


# So Similar and Yet So Different: Reasons for Online Purchasing, a Comparative Research in Colombia and Mexico Using Nonparametric Association Tests

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## Abstract

The reasons for buying online have occupied the literature of consumer behavior on the Internet for quite some time. Different theories seek to understand the relationships between different variables of purchasing behavior using this channel. However, the literature has not been sufficiently focused on making comparative analyses between countries, especially between emerging and Latin American countries. For this reason, it is relevant to carry out a

comparative study that seeks to understand the differences among the reasons to purchase online. In 2017, a survey with 552 students, professors, and administrative staff in two universities was conducted: one in Bogotá, Colombia, and the other one in Puebla, México, using a convenience sampling. We designed a semi-structured questionnaire with seven items, mostly categorical. Using nonparametric association tests, the results indicate that in five of the six questions that are asked, there are significant statistical differences in the two countries such as why customers buy on Internet, the payment methods, shipment preferences, and the reasons why they would not buy on the Internet. The implications for marketing for those companies that are interested in penetrating or improving their participation in these markets, is that they should be aware of their differences and use, depending on the country, adapted strategies.

**Keywords:** Online Shopping Behavior, E-Commerce, comparative study, digital marketing, nonparametric tests

## 1. Introduction

Emerging countries in Latin America have shown enormous dynamism. According to International Data Corporation (IDC, 2019), during the last six years the E-Commerce market has tripled in the region, going from USD \$ 30,000 million in 2011 to USD \$ 106,000 million in 2017. Within this panorama, it is striking that the two countries with the highest growth in electronic commerce were Colombia (growing 27.1% in 2017) and Mexico (growing 27.3% during the same year). Both countries share similar positions in the competitiveness index in the World Economic Forum and in the Doing Business Report

of the World Bank (Schwab, 2017), as well as similarities in terms of their culture according to the dimensions of Hofstede (Hofstede, n.d.).

There is a long tradition in the analysis of the online purchase process and the different variables that motivate it. Theories such as the planned behavior of purchase and the theory of adoption of technology are part of an extensive theoretical framework that combines various variables in the analysis. However, there are not so many studies that have analyzed differences in online purchases, especially in countries with similar characteristics, in emerging economies. At the same time, it has been found that there is even less literature for countries in Latin America. The marketing areas of companies operating in this region could use comparative studies that seek to analyze these variables in order to design tailored marketing strategies by country.

This study develops part of the quantitative analysis of online shopping habits between Colombia and Mexico that was performed jointly by researchers from Universidad Popular Autónoma del Estado de México in Puebla, Mexico, and Universidad EAN in Bogotá, Colombia. The fieldwork is part of a survey that was applied in both countries in 2017, where almost all the variables were categorical (nominal), reason why the chi-square and intensity of association tests were used (using the  $\varphi^2$  statistic proposed by Agresti & Liu [1999]), in order to be able to answer the question of whether there are differences by country in six categorical variables chosen from the survey. As will be shown, in most of the questions that were analyzed, there are significant differences between both countries.

This document is structured as follows: after a first introductory part, a summary of the different conceptual approaches is developed in order to explain the purchasing behavior on the Internet; therefore, it is a description of the methodology, including the types of questions, the sample, and the statistical procedures that are proposed for the analysis. In a later part, the results are presented and discussed, with some conclusions and recommendations from the marketing perspective.

## 2. Literature Review

This study focuses on understanding the relationships between two countries in terms of online shopping behavior. For this reason, the main contributions of the marketing theory in terms of purchasing behavior are presented below, previously making some basic definitions.

### 2.1 E - Commerce

According to Laudon (2017), electronic commerce (E-Commerce) can be defined as the use of the Internet, the web, and software applications to do business. It includes digital business transactions that occur between organizations (B2B), individuals (C2C), as well as between organizations and individuals (B2C). It also includes commerce using social networks (s-commerce) and mobile devices (M-Commerce). For Strauss and Frost (2014) there is a difference between E-Commerce and E-Business, the latter being the use of information technologies within the company's business model, not necessarily and specifically for online transactions.

### 2.2 Online Consumer Behavior

According to Solomon, Bamossy, & Hogg (2009), consumer behavior encompasses the study of the processes in which individuals or groups select, buy, use, or discard products, services, ideas, and experiences to meet their needs and desires. This behavior is usually studied online and offline. Purchasing behavior, one of the branches of study of consumer behavior, influences multiple aspects, and the amount of information online is relevant to consumer decision-making in its steps of identifying and evaluating alternatives. Likewise, these authors mention the success of Internet sites based on their own design (navigability, information provision, order processing, appropriate customization, and selection of appropriate product), reliability (appropriate description of the product, delivery of the appropriate product in the promised time), security and privacy (security for card payments

and handling of consumer information), and customer service (response times to customer requests).

On the other hand, there is information that users produce, such as product ratings and reviews that influence buying decisions and build trust. Previously, when consumers needed information, they turned to marketer-generated sources, looked at third-party certifications, or sought advice from friends and/or relatives in conversations “over the backyard fence” (King, Racherla, & Bush, 2014).

### 2.3 Planned Internet Behavior, Attitudes, and Trust

Ajzen (1991) proposed the theory of planned behavior. According to this theory, intentions to perform different types of behaviors can be predicted with great precision from the attitudes regarding the behaviors, some subjective norms and also the perceived control of the behavior. Under this approach, the consumer becomes a rational actor, and intentions capture the motivational factors that influence behavior, so the stronger the motivation to perform a certain behavior, the more likely it is that such behavior manifests itself.

More recently, Pavlou & Fygenson (2006) proposed that this approach, where intentions predict behavior, could be used accurately for online purchase. He tests the initial model proposed by Ajzen for two buying behaviors, getting information and buying from online retailers. The results show the importance of trust and the adoption variables of the technology (perceived utility and perceived ease of use) as the most important beliefs to predict the adoption of E-Commerce. Likewise, additional features of the website related to delays in downloading, site navigability, and protection of user information, consumer skills, time and money disposition, as well as the value of the product, also resulted predictive for adopting E-Commerce in the study that was conducted in the United States.

Regarding trust and online shopping, the study by Kim and Peterson (2017), makes a detailed review of 150 empirical studies that analyze this variable in the E-Commerce in

B2C clients ("Business to Consumer", business that serve the final consumer directly), finding that trust in online transactions has an important relationship with the background of the website (perceived privacy, perceived quality of service) and its consequences (loyalty, repeated purchase intention).

In the same direction, the study by Oliveira *et al.* (2017), found a strong relationship between high confidence and high intention to buy online, modeling trust in its three dimensions: competence (ability of the company to fulfill promises they made to customers), integrity (which suggests that the company acts in a consistent, reliable, and honest way), and benevolence (which is the ability of a company to have the client's interest above its own interest). The risk in the reasons to buy online can be mediated by culture. Hofstede's model on the six different dimensions of culture, which may be different between countries, highlights one of its dimensions: risk aversion, which is defined as the degree to which members of a culture feel threatened by the uncertainty (Hofstede, Hofstede, & Minkov, 1991). Based on the above, the study by Yu, Hudders, and Cauberghe (2018) reveals a negative relationship between the level of risk aversion in a country and the level of advantage in making transactions online.

#### 2.4 Unified Theory of Acceptance and Use of Technology

A more recent and general approach regarding the use of Internet for purchases is derived from the planned behavior model made with the unified theory of acceptance and use of technology (Venkatesh *et al.*, 2003), which analyzes the theory of rational action, the theory of technology acceptance, the motivational model, and the theory of planned behavior. After testing the four models and their variables, he proposes a model that improves the statistical effectiveness of the previous ones, and that is based on the expectations of the technology's performance (degree in which individuals believe that using technology or the system will improve the performance of their work), the expectations of effort of using that technology (perceived degree of effort in the use of the system), the social influence (the

degree to which the individual believes that other persons, who are important to him, think that he should use the technology), and the facilitating conditions for the use of that technology (beliefs of the person about the existence of a support infrastructure). Although these four are determinants of the technology use behavior, they are mediated by variables such as gender, age, experience, and the voluntary nature of the use of technology (the person's belief on whether the use of technology will be voluntary).

In line with this study, Singh and Matsui (2018) have used this model to see the effect of Long Tail and the confidence in buying online, validating the usage of the model given the fact that purchasing online is a type of activity of technology adoption. The study states, for the purchase of books and airline categories in urban areas in Japan, that trust, again, is an important factor in the intention to purchase on Internet, and Long Tail is important for the purchase of physical products, but not for virtual products.

## 2.5 Beliefs, Attitudes, and Intentions

The study by Izogo & Jayawardhena (2018), establishes a model of determinants of the online shopping process, which is composed of three parts: beliefs, attitudes, and intentions. In the case of beliefs, there are some determinants related to the product or service, such as the seller's prices on the Internet, the beliefs about the handling of complaints, and the quality of the product. There are other determinants related to the website, which are related with convenience, functionality, relational experience, and the enjoyment of the shopping experience on the company's website. These determinants form the dimension of buying attitudes and shape the online shopping experience. Finally, the dimension of intention, which is related to the beliefs that generate attitudes towards the website, is determined by the variables trust, E-Word of Mouth, or eWOM<sup>1</sup> (including advice from the client and/or the seller, inquiry, recommendation, and dissuasion), the

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<sup>1</sup> The authors refer to Word of Mouth when they talk of voice-to-voice power, or any comment made by a client about a brand, that is available through the internet for other consumers or companies.

regrets or withdrawals on the products, the internal response to failures in the service, all in turn determining the external response of the client to failures in the service.

## 2.6 Other Motivators that Lead to Choose E-Commerce

Salazar, Mondaca, and Cea (2018) set out a model in which the sociodemographic factors (gender, age, ethnicity, educational level, marital status), economic factors (level of income, access to a credit card), familiarity factors (frequency of internet use and Internet use skills), and trust and familiarity with electronic commerce (frequency of purchase, experience with use and personal data, and experience of payment by credit card), are the factors that influence the purchase online. In the case of Chile, this study suggests that the variables that determine the purchase through Internet are gender, age, educational level, access to credit card, frequency of use, ability of using data and not having a previous negative experience delivering personal data over the Internet.

Although section five of the survey goes in the same direction of this model, it does not concentrate on all demographic variables; it only gives importance to the country, and in turn includes some other variables that are not contemplated by Salazar *et al.* (2018), such as advantages, delivery conditions and problems, and bad experiences in previous purchases.

The study by Fernández-Poyatos and Papí-Gálvez (2017), presents the behavior of buying tourism products online, where the level of income and educational level explain or predict the online purchase behavior for Europe, while other variables such as gender and age are not significant. Even in the case of purchase between consumers or C2C, one of the few studies on this type of transaction is the study by Mariani *et al.* (2017), which shows that social influence and trust are key predictors of the intention to purchase online in this modality.



Sobia Tufail *et al.* (2018), come up with a strong and positive relationship between the lifestyle and personality of consumers and the intention to buy online, mediated by the attitudes they have towards brands.

## 2.7 Other Valued Aspects and Preferred Forms of Payment on the Internet

Dixit (2018) points out that price and quality are the most important factors that influence the purchase behavior of buyers, whether they buy online or not. Proper advertising, variety, effective communication about discounts, and proper post-sale service were also important for customers to decide to buy online.

Devi (2017) shows that for consumers in India, the preferred means of payment are mainly credit card (36.67%) and payment on delivery (27.3%). This same author finds that the attractive prices (34.0%) and the consistency of the channel (23.0%) were the most important reasons to buy in such population.

The literature that was reviewed has few options for comparison with other studies on aspects that are related to online shopping, since most of them refer only to a single market, with few exceptions (Fernández-Poyatos & Papí-Gálvez, 2017; Kim & Peterson, 2017). Likewise, although there are studies on emerging markets (Devi, 2017; Dixit, 2018; Izogo & Jayawardhena, 2018) and there are some from Latin America (Salazar *et al.*, 2018), there is a necessity for more comparative studies from emerging countries that examine variables related to online shopping reasons. The study below seeks to fill part of that gap.

Rather than defining what kind of theoretical orientation this article should follow, the state of the art leads us to the need to understand the different variables that are commonly used to study online shopping behavior. Some of these variables were condensed in the instruments that were elaborated (such as those related to trust, perceived risk, prices, custom or previous purchases, customer service, and means of payment), as well as others that are not so frequently reviewed in the literature but were included to have some other

sources of information (delivery or return conditions, online shopping problems, online shopping convenience). Finally, some other state of the art variables related to some attitudes and beliefs about online purchases were not included in this research, because they were not considered as relevant for the present analysis (effort, social influence, and eWOM, for example).

## 2.8 Similarities between Mexico and Colombia

### 2.8.1 Macroeconomic and Competitiveness Data

According to Schwab (2017), Mexico and Colombia have similar positions in the ranking of medium competitiveness in Internet users and broadband subscriptions. The Mexican economy showed little more macroeconomic performance than the Colombian one, but both belong to the group of middle-income countries, located as countries that are guided by efficiency according to the pillars of the index of competitiveness (Table 1).

**Table 1 – Main Macroeconomic and Competitiveness Internet Related Data**

Variable	Colombia	México
Population (millions)	48,7	122,3
Gross Domestic Product – GDP (Millions of US\$)	282,4	1.046
GDP per Capita (US\$)	5.792	8.554
Position in the competitiveness ranking	66	51
Internet users as a proportion of the population (position in the ranking)	72	68
Bandwidth measured as Kbps per user (position in the ranking)	32	82

Subscriptions of mobile broadband width (position in the ranking)	92	70
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Source: Schwab (2017).

### 2.8.2 Internet Sales

The growth of sales on Internet doubled in 2017 and it is expected to remain so in 2018 in both countries. According to International Data Corporation (IDC, 2019), sales on Internet in Colombia grew by 27.1% in 2017 and it is expected to grow 24.5% in 2018. In Mexico, sales on Internet grew by 27.3% in 2017 and it is expected to grow by 28.4% in 2018.

### 2.8.3 Hofstede Culture Dimensions

In terms of the dimensions of culture measured by the six-dimensional model of Geert Hofstede (first presented in Hofstede, 1984), the two countries present some similarities that are worth highlighting (Table 2).

**Table 2 – Culture Dimensions in the Hofstede Model – Comparison between Colombia and Mexico**

Variable	Colombia	México
Distance of Power (degree to which the less powerful members of a society accept that power is unequally distributed)	67	81
Individualism (preference for close ties, in order to take care of oneself and one's family)	13	30
Masculinity (preference for achievement, heroism, assertiveness, and material achievement)	64	69
Risk aversion (degree of discomfort in situations of risk)	80	82

Long Term Orientation (low scores mean more traditional societies, higher scores more pragmatic societies that believe in education as a way to prepare for the future)	13	24
Indulgence (degree of importance to variables of life enjoyment and fun)	83	97

Source: Hofstede, (n.d.).

Both countries have quite similar variables, despite the fact that Mexico scores higher than Colombia in all of them. They are traditionalist countries, oriented to achievement, with high aversion to risk, and with a high orientation to indulgence and fun.

### 3. Methodology

#### 3.1 Design of the Survey and Components

In order to collect primary data, we designed a structured survey, with open-ended closed-ended, Likert scale, as well as multichotomous questions. The questionnaire included 31 questions divided into six sections. The following is a description of the type of questions that are included in each of the sections (Annex 1):

- **I Online purchase process:** section 1 contains questions of purchase habits in nominal scale to define frequency of online and offline purchase by category, preferred days, and preferred hours; there is also a question in an ordinal scale on purchase frequency by category, and one in the Likert-type scale on purchase preference per hour.
- **II Influence factors:** includes a Likert question on the grade of influence of family and friends in the purchase decision.
- **III Use and abandonment of web pages:** this section includes a question in the Likert scale that seeks to measure agreement or disagreement on reasons to abandon

a purchase or not to buy online again; another question in the same scale that measures the importance of the characteristics of the purchase process, and two others in the same scale on the degree of ease of the purchase for the first time and on repeated purchases.

- **IV Online purchase and advertising:** this section has two questions in a nominal scale on Internet access habits and advertising recall, a Likert-scale question on how to access a web page in terms of frequency, and another three in the same scale that measure the degree of perceived utility and preference over different types of advertising media. There is also a question in the same scale that collects some insights from the qualitative research in relation to advertising, in order to measure agreement or disagreement towards them.
- **V Reasons to buy online:** this section covers two questions of nominal scale related to the advantages and disadvantages that are perceived when buying online, as well as valuations on the payment process, a question in ordinal scale to measure the type of preferred payment method, questions in an ordinal scale to assess the degree of importance of the conditions of delivery and/or return of the product, and three questions in a nominal scale to measure difficulties when buying online, problems experienced with past purchases, and reasons for not buying on Internet.
- **VI Demographic data:** it consists of information in nominal scales and proportion scales on marital status, age, gender, education, occupation, and income.

Given that this document will concentrate only on the last two sections, these two are the only ones included in the annex (Annex One). For the general design of the survey, a preliminary review of the construction of each of the questions was made by the researchers involved in the entire project, as well as a pilot test among the researchers to review inconsistencies and confusions. The construction of the scales was based on Hair, Bush, and Ortinau (2010), for a foundation from the quantitative research. However, aspects such as the purchase process steps, the characteristics that constitute a purchasing process, and

the advertising methods were based on Chaffey and Ellis-Chadwick (2016) and Laudon, K. & Traver, C. (2017). Specifically, for section five, we used questions that are included in the report on Online Purchase in Colombia, made for the Colombian Chamber of Electronic Commerce by The Cocktail Analysis (2013).

### 3.2 Sampling plan

The data that is analyzed in this document correspond to a fieldwork that was carried out in Colombia, in the city of Bogotá, during the months of June and July of 2017, and in September and October of 2017 in the city of Puebla, Mexico. A total of 552 surveys were collected, 257 in Colombia and 295 in Mexico. The surveys were administered face-to-face, using a convenience sample to students and teachers of Universidad Popular Autónoma de Puebla (UPAEP) in Puebla, Mexico, and of the Universidad EAN in Bogotá.

### 3.3 Description of the Variables and Characterization of the Data

The collected data are part of a comparative study on consumer behavior and attitudes towards online shopping, among other aspects. Related with online shopping, the survey included seven questions, and other nine related to demographic data. The 16 resulting variables respond to the following typology (Table 3).

**Table 3 – Type of Variables that were Used**

Group		Type	Type of Answer / Number of different choices to choose from
Consumer Behavior Regarding Reasons to Buy Online (Section V)	Advantages of buying online	Categorical nominal	Multiple / 8 options
	Valued aspects at the time of payment	Categorical nominal	Multiple / 4 options

	Preferred forms of payment	Categorical nominal	Multiple / 7 options
	Delivery conditions	Categorical nominal	Multiple / 6 options
	Frequency in bad experiences	Categorical ordinal	Unique option / 4 options
	Type of negative experience	Categorical nominal	Multiple / 8 options
	Reasons for not buying online	Categorical nominal	Multiple / 11 options
Demographic Data (Section VI)	Gender	Categorical nominal	Unique option / 3 options
	Age (years)	Quantitative	Does not apply
	Marital Status	Categorical nominal	Unique option / 5 options
	Children	Categorical nominal	Unique option / 2 options (dichotomus)
	Number of children	Quantitative	Does not apply
	Education Level	Categorical nominal	Unique option / 8 options

	Current Occupation	Categorical nominal	Unique option / 4 options
	Currently Studying	Categorical nominal	Unique option / 2 options (dichotomus)
	Amount of monthly internet purchases	Categorical Ordinal	Unique option / 6 options (ranks)

Source: prepared by the authors based on the information in the survey, Section VI.

### 3.4 Statistical Model Applied

A statistical test can be defined as a random variable that is calculated with sample data and used in hypothesis testing. These statistical tests are used to determine if a null hypothesis can be rejected (Hair *et al.*, 2010) and have, first of all, a theoretical distribution. In this order of ideas, the test must be compared with the theoretical distribution value, verifying that the test value does not exceed the theoretical value. In case that the value of the statistic exceeds the theoretical value, then it can be affirmed that there is statistical evidence that allows rejecting the null hypothesis or main hypothesis and accepts the alternative hypothesis (Rodríguez, 2012).

The above requires determining a level of significance that allows us to control an eventual "type one error", that is, rejecting the main hypothesis when it should have been accepted. In this case, the level of significance will be set at 5% ( $\alpha = 0.05$ ); therefore, the confidence level will be 95% ( $1-\alpha$ ).

For this investigation, the hypotheses to be statistically proven were:



- $H_0$             The probabilities distribution between the samples from Mexico and Colombia is the same.
- $H_1$             The probabilities distribution between the samples from Mexico and Colombia is different.

Where  $H_0$  is going to be referred to as the main hypothesis and  $H_1$  as an alternative hypothesis.

In the case of the variables that are presented in this study, sections 5 and 6 have categorical variables, which do not allow the calculation of a statistical test using proportion data. Agresti and Liu (1999) propose a special test for a case like this, where data is obtained for a categorical variable with multiple selection possibilities and it is necessary to know if there is an association or not between the set of sub-variables that are derived from each response option and the groups or segments, in this case the countries Colombia and Mexico.

From the marketing perspective, being able to test if this type of association is absolutely important, for example, to determine if a certain communication campaign can be applied without great variations in one segment or another when high association is proven, or for understanding that it is necessary to use a completely different approach in terms of the marketing mix when the degree of association is minimal.

The procedure described in Rodríguez (2012) based on Agresti and Liu (1999) consists of: first, obtaining the observed and expected values for choosing and not choosing each of the response options in the different segments, in our case, the countries; and second, obtaining a statistical test according to the following formula:

$$\varphi^2 = \sum_{j=1}^c \sum_{h=1}^r \left\{ \frac{(O_{hj1} - E_{hj1})^2}{E_{hj1}} + \frac{(O_{hj0} - E_{hj0})^2}{E_{hj0}} \right\}$$

Where  $O_{hj1}$  represents the observed value and  $E_{hj1}$  represents the expected value in group h who has chosen category j. Similarly,  $O_{hj0}$  represents the observed value and  $E_{hj0}$  the expected value for group h, which did not choose category j.  $\varphi^2$  has a Chi square theoretical distribution  $X_{c(r-1)}^2$  with  $c(r-1)$  degrees of freedom. In this equation, c represents the number of categories, while r represents the number of groups (Rodríguez, 2012).

The third step is to compare the value that was obtained for  $\varphi^2$  with the value of its theoretical chi-square distribution ( $X^2$ ) with  $c(r-1)$  degrees of freedom, where c is the number of response options and r the number of segments. In this way, if the statistical test  $\varphi^2$  is greater than  $X^2$ , then H1 is rejected and H0 is accepted (alternate hypothesis), which means that preferences from one segment to another are significantly different (Rodríguez, 2012).

To test the previous procedure, the SPSS<sup>®</sup> version 25 was used to define multiple response sets for each of the survey questions with this characteristic. Then, contingency tables that contained both the observed and the expected values were drawn up. These contingency tables were exported to Excel. In the information analysis section, the detailed calculation of  $\varphi^2$  is shown for the categorical variable that describes the reasons of preference when buying on the Internet. On the other hand, the critical value of  $X^2$  was obtained using the tables of critical values for the chi-square distribution.

#### 4. Information Analysis

##### 4.1 Demographic of the Respondents

In terms of gender, the percentages of respondents are similar, with more men in Colombia and more women in Mexico (Table 4).

**Table 4 – Distribution of Respondents by Gender**

Gender	Colombia		Mexico		Total	
	Frequenc y	Percentag e	Frequenc y	Percentag e	Frequenc y	Percentag e
Male	135	45,76%	136	52,9 %	271	49,09%
Female	154	52,20%	117	45,53%	271	49,09%
Not Respondin g	6	2,03%	4	1,56%	10	1,81%
<b>TOTAL</b>	<b>295</b>	<b>100%</b>	<b>257</b>	<b>100%</b>	<b>552</b>	<b>100,00%</b>

Source: prepared by the authors based on the information from the Survey, section VI.

In terms of marital status, 88% in both cases is single, while between 5% and 7% are married, the divorced respondents represent less than 1%, and those in consensual union represent between 2% and about 3% (Table 5).

**Table 5 - Distribution of Respondents by Marital Status**

Marital Status	Colombia		Mexico		Total	
	Frequenc y	Percentag e	Frequenc y	Percentag e	Frequenc y	Percentag e
Single	260	88,14%	227	88,33%	487	88,22%
Married	16	5,42%	18	7,00%	34	6,16%
Divorced	2	0,68%	1	0,39%	3	0,54%

Consensual	10	3,39%	6	2,33%	16	2,90%
Not Responding	7	2,37%	5	1,95%	12	2,17%
<b>TOTAL</b>	<b>295</b>	<b>100%</b>	<b>257</b>	<b>100%</b>	<b>552</b>	<b>100%</b>

Source: prepared by the authors based on the information from the Survey, section VI.

When asked if they have children, 89% of the respondents in the two countries said they did not have, while 5% on average responded having them (Table 6).

**Table 6 - Distribution of Respondents by Having or Not Children**

Option	Colombia		Mexico		Total	
	Frequenc y	Percentag e	Frequenc y	Frequenc y	Percentag e	Percentag e
Yes	17	5,76%	14	5,45%	31	5,62%
No	265	89,83%	229	89,11%	494	89,49%
Not Responding	13	4,41%	14	5,45%	27	4,89%
<b>TOTAL</b>	<b>295</b>	<b>100,00%</b>	<b>257</b>	<b>100,00%</b>	<b>552</b>	<b>100,00%</b>

Source: prepared by the authors based on the information from the Survey, section VI.

In terms of educational level, less than 2% in the two countries said they had an elementary or basic secondary education, the majority said they had a full high school education (50 to 57%), university education (between 29 and 39%), while graduate education (diploma and master degree) only approximately 7% in both cases (Table 7).

**Table 7 - Distribution of Respondents by Education Level (frequencies / percentages)**

Education Level	Colombia		Mexico		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Elementary School	2	0,68%	1	0,39%	3	0,55%
Junior High	5	1,69%	1	0,39%	6	1,09%
High School	170	57,63%	128	50,20%	298	54,18%
University	88	29,83%	100	39,22%	188	34,18%
Diploma	22	7,46%	9	3,53%	31	5,64%
Master Degree	2	0,68%	8	3,14%	10	1,82%
Not Responding	6	2,03%	8	3,14%	14	2,55%
<b>TOTAL</b>	<b>295</b>	<b>100%</b>	<b>255</b>	<b>100%</b>	<b>550</b>	<b>100%</b>

Source: prepared by the authors based on the information from the Survey, section VI.

As it can be seen, the two samples in the demographic variables of the two countries have similar structures in terms of the participation of each of the variables, which helps support the use of the  $\varphi^2$  statistic, presented by Agresti and Liu (1999).

#### 4.2 Responses Related with Payment

Entering into the different parts of section V of the survey, it can be observed that the option of receiving a credit card is highly valued (close to or greater than 80%), while security is

in the second place. In the case of accepting the payment against delivery, the positive valuation is higher in the case of the Colombian clients compared to the Mexican clients (Table 8).

**Table 8 - Regarding payment, what do you value when buying a product or service online? Select the ones that apply - Relative Frequencies (percentages)**

	What I value		What I do not value	
	Colombia	Mexico	Colombia	Mexico
To receive a credit card	80%	79%	20%	21%
It is a secure website	68%	72%	32%	28%
To accept payment against delivery	62%	41%	38%	59%
Other	2%	4%	98%	96%

Source: prepared by the authors based on the information from the Survey, section V.

When asked about what means of payment they prefer, Colombian consumers replied that their first option was payment against delivery, followed by credit card and debit card, while Mexican consumers prefer credit card in the first place, secondly the debit card, and in the third place payment in the physical store, even above payment against delivery, which is in the fourth place. Payment with bank deposit<sup>2</sup> is also different in the two countries; in the case of Colombia, it is 29% in the first option while for Mexico it is 13% (Table 9).

<sup>2</sup> In Latin American countries, the payment option through bank deposit is very common. In this means of payment, the customer receives a bill that must be printed, and then he/she needs to go to a bank, do the payment and send a scanned copy of the payment receipt with the seal of the bank to the retailer's e-mail.

**Table 9 - What means of payment do you prefer when paying for your purchases online? Indicate which of the following are your first and second options - Relative Frequencies in Percentage**

	First Option		Second Option		Don't Know / Not Responding	
	COL	MEX	COL	MEX	COL	MEX
Credit card	44%	53%	38%	27%	18%	20%
Payment against delivery	55%	26%	26%	33%	19%	41%
Debit card	43%	45%	35%	31%	22%	24%
Payment in the physical store of the brand	29%	28%	36%	32%	34%	39%
Payment in third-party intermediaries	28%	18%	40%	34%	32%	48%
Bank deposit	29%	13%	43%	35%	28%	52%
Other	3%	4%	1%	4%	96%	92%

Source: prepared by the authors based on the information from the Survey, section V.

#### 4.3 Responses Related to the Conditions of Delivery and Return, Disadvantages and Reasons for Not Buying

Regarding the conditions of delivery and/or return, the most important aspects for the respondents were to choose the day and time of delivery (39% in first and second place for Colombia, 38% for Mexico) and a promise of clear delivery (38% and 29% respectively), followed by free shipping (27% and 29% respectively), as seen in Table 10. There is a higher proportion of Colombian customers who value less the pick up of the product in the

store (45%) than surveyed Mexican clients. As it can be seen, there are differences between the numbers among the countries, although it is not yet evident that these are statistically significant.

**Table 10 - Regarding the conditions of delivery and/or return, what is the most important when buying a product online? Order the following options, number one (1) being the most important - Relative Frequencies in Percentage**

Option	1 (Most Important)		2		3		4		5		6 (Less Important)	
	COL	MEX	CO L	ME X	CO L	ME X	CO L	ME X	CO L	ME X	COL	MEX
Easy store Pick Up	5%	11%	6%	4%	2%	10%	9%	7%	17%	12%	45%	35%
Choose day and time of delivery	25%	19%	14%	18%	16%	11%	12%	12%	15%	15%	3%	5%
Know the status of the order	10%	11%	21%	19%	21%	15%	16%	14%	12%	16%	6%	5%
Clear delivery promise	19%	13%	19%	16%	18%	16%	15%	18%	11%	9%	4%	7%
Ease to make changes or refunds	19%	7%	13%	11%	14%	18%	18%	17%	15%	17%	5%	7%
Free shipping	18%	20%	9%	9%	14%	10%	12%	11%	13%	10%	18%	18%

Source: prepared by the authors based on the information from the Survey, section VI.

When asked if they have experienced any problems with online purchases, the highest positive responses are delays in delivery (44% for Colombia and 39% for Mexico, where



the percentages differ the most) and that they received a different product (33 % and 25% respectively), with similar yes and no proportions in almost all the answers (Table 11).

**Table 11 - Have you ever experienced any problem or difficulty with purchases online? Check only one option.**

	Yes		No	
	Colombia	México	Colombia	México
I did not receive the product and the price was charged	14%	22%	86%	78%
The store charged a price that is higher than the one that is advertised	14%	16%	86%	84%
I received a defective product	29%	25%	71%	75%
Problems with the online service	21%	20%	79%	80%
Complications for returning the product	18%	16%	82%	84%
I received a different product	33%	25%	67%	75%
Delay in delivery	44%	39%	56%	61%
Product did not meet expectations	25%	25%	75%	75%

Source: prepared by the authors based on the information from the Survey, section VI.

Most respondents answered that they do not buy online because they prefer to see the physical product (21% in Colombia and 25% in Mexico), and for lack of habit (25% and 23% respectively) as seen in Table 12. The percentages in which they differ the most are in previous bad experience (13% in Colombia, 18% in Mexico), I want the product immediately (6% in Colombia, 15% in Mexico), I do not trust the means of payment (13% in Colombia and 22% in Mexico), and I am concerned about sharing personal information (13% in Colombia and 25% in Mexico).

**Table 12 - Why don't you buy online? You can choose several options.**

	Yes		No	
	Colombia	México	Colombia	México
Previous bad experience	13%	18%	87%	82%
I want the product immediately	6%	15%	94%	85%
I prefer the advice of stores	9%	15%	91%	85%
Lack of habit	25%	23%	75%	77%

I haven't had the necessity to buy online	13%	17%	87%	83%
I do not trust the means of payment	13%	22%	87%	78%
I prefer to see the physical product	21%	25%	79%	75%
I am concerned about sharing personal info	13%	25%	87%	75%
I do not see advantages when buying online	2%	8%	98%	92%
I do not know how to buy on the Internet	1%	5%	99%	95%
Others	2%	4%	98%	96%

Source: prepared by the authors based on the information from the Survey, section VI.

#### 4.4 Advantages of Online Purchasing

For respondents in both countries, the main advantage of buying through the Internet is the "convenience of buying from their home or office", and they also agree on the second and third main advantages when doing an analysis ordering the percentages from highest to lowest. On the other hand, they disagree on the advantages from the fourth position to the seventh, being the option "possibility of reviewing comments from third parties" the one with the most disagreement, which was considered an advantage for 58% of the respondents in Colombia and 44% of respondents in Mexico (Table 13).

**Table 13 - What are the main advantages for you of buying online? Select the ones that apply. Relative Frequencies in Percentage by Country**

	Its and advantage		Is not an advantage	
	Colombia	México	Colombia	México
Convenience of buying from home or office	91%	86%	9%	14%
Convenience of buying at any time	82%	71%	18%	29%
Possibility of finding better prices	55%	53%	45%	47%
Possibility of accessing brands that are not available locally	71%	70%	29%	30%
Possibility of comparing	55%	44%	45%	56%

Possibility of reviewing comments from third parties	58%	44%	42%	56%
Possibility of buying before the product is available in stores	26%	33%	74%	67%
Other	3%	4%	97%	96%

Source: prepared by the authors based on the information from the Survey, section VI.

The frequency tables in sections (b) to (d) allow us to visualize, from the marketing point of view, preferences in the means of payment, conditions of delivery, reasons for buying or not buying through the Internet, as well as the motivators that lead a person to choose the online shopping channel, his order of preference, and if there are important differences in that order between the respondents in both countries. However, the frequency tables do not help to determine if the country has any influence on the motivations for choosing the online sales channel, or the motivators to choose this channel and its differences by country. If the objective of the research is that one, then, statistical tests of association for categorical variables are required, which is exposed in the next section.

#### 4.5 Statistical Significance for the Advantages of Internet Purchasing discriminated by Country

The test statistic  $\phi^2$  was calculated for each of the questions that were analyzed in parts b to d of this section, taking into account that the criterion of differentiation of the two samples was the countries. For each question, the observed value and the expected value by answer option were calculated, and then, the results of each response option by country were added (Annex 2).

As it is derived from the previous procedure, the statistical test  $\phi^2$  is greater than the critical value of  $X^2$  with 8 degrees of freedom, which rejects the main hypothesis in favor of the alternative hypothesis, that is, the distribution of probabilities between Mexico and Colombia is different, or that the different variables related to reasons to buy or not to buy, conditions to pay, preferred means of payment, and terms of delivery and/or refund, are

significantly different between Colombia and Mexico. The only variable that did not obtain significant differences by country is the variable problems with purchases over the Internet, where the value of the test was lower than that of  $X^2$ . What can be seen in the results of Table 14 is the demonstration of statistically significant differences, but which had already been presented in the previous sections of results (Table 14).

**Table 14 - Result of the Statistical Tests for all the categorical variables with multiple responses**

Set of Variables	$\phi^2$	$X^2$	D. of F.	Conclusion
Reasons for buying on Internet	33,6248	15,507 3	8	H1 is accepted; there are significant differences between the groups that were analyzed.
Conditions for payment	25,3660	9,4880	4	H1 is accepted; there are significant differences between the groups that were analyzed.
Preferred means of payment for purchases on Internet	123,678 5	14,067 0	7	H1 is accepted; there are significant differences between the groups that were analyzed.
Terms for delivery and/or return	85,9924	12,592 0	6	H1 is accepted; there are significant differences between the groups that were analyzed.

Problems with Internet purchases	14,1608	15,5073	8	Ho is accepted; there are no significant differences between the groups that were analyzed.
Reasons for not buying on Internet	60,4101	19,6750	11	H1 is accepted; there are significant differences between the groups that were analyzed.

Source: prepared by the authors based on the information from the Survey, section VI.

## 5. Conclusions and Implications for Marketing

In terms of purchasing behavior on the Internet, for the majority of the categorical variables that were analyzed (5 out of 6), the differences between the two countries are significant, with only one variable: "Problems with Internet purchases". In this case, the answers in proportions show very similar percentages, being the delay in delivery, followed by "received a different product" the main problem in both countries.

Regarding the conditions for payment, the main difference is the greater relative valuation of the Colombian consumers that were surveyed to the payment against delivery. This is reinforced by the payment preference, in which the main means of payment preferred by Colombians who were surveyed is payment against delivery, while in the case of Mexicans it is a credit card.

In terms of delivery and/or return conditions, the most important for Colombian customers is to choose the day and time, while for Mexicans is free shipping. The least important for Colombians is easy to pick up at the store, as well as for Mexicans, but with a difference in the proportion of responses.

About the reasons to buy or not to buy, which also had significant differences, the main ones are in the response to the phrase "I am concerned about sharing personal information",

being the most important for Mexico, and "I do not trust the forms of payment", very important for Mexico as well.

In terms of the advantages and disadvantages of buying online, the most important variables examined for both countries are convenience buying from home or work, convenience buying at any time, and accessing to brands that are not found locally. However, the proportion of Colombian consumers who consider that these are advantages in relation to Mexican consumers is significantly higher.

The previous differences are very important from the marketing perspective since, although Colombia and Mexico are relatively similar in terms of their culture (Hofstede, n.d.), the behavior of the consumer when buying on the Internet differs between both, at least in the tests made with the  $\varphi^2$  statistic for the samples that were examined. Therefore, those companies that are interested in penetrating or improving their participation in these markets and that have operations in both countries must be aware of their differences and adapt their strategies accordingly.

It is also important to say that E-commerce eliminates trade barriers between markets; however, its implementation at multinational scales cannot be taken lightly because, although two countries share similar cultural and economic characteristics, consumer expectations and behaviors may not be so similar.

Further studies could examine the differences in online purchasing behavior of countries with similar cultures, specifically in Latin America, with the usefulness of being able to serve multinational companies that serve a Latin American market (so called "*multilatinas*"), or online platforms with regional reach that can define and adjust the marketing strategy, depending on what each consumer in each country considers most relevant. On the other hand, the limitation of this study is that it was done with a non-

probabilistic sample for convenience, in only two cities and urban areas, which prevents the generalization of the results to the population under study.

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**Annex 1 – Survey on Habits / On-Line Purchase Process, and Effects of Advertising on said Medium - Sections Five and Six**

**Section V- Reasons for online purchase:** In this section you will find questions related to the reasons for preferring or discarding the Internet as a means to purchase products and services.

3. In your opinion, what are the main advantages of buying online? Select the ones that apply

	Option
a) Convenience of purchasing from my home or place of work.	
b) Convenience of purchasing at any time.	
c) Possibility of accessing better prices than in physical stores.	
d) Access to brands, stores, products, or services that are not available near my place of residence or work.	
e) Being able to compare different suppliers, web stores, prices, products ...	
f) Being able to review the comments of others who have already purchased products or services that are similar to the one I am looking for.	
g) Being able to buy something before it goes out to the market in physical stores	
h) Other. Which one? _____	

4. Regarding PAYMENT, what do you value the most when buying a product or service online? Select the ones that apply.

	Option
a) That they receive credit or debit card, or the payment means of my preference.	
b) That the website seems safe (padlock icon, address with https: //, etc.)	
c) That the provider accepts payment against delivery.	

d) Other. Which one? _____	
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5. Which means of payment do you prefer when paying for your purchases online? Indicate which of the following are your first and your second option.

	First Option	Second Option
a) Credit card		
b) Payment against delivery		
c) Debit card or direct transfer to the provider's account		
d) Payment at the physical store of the brand or seller		
e) Online purchase with payment in physical points (drugstores, stores)		
f) Bank deposit		
g) Other. Which one? _____		

6. Regarding the conditions of delivery and/or return, what is the most important when buying a product online? Organize the following options with one (1) being the most important.

	Order
a) That I can collect the product in a physical store	
b) That I can choose the day and time of delivery	
c) That I can track down my order at any time in order to know what state it is in.	

d) That the website is clear on its promise of delivery	
e) That the website offers facilities to request a change or a refund	
f) That the shipment is free	

7. Have you ever experienced any problems or difficulties with purchases made online? Check only one option:

	Option
a) Yes, many times	
b) Yes, more than once	
c) Only once	
d) I have never had problems	

8. If you had a problem in the past, what was the problem? Check the corresponding option (s).

	Option
a) I never received the product, and they still charged me for it.	
b) They charged me more than the price that was specified on the web page.	
c) The product was defective when it arrived.	
d) Problems with the service online.	
e) The return process was very complicated.	
f) The product was not exactly what I bought: different characteristics, sizes, colors ...	
g) Delays in the delivery of the order.	

h) The product was not what I expected.	
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9. What has been the main reason for you not to buy on the Internet? Choose only one option.

	Option
a) I had a bad experience.	
b) When I want something, I want it at that moment.	
c) I prefer the advice of salespeople at the store.	
d) Lack of habit.	
e) I haven't had the necessity to buy online.	
f) I'm not convinced or I don't trust the payment methods.	
g) I prefer to see/touch the products before buying them.	
h) I'm concerned about sharing personal information.	
i) I don't find any advantage on buying online.	
j) I don't know how to buy online.	
k) Other. Which one? _____	

10. Any other reason or reasons? Choose more than one option without repeating the main reason chosen in the previous question.

	Option
a) I had a bad experience.	
b) When I want something, I want it at that moment.	

c) I prefer the advice of salespeople at the store.	
d) Lack of habit.	
e) I haven't had the necessity to buy online.	
f) I'm not convinced or I don't trust the payment methods.	
g) I prefer to see/touch the products before buying them.	
h) I'm concerned about sharing personal information.	
i) I don't find any advantage on buying online.	
j) I don't know how to buy online.	
k) Other. Which one? _____	

**Section VI - Demographic Data:** Finally, please answer some information related to demographic data.

11. Gender

Male \_\_\_\_\_ Female \_\_\_\_\_ Other \_\_\_\_\_

12. Age (in years): \_\_\_\_\_

13. Marital status:

	Option
a) Single	
b) Married	
c) Cohabiting	
d) Divorced	
e) Widowed	

14. Do you have children? Yes \_\_\_\_\_ No \_\_\_\_\_ How many? \_\_\_\_\_

15. What is the last level of education you completed?

	Option
a) Preschool	
b) Primary	
c) Junior High	
d) High school	



e) University	
f) Postgraduate Certificate Program (not master)	
g) Master's Degree	
h) Doctorate	

16. Tell us about your occupation:

	Option
a) Employee	
b) Self-employed / Business Owner	
c) Unemployed	
d) Work from home	

17. Do you study at the University?

Yes \_\_\_\_ No \_\_\_\_

18. From the following range, please indicate the average amount spent on monthly online purchases:

	Option
Less than USD \$ 30	
USD \$ 30 to USD \$ 90	
USD \$ 90 to USD \$ 160	
USD \$ 160 to USD \$ 330	
USD \$ 330 to USD \$ 660	
More than US\$ 660	



**Annex 2 – Table 13 – Estimation Test Value ( $\phi^2$ ) for Answers 1 to 8 and Final Sum**

Test Value $\phi^2$	Choices (c)	Groups (g)	Degrees of Freedom: c(g-1)	Chi Square Critical Value (p=0.05) - $\chi^2$	Conclusion
33,62	8	2	8	15,5073	There are signifi
<b>p17a comfort of buying from home or work * Country Crosstabulation</b>					
		Country			
		Colombia	Mexico	Total	
p17a comfort of buying from home or work	Is not an advantage	Count	27	37	64
		Expected Count	34,2	29,8	64,0
		% within Country	9,2%	14,4%	11,6%
	Is an advantage	Count	288	220	488
		Expected Count	280,8	227,2	488,0
		% within Country	90,8%	85,6%	88,4%
Total		Count	295	257	552
		Expected Count	295,0	257,0	552,0
		% within Country	100,0%	100,0%	100,0%
<b>p17b comfort of buying at anytime * Country Crosstabulation</b>					
		Country			
		Colombia	Mexico	Total	
p17b comfort of buying at anytime	Is not an advantage	Count	54	74	128
		Expected Count	68,4	59,6	128,0
		% within Country	18,3%	28,8%	23,2%
	Is an advantage	Count	241	183	424
		Expected Count	228,8	197,4	424,0
		% within Country	81,7%	71,2%	76,8%
Total		Count	295	257	552
		Expected Count	295,0	257,0	552,0
		% within Country	100,0%	100,0%	100,0%
<b>p17c find better prices * Country Crosstabulation</b>					
		Country			
		Colombia	Mexico	Total	
p17c find better prices	Is not an advantage	Count	132	122	254
		Expected Count	135,7	118,3	254,0
		% within Country	44,7%	47,5%	46,0%
	Is an advantage	Count	183	135	298
		Expected Count	159,3	138,7	298,0
		% within Country	55,3%	52,5%	54,0%
Total		Count	295	257	552
		Expected Count	295,0	257,0	552,0
		% within Country	100,0%	100,0%	100,0%
<b>p17d access to brands far away * Country Crosstabulation</b>					
		Country			
		Colombia	Mexico	Total	
p17d access to brands far away	Is not an advantage	Count	87	77	164
		Expected Count	87,8	76,4	164,0
		% within Country	29,5%	30,0%	29,7%
	Is an advantage	Count	208	180	388
		Expected Count	207,4	180,6	388,0
		% within Country	70,5%	70,0%	70,3%
Total		Count	295	257	552
		Expected Count	295,0	257,0	552,0
		% within Country	100,0%	100,0%	100,0%

<b>p17e possibility of comparing * Country Crosstabulation</b>					
			Country		Total
			Colombia	Mexico	
p17e possibility of comparing	Is not an advantage	Count	133	144	277
		Expected Count	148,0	129,0	277,0
		% within Country	45,1%	56,0%	50,2%
	Is an advantage	Count	162	113	275
		Expected Count	147,0	128,0	275,0
		% within Country	54,9%	44,0%	49,8%
Total	Count	295	257	552	
	Expected Count	295,0	257,0	552,0	
	% within Country	100,0%	100,0%	100,0%	

<b>p17f possibility of checking other comments * Country Crosstabulation</b>					
			Country		Total
			Colombia	Mexico	
p17f possibility of checking other comments	Is not an advantage	Count	124	144	268
		Expected Count	143,2	124,8	268,0
		% within Country	42,0%	56,0%	48,8%
	Is an advantage	Count	171	113	284
		Expected Count	151,8	132,2	284,0
		% within Country	58,0%	44,0%	51,4%
Total	Count	295	257	552	
	Expected Count	295,0	257,0	552,0	
	% within Country	100,0%	100,0%	100,0%	

<b>p17g buy other things before offline launching * Country Crosstabulation</b>					
			Country		Total
			Colombia	Mexico	
p17g buy other things before offline launching	Is not an advantage	Count	218	171	389
		Expected Count	207,9	181,1	389,0
		% within Country	73,9%	66,5%	70,5%
	Is an advantage	Count	77	86	163
		Expected Count	87,1	75,9	163,0
		% within Country	26,1%	33,5%	29,5%
Total	Count	295	257	552	
	Expected Count	295,0	257,0	552,0	
	% within Country	100,0%	100,0%	100,0%	

<b>p17h other * Country Crosstabulation</b>					
			Country		Total
			Colombia	Mexico	
p17h other	Is not an advantage	Count	285	247	532
		Expected Count	284,3	247,7	532,0
		% within Country	96,8%	96,1%	96,4%
	Is an advantage	Count	10	10	20
		Expected Count	10,7	9,3	20,0
		% within Country	3,4%	3,9%	3,6%
Total	Count	295	257	552	
	Expected Count	295,0	257,0	552,0	
	% within Country	100,0%	100,0%	100,0%	

Source: prepared by the authors.