

## Evaluating e-Customers' Satisfaction in B2C e-Commerce: the Case of Macedonian Students

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**Abstract.** The rapid development and adoption of information and communication technologies (ICTs), especially the vast proliferation of Internet and Web 2.0 paradigm in the recent years, have profoundly transformed the traditional ways of doing businesses worldwide. Going virtual has offered the companies many new possibilities, but it has also revealed many potential obstacles that have imposed new business strategies. Beyond any doubt, creating satisfied e-Customers, who will generate more e-Customers, is the best business strategy of all for online companies. Satisfied e-Customers are the key premise to attracting new e-Customers and then retaining them on a long term, the two most important aspects of doing business online. In that context, the paper highlights some results of an online survey, conducted among college students in the Republic of Macedonia, regarding their perceived levels of satisfaction vis-à-vis their B2C e-Commerce purchasing experiences. The statistical analysis of the survey results is based on the appliance of elements of descriptive and inferential statistics, as well as linear correlation and factor analysis. As such, the aim of the paper is to provide a profound knowledge and understanding of how Macedonian college students evaluate their online shopping experiences.

**Keywords:** B2C e-Commerce, e-Customer satisfaction, online survey, college students, Republic of Macedonia.

### 1. Introduction

The introduction and worldwide propagation of the e-Commerce paradigm have led to an expansion of the global market and consecutively, have brought numerous benefits for both sellers and buyers during the last two decades. E-Commerce has emphasized the generation and exploitation of new business opportunities over the Internet, and has offered unprecedented possibilities of purchasing wide-ranging gamut of products and services to an immense number of e-Customers worldwide.

Beyond any doubt, the two most important concepts that Internet companies have to recognize and continually work on are the Quality-of-Service (QoS) and, consequently,

the e-Customer satisfaction, which are both considered key factors that guarantee their sustainable competitive advantage and growth on a long term. According to Peter Drucker<sup>1</sup>, “quality in a service or product is not what you put into it; it is what the customer gets out of it”, whilst Michael LeBoeuf<sup>2</sup> claims, “a satisfied customer is the best business strategy of all”. In marketing, the term ‘customer satisfaction’ is defined as a measure of how products and services supplied by a company meet or surpass customer expectation. In highly competitive marketplaces like e-Commerce, where businesses compete for each customer, customer satisfaction is seen as a key differentiator, which has increasingly become a key element of business strategies [1].

E-Customer satisfaction positively affects an Internet organization’s profitability. Satisfied e-Customers form the foundation of any successful business since e-Customers’ satisfaction leads to repurchasing, loyalty, and positive word of mouth. According to Hansemark & Albinson (2004), “satisfaction is an overall customer attitude towards a service provider, or an emotional reaction to the difference between what customers anticipate and what they receive, regarding the fulfillment of some needs, goals or desire” [2]. E-Customers’ satisfaction is a premise to repurchasing and e-Customers’ loyalty, which refers to “a deeply held commitment to re-buy a preferred product or service in the future despite situational influences and marketing efforts having the potential to cause switching behavior” [3]. In addition, word-of-mouth advertising, being “an unpaid form of promotion in which satisfied customers tell other people how much they like a business, product or service”, is highly important for every business, especially e-Commerce, as “each happy e-Customer can steer dozens of new ones” [4]. This is completely in line with the popular slogan, “The purpose of a business is to create a customer who creates more customers.”

The rest of the paper is organized as follows. Section 2 reviews some evidence on the research in the field, both globally and in the country. Section 3 introduces description of data and the methodology applied. Section 4 discusses some of the main empirical findings. Section 5 concludes.

## 2. Related Research

As e-Commerce prevails in everyday shopping activities throughout the world, a substantial research endeavors have been taken in order to scientifically assess and measure the perceived levels of e-Customers’ satisfaction. For instance, Boyd (2002) has proposed the utilization of the GQIM (goals, questions, indicators, and measures) approach to the measurement of customer satisfaction with e-Commerce websites, which has proved effective in helping managers to identify critical business information [5]. Lin (2003) argues that e-Customer satisfaction is of a critical importance when measuring perceived customer-delivered value that is offered by e-Commerce [6]. Kumar & Petersen (2006) have studied how e-Commerce has affected online

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<sup>1</sup> Peter Ferdinand Drucker (1909 - 2005) was an Austrian-born American management consultant, educator, and author, whose writings contributed to the philosophical and practical foundations of the modern business corporation.

<sup>2</sup> Michael LeBoeuf (1942) is an American business author and former professor of management at the University of New Orleans, USA.

companies' abilities to serve the e-Customers' needs and to raise their level of satisfaction [7]. Liu *et al.* (2008) identify factors that may influence Chinese customers' online shopping satisfaction from the perspective of total online shopping experience. They have found that eight constructs – information quality, website design, merchandise attributes, transaction capability, security/privacy, payment, delivery, and customer service – are strongly predictive of online shopping customer satisfaction, while the effect of response time is not significant [8].

Lately, an emerging number of research papers do not deal strictly with e-Customers' satisfaction, but rather take into account its relationship with other relevant aspects, like service quality, loyalty and trust. To name a few, Kassim & Abdullah (2010) have shown that the perceived service quality have a significant impact on customer satisfaction, which, in turn, was found to have a significant effect on trust. Both customer satisfaction and trust have significant effects on loyalty through word of mouth [9]. In addition, Sheng & Liu (2010) have developed a new conceptual model of customer satisfaction and loyalty in online purchases, based on four dimensions of e-service quality: efficiency, requirement fulfillment, system accessibility, and privacy [10]. Their results indicate that efficiency and fulfillment have positive effects on customer satisfaction, and fulfillment and privacy have positive effects on customer loyalty.

To date, there have been limited research studies that address Macedonian e-Commerce issues, especially those related to e-Customer satisfaction. It is worthy to mention that Ciunova-Shuleska *et al.* (2011) have examined how gender and online shopping experience affect young adults' attitudes towards online shopping with college students [11]. Recently, Veseli & Rakipi (2015) have investigated the relationship between the attributes of the Internet and e-Customers' satisfaction in the Republic of Macedonia [12].

### **3. Methodology and Data**

The main objective of this research is to evaluate various aspects of e-Customers' contentment concerning online shopping activities accomplished by college students in the Republic of Macedonia. College students are both exceptionally interesting and suitable population for such research, since: (1) their age range corresponds to the population that is highly interested in doing online shopping activities; (2) the high level of their computer and Internet literacy and skills allows them an extensive usage of Internet technologies; (3) the proliferation and usage rates of smartphones to access Internet and convey online shopping activities are very high with their population. The target group involves the students attending all three cycles of study at the "St. Kliment Ohridski" University in Bitola, Republic of Macedonia, who have had any online shopping experience previously. Since the sample comprises of college students, i.e. it is highly specific, it cannot be generalized on the whole population in the country.

Because the objective of the research is a multi-dimensional by its nature, hereby it will be elaborated through two particular aspects. These include: (1) an evaluation of the overall personal user experience while shopping online, along with an assessment of e-Customers' behavior in the case when the perceived user experience was negative;

and (2) a valuation of e-Customers' satisfaction regarding various aspects of the purchasing process.

To accomplish the objectives of the study, a Web-based survey was conducted among the students during a two-month period (February – March 2016). The sample data were collected by means of a self-administered online questionnaire, prepared in Google Forms, and disseminated to all the students on their personal e-Mail accounts, as well as via faculties' websites and Facebook groups.

The online questionnaire consisted of two major sections.

The first one was designed to gather the basic, yet most relevant data about the respondents, including his/her gender, age, faculty attended, ECTS cycle of study, year of study, employment status, and average personal monthly incomes<sup>3</sup>.

The questions in the second section were aimed at addressing the two above-mentioned aspects of respondent's satisfaction.

#### 4. Analysis Results

The data analysis was accomplished using the IBM® SPSS Statistics® v20 statistical software. For each question from the second section, two types of analyses have been conducted: the first one includes descriptive statistics, whilst the second one involves both inferential and exploratory data analysis revealing the relationships among some of the variables included.

After the initial reliability and validity screening, a total of N = 93 responses were found to be complete and usable for further statistical analyses. Having minded the fact that the total number of students on the University on all three ECTS cycles of study is about 8,500, only 1.09% of them have answered the online questionnaire. This finding is completely in line with the previously elaborated observation that, in general, e-Commerce B2C activities in the country are still at a very low level, even among the young population.

Before we continue with specific data analyses by groups of questions, we first reveal some basic facts about the respondents' structure.

Regarding the respondents' gender, out of 93 respondents, N = 48 (51.6%) were males and N = 45 (48.4%) were females.

The age distribution clearly shows that 50% of the respondents are aged between 21 and 27, with a mean of 24.59, and a standard deviation of 6.024. Half of the respondents are aged between 18 and 22, and 25% between 22 and 27.

Regarding the ECTS cycle of study the respondents affiliate to, a great majority of them (N = 59, 63.4%) are undergraduate students, followed by postgraduate students (N = 19, 20.4%) and doctoral students (N = 12, 12.9%). Specialist studies are attended by N = 3 (3.2%) of the respondents.

A great number of respondents that yields 2/3 of the sample (N = 62, 66.7%) are unemployed, whilst in total 1/3 (N = 31, 33.3%) are employed, as follows: N = 16

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<sup>3</sup> After the preliminary screening of the answers obtained for this particular variable, it was concluded that respondents' data were highly controversial and untrustworthy. As such, this variable was excluded from the latter analyses.

(17.2%) respondents work in private companies, and N = 15 (16.1%) respondents work in public institutions.

#### 4.1. Overall personal user experience while shopping online

The evaluation of this issue is conducted using two, mutually related questions. The first one is "How can you estimate your overall personal user experience when shopping online?" The respondents' answers are registered on a five-point Likert scale<sup>4</sup>.

The relatively high average of 3.87, especially the fact that the modal value is 4, show that the majority of the respondents (N = 64, 68.8%) had, generally, a 'mostly positive' or 'exceptionally positive' personal experience while shopping online, vis-à-vis a negligible small number of them (N = 3, 3.2%) who had a negative personal experience. The relatively low standard deviation of 0.863 shows that there is a relatively small dispersion of the answers around the average score.

According to the group statistics generated by the SPSS® Independent-Samples T-Test, females' mean score is 3.69, with a standard deviation of 0.763, while males' mean score is 4.04, with a standard deviation of 0.922. That is, females' averaged overall online shopping experience is less positive than males' one. Since the significance of the T-Test for Equality of Means is Sig. (2-tailed) =  $p = 0.048 < 5\%$ , it can be concluded that there is a significant statistical difference between the respondents' answers obtained for the overall online shopping experience vis-à-vis their gender.

The SPSS® Crosstabs Chi-Square Test confirms that there is no significant statistical difference in the respondents' answers vis-à-vis their affiliated ECTS cycle of study ( $\chi^2 = 14.622$ ,  $df = 12$ , Asymp. Sig. (2-sided) =  $p = 0.263 > 5\%$ ), whilst the SPSS® correlation analysis shows that there is a very weak negative, yet statistically insignificant linear correlation between the respondents' answers vis-à-vis their age (Pearson Correlation =  $-0.060$ , Sig. (2-tailed) =  $p = 0.565 > 5\%$ ).

Finally, The SPSS® Crosstabs Chi-Square Test shows that there is no statistically significant relationship between respondents' answers vis-à-vis their employment status ( $\chi^2 = 11.779$ ,  $df = 8$ , Asymp. Sig. (2-sided) =  $p = 0.161 > 5\%$ ).

The second part of this section is dedicated to investigate the e-Customers' behavior in the case of a negative online shopping experience, be it assumed or real. The question we have posed to students was "What would you do if your personal user experience while shopping online was negative?"

Almost half of the respondents (N = 46; 49.46%) do not know what would they do if their online shopping experience was negative, a finding that points out the general indecisiveness of the young population. However, a significant number of the respondents (N = 30; 32.26%) are eager not to visit again the e-Commerce website which caused them a negative online shopping experience.

The SPSS® Independent-Samples T-Test shows that there is no significant statistical difference in the respondents' answers as opposed to their gender ( $t = -0.506$ ,  $df = 91$ , Sig. (2-tailed) =  $p = 0.614 > 5\%$ ).

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<sup>4</sup> The range of values includes 1 = 'Exceptionally negative', 2 = 'Mostly negative', 3 = 'Neutral / I don't know', 4 = 'Mostly positive', and 5 = 'Exceptionally positive'.

In addition, the SPSS® Crosstabs Chi-Square Test confirms that there is no significant statistical difference in the respondents' answers against their affiliated ECTS cycle of study ( $\chi^2 = 19.329$ ,  $df = 18$ , Asymp. Sig. (2-sided) =  $p = 0.372 > 5\%$ ).

The SPSS® correlation analysis shows that there is a very weak negative, and statistically insignificant linear correlation between the respondents' answers vis-à-vis their age (Pearson Correlation =  $-0.133$ , Sig. (2-tailed) =  $p = 0.203 > 5\%$ ).

Finally, according to the SPSS® Crosstabs Chi-Square Test, there is no statistically significant relationship between the respondents' answers vis-à-vis their employment status ( $\chi^2 = 11.945$ ,  $df = 12$ , Asymp. Sig. (2-sided) =  $p = 0.450 > 5\%$ ).

#### 4.2. E-Customers' satisfaction regarding various aspects of the online purchasing process

In this section, we assess respondents' satisfaction regarding the key aspects of the online purchasing process, including product prices, transport costs, shipping speed, transportation time, product packaging, and product quality. All of these variables are measured on a five-point Likert scale<sup>5</sup>.

Table 1 resembles the list of the assessed variables, along with their corresponding mean values and standard deviations.

**Table 1.** Evaluation of the respondents' satisfaction regarding the key aspects of the online purchasing process, including mean value and standard deviation (Source: Authors' calculations)

Variable	Mean value	St. deviation
Product prices	$\mu = 4.34$	$\sigma = 0.699$
Transport costs	$\mu = 4.17$	$\sigma = 0.868$
Shipping speed	$\mu = 3.55$	$\sigma = 0.950$
Transportation time	$\mu = 3.43$	$\sigma = 0.949$
Product packaging	$\mu = 3.99$	$\sigma = 0.891$
Product quality	$\mu = 3.91$	$\sigma = 0.816$

According to Table 1, respondents are satisfied at most with product prices ( $\mu = 4.34$ ), transport costs ( $\mu = 4.17$ ), and product packaging ( $\mu = 3.99$ ), whilst they are not satisfied with the transportation time ( $\mu = 3.43$ ). In all cases, the relatively small standard deviation ( $< 1.000$ ) points out the unity of the respondents' answers vis-à-vis the assessed variables.

According to the group statistics generated by the SPSS® Independent-Samples T-Test, the highest absolute differences in the mean values between males and females are present with the variables 'Product packaging' ( $\Delta = 0.33$ ) and 'Product quality' ( $\Delta = 0.30$ ). Still, the SPSS® Independent-Samples T-Test reveals that these two differences in the mean scores are not statistically significant. For the variable 'Product packaging',  $t$ -test =  $-1.771$  (assuming equal variances),  $df = 91$ , Sig. (2-tailed) =  $p =$

<sup>5</sup> The range of values includes 1 = 'Extremely unsatisfied', 2 = 'Mostly unsatisfied', 3 = 'Neutral / I don't know', 4 = 'Mostly satisfied', and 5 = 'Extremely satisfied'.

0.080 > 5%, and for the variable 'Product quality', t-test = -1.835 (assuming equal variances), df = 91, Sig. (2-tailed) = p = 0.070 > 5%.

The SPSS® Crosstabs Chi-square Test confirms that the observed variables statistically significantly distinguish neither vis-à-vis the respondents' affiliated ECTS cycles of study, *a propos* the respondents' age, nor concerning the respondents' employment status.

However, the SPSS® Factor analysis<sup>6</sup> performed on the set of these variables points out the existence of two factors (linear components) with Eigen values above 1.00 (Kaiser's criterion). The first one that can be referred to as 'Secondary aspects', includes the following variables: 'Shipping speed', 'Transportation time', 'Product packaging', and 'Product quality', whilst the second component, which can be identified as 'Primary aspects', encompasses 'Product prices', 'Transport costs', and 'Product quality' (Fig. 1). After rotation, the first factor yields for 38.742% of the variance, contrasted to 30.652% of the second one.

**Rotated Component Matrix<sup>a</sup>**

	Component	
	1	2
How much are you satisfied with the shipping speed for products bought online?	,886	
How much are you satisfied with the transportation time for products bought online?	,820	
How much are you satisfied with the packaging for products bought online?	,702	
How much are you satisfied with the quality of products bought online?	,574	,464
How much are you satisfied with the prices of products bought online?		,863
How much are you satisfied with the transport costs for products bought online?		,853

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 a. Rotation converged in 3 iterations.

**Fig. 1.** SPSS® Rotated Component Matrix, showing the two identified linear components (factors), and variables' affiliation to each of them (Source: Authors' calculations)

## 5. Conclusion

Despite the obvious limitations of the research results due to the relatively small number of respondents and the specifics of the sample, the paper significantly deepens both the knowledge and understanding of how much are Macedonian college students satisfied vis-à-vis their online shopping experience. This is especially true since it supplements the very limited research done on this particular subject in the country.

Among other significant findings, the survey results suggest that a great majority of the respondents had, generally, a positive personal experience while shopping online. In addition, female respondents' overall online shopping experience is significantly less positive than the males' one. Almost half of the respondents do not know what would

<sup>6</sup> The factor analysis has been conducted using the 'Principal components' extraction method, whilst the rotation was performed according to the 'Varimax' method. The factor scores were obtained using the Anderson-Rubin method.

they do if their online shopping experience was negative, a finding that points out the general indecisiveness of the young population. However, a significant number of the respondents are eager not to visit again the e-Commerce website, which caused them a negative online shopping experience. Respondents' satisfaction is highest with product prices, transport costs, and product packaging, whilst they are not satisfied with the transportation time. On the other hand, the group of primary aspects regarding the online shopping process includes product prices, transport costs, and product quality.

As such, the results provide substantial and profound managerial and theoretic insights that can serve not only as a solid basis for performing further research activities, but also they provide valuable conclusions that can be used by online companies competing in the Macedonian Internet market.

## References

1. Gitman, L. J., McDaniel, C.: *The Future of Business: The Essentials*, Fourth Edition. South-Western Cengage Learning, Mason, OH, USA. (2008)
2. Hansemark, O. C., Albinsson, M.: Customer satisfaction and retention: the experiences of individual employees. In *Managing Service Quality: An International Journal*, Vol. 14, Issue 1, 40-57. (2004)
3. Oliver, R. L.: *Satisfaction: A Behavioral Perspective on the Consumer*, Second Edition. Routledge/Taylor and Francis, New York, NY, USA. (2010)
4. Entrepreneur: Word-of-Mouth Advertising. *Small Business Encyclopedia* (2016). Entrepreneur Media, Inc. [Online]. Available: <http://www.entrepreneur.com/encyclopedia/word-of-mouth-advertising> (current March 2016)
5. Boyd, A.: The goals, questions, indicators, measures (GQIM) approach to the measurement of customer satisfaction with e-commerce Web sites. In *Aslib Proceedings*, Vol. 54, Issue 3, 177-187. (2002)
6. Lin, C. C.: A critical appraisal of customer satisfaction and e-commerce. In *Managerial Auditing Journal*, Vol. 18, Issue 3, 202-212. (2003)
7. Kumar, S., Petersen, P.: Impact of e-commerce in lowering operational costs and raising customer satisfaction. In *Journal of Manufacturing Technology Management*, Vol. 17, Issue 3, 283-302. (2006)
8. Liu, X., He, M., Gao, F., Xie, P.: An empirical study of online shopping customer satisfaction in China: a holistic perspective. In *International Journal of Retail & Distribution Management*, Vol. 36, Issue 11, 919-940. (2008)
9. Kassim, N., Abdullah, N. A.: The effect of perceived service quality dimensions on customer satisfaction, trust, and loyalty in e-commerce settings: a cross cultural analysis. In *Asia Pacific Journal of Marketing and Logistics*, Vol. 22, Issue 3, 351-371. (2010)
10. Sheng, T., Liu, C.: An empirical study on the effect of e-service quality on online customer satisfaction and loyalty. In *Nankai Business Review International*, Vol. 1, Issue 3, 273-283. (2010)
11. Ciunova-Shuleska, A., Grishin, M., Palamidovska, N.: Assessing young adults' attitudes toward online shopping in the Republic of Macedonia. In *Ekonomski pregled*, Vol. 62, Issue 12, 752-772. (2011)
12. Veseli, T., Rakipi, R.: The relationship between the attributes of the Internet and consumers' satisfaction: a study of e-Commerce in Macedonia. In *Proceedings of the 4th REDETE Conference (Researching Economic Development and Entrepreneurship in Transitional Economics)*. Graz, Austria (in press). (2015)