ANALYZING INTERNET USAGE AND ONLINE SHOPPING FOR INTERNATIONAL CONSUMERS

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ABSTRACT: Currently, the buying decision process model is undergoing changes due to new and multiple points of interaction to which consumers are exposed. In this new business framework, there are very few business strategies that do not consider the online component, and via the Internet, interactive marketing offers unique benefits. As consumers get more and more acquainted with the Internet, in general, they are also becoming more prone to Internet retailing. In this development of the online buying process, companies can adapt their messages to engage consumers by reflecting their special interests and past recorded behavior. Thus, in this paper, we explore how online retailers can gain new perspectives on their customers' online shopping predisposition based on their experience with the Internet and frequency of use.

Keywords: consumer behavior, online shopping, online services, Internet usage, online marketing.

JEL Codes: M31

Introduction

Nowadays, there is a wide range of Internet users, with various levels of experience, from novice to advanced experts who use this online setting for various activities with marketing potential for companies. Giving the difference in experience, companies have to make their sites more accessible of different types of consumers. This statement applies even more to e-commerce websites. Currently, few marketing strategies do not consider the online component, and via the Internet, interactive marketing offers unique benefits. The Internet provides a new tool for consumer interactions with a company, and has the benefits of lower costs and a high level of flexibility compared to older instruments such as telemarketing and direct mail marketing. Moreover, for companies, the internet has an essential advantage because the effects of marketing can be tracked and traced easily.

Depending on the study of online consumer behavior dimensions, companies can examine how consumers choose the types and level of information they are exposed to and interact on the Internet. Also, interactions of consumer-to-consumer type are growing and influencing consumer's behavior online, particularly in an Internet retailing framework. Thus, a main objective of interactive relationship marketing is to create superior value for customers at a one-to-one level.

For many years, the fundamental principle of marketing strategy was to identify relevant consumer segments to direct the company's offer to them. Designed segmentation is still valid today, but there is a fragmentation of the market in ever smaller segments. There are several possible explanations for this trend of increasing fragmentation, but it seems that the Internet has enabled consumers to find specific solutions to address any unmet needs in terms of convenience to

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the act of purchase.

The Internet and other related technologies have helped companies to work more quickly, more accurately and on a larger stage (Opreana, 2013). The Internet has distinct characteristics (Peterson et al., 1997; Vinerean et al, 2013), such as:
- The ability to inexpensively store vast amounts of information at different virtual locations
- The availability of powerful and inexpensive means of searching, organizing, and disseminating such information
- Interactivity and the ability to provide information on demand
- The ability to serve as a transaction medium
- The ability to serve as a physical distribution medium for certain goods (e.g. software)
- Relatively low entry and establishment costs for sellers.

Consumers have also benefited from this technological development, however the most prominent of the benefits implies the co-creation of their value in an e-setting. Fisher and Scott (2011) identified the following factors that enable and motivate consumers to co-create value online: Technology, Authenticity and personalization, Community and social experience.

Online Consumer Behavior and Internet Retailing

The premises to create interactivity and establish the conditions for the development of relationships that are conducive with potential customers via the Internet should be studied from the perspective of online consumer behavior, which in the last decades has become an important area of research in marketing.

In general, however, consumer behavior is defined as the behavior that consumers display in searching for, purchasing, using, evaluating, and disposing of products and services that meet their expected needs (Schiffman and Kanuk, 2009).

The purchase decision process presents aspects of a linear model in which marketers are encouraged to adopt "push" marketing strategies to consumers (through traditional advertising, direct marketing, sponsorships, and other channels) at each stage of the process to influence their buying behavior.

Online services and the Internet have put the spotlight on the conversation and ambivalent communication, which forces marketers to address a circular and systematic decision making process to satisfy consumers and potential customers in an online environment. The internet offer great possibilities including creating the infrastructure for electronic commerce, developing interactive customer environments, enabling innovative content, and constructing new models for the measurement of consumer behavior in new media.

The Internet is unique medium with important opportunities for marketing and business. One business development is e-commerce. E-commerce companies should also note that online customers will obtain added value if they find valuable information as well as services which are not available in any other channel. Companies that have a presence in the e-market must comprehend the buyer personas they are addressing and develop their strategy according to whether they want to capture new e-customers or retain their existing ones (B. Hernández et al., 2010).

The Web offers not only the opportunity to provide full information to consumers about goods and services, but also has the potential to exhibit rich details and specificity of information, especially compared to traditional media (Hoffman and Novak, 1996). Thus, as a consumer has more knowledge of the Internet and is well-informed consumer, he/she will have a greater co-created experience of online shopping.

The Internet has the quality of being a medium and a market with high potential of success for companies if they use the advantages of the web to surpass the passive characteristics of traditional marketing communication. Online companies can involve consumers in the shopping experience and can give them control of all the stages of the traditional decision making process, from searching for information for a certain product category or competing offers to giving

feedback in relation to their purchase. Thus, the internet and the online services that are complementary used enable companies to make their consumer active participants in the marketing (1996) process and thus, increase their loyalty.

Research Methodology
Research Context

The present research starts with the problem definition, and in this case, it refers to a detailed understanding of the international consumers' usage of the internet in general, and Internet retailing in particular. Furthermore, also in this phase, the main purpose, the objectives and the hypotheses were established, as follows:

• The main purpose: Determining consumers' experience with the internet and their predisposition towards e-commerce.

• Objective 1: Determining the relationship between consumers' experience with the Internet, in general, on the frequency of online shopping, in the last year.

• Hypothesis 1: There are at least two dimensions that explain this relationship.

• Objective 2: Determining transformed correlations between variables with an impact on consumers' frequency of online purchasing.

• Hypothesis 1: There is a strong correlation between the experience with online shopping and the frequency of purchases from an e-setting.

Data Collection and Research Instrument

For this research, we conducted an online primary research consisting of a survey that incorporated four categorical questions that we will analyze further. Table no.1 provides the psychometric properties of the measures and the profile of the respondents. The survey was posted on different online forums and groups on social media with online shopping as the main interest. From January to June 2013, we received 107 responses from consumers from Australia, Brazil, Denmark, France, Germany, Greece, India, Poland, Romania, Spain, UK, USA.

Table 1

Research instrument and profile of respondents

		Frequency	**Percentage (%)**
Sex	Male	38	35.5
	Female	69	64.5
	Total	**107**	**100.0**
Age	18-25	74	69.2
	26-30	21	19.6
	30-40	6	5.6
	Over 40s	6	5.6
	Total	**107**	**100.0**
Experience with Internet	2 - 3 years	5	4.7
	3 - 4 years	1	.9
	4 - 5 years	4	3.7
	5 - 6 years	11	10.3
	Over 6 years	86	80.4
	Total	**107**	**100.0**
Experience with online shopping	I usually just search for information on e-commerce sites, but I never bought anything	0	0
	I purchased just once from an web	13	12.1

	retailer		
	I purchased more than once from web retailers	94	87.9
	Total	**107**	**100.0**
Frequency of online shopping in the last year	One time	16	15.0
	2 or 3 times	17	15.9
	4 or 5 times	31	29.0
	6 or 7 times	16	15.0
	7 or 8 times	8	7.5
	More than 8 times	19	17.8
	Total	**107**	**100.0**

Empirical Research and Discussion
Correspondence Analysis

Correspondence analysis is a scaling technique that is usually used for qualitative data that scales the rows and columns of the input contingency table in corresponding units so that each can be displayed in the same low-dimensional space (Malhotra and Birks, 2007; Vinerean, et al., 2012). Correspondence analysis examines two variables, and its interpretation resemblances principal components analysis for scale variables. The analysis is similar to Factor Analysis, the difference between two statistical techniques resides in the use of categorical variables for correspondence analysis, and interval or ratio variables for Factor Analysis. The normalization method used for this procedure was symmetrical.

Table 2

Summary of correspondence analysis

Dimension	Singular Value	Inertia	Chi Square	Sig.	Proportion of Inertia	
					Accounted for	Cumulative
1	.539	.122			.486	.486
2	.442	.059			.234	.720
3	.300	.040			.160	.880
4	.273	.030			.120	1.000
Total		.250	26.783	.000	1.000	1.000

Table no.2 presents the summary of the analysis where the singular values for the categorical variables, in the second column of the table, are similar to the Pearson coefficients for scale variables. Thus, the categorical variables perform very well in the correspondence analysis. Similar to principal components, for each dimension, the eigenvalue of the procedure represents the inertia that showcases the importance of that dimension. The largest value of inertia is reflected for the first dimension. The dimensions follow an orthogonal technique of rotation and as a result the second dimension reflects an amount from the remaining inertia, and so on. For example, the first dimension reflects 48.6% (0.122/0.250) of the total inertia, while the second dimension shows 23.4% (0.059/0.250). The fourth dimension has the smallest inertia value and is the least important in the model.

In correspondence analysis, chi square tests the null hypothesis that the total inertia is totally different from zero. For the current model, at a significance value smaller than 0.05, the inertia of the model that examines frequency of online shopping in relation to experience of using the Internet, in general, is significantly different than zero.

Correspondence analysis breaks down the overall Chi-square statistic and the inertia is calculated as:

$$Inertia = \frac{Chi-square}{Total\ N}$$ (Equation 1)

This technique is similar to exploratory factor analysis because the total variance is decomposed and reduced in order to obtain a lower-dimensional representation of the categorical variables. For correspondence analysis, each point of the rows and columns has a contribution to the overall inertia observed in the model, but certain points that have a higher contribution on the inertia of a dimension are the most important to that particular dimension. A point's contribution to a dimension's inertia is the weighted squared distance from the projected point to the origin divided by the inertia for the dimension (Vinerean et al, 2012).

Table 3

Overview row points

Experience with internet in general	Mass	Score in Dimension		Inertia	Contribution Of Point to Inertia of Dimension		Contribution Of Dimension to Inertia of Point		
		1	2		1	2	1	2	Total
2 - 3 years	.047	-1.473	.748	.063	**.491**	.080	.863	.101	**.963**
3 - 4 years	.009	-1.526	-3.853	.053	.032	**.845**	.143	.732	**.874**
4 - 5 years	.037	1.199	1.226	.051	.050	.021	.369	.267	.636
5 - 6 years	.103	-1.170	.352	.068	.015	.051	.719	.045	.764
Over 6 years	.804	.197	-.101	.015	**.411**	.003	.821	.130	**.951**
Active Total	1.000			.250	1.000	1.000			

Table 4

Overview column points

Frequency of online shopping	Mass	Score in Dimension		Inertia	Contribution Of Point to Inertia of Dimension		Contribution Of Dimension to Inertia of Point		
		1	2		1	2	1	2	Total
1 time	.150	-.098	.482	.026	.004	.143	.019	.318	.337
2 or 3 times	.159	-.920	.437	.057	**.785**	.025	.830	.130	**.960**
4 or 5 times	.290	.590	.235	.048	.049	.066	.732	.080	.812
6 or 7 times	.150	-.532	-.932	.053	.021	**.737**	.280	.595	**.875**
7 or 8 times	.075	-.414	.052	.023	.037	.001	.195	.002	.197
More than 8 times	.178	.566	-.416	.043	.103	.027	.457	.172	.629
Active Total	1.000			.250	1.000	1.000			

Respondents who have 3-4 years of experience with the internet are dominant points in the second dimension, contributing 84.5% of the inertia (table no. 3). Among the column points (table no. 4), the consumers who shop 2-3 times per year online contribute 78.5% of the inertia for the first dimension alone.

The final part of tables 3 and 4 shows how the inertia of a point is spread over the dimensions by computing the percentage of the point inertia contributed by each dimension (Vinerean et al, 2012). Three dimensions contribute virtually all of the inertia for respondents who have experience in using the Internet for 2-3 years, 3-4 years and over 6 years (table no. 3). In table

no.4 we can see that there are two dimensions with a higher impact on the overall inertia, namely the respondents who use e-commerce of 2-3 times per year or 6-7 times in the course of a year.

The second dimension separates the respondents who use the internet for online shopping, whereas the first dimension separates the respondents who have a long lasting experience with internet in general. Correspondence analysis provides a visualization of the relationship between these two variables, as a result of the symmetrical normalization (fig. no.1).
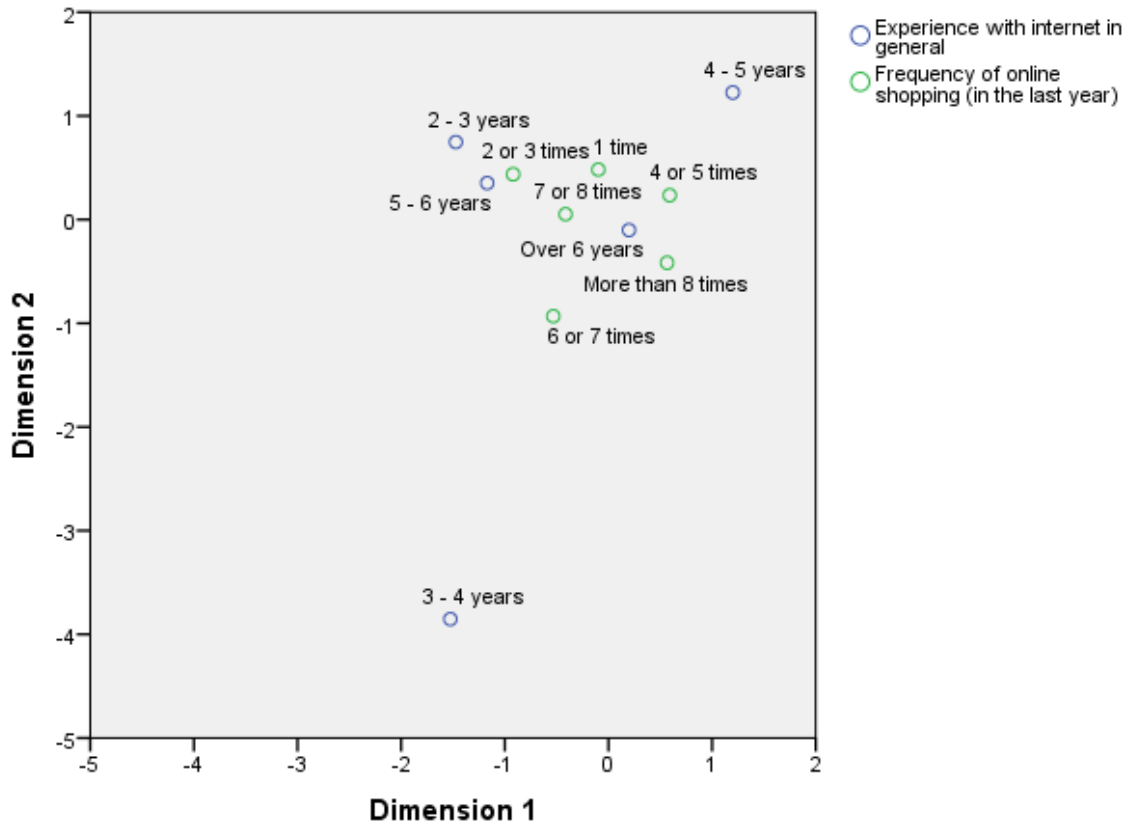
Figure 1. Row and column points with symmetrical normalization

Considering the results of the correspondence analysis, in order to have a broader perspective in relation to the usage of internet and online shopping of international customers, we proceeded to discover new insights by performing a multiple correspondence analysis.

Multiple Correspondence Analysis

Multiple Correspondence Analysis (MCA) is a multidimensional scaling technique used for scaling qualitative data in marketing research. The input data used for this technique are in the form of a contingency table that is explored for establishing a qualitative association between the rows and columns. Multiple correspondence analysis is a more elaborated version of the simple correspondence analysis. In contrast, multiple correspondence analysis focuses of grouping categories and its results are interpreted in terms of the proximities among the rows and columns of the contingency table (Malhotra, Birks, 2007, p.704).

The main purpose of multiple correspondence analysis is to analyze categorical or categorized variables that are transformed into cross-tables and to demonstrate the results in a graphical manner.

In the multiple correspondence analysis graphical representation, the squared distance of the ith row profile from the origin is:

$$d_i^2(i, O) = \sum_{m=1}^{M*} f_{im}^2 \text{ (Equation 2)}$$

And it represents the Euclidean distance of the *i*th row profile coordinate from the origin (Beh, 2004). In the M-dimensional correspondence plot formed by this analysis, as the distance between the *i*th row and the origin is larger this aspect will imply that the weighted discrepancy between the profile of the row and the average profile of the column category will be larger.

For this analysis, we examined the two categorical variables from corrrespondence analysis, namely frequency of online shopping and experience with internet in general, and we added "Experience with online shopping" and "Sex".

In table no.5, homogeneity analysis displays a solution for several dimensions. For the current multiple correspondence analysis, two-dimensional solution was computed. 99.1% of all the variance in the data is accounted by the solution for this model. 64.908% is accounted for the first dimension, and 34.205% is accounted for the second dimension.

The two dimensions together provide an interpretation in terms of distances. If a variable is a good discriminator, the model's objects will be close to their belonging categories. In an ideal model, the objects in the same category will have similar scores as a reflection of their closeness, and categories of different variables will be close if they belong to the same objects (for instance, two objects that display similar scores for a particular variable should also reflect close scores to each other for the other variables in the solution of the model) (IBM SPSS, 2011).

Table no.5 also reflects high levels of Cronbach's Alpha for both of the formed dimensions, values that exceed the accepted level of 0.7, displaying scores of 0.797 and 0.725 for the first and second dimension, respectively.

Table 5

Model Summary

Dimension	Cronbach's Alpha	Variance Accounted For		
		Total (Eigenvalue)	Inertia	% of Variance
1	.797	1.796	.649	44.908
2	.725	1.368	.342	34.205
Total		3.164	.991	
Mean	.491[a]	1.582	.396	39.556

Table 6

Correlations Transformed Variables

	Experience with online shopping	Experience with internet in general	Frequency of online shopping (in the last year)	Sex
Experience with online shopping	1.000			
Experience with Internet in general	.626	1.000		
Frequency of online shopping (in the last year)	.812	.748	1.000	
Sex	.035	.008	.131	1.000
Dimension	1	2	3	4
Eigenvalue	1.796	1.003	.820	.380

Multiple correspondence analysis also showcases the correlations for the transformed categorical variables. From table no.6, we can observe that there is a high relationship between users' experience with Internet in general, and their predisposition towards online shopping (0.626) and frequency of online shopping (0.748). Also, the most powerful correlation in the model is exhibited between experience and frequency of online shopping, displaying a score of 0.812.

In fig. no.2, we can observe the objects for "Frequency of online shopping" with many characteristics that correspond to the most frequent categories are displayed by the model near the location and the characteristics of the respondents that are more unique in their nature are located further away from the origin. This object scores plot is particularly useful for spotting outliers or aberrant characteristics of the respondents. Respondents who only purchase one time using Internet retailing might be considered an outliers.
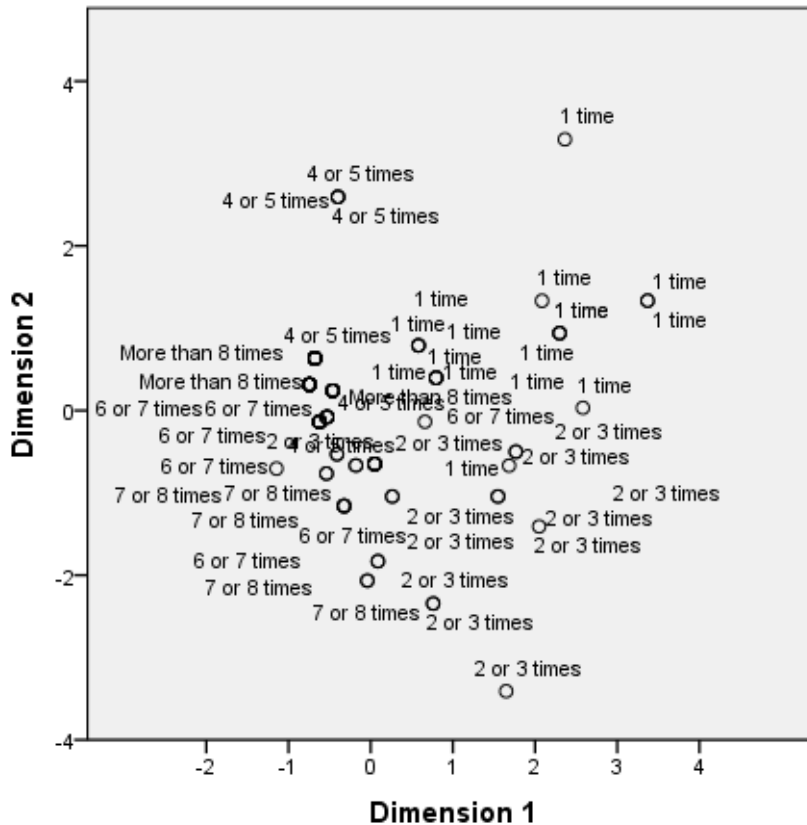

Figure 2. Object points labeled by "Frequency of online shopping (in the last year)"

Table 7

Discrimination measures

	Dimension		Mean
	1	2	
Experience with online shopping	**0.724**	0.13	0.427
Experience with internet in general	0.305	**0.792**	0.5485
Frequency of online shopping (in the last year)	**0.733**	0.581	0.657
Sex	0.034	0.066	0.05
Active Total	1.796	1.569	1.6825
% of Variance	44.908	34.205	39.556

A discrimination measure, representing a squared component loading, is calculated for each variable in a model. Also, this discrimination measure represents the variance of the quantified

variable in that particular dimension. It can reach a maximum value of 1 particularly when all the scores for a categorical variable are the same.

Table no.7 exhibits which variable has a larger impact on each resulted dimension. Thus, we observe that the first dimension is determined by "Experience with online shopping" (0.724) and "Frequency of online shopping (in the last year)" (0.733). The second dimension is primarily determined by "Experience with internet in general". The variable "Sex" does not have a noticeable impact on either of the dimension resulted from this multidimensional scaling analysis.

From a visual perspective, in fig. no. 3 we notice that "Experience with Internet" has a large value on the second dimension but a small value on the first dimension. The variable that explored the "Frequency of online shopping" displays high values on both dimensions, implying that it represents a good discriminator in both dimensions. The variable "Sex" is located near the origin of the plot and thus does not have discriminating power in either of the dimensions.
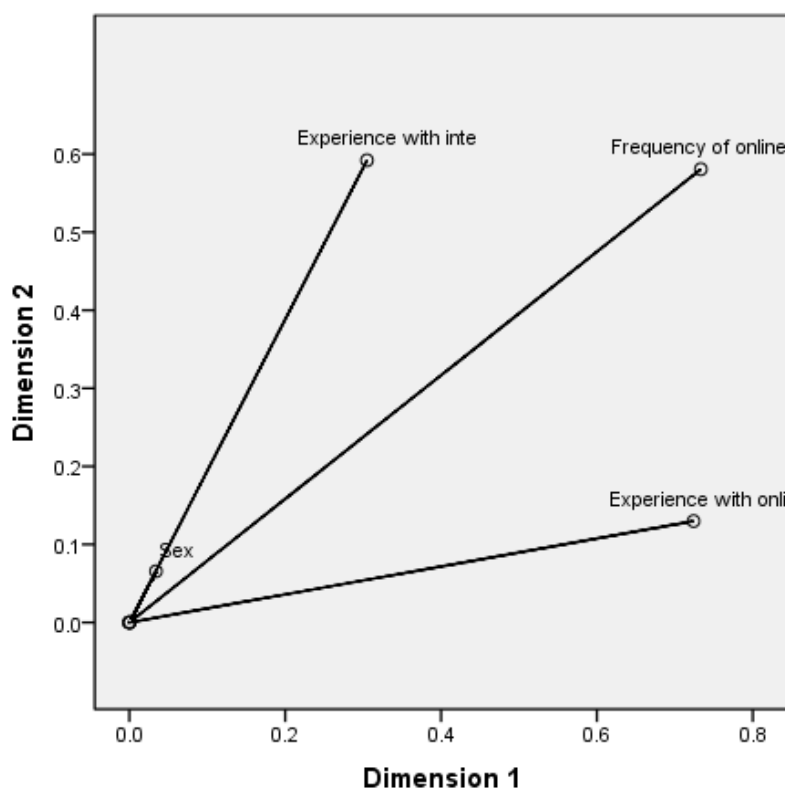

Figure 3. Discrimination measures

Conclusions
Theoretical Contributions

The Internet provides a new tool for the interaction between consumers and companies, with reduced costs and flexibility compared to other more traditional marketing instruments that are becoming obsolete. Regarding the academic implications, our results contribute to the field of e-commerce. In this article, we have analyzed how consumers' experience with the Internet can have an impact on their frequency of online purchases. The growth of this e-commerce medium is highly dependent potential customers view this retail environment. In a similar research, Sexton, Johnson, and Hignite (2002, pp. 402--410) stated that e-commerce consumers with more than three years of online experience were found to be almost twice as likely to make online purchases as those with limited Internet experience.

Website usability and perceived risk of online purchases are important factors to consider in establishing the online marketing strategy for e-tailers. Nonetheless, demographic and behavioral profiles of Internet users and consumers are essential for online success for any company. As we examined in this research, exploring the experience level of potential consumers for an online retailer can make a difference in their approach of e-commerce.

Electronic commerce acceptance is broadly described as the consumer's engagement in electronic exchange relationships with Web retailers. Therefore, online transactions can be viewed as instances of interactive marketing communications (Pavlou, 2003).

Managerial Implications

The study has important practical implications for influencing online consumer purchasing behavior. From this research, we note that the perspective for business-to-consumer (B2C) online commerce depends on factors such as: consumer acceptance of the Internet, in general, and then acceptance of Web retailers as reliable (Pavlou, 2003).

Currently, through customization and automatization of websites, e-tailers can control the experience of consumers by guiding them in their e-commerce frameworks, and, in their own turn, consumers can co-create their online experience. To instill more confidence and trust for novice users of the Internet, online businesses should provide more information about the advantages and convenience of ecommerce.

Online purchases of certain products will not substitute traditional retailing, however it may provide consumers with the possibility to acquire products that might not be within his/her reach or just the convenience of a shopping experience.

Limitations of the Research

The present research is also subject to certain limitations. The most prominent limitations are related to data collection of the responses. As such, the sample and depth of the responses can be improved, as is the case with any online research. Another limitation of the research are the questions examined in the study and their categorical dimension, which argues for the need to introduce, in future studies, different product categories to establish in more details the frequency of purchases and their relation with users' experience.

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