Predicting Purchase Intention of Online Consumers using Discriminant Analysis Approach

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Abstract

The Internet plays a vital role in the business world today. It has created a tremendous volume of business transactions all over the world. Internet not only introduces a new way of doing business, it also changes consumer lifestyle. Consumers can buy products or services via the Internet without going to a physical store. Therefore, it is very important to investigate this phenomenon, seeking to determine the variables that actually motivate consumers to adopt internet shopping. In this context, this study attempts to formulate a discriminant equation on the basis of some established predictors and separate the segment into suspects and prospects. It will be healpful for the retailers can make a market assessment about their brand through this approach which will in turn, help the marketer to reduce the market risk.

Keywords: Internet shopping, Online Consumers, Purchase Intention, Discriminant Analysis

Introduction

The Internet plays a vital role in the business world today. It has created a tremendous volume of business transactions all over the world. With the ability to transmit data across the world and multimedia presentations on the World Wide Web (WWW), the Internet has formed a new strategic marketing tool. The Internet has also established a new way of conducting business, called electronic commerce, or e-commerce. A diffusion of Internet not only introduces a new way of doing business, it also changes consumer lifestyle. Consumers can buy products or services via the Internet without going to a physical store. This innovative life style has been adopted more quickly in most of the developed countries than in the developing countries. Consumers in developing countries have been started to adopt Internet shopping because of a information technology infrastructure. Therefore, it is very important to investigate this phenomenon, seeking to determine the variables that actually motivate consumers to adopt internet shopping. In this context, this study attempts to formulate a discriminant equation on the basis of some established predictors and separate the segment into suspects and prospects. The research attempts to forecast the purchase intentions of the target segment based on level of internet shopping experience where a frequency of purchase from internet, preferable mode of payment and new products buying frequency is present. The retailers can make a market assessment about their brand through this approach which will in turn, help the marketer to reduce the market risk.

OBJECTIVES

The *primary objective* of the study is
  ❖ **To identify the online customers purchase intention based on level of shopping experience.**
  ❖ **To identify the important predictors among the mentioned factors to forecast the purchase intention**

REVIEW OF LITERATURE

Soyeon Shim, et al. (2001) made an attempt to determine whether intent to search the internet is a key element for predicting purchased intention. The data were for the study collected through a mail survey in 15 US metropolitan areas. Intention to use the internet for information search, frequency of buying from the internet, preferable mode of payment, new product buying frequency and previous internet shopping experience are the items taken for the study. From the results it was found that, intention to use the internet to search for information is the strongest predictor for other variables. Both direct and indirect relationship between the above variables is also observed during the results. It was observed that frequency of buying from the internet were also important in predicating internet purchase intention. The study also suggested the effective plans and strategies that reduce consumer perceived risk, experience and knowledge of internet shopping protocols.

Choon ling, et al. (2010) examined the effects of shopping orientations, online trust and prior online purchase experience toward customers' online purchase intention. The data were collected from 250 students.

The variables taken up for the study are impulse purchase intention, new product buying frequency of buying from the internet, and prior online purchase experience. From the results of multiple regressions, it was found that these variables are having weak relationship 0.091. But overall the variables are strongly positively related to purchase intention.

Al-Swidi, Seed Behjati and Arfan (2012) made an attempt to study the antecedents of online purchasing intention among MBA students. This study focused on the frequency of buying and attitudes towards online shopping among the MBA students. The TPB model was tested and the data were collected from 136 MBA students, either full or part time. This model especially studied the intention of taking on a particular behavior or a specific product. The results indicate that frequency of buying from the internet and search for information are increasing the probability of online purchase attitude.

Jayavwardhena, et al. (2007) examined the purchase orientation and purchase intention of online shopping consumers. For the study the variables namely proposed purchase loyalty, multiple purchase orientation, and online shopping experience were tested. The data were collected from 396 respondents. The K-means cluster analyses were used to classify the respondents. It was identified that consumers were categorized as active shoppers, price sensitivities appears, discerning shoppers, brand loyal and convenience oriented. It was further identified that consumer purchase orientation and purchase intention in both the traditional world and on the internet are largely similar among various classifications of respondents.

RESEARCH METHODOLOGY

It is to be noted that there are several ways of studying and handling the research objectives. The present study fall under the category of descriptive studies as the nature of problem is to determine the relationship among the different variables. This type of research is also called survey based study. The major strength of survey research has its wide scope and ability to collect the detailed information from a sample of large population.

In the proposed study, the researcher used both primary and secondary data. Primary Data is originated by the researcher for the specific purpose of addressing the problem at hand and secondary data has been collected from various national and international journals, websites, books, working papers, online databases and reports like EBSCO and emerald LibraryData was collected from 100 samples using convenient sampling technique. Statistical inferences were drawn from the primary data collected by applying statistical tool like SPSS 20 and statistical analysis like Discriminant Analysis

.

RESULTS

Discriminant Analysis was applied to find out the results. It is the appropriate statistical technique when the dependent variable is categorical and the independent variables are quantitative. It was conducted to determined weather three predictors namely frequency of purchase from internet, preferable mode of payment and new products buying frequency could influence on level of internet shopping experience. From the result of test of equality of group means, it was identify that these may be good discriminates as separations are large, so from the F value it was found that significance difference between means of beginner , intermediate and expert. With all independent variable namely frequency of purchase from internet, preferable mode of payment and new product buying frequency.

Tests of Equality of Group Means					
	Wilks' Lambda	F	df1	df2	Sig.
Frequency of purchase through internet	.792	75.719	2	578	.000
Preferable mode of payment	.985	4.514	2	578	.011
New product buying	.933	20.667	2	578	.000

Standardized Canonical Discriminant Function Coefficients		
	Function	
	1	2
Frequency of Purchase through Internet	.878	.290
Preferable Mode of Payment	.110	.469
New Product Buying	-.409	.794

The Box's M was applied to test the null hypothecs that the covariance matrix does not differ between

groups formed by the dependent. From the F value it was found that null hypothecs was accepted. So no violation can be made, it scope for doing further analysis.

Test Results		
Box's M		17.791
F	Approx.	1.468
	df1	12
	df2	381320.684
	Sig.	.128

| Wilks' Lambda				
Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.749	166.606	6	.000
2	.985	8.719	2	.013

Canonical correlation is multiple correlations between predicators and the discriminate function. For this study the Canonical correlation score was .489 for function one and .122 for function 2. The overall Wilks lambda was significant for both function (function one .789 and function two .985), this indicate overall predicators differentiated among the level of internet shopping experience. From the standardize Canonical discernment function coefficient, it was found that frequency of buying internet has strongest relationship with discriminate function. The new product buying frequency shows weaker relationship and preferable mode of payment having negative relationship.

Functions at Group Centroids

Level of shopping experience	Function	
	1	2
Beginner	-.577	.111
Intermediate	.049	-.124
Expert	1.113	.144

From the Group Centroids it was found that the beginner having negative mean score (-.577) in function one and positive mean score in (.111) in function two. Intermediate having positive mean score in function one and negative mean score in two. Export having positive means score in both function. The pattern of the means for the discriminate function appears conciseness with interpretation of two functions.

Classification Results[b,c]						
Level of shopping experience			Predicted Group Membership			Total
			Beginner	Intermediate	Expert	
Original	Count	Beginner	99	97	6	202
		Intermediate	64	189	34	287
		Expert	4	51	37	92
	%	Beginner	49.0	48.0	3.0	100.0
		Intermediate	22.3	65.9	11.8	100.0
		Expert	4.3	55.4	40.2	100.0

Canonical Discriminant Functions
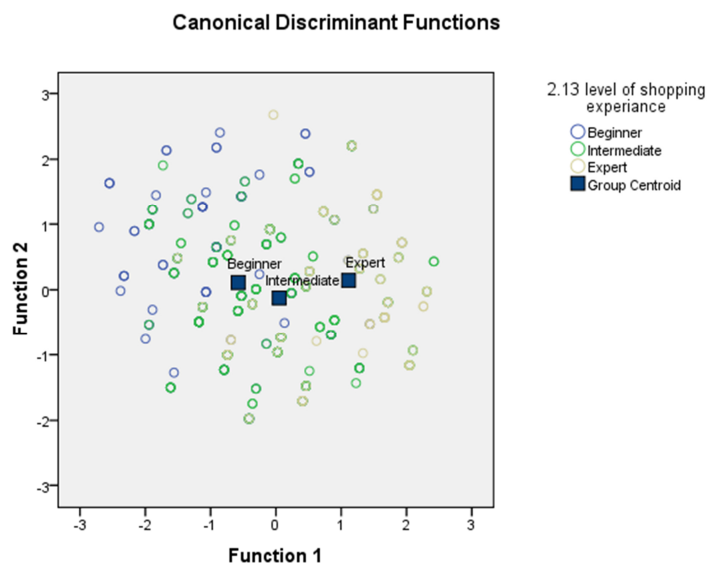
The perceived accuracy was identifying in the classification matrix. Accurate classification of unite in groups and probability of erroneous in another groups are given in table (no).there for 99 of 202 respondents are classified as people with beginner skill (Probability of accurate classification 49%). 97 as people of intermediate skill (Probability of accurate classification 48%) and six people of expert skill (Probability of accurate classification 3%)

189 of 287 respondents with intermediate skill where classified as peoples of having intermediate skill (Probability of accurate classification 65.9%) 64 where classified as peoples of beginners skills (Probability of accurate classification 22.3%), 34 where classified as people of expert skill (Probability of accurate classification 11.8%)

37 of 92 respondents with experts skills were classified as people with expert skill (Probability of accurate classification 40.2%), 51 respondents peoples of intimidate skill (Probability of accurate classification 55.4%) and 4 as peoples of beginners skills (Probability of accurate classification 4.3%)The classification results reveals that overall accuracy was 55.9%. The researcher accept accuracy rate of more than 25%, so from the classification results the accuracy result also not violated.

DISCUSSION AND CONCLUSION

It was conducted to determined weather three predictors namely frequency of purchase from internet, preferable mode of payment and new products buying frequency could influence on level of internet shopping experience.. Significant mean differences were observed for all the predictors. The log determinants were quite similar and Box's M also indicated that the assumption of equality of covariance was also accepted. For this study the Canonical correlation score was .489 for function one and .122 for function 2. The overall Wilks lambda was significant for both function (function one .789 and function two .985), this indicate overall predicators differentiated among the level of internet shopping experience. From the standardize Canonical discernment function coefficient, it was found that frequency of buying internet has strongest relationship with discriminate function. The new product buying frequency shows weaker relationship and preferable mode of payment having negative relationship. The researcher accept accuracy rate of more than 25%, so from the classification results the accuracy result also not violated. This study can be implemented by marketers to assess the real market positioning of a brand in terms of the customers' purchase intention. Marketers can find the market potentiality of their brand in a new market also through this research apart from finding out problems in the existing market in terms of the predictors so that appropriate marketing policies can be implemented to tap the market.

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