect was not strong ($\beta = -.055$, ns). Time-oriented style showed a strong positive effect on perceived benefit ($\beta = .148$, $p < .01$). Hypothesis 3 and 4, the effect of perceived benefit and risk on Internet purchasing behavior, were not supported ($\beta = .071$, $-.063$ respectively).

Model II showed that a consumer lifestyle had a direct effect on Internet purchasing behavior, as both paths to purchasing behavior were significant ($\beta = .172$ for net-oriented style and $.197$ for time-oriented style).

The control variable, income, showed a strong relationship with Internet purchasing behavior ($\beta = .026$, $p < .05$).

Table 4. Results of Hypothesis Testing

Hypothesis	Description of path	Hypothesized direction	Path coefficient	Sig.
H1a	Price-oriented Style → Perceived Benefit	(+)	.091	.562
H1b	Price-oriented Style → Chapter 2, Perceived Risk	(-)	-.150	.180
H2a	Net-oriented Style → Perceived Benefit	(+)	.166	.003
H2b	Net-oriented Style → Perceived Risk	(-)	-.055	.138
H3a	Time-oriented Style → Perceived Benefit	(+)	.148	.010
H3b	Time-oriented Style → Perceived Risk	(-)	.017	.665
H3	Perceived Benefit → Purchasing Behavior	(+)	.071	.374
H4	Perceived Risk → Purchasing Behavior	(-)	-.063	.273
	Price-oriented Style → Purchasing Behavior		.059	.613
	Net-oriented Style → Purchasing Behavior		.172	.000
	Time-oriented Style → Purchasing Behavior		.197	.000
	Income → Purchasing Behavior		.026	.035



Note: This figure does not show measurement model. N=306.
+ significant at the 0.1% level, * significant at the 0.05% level,
** significant at the 0.01% level

Figure 3. Final Model

7. DISCUSSION AND CONCLUSION

The results show that consumers who have a more net-oriented lifestyle perceive more benefit to buying goods online than less net-oriented consumers. Consumers whose lifestyle is more price-oriented perceive more benefit and less risk to online purchasing. Consumers who are more time-oriented perceive more benefit to purchasing online. Consumers who have more disposable income engage in more online purchasing.

It is shown that a negative effect of net-oriented lifestyle on perceived risk is not significant. We may interpret this result that as consumers become more net-oriented, i.e., gain more experience with Internet purchasing, their concerns are more about the benefits of online purchasing than the risks. Their perception of benefit becomes stronger than their perception of risk in parallel with their net-oriented style. A *post hoc* analysis supports this speculation. The difference between perceived benefit and perceived risk is significantly positively correlated with consumers' degree of net-oriented style ($r = .243$, $p < .00$).

The effects of perceived benefit and perceived risk on purchasing behavior are not significant. A likely possibility is regarding the validity of the dataset used in this study.

Therefore, one of the limitations of this study is related to the dataset we used. Unlike most others, GVUC's WWW surveys collect data over the Internet. It is important to be aware of some limitations of Internet web surveys: unequal opportunity of being selected and self-selection to participate. Only those customers who are able to use the web are able to participate in web surveys. However, as pointed out by the GVUC survey administrators, this bias is exactly what is desired of the data for marketers on the web since it provides them with data about actual online users (www.gvu.gatech.edu/gvu/user_surveys/survey-1998-10).

Another limitation is about model specification. We selected three customer lifestyles as consumer characteristics that intuitively seem critical in predicting Internet purchasing behavior. We do not deny the importance of other factors such as perceived channel utilities (Li et al. 1999), shopping orientation, and product characteristics (Darden and Howell 1987; Gehrt and Carter 1992; Gutman and Mills 1982; Lumpkin 1985).

The study has both theoretical and practical implications. The findings of this study extend our knowledge of factors influencing purchasing behavior from the conventional market to the Internet cyber market. This study tests previous theoretical propositions that consumers perceive products as having both positive and negative attributes, so they make decisions to maximize the net valence resulting from negative and positive attributes of the decision. From a practical perspective, the empirical findings suggest that customer lifestyles directly and indirectly affect the customer's purchasing behavior on the Internet. The study regarding customer lifestyle is valuable, because it suggests that Internet retailers have to fine-tune their offerings and provide specific promotions to each targeted segment of customers at the aggregate level as well as to individual customers.

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Appendix A. Survey Items

Purchasing Behavior <ol style="list-style-type: none"> 1. Money spent on online purchasing in the past six months 2. Frequency of making online purchases from Web-based vendors 3. Money spent on online purchasing in the past 12 months 4. Frequency of making online purchases from Web-based vendors in the past twelve months
Perceived Benefit <ol style="list-style-type: none"> 1. Web vendors offer better prices 2. Web vendors offer more useful information about choices 3. It is easier to place orders with Web vendors 4. It is easier to contact Web vendors 5. It is easier to cancel order with Web vendors
Perceived Risk <ol style="list-style-type: none"> 1. Concerned about security on the Internet 2. Concerned about security on making purchases or banking over Internet 3. Providing credit card information through the Web is no riskier than over the phone 4. Providing credit card information through the Web is important reason that I do not buy through Web more often.
Net-oriented Style <ol style="list-style-type: none"> 1. Frequency of using WWW browser 2. Amount of time using WWW browser 3. Internet-related skill
Price-oriented Style <ol style="list-style-type: none"> 1. Severity of financial costs/charges without this Internet retailer 2. Attractiveness of special rewards and discounts from this Internet retailer 3. Overall happiness with this Internet retailer's price 4. Offering of a good economic value from this Internet retailer
Time-oriented Style <ol style="list-style-type: none"> 1. Efficient way to manage my time with making a purchase from the Internet 2. Spending a lot of time and energy looking for other retailers 3. Saving time with making a purchasing from the Internet 4. Allowing me to shop on my own schedule
Income <ol style="list-style-type: none"> 1. Amount of household income