

December 2007

Influential Factors on Purchasing Frequency in Virtual Bookstores in Brazil

Luiz Joia
Getulio Vargas Foundation

Elaine Rodregues
Getulio Vargas Foundation

Follow this and additional works at: <http://aisel.aisnet.org/amcis2007>

Recommended Citation

Joia, Luiz and Rodregues, Elaine, "Influential Factors on Purchasing Frequency in Virtual Bookstores in Brazil" (2007). *AMCIS 2007 Proceedings*. 7.
<http://aisel.aisnet.org/amcis2007/7>

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2007 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

INFLUENTIAL FACTORS ON PURCHASING FREQUENCY IN VIRTUAL BOOKSTORES IN BRAZIL

Luiz Antonio Joia

**Brazilian School of Public and Business Administration of Getulio Vargas Foundation and
Rio de Janeiro State University**

luizjoia@fgv.br

Elaine Maria Tavares Rodrigues

Brazilian School of Public and Business Administration of Getulio Vargas Foundation

elainet@fgv.br

ABSTRACT

The scope of this article is to present exploratory research into factors that influence purchasing frequency in virtual bookstores in Brazil. Despite the growth in volume of sales via electronic commerce and recognition of the importance of purchasing frequency by clients for the profitability of companies, little research has been conducted into the factors that motivate purchasing frequency via the Internet in Brazil. A survey was drawn up, based on an interval scale of attitude measurement, assembling 33 potentially influential variables on purchasing frequency. The data, obtained from a sample of 84 people, was analyzed using exploratory factor analysis, revealing 12 items gathered into three influential factors on purchasing frequency in virtual bookstores: (i) services and convenience of the site, (ii) promotion, and (iii) price. In conclusion, after identification of these factors, three propositions for explaining purchasing frequency in virtual bookstores in Brazil are presented in order that they can be rigorously tested in future research.

INTRODUCTION

The retail sector is currently experiencing a period of profound turmoil. Concerned at missing out on new business opportunities, companies are investing in the Internet as an additional sales channel. However, it is almost impossible to predict if traditional strategies will be profitable when applied to the Internet. One thing is abundantly clear, namely that electronic commerce has altered the ground rules across the board with respect to competitive advantage in the retail world (Chan *et al.*, 2001).

For the consumer the main advantages of electronic commerce over traditional commerce are convenience, information and practicality. On the other hand, the main disadvantages of electronic commerce in comparison with normal retail stores are the waiting period for receiving the product and the impossibility of any physical handling of the merchandise prior to purchase (Laudon & Traver, 2006).

For Reedy *et al.* (2003), the Internet causes an impact on commercial activity in the following ways: (i) by reducing the transaction cost and stimulating economic activity; (ii) by creating new commercial opportunities thanks to the extent, accessibility and speed of access to information; and (iii) by transferring the power of vendors to purchasers.

This new relationship between companies and clients has created different consumer habits such that for companies to remain competitive in the arena of electronic commerce they have to rethink their marketing strategies. Corporate marketing strategies in the virtual retail world are not merely focused on the client, as it is necessary to develop a relationship based more on partnership (Siegel, 1999).

This need for a medium or long-term relationship with the client is explained by the importance that purchasing frequency has for the economic success of commercialization via the Web. The acquisition of clients on the Web is time consuming and, unless these clients make repeated purchases, profits become unviable (Reichheld, 2003).

Thus, the scope of this article is to present an exploratory study into the factors that influence purchasing frequency of consumers via the Internet in Brazil, as, despite the number of people who make virtual purchases being on the increase and the clear potential of electronic commerce and the challenges involved, little research in Brazil has been conducted with respect to the factors that motivate frequency of purchases via the Internet.

More specifically, this research will be conducted in the sector of virtual bookstores in Brazil. This sector was chosen as one of those growing the fastest in the world in terms of volume of sales via the Internet, and the great competitiveness that characterizes it (Turban *et al.*, 2005).

BIBLIOGRAPHICAL REVIEW

Consumer Behavior on the Web

For Brondmo (2002), relationships between the Client and the Company fall into a predictable cycle of four stages: (i) Awareness, (ii) Permission, (iii) Involvement, and (iv) Loyalty.

In order to get the client's attention, it is necessary to have promotional actions that should be aligned to the marketing planning of the company and based on the type of relationship that one seeks to develop with the client (Brondmo, 2002).

By facilitating dialog between company and client, the Internet makes it even more important to get the client's attention. The content of the site should be sufficiently attractive to lead people to want to visit, highlighting the importance of making relevant information available to clients (Cheung *et al.*, 2003).

Once the company has aroused the client's awareness, it should request permission for communication. The goal at this stage is to stimulate the interest of potential clients in establishing a relationship with the company (Moustakas *et al.* 2005; Sipior *et al.*, 2004; Joines *et al.*, 2003).

At this stage, the initiative for a commercial contact with the client should come from the company that will transmit content to this prospective client (Turban *et al.*, 2005). One example of the application of this type of technology is e-mail, when used for sending publicity material. Request for permission from the consumer for the transmission of information helps to build up a relationship of trust, which the consumer wants and values (Huang *et al.*, 2005).

In the process of involvement with the client, the diversity of information existing on the product becomes relevant in that the Internet is a means that does not stimulate impulse purchases (Reedy *et al.*, 2003). Therefore, supplying plentiful information, offering product samples, such as for example the first chapter of a book, and helping to locate information are important factors in the consumer's purchasing decision (Manvi & Venkataran, 2005).

When potential clients make their first purchase, they are no longer mere listeners and become *de facto* clients. At this stage a sound basis for a relationship should be built by means of offering information, promotions and entertainment, which are in line with the interests of the client. It is through this relationship that involvement arises (Brondmo, 2002).

Lastly, to rise from the stage of involvement to that of loyalty there must be a sense of commitment between the parties. At this stage, information about the clients must be constantly gathered, stored and analyzed, for the purpose of increasing the level of individualized communications and tailoring the products and services offered to clients (Brondmo, 2002). Thus, one of the indicators of client loyalty is the frequency with which the latter purchases from the same company.

The Impact of the Internet on the Marketing Strategy

The Impact of the Internet on Product

On the Web, in order to compensate for the limitations imposed by the media with respect to decision-making it is possible to make tools available for the consumers that provide more information on the products and their characteristics. This information can be accessed and presented in various ways and should be easily located (Manvi & Venkataran, 2005).

The increased information available in terms of product characteristics and prices as well as the greater variety of choice tends to drive prices down or lead to a more differentiated product search, largely achieved by aggregated services (Lakhal & H'Mida, 2005).

With the Internet, the process of tracking customers is much simpler, with immediate availability of their past records and purchase preferences all registered in a central database. Consumer purchase preferences are much more transparent in virtual stores, as long as their visits and purchases can be documented electronically (Reichheld, 2003).

Providing this type of information, the Internet offers unprecedented opportunities for a company to obtain in-depth knowledge of its customers and thus to personalize its products and services according to their preferences (Crow, 2005).

The Impact of the Internet on Price

The most cited reason why electronic markets should be more efficient than traditional channels concerns the reduction in the asymmetry of information, based on lower survey and research costs. If the electronic market allows the consumer to identify the prices and products on offer more easily, the relatively low search cost should lead to lower product prices (Lakhal & H'Mida, 2005).

Another factor that tends to drive prices down is the innate competitiveness of electronic commerce due to the lesser barriers to entry into this segment. These barriers are less restrictive due to the lower investment required to open an e-business, as a virtual company operates with much lower fixed and running costs (Brynjolfsson & Smith, 2000).

Many consumers indeed believe that besides being more convenient, the Internet offers lower prices than standard commercial outlets, based on the fact that they believe that sites have lower infrastructure costs. Despite the fact that there are delivery costs added to the purchase price, these clients feel motivated to purchase via the Web as they believe they are obtaining discounts on the total price paid for the product (Reedy *et al.*, 2003).

Due to the convenience of electronic purchasing, Web prices are likely to vary more. Retailers that help customers to locate and analyze products on the Web may be treated preferentially by the more impatient users (Brynjolfsson & Smith, 2000).

According to Reedy *et al.* (2003), the Internet also enables companies to establish prices with greater precision than in the physical distribution channels. Just as it is easier for the consumer to compare prices on the Internet, similarly it is easier for companies to track consumer behavior and market variations and adjust their prices accordingly on the basis of these observations.

The Impact of the Internet on Place

Use of the Internet as a distribution channel means that attributes of the site and a series of media characteristics have an influence on consumer behavior.

The characteristics of the site are normally related to its content, ease of navigability, visual appeal and technical performance.

The electronic tools, as mentioned in section 2.1.1, can give customers extensive information about the products available with the range of information accessible on the Web (Reedy *et al.*, 2003). The site should provide an extensive range of relevant, updated and secure information, as this will be a determining factor in the customer's final decision to purchase (Turban *et al.*, 2005).

In addition to this, the information provided must be easily located. The majority of mistakes that occur in locating information on the Internet are due to poorly developed navigation structure (Cheung *et al.*, 2003).

When planning the access structure of a site, the determining factor should be efficiency. The user should not need to wade through many pages in order to obtain the desired information. Among other factors, the interest and involvement of the public is a consequence of the ease of finding the information sought (Nielsen & Loranger, 2006).

The visual appeal can both facilitate navigation and offer a stimulating purchasing experience, which can affect the competition in the Internet market. Many companies exploit the design of the page to influence the behavior of consumers positively in their purchasing decisions (Hassanein & Head, 2004).

In addition to content, navigability, visual appeal and technical performance, the site must also provide a secure environment. Sensitive information is often transmitted over the Web, such as credit card numbers and personal details. Therefore, the privacy of client data must be respected by means of transaction security (Seeh & Han, 2003). Moreover, the problem of trust on the Web is not limited solely to data privacy and security. Questions such as physical distance between the purchaser and the vendor and the time that the client has to wait to receive the merchandise also impact purchasing behavior. Therefore, by offering services such as order confirmation by e-mail after the purchase and the availability of tracking the delivery of the merchandise, the site assists in establishing a relationship built on trust (van Buuren *et al.*, 2004). Questions relating to trust on the Web will be discussed below.

The Impact of the Internet on Promotion

Advertising on the Web begins to play a fundamental role in the remodeling of the ways of promoting and disseminating a product or service to a new market (McFarland *et al.*, 2004).

One of the advantages of Web messages is the ease of motivating interactive replies. Traditional propaganda has generally been a one-sided monologue on the side of the announcer, directed at the consumer market, but with an extremely limited return of information and opinion from the target public. With the advent of online services, a truer form of dialogue can be established, hopefully resulting in a longer-term relationship between the two parties (Reedy *et al.*, 2003).

In this dialogue, consumers will provide certain information to the company, with a view to receiving answers that are more tailored to their individual needs (Newell, 2001).

Therefore, marketing professionals should direct the promotion to clients on the basis of information that has already been received from them. For example, the use of customized e-mails permits the implementation of differentiated offers, exploiting the individual potential of each consumer and respecting areas of interest, periods and frequency of communication (Joia & Sanz, 2004).

It is necessary to produce appropriate content based on the information received. Promotions on the Web are characterized by having richer content, geared to the needs of the client. Information obtained on the clients in these communications should be stored in a database, from which sales advertising and promotion campaigns may generate future sales opportunities (McFarland *et al.*, 2004).

Advertising on the Internet must be oriented for ease of transaction, making it possible for a client to finalize a purchasing operation with a few clicks. In this way, the objective of advertising on the Web now involves keeping users connected for sufficient time for them to obtain information and close the purchase. In other words, the intention of the advertisement seeks to reduce the interval between a show of interest and effective sale (Saeed *et al.*, 2003; Smith *et al.*, 2001).

The Importance of Trust on the Web

Normally, consumers purchase from retail outlets of well-known brand names even though these may not offer the product they are seeking at the best price. This would indicate that other factors such as trust might be very important in electronic commerce (Huang *et al.*, 2005).

The importance of trust in the virtual market can also be perceived in consumer behavior research on the Web. In the majority of cases, lack of security and perceived untrustworthiness are singled out as motives why some people do not make purchases online (Dinev & Hart, 2006).

Inasmuch as the Internet creates purchasing habits in which both customers and retailers are spatially and temporarily separated, and the parties involved are generally anonymous during the transaction phase, trust in online transactions is becoming a key factor in the success of Internet activities (Aiken *et al.*, 2004).

When consumers purchase an item in a physical store, the transaction is normally concluded simultaneously, i.e. they pay for the merchandise and receive it at the same moment. In the majority of cases in a virtual store, there is a time lag between the consummation of the order, payment and receipt of the product. More often than not, the consumer will never even speak directly to any employee of the company (Hassanein & Head, 2004).

The lack of physical presence and the inherent anonymity of the milieu make client perceptions about the company all the more important in business conducted via the Internet (Loebbecke *et al.*, 2001; Gefen, 2000).

Customers are unable to handle the product over the Internet or even speak personally with a company representative. They have to believe in images and promises and, if they do not trust the supplier, they will buy elsewhere. When customers trust the online retailer, they tend to reveal more personal information. As a result, the company gets to know the customers better and offers products and services more suited to their needs and preferences thus gaining their trust and loyalty (Huang *et al.*, 2000; Hassanein & Head, 2004).

Companies are in a position to use the Internet to offer their clients a straightforward, private and secure purchasing experience. Reliable electronic commerce companies provide up-to-date, complete and secure information to their clients. Ease of navigation makes the search process, price comparison and purchasing operation a pleasurable experience, which generates trust and satisfaction. These companies enjoy high rates of conversion and retention of clients (Wang & Emurian, 2005).

The type of product commercialized also determines the likelihood of consumers making a purchase. CDs and books sell well over the Internet, as they are perceived as products of a standardized quality – indifferent in terms of quality or place of purchase – and easily described, there being, therefore, little chance of making mistakes in the product specifications provided by the store (Hassanein & Head, 2004; Ang, 2001).

Consolidation of the Bibliographical Review

The bibliographical review presented made it possible to identify the main points to be examined by the authors in the field research. Some items that may also be relevant were identified by the authors after the examination of sites of virtual bookstores.

Consequently, 33 items that may influence the purchasing frequency of clients in virtual bookstores in Brazil were examined. These items, together with the sources and indication of where they are mentioned in the bibliographical review are presented in Table 1.

Item	Theoretical Background	Reference
Product Sample	• Consumer Behavior on the Web	Reedy, 2001
Use of on-line discounts		Observation of the authors
Use of prize draws		
Distribution of discount coupon		
Loyalty programs		
Personalization of publicity messages sent by e-mail	• Consumer Behavior on the Web • The Impact of the Internet on Product • The Impact of the Internet on Promotion	Brondmo, 2001 Reichheld, 2000 Reedy, 2001
Indication of the site by a friend	• The Impact of the Internet on Price	Adaptation of Smith, 1999
Location of information	• The Impact of the Internet on Product • The Impact of the Internet on Place	Reedy, 2001 Dutta <i>et al.</i> , 1997 Nielsen, 2001

Search tools	• The Impact of the Internet on Place	Nielsen, 2001
Navigability	• The Impact of the Internet on Place	Nielsen, 2001 Dutta <i>et al.</i> , 1997
Visual appeal	• The Impact of the Internet on Place	Dutta <i>et al.</i> , 1997 Reedy, 2001
Technical performance of the site	• The Impact of the Internet on Place	Dutta <i>et al.</i> , 1997
Ease of finalizing the purchase	• The Impact of the Internet on Place	Reedy, 2001
Privacy of personal information	• The Impact of the Internet on Price • The Importance of Trust on the Web	Adaptation of Smith, 1999 Turban <i>et al.</i> , 2005
Possibility of tracking merchandise purchased	• The Impact of the Internet on Place	Reedy, 2001
Availability of information about books	• Consumer Behavior on the Web • The Impact of the Internet on Product	Turban <i>et al.</i> , 2005 Brondmo, 2001 Reedy, 2001 Smith, 1999
Availability of product reviews	• Consumer Behavior on the Web • The Impact of the Internet on Product	Adaptation of: Turban <i>et al.</i> , 2005 Brondmo, 2001 Reedy, 2001 Smith, 1999
Information about the top selling books and new issues		
Availability of recommendations		
Suggestion of personalized purchase	• Consumer Behavior on the Web • The Impact of the Internet on Promotion	Brondmo, 2001 Reedy, 2001
Notification of promotions by e-mail	• Consumer Behavior on the Web	Hoffman, 1999
Guarantee of product delivery	• The Importance of Trust on the Web	Adaptation of Turban <i>et al.</i> , 2005
Reliable delivery times	• The Importance of Trust on the Web	Turban <i>et al.</i> , 2005
A bookstore known in the market	• The Impact of the Internet on Price • The Impact of the Internet on Place	Adaptation of Smith, 1999 Reedy, 2001
Customer service		Observation of the authors
Means of contacting the bookstore		
Time taken to reply to an e-mail		
Availability of a section of FAQ		
Confirmation of order by e-mail after purchase	• The Impact of the Internet on Place	Reedy, 2001
Product price	• The Impact of the Internet on Price • The Impact of the Internet on Product	Reedy, 2001 Dutta <i>et al.</i> , 1997 Smith, 1999
Delivery costs	• The Impact of the Internet on Price	Reedy, 2001
Secure payment methods	• The Impact of the Internet on Place • The Importance of Trust on the Web	Reedy, 2001 Turban <i>et al.</i> , 2005
Various modes of payment	• The Importance of Trust on the Web	Reedy, 2001

Table 1 - Potentially Influential Items on Purchasing Frequency of Clients in Virtual Bookstores

RESEARCH METHOD

This article was based on exploratory research for the purpose of understanding the factors that influence the purchasing frequency of consumers in Brazilian virtual bookstores, thereby generating propositions that can be rigorously tested in future research.

The first phase involved a bibliographical review to pinpoint the attributes that might influence purchasing frequency of clients in virtual bookstores. This was done with a view to conducting future research in a field study together with these clients to examine the relevance of these attributes in this process and the determinant factors of this influence.

In the bibliographical review presented in section 2, 33 items that might influence purchasing frequency of clients in virtual bookstores were identified.

On the basis of these items an individually answered questionnaire was prepared for use in field research. The questionnaire was drawn up using an interval scale for attitude measurement, where the person had to identify the importance of each of the 33 variables researched in order for him/her to purchase frequently in a bookstore mentioned at the beginning of the questionnaire.

The objective of this stage of the research was to establish the importance of each item and identify, on the basis of the answers, which are the critical factors for success in purchasing frequency in virtual bookstores.

As this research deals with electronic commerce, it was assumed that using the Internet to collect data would not generate any kind of bias in the sample (Oliveira & Joia, 2005). The questionnaires were then distributed among clients of virtual bookstores that had relatively constant purchasing frequency, in other words the candidates were people who purchased more than once a year in the same virtual bookstore.

The virtual customers of the sample belong to the top tier income groups (family income ranging from US\$ 800 to US\$ 4,000/month). They all have college degrees and have purchased via the web, with an average ticket of US\$ 20. In relation to gender, the sample used in this paper reveals a difference of only 12% between men (56%) and women (44%).

The questionnaire was generated following the recommendations of Taylor (2000) about E-surveys, i.e., they should be easy and swift to answer, and prepared so as to make the data tabulation process easy. A five-point Likert scale was developed, in which all the variables – for statistical purposes – are considered ordinal variables. These questionnaires were sent and received via electronic mail to a total of approximately 740 people. The sample obtained in the field research was made up of 84 people (~11.3% of return rate), which is not a large response rate for studies of this nature, thus constituting a limitation of this research.

Once the data was gathered, exploratory factorial analysis was conducted using SPSS statistical software, which is a form of statistical treatment essentially used for the reduction and summarization of data. The purpose of this procedure is to study the relationships between several series of interrelated variables, representing them in terms of some fundamental factors (Malhotra, 2006). In this way, on the basis of the 33 items identified as potentially influential on purchasing frequency in virtual bookstores, it was possible to diagnose the factors that influence purchasing frequency in virtual bookstores.

Initially, in the factorial analysis, Bartlett's sphericity test was applied and the Kaiser-Meyer-Olkin (KMO) statistic was obtained. Both of them verified the application of the data to factor analysis. Bartlett's sphericity test checks the null hypothesis that the variables are not correlated within the population and cannot therefore be represented by factors that group them together. A high statistical test value favors the rejection of the null hypothesis, indicating that the data may probably be dealt with by factor analysis. On the other hand, the KMO compares the magnitude of the correlation coefficients observed with the magnitude of the partial correlation coefficients. Low statistical KMO values indicate that the correlation between pairs of variables cannot be explained by other variables and that factor analysis is inappropriate (Johnson & Wichern, 2002).

Once the adequacy of the factor analysis was established, the Principal Component Analysis (PCA) method based on the correlation matrix was selected. This analytical method was chosen for the purpose of obtaining a minimum number of factors responsible for maximum data variance.

Fixing the minimum number of factors was done on the basis of the eigenvalues. Only factors with eigenvalues higher than 1 were retained. It was further considered desirable that the factors extracted should account for no less than 60% of the variance (Malhotra, 2006).

No procedure for factor rotation was used, since the items always had high correlations with only one factor. In this way, the factor loadings clearly represented the composition of the factors, without any requirement for rotation procedures.

Lastly, the factors were interpreted by identification of the variables that presented considerable loading of a given factor. The factor was then extracted and labeled in terms of the variables that affected it strongly.

Again following the guidelines recommended by Hair *et al.* (2006), the discriminant validity test was conducted, where a check was made to establish if the factors were different among themselves. In other words, this test was conducted to ensure that the indicators of a given factor were not correlated with other factors.

Consequently, factor analysis identified strong influences on purchasing frequency in virtual bookstores. On the basis of these factors, propositions for the explanation of purchasing frequency in virtual bookstores were generated and may be rigorously tested in future research.

DATA ANALYSIS

The data obtained in the field research were tabulated and analyzed for exploratory factor analysis using SPSS statistical software.

As mentioned in Table 2, the Kaiser-Meyer-Olkin (KMO) sampling adequacy measurement was 0.669 and Bartlett's sphericity test was significant to $p < 0.001$, indicating the adequacy of the data to factor analysis procedures.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.669
Bartlett's Test of Sphericity	Approx. Chi-Square.	560.655
	Sig.	.000

Table 2 - The KMO and Bartlett Test

As explained in section 3, the exploratory factor analysis utilized the Principal Component Analysis (PCA) method, based on the correlation matrix, where the factors were extracted for eigenvalues higher than 1.

In this manner, the exploratory factor analysis extracted three factors, which accounted for 72.41% of the expected total variance. The first extracted factor accounts for 36.611% of the total variance, the second for 21.101% and the third for 14.698%. Table 3 presents the explained total variance.

Factor	Eigenvalues	% of Variance	Cumulative %
1	4.393	36.611	36.611
2	2.532	21.101	57.712
3	1.764	14.698	72.410

Table 3 - Explained Total Variance

The factors were determined by the factor loading between the item and the factor. An item was retained in a factor when the loading value was in excess of 0.70 (Hair *et al.* 2006). Table 4 presents the loading of the items, in such a way that the shaded cells define the factors.

Again following the guidelines recommended by Hair *et al.* (2006), the discriminant validity test was conducted, in which extracted variance higher than 0.5 was obtained in all factors. In this way, it was established that the indicators of a given factor were not correlated to other factors.

Thus, the first factor brought together the following items *confirmation of order by e-mail after purchase, location of information, search tools, navigability, ease of finalizing the purchase and the possibility of tracking the stage of delivery of the merchandise purchased*. This factor was therefore designated as *Services and Convenience of the Site*.

The second factor relates to the items *personalization of publicity messages sent by e-mail, indication of the site by a friend, product sample and notification of promotions by e-mail*, being therefore called *Promotion*.

Lastly, the third factor included the items *product price and delivery cost*. This factor was then labeled *Price*.

	Factors		
	1	2	3
Product Price	-.134	.113	.912
Delivery Cost	-.179	-4.482E-02	.921
Confirmation of order by e-mail after purchase	.799	9.673E-02	5.277E-02
Location of information	.891	-.154	.132
Search tools	.762	-.313	-5.166E-02
Navigability	.811	-.312	.140
Ease of finalizing the purchase	.858	-2.888E-02	1.449E-03
Possibility of tracking merchandise purchased	.781	-.226	.101
Personalization of publicity messages sent by e-mail	.233	.809	5.597E-02
Indication of the site by a friend	.284	.726	-.132
Product Sample	.432	.734	-2.403E-02
Notification of promotions by e-mail	6.759E-02	.719	.100

Table 4 - Loading of the items in each factor (extraction method: principal component analysis)

Table 5 presents the results of the exploratory factor analysis, with the listing of the factors, the number of items in the factor, the nature of these items, the percentage variance per factor and the total variance explained.

Factor	Number of Items	Items	% of Variance	Cumulative %
Services and Convenience	6	<ul style="list-style-type: none"> ▪ Confirmation of order by e-mail after purchase ▪ Location of information ▪ Search tools ▪ Navigability ▪ Ease of finalizing the purchase ▪ Possibility of tracking merchandise purchased 	36.611	36.611
Promotion	4	<ul style="list-style-type: none"> ▪ Personalization of publicity messages sent by e-mail ▪ Indication of the site by a friend ▪ Product Sample ▪ Notification of promotions by e-mail 	21.101	57.712
Price	2	<ul style="list-style-type: none"> ▪ Product Price ▪ Delivery Cost 	14.698	72.410

Table 5 - Factor Analysis Results

CONCLUSIONS

This article presented an exploratory research survey into factors that influence the purchasing frequency of consumers via the Internet, more specifically in the Brazilian virtual bookstore market.

Exploratory factor analysis revealed three factors as being influential in purchasing frequency in Brazilian virtual bookstores, among 12 items identified.

Research indicated that the services rendered by sites and the convenience afforded by them are influential on purchasing frequency in virtual bookstores. This influence became clear when the research revealed the importance of the aspects *confirmation of order by e-mail after purchase*, *location of information*, *search tools*, *navigability*, *ease of finalizing the purchase* and *the possibility of tracking the stage of delivery of the merchandise purchased*. Identification of this factor produced the first proposition arising from the exploratory research:

P1: The services rendered by a site and the convenience afforded by it influence the purchasing frequency of clients in virtual bookstores.

The research also diagnosed the following aspects as being influential with relation to promotion: *personalization of publicity messages sent by e-mail, indication of the site by a friend, product sample and notification of promotions by e-mail*. This gave rise to the second proposition:

P2: Promotion influences purchasing frequency by clients in virtual bookstores.

Lastly, by identifying the aspects of *product price* and *delivery cost* as being relevant to Explained Total Variance, this research revealed the price factor as being influential in purchasing frequency in virtual bookstores. This gave rise to the third research proposition, namely that:

P3: The total price associated with a product to be acquired influences the purchasing frequency of clients in virtual bookstores.

In the bibliographical review, the aspect of trust was highlighted as being a factor of great relevance in a virtual environment. In this exploratory research, despite trust not having been singled out as an independent factor – as being influential in purchasing frequency in virtual bookstores –, aspects included in other factors revealed the importance of questions relating to trust, with respect to the topic under study. The main aspects that revealed this perception were: *confirmation of order by e-mail after purchase, the possibility of tracking the stage of delivery of the merchandise purchased and indication of the site by a friend*.

This article therefore contributes by providing a preliminary understanding of the factors that influence purchasing frequency in virtual bookstores, generating propositions on the theme that may be rigorously tested in future research, by means of Confirmatory Factor Analysis.

In addition to this, the perceived requirements and wishes of consumers during the process of purchasing books via the Internet are also discussed. Consequently, this research sets forth managerial implications for both bookstore retailers who are deciding whether or not to sell their books online and bookstore retailers who are already selling their books online, as knowing the factors that may increase purchasing frequency is equally important for both.

REFERENCES

1. Aiken, K. D.; Liu, B. S.; Mackoy, R. D.; Osland, G. E. (2004). "Building internet trust: signalling through trustmarks". *International Journal of Internet Marketing and Advertising*, 1(3).
2. Ang, L. (2001). "To Trust or Not to Trust? A Model of Internet Trust from the Customer's Point of View". *Proceedings of the 14th Bled Electronic Commerce Conference*, Bled, Slovenia.
3. Brondmo, H. P. (2002). *The engaged customer: The new rules of Internet direct marketing*. Cork City, Ireland: Collins.
4. Brynjolfsson, E.; Smith, M. D. (2000) "Frictionless Commerce? A Comparison of Internet and Conventional Retailers". *Management Science*, 46 (4).
5. Chan, H.; Lee, R.; Dillon, T. (2001). *Electronic Commerce: Fundamentals & Applications*. New York, USA: John Wiley & Sons.
6. Cheung, C. M. K.; Zhu, L.; Kwong, T.; Chan, G.W.W.; Limayem, M. (2003). "Online Consumer Behavior: A Review and Agenda for Future Research". *Proceedings of the 16th Bled eCommerce Conference*, Bled, Slovenia.
7. Crow, J. J. (2005). "[Factors influencing product customisation](#)". *International Journal of Internet Marketing and Advertising*, 2 (1/2).

8. Dinev, T.; Hart, P (2006). "Internet Privacy Concerns and Social Awareness as Determinants of Intention to Transact". *International Journal of Electronic Commerce*, 10(2), Winter.
9. Gefen D. (2000). "E-Commerce: The Role of Familiarity and Trust", *Omega*, 28 (6), pp. 725-737, December.
10. Hair, J. F.; Black, B.; Babin, B.; Anderson, R. E.; Tatham, R. L. (2006). *Multivariate data analysis*. New Jersey, USA: Prentice Hall.
11. Hassanein, K.; Head, M. (2004). "The Influence of Product Type on Online Trust". *Proceedings of the 17th Bled Electronic Commerce Conference*, Bled, Slovenia.
12. Huang, L-t; Farn, C-k; Yin, K-l. (2005). "On Initial Trust Building for E-Commerce: Revisiting from the Perspective of Signal Theory and Trust Transference". *Proceedings of the Thirteenth European Conference on Information Systems*, Regensburg, Germany.
13. Johnson, R. A.; Wichern, D. W. (2002). *Applied multivariate statistical analysis*. 5th. ed. New Jersey, USA: Prentice Hall.
14. Joia, L. A.; Sanz, P. (2004). "Purchase Frequency and Transaction Profitability: An Empirical Investigation into the Brazilian Home Appliance E-Retailing Sector". *Proceedings of the 17th Bled Electronic Commerce Conference*, Bled, Slovenia.
15. Joines J.L.; Scherer C.W.; Scheufele D.A. (2003). "Exploring Motivations for Consumer Web Use and their Implications for e-Commerce", *Journal of Consumer Marketing*, 20 (2), pp. 90-108, April.
16. Lakhal, S. Y.; H'mida, S. (2005). "A pricing model for a new product sold over the internet". *International Journal of Internet Marketing and Advertising*, 2 (1/2).
17. Laudon, K.; Traver, C. (2006). *E-commerce: Business, Technology, Society*. New Jersey, USA: Prentice Hall.
18. Loebbecke, C.; Hornig, V. (2001). "Increasing Trust in e-Commerce: Concepts and Examples of Insurance Solutions". *Proceedings of the 14th Bled Electronic Commerce Conference*, Bled, Slovenia.
19. Malhotra, N. (2006). *Marketing Research*. New Jersey, USA: Prentice Hall.
20. Manvi, S. S.; Venkataram, P. (2005). "An intelligent product-information presentation in E-commerce". *Electronic Commerce Research and Applications*, 4.
21. McFarland, R. G.; van Dalsem, S.; Sheu, C. (2004). "Developing interactive advertising strategies on the internet as a function of consumer knowledge, ability, and involvement". *International Journal of Internet Marketing and Advertising*, 1(3).
22. Moustakas, E; Ranganathan, C; Duquenoy, P. (2005). "Unsolicited Commercial Email (Spam): An Exploratory Understanding Using Stakeholder Analysis". *Proceedings of the Thirteenth European Conference on Information Systems*, Regensburg, Germany.
23. Newell, F. (2001). *Loyalty.com*. Columbus, USA: The McGraw-Hill Companies.
24. Nielsen, J.; Loranger, H. (2006). *Prioritizing Web Usability*. New Riders Press.
25. Oliveira L.C.B.; Joia L.A. (2005). "A Model for Evaluating B2C E-Commerce Websites: Application in the CD E-Retailing Industry in Brazil". IN: ECIS 2005 – *Proceedings of the 13th. European Conference on Information Systems*, 26-28 May, Regensburg, Germany.
26. Reedy, J.; Schullo, S.; Zimmerman, K. (2003) *Electronic Marketing: Integrating Electronic Resources into the Marketing Process*. Australia: South-Western College Pub.

27. Reichheld, F. (2003). *Loyalty Rules: How Today's Leaders Build Last Relationship*. Boston, USA: Harvard Business School Press.
28. Saeed K.A.; Hwang Y.; Grover V. (2003). "Investigating the Impact of the Website Value and Advertising on Firm Performance in Electronic Commerce", *International Journal of Electronic Commerce*, 7 (2), pp. 119-141, Winter.
29. Seeh B.; Han I. (2003). "The Impact of Customer Trust and Perception of Security Control on the Acceptance of Electronic Commerce", *International Journal of Electronic Commerce*, 7 (3), pp. 135-161, Spring.
30. Siegel, D. (2000). *Futurize Your Enterprise: Business Strategy in the Age of the E-Customer*. New York, USA: John Wiley & Sons.
31. Sipior, J.C.; Ward, B.T.; Bonner, P.G. (2004). "Should Spam Be On The Menu?" *Communications of the ACM*, 47(6), 59-64, Jun.
32. Smith, E. R. (2001). *e-Loyalty: How to Keep Customers Coming Back to Your Website*. New York, USA: HarperBusiness.
33. Taylor H. (2000) "Does Internet research work?"; *Journal of the Market Research Society*; London; Winter; p.13.
34. Turban, E., King, D.; Lee, J. K.; Viehland, D. (2005) *Electronic commerce: a managerial perspective*. Nova Jersey: Prentice Hall.
35. van Buuren, R.; Strating, P.; Faber, E. (2004). "A Theoretical Approach To Trust Services In eBusiness". *Proceedings of the 17th Bled Electronic Commerce Conference*, Bled, Slovenia.
36. Wang, Y. D.; Emurian, H. H. (2005). "Trust in E-Commerce: Consideration of Interface Design Factors". *Journal of Electronic Commerce in Organizations*, 3 (4).