DOI: 10.5902/ 19834659 35490

"BOTH SIDES OF THE SAME COIN": IDENTIFYING THE PARADOXES OF TECHNOLOGY IN BRAZILIAN ONLINE CONSUMPTION

"OS DOIS LADOS DA MESMA MOEDA": IDENTIFICANDO OS PARADOXOS DA TECNOLOGIA NO CONSUMO ONLINE DOS BRASILEIROS

Submission: 05/11/2018
Accept: 16/07/2019

Claudia Maria Dias Guerra Disconzi [1]
Kathiane Benedetti Corso [2]
Marina Valim Bandeira [3]

ABSTRACT

The possibility of buying at any time of the day, researching prices and finding varied products are some of the advantages informed by online consumers. Despite the benefits, some disadvantages are also cited by these consumers, such as the impossibility of product experimentation, delay in delivery, difficulty in accessing websites and lack of security. With this, the possibility of paradoxical behavior among this type of consumer is verified. Therefore, this work aims to verify the presence of technology paradoxes in online consumer behavior. This is a descriptive-exploratory research, with a quantitative approach and a survey research method. A questionnaire was elaborated aiming to collect information regarding the profile of the online consumers interviewed and the characteristics of the purchase process, besides containing 28 statements referring to the 14 paradoxes of technology adapted from national surveys for consumption through the internet. A total of 263 respondents were obtained, where two pairs of paradoxes were present: Assimilation / Isolation and Planning / Improvisation.

Keywords: Technology paradoxes, Online consumer, E-commerce.

1 Master's Degree in Business, Federal University of Pampa (UNIPAMPA). Sant'Ana do Livramento-RS, Rio Grande do Sul, Brazil. E-mail: claudiadguerra@hotmail.com ORCID: https://orcid.org/0000-0002-4224-5167
2 PhD. In Business, Federal University of Rio Grande do Sul (PPGA/EA/UFRGS). Professor, Federal University of Pampa (UNIPAMPA). Sant'Ana do Livramento-RS, Rio Grande do Sul, Brazil. E-mail: kathi.corso@gmail.com ORCID: https://orcid.org/0000-0002-9421-5816
3 Master's Degree in Business, Federal University of Pampa (UNIPAMPA). Sant'Ana do Livramento-RS, Rio Grande do Sul, Brazil. E-mail: marina_vb_06@hotmail.com ORCID: https://orcid.org/0000-0002-2633-3028

RESUMO

A possibilidade de comprar a qualquer hora do dia, pesquisar preços e encontrar produtos variados são algumas das vantagens informadas por usuários do mercado online. Apesar dos benefícios, algumas desvantagens também são citadas por esses consumidores, tais como a impossibilidade de experimentação do produto, demora para entrega, dificuldade de acesso a sites e falta de segurança. Com isso, verifica-se a possibilidade de comportamento paradoxal entre este tipo de consumidor. Portanto, este trabalho tem por objetivo verificar a presença de paradoxos da tecnologia no comportamento dos consumidores online. Trata-se de uma pesquisa descritiva-exploratória, com abordagem quantitativa e método de pesquisa survey. Um questionário foi elaborado visando coletar informações referentes ao perfil dos consumidores online entrevistados e às características do processo de compra, além de conter 28 afirmativas referentes aos 14 paradoxos da tecnologia adaptados de pesquisas nacionais para o consumo via internet. Obteve-se um total de 263 respondentes, onde se verificou a presença de dois pares de paradoxos: Integração/Isolamento e Planejamento/Improvisação.

Palavras-chave: *Paradoxos da tecnologia; Consumidor online, Comércio eletrônico.*

1 INTRODUCTION

Internet was launched in Brazil, in 1989, for research purposes. Since 1995, the network is no longer used only for academic matters, and has since become popular (RNP, 1997). According to data from The Brazilian Institute of Geography and Statistics (IBGE, 2016), 36,8 million Brazilian homes already had internet access in 2014. This represents more than half of all homes in the country (54,9%). In addition, in that same year, 95,4 million Brazilian already had access to the internet, and the computer was the most used access means until 2013, currently surpassed by smartphones (BÔAS, 2016).

According to Morgado (2003), these are the factors that motivate the internet use, which can be classified as utilitarian or hedonic. Utilitarian factors include: communication information seeking, convenience and economic factors. Hedonic factors address fun, spending time, relaxing, socialization with friends and participating in communities. Therefore, there are several reasons for accessing the Internet, the most common are: study, research, leisure, entertainment, fun and shopping (TORRES, 2009; GALINARI et al., 2015).

Regarding shopping, it can be said that the electronic commerce is expanding worldwide (KAYANO, 2008). With respect to Brazil, the scenario is not different. In 2011, the country already occupied eighth in the ranking of online shopping. In 2014, business-to-business commerce (B2B) and consumer-to-consumer *(*C2C) trade had 63 million Brazilian customers, leaving Brazil responsible for 60% of e-commerce in Latin America and Caribbean. Shopping websites, such as Mercado Livre, Americanas and Walmart, and collective shopping pages, such as Peixe Urbano and Groupon have been gaining ground in the daily lives of the Brazilian people, becoming increasingly common to access them to search and buy products and services that were previously purchased in physical stores (GALINARI et al., 2015).

The authors also state that online consumption is increasing, as the Internet users have become familiar with online shopping process, causing an increase in sales. Thus, companies are increasingly investing more in well-designed and secure websites with quality services and products. As a result, new customers who are not in the habit of online shopping end up being attracted to try this practice. Also, according to the same authors, the profile of Brazilian users of online commerce is characterized by being mostly formed by women, with education between high school and elementary school, belonging to class C (GALINARI et al., 2015).

Several advantages are informed by those who make use of online commerce, especially the possibility to buy at any time of the day or anywhere. Besides that, the variety of products,

brands and offerings is wide. Despite the pros of being a shopping site user, some cons are cited by clients, such as, lack of security and trust, as well as the time spent searching for the best website that offers the best price with the shortest time delivery (GALINARI et al., 2015).

Given the advantages and disadvantages of internet shopping, there is a possibility of paradoxical behavior among electronic commerce users. Therefore, the article aims to verify the presence of technology paradoxes in online consumers in Brazil. In addition to achieving the general objective, the article also seeks the following specific objectives: (a) identify the profile of Brazilian online consumer, (b) verify the characteristics of internet consumption and (c) to identify the technology paradoxes in this consumer's behavior.

2 THEORETICAL FRAMEWORK

2.1 E- commerce, Online Shopping and Consumer Characteristics

According to Laudon e Laudon (2010), e-commerce emerged in 1995, through the portal Netscap.com, where sales announcements for large companies began to be made. Unlike the traditional commerce, which consists of a fixed location, e-commerce sales and services occurred through the internet, in websites offering products and services. In order to make a purchase, the customer, usually accesses a specific electronic address, searches and views offers, confirm the purchase and makes the payment (BORNIA; DONATEL; LORANDI, 2006).

According to Nascimento, Silva e Santos (2009), the electronic commerce, or the so-called e-commerce, occurs whenever any business transaction is made digitally. Catalani et al. (2004) state that there are several ways to practice e-commerce: business-to-consumer (B2C), business-to-business (B2B), consumer-to-consumer (C2C), business-to-employee (B2E), government-to-business (G2B), business-to-government (B2G), government-to-consumer (G2C) and consumer-to-government (C2G). B2C is characterized by the traditional business, where companies sells directly to the final customer, while B2B is the business between companies, C2C is the business to consumer practice, B2E is the business to business and their employees, G2C/B2G or G2C/C2G practices are characterized by initiatives between the government and companies, and also with end customers.

Although, it is only possible in a physical store, for instance, the consumer to experience the purchase, by entering the place, viewing, picking up and trying a product, there are several advantages of buying via internet, for both the consumer and the seller. The fixed store is prepared to serve the public in a certain area, but it is unable to make global sales, what is possible in a virtual environment (MISTRY; DHAVALE, 2011). Besides that, Gwozdz et al. (2014) explain many advantages of online shopping, such as: ease of access to desired products, customization, search for offers, possibility of purchase 24 hours a day, 365 days a year, wide payment methods, among others. From the company' point of view , besides amplify its sales to any location in the world, costs are reduced with logistics and staff, in addition to being able to create an alignment between company and customer, where a consumer profile is traced and accompanied by the company, through a customer digital marketing, making the client closer and satisfied (CASTRO, 2011; CAMPOS, 2012; STRAUSS, FROST, 2012). Although considered small related to the advantages offered by the electronic commerce, disadvantages such as lack of security, delayed delivery and non-visualization of the product view cause discomfort and insecurity in some consumers who choose physical purchases over online (STRAUSS, FROST, 2012; GWOZDZ, 2014).

However, even with the disadvantages listed, dada shows that sales of e-commerce have been increasing rapidly. According to Galinari et al. (2015), the world-wide B2C e-commerce

closed 2015 with sales above 1 trillion dollars, while Santos (2016) affirm that the forecast for 2018 is an income above 1,5 trillion dollars. It is worthy mention that in 2011, the turnover value was around 800 billion dollars. Still, according to the same authors, there are many divergences regarding e-commerce data, but all conclude a large increase in online shopping In terms of participation in the world B2C trade, North America ranked first place, being responsible for 32,8% of transactions made in 2014, followed by the Asia-Pacific area, with a 31,2% share, in third place Eastern Europe with 25,4%, Latin America with 4,3%, Western and Central Europe with 4%, Middle East and Africa with the remaining 2,3% (GALINARI et al., 2015).

In a survey conducted by the Flipit coupon and discount website in 2014, in all continents, with the exception of Africa, over than 80% of the population said they had already made some online purchase. In the same survey, half of the north-Americans reported doing internet shopping frequently, while in Latin America, 1/3 of consumers said they relied more in physical stores than on virtual. 47% of consumers in the Middle East and Africa informed they have never shopped online (FLIPIT, 2014). Still, according to data from the same survey, the best-selling products are in the fashion, electronics and beauty categories, and the most present population segments are women, elderly and individuals from classes C and D. In a study developed by Galinardi et al. (2015), there were also discrepancies in online shopping rates between regions of the planet, among the causes were raised difficulty of internet access and low income of the population.

According to Strauss e Frost (2011), the least connected group is the one, consequently, that less purchases online, being characterized by older and less educated people, with less instruction, belonging to ethnic minority groups, without children, with low income and who live in rural areas. Still, according to the authors, these data do not seem to change quickly, as internet access has already reached its maturity level. Although consumer characteristics vary by individual, influenced by cultural, political, economic and technological factors, online buyers' group are already behaving in common, increasingly demanding more security, data privacy, ease of access to information, speed, quality of services and products, among other requirements (STRAUSS; FROST, 2012).

2.1.1 Online Shopping in Brazil

Considering Latin America and the Caribbean, Brazil is responsible for 60% of all e-commerce practiced in the region, followed by Mexico, Argentina, Chile, Venezuela, Colombia and Peru (GALINARI et al., 2015).

According to Kayano (2008), Brazil's highlight in online shopping is also worldwide, because in 2011, the country was eighth in the world ranking of e-commerce, behind the USA, China, Japan, United Kingdom, Germany, South Korea and France (GALINARI et al., 2015).

Currently, the Brazilian e-commerce is in tenth place in the ranking, with revenues of 44.4 billion reais in 2016, nominal growth of 7.4% over the previous year and projected revenue of almost 50 billion reais for 2017 (EBIT, 2017).

According to Galinari et al. (2015), despite being large in this segment in absolute numbers, Brazil has an immature B2C e-commerce, basically composed of small retailers and few large companies, without much legal support in the virtual environment, besides offering internet and information systems of low-quality delivery.

However, even with the difficulties encountered nationally for online shopping, the number of online consumers (e-commerce consumers) reached 63 million in 2014, of which 12 million people made purchases for the first time.

According to Galinari et al. (2015), as users identify the advantages of buying online, through secure websites and trusted sellers, that offer quality services, the word-of-mouth trend and familiarity with the practice, make more person try the process.

Thus, Brazilians are increasingly using their notebooks, phones, tablets, among other electronic devices to make purchases of appliances, electronics, clothing, cosmetics, etc.

Still, in a research conducted by the same authors, the profile of these consumers, agreeing and disagreeing in part with that found in a study abroad cited earlier in this paper, is of women, with elementary / high school, belonging to class C. For Torres (2009), the Brazilian consumer is represented by all social classes and spends at least one hour daily to surf the internet.

A study by Morgado (2003), which investigated the behavior of online consumers, found that some of the factors for making purchases via the internet was the speed of the purchase process, another aspect evidenced was the trust in some major shopping sites, Even so, internet users claim to spend a lot of time researching competing pages, offers and products, but also say they feel insecure providing their personal data and end up completing their purchases through bank payment (CASTRO, 2011; GWOZDZ, 2014; GALINARI et al., 2015).

Therefore, it can be observed that e-commerce users present some evidence of paradoxical behaviors, informing the existence of pros and cons of this practice that has become popular in Brazil and worldwide.

2.2 Technology Paradoxes

For Mick e Fournier (1998), paradoxes impose the idea of opposite, polar condition of existence. Jarvenpaa e Lang (2005) explain paradoxes as a situation, act or behavior that have inconsistent/contradictory qualities.

Despite being a subject still little explored issue in research (CORSO, 2013), the paradoxes present in the use of technology have been the subject of important studies. At international level, there are studies such as Mick e Fournier's research (1998), which investigated the presence of paradoxes in technological products. Jarvenpaa e Lang (2005) researched dualities of smartphone use, Mazmanian, Orlikowski e Yates (2006) verified the paradoxes in technological performance of mobile work and Sorensen (2011) addresses the paradoxes regarding management. In Brazil, Gonçalves and Joia (2011), Gonçalves (2012) and Borges and Joia (2013) focused on the paradoxes and the relationship between executives and their smartphones. Corso (2013) studied the paradoxes evidenced in the use of mobile technology and Fernandes Filho and Pitombeira (2016) sought to identify the paradoxical perceptions of smartphone use at work.

For Jarvenpaa and Lang (2005), the technological paradoxes in mobile technology arise when the process of action between user and technology occurs, that is, when technology is experienced by the user. Still, according to the authors, some situational and contextual factors end up affecting such interaction. Thus, the technological, organizational and cultural context influences on the way the individual uses such technology. The use in different situations for different purposes such as communication, socialization, mobility and efficiency also affect the use of technologies, which may cause conflicts for the user, such as paradoxical situations. Corso (2013) explains that the paradoxes are influenced according to the interest in using technology, individual practices and feelings arising from the interaction between user and technology.

Mick e Fournier (1998) were the first to investigate the paradoxes regarding the use of technologies in the United States. In their studies, they sought to understand perspectives, meanings and behavior of consumers of products, such as televisions and printers,

among other devices. In total, eight paradoxes were identified, as follows: Control X Chaos, Freedom X Enslavement, New X Obsolete, Engaging X Disengaging, Efficiency X Inefficiency, Fulfills X creates needs, Assimilation X Isolation and Competency X Incompetency. Such paradoxes were conceptualized in Table 1. Such as Mick and Fournier (1998), but focusing on mobile technology, Jarvenpaa and Lang (2005) also highlighted eight paradoxes among Finnish, Japanese, Chinese and Americans user of mobile phones, smartphones and digital assistants. Among the identified paradoxes, four had already been considered by Mick and Fournier (1998): Freedom X Enslavement, Competence X Incompetence, Fulfills X Creates needs and Engaging X Disengaging. The others identified by the authors exposed in Chart 1 are: Independency X Dependency, Planning X Improvisation, Public X Private and Illusion X Disillusion. In the research by Mazmanian, Orlikowski and Yates (2006), access to email from smartphone was studied. It was concluded that employees of a private company presented the following paradoxes (Chart 1): Continuity X Asynchronicity, Autonomy X Addiction and Engaging X Desengaging. Unlike previous research, Sorensen (2011) evaluated technology management and performance, identifying three paradoxes: Fluid Control fluid X Limited Control, Fluid Collaboration X Limited Collaboration and Limited Creativity and Fluid Creativity.

Corso (2013) sought to verify the paradoxes in the use of mobile technology by managers of higher Institution and in his work rescued the authors cited earlier, building a comparative table containing 17 paradoxes. Such paradoxes are presented in Table 1, as well as their authors and concepts.

TABLE 1–Paradoxes of Technology

PARADOX	AUTHORS	CONCEPTS
Control X Chaos	MICK e FOURNIER (1998)	Technology can facilitate order and control of tasks and situations, as it can cause clutter or revolt.
Freedom/ Empowerment X Enslavement	MICK e FOURNIER (1998), JARVENPAA e LANG (2005)	Technology can facilitate independence and reduce constraints, as it can lead to dependency and more restrictions. Mobile technology allows permanent connectivity with work, family and friends, but on the other hand, this same connectivity prevents the user from staying away from others.
New X Obsolete	MICK e FOURNIER (1998)	Technology can bring new benefits from advancing knowledge, as it may be outdated the moment it becomes accessible to the consumer.
Competency X Incompetency	MICK e FOURNIER (1998), JARVENPAA e LANG (2005)	Technology can bring a sense of intelligence or effectiveness, as it can trigger feelings of ignorance or incompetence. Mobile technology enables users to use their skills, but feelings of lack of competence for use.
Efficiency X Inefficiency	MICK e FOURNIER (1998)	Technology enables less effort or less time to perform certain tasks, as well as, may require more effort and time in others.

Fulfills X Creation of Needs	MICK e FOURNIER (1998), JARVENPAA and LANG (2005)	Technology can facilitate the satisfaction of needs or wants, as it can make unmet needs and wants conscious. Mobile technology meets needs and assists in problem solving, but at the same time enables them to be created new issues.
Assimilation X Isolation	MICK e FOURNIER (1998)	Technology can facilitate interaction between people, as well as can cause their separation.
Engaging X Desenganging	MICK e FOURNIER (1998), JARVENPAA e LANG (2005), MAZMANIAN, ORLIKOWSKI and YATES (2006)	Technology can facilitate people's involvement, flow or activity, as it can cause disconnection, accommodation, or passivity. Using your smartphone generates extensive email communications engagement, but it also provides a detachment from personal interactions.
Independency X Dependency	JARVENPAA e LANG (2005)	Mobile technology provides independence by enabling you to be connected regardless of. Local and time, but creates a new form of dependence on connectivity itself.
Planning X Improvisation	JARVENPAA and LANG (2005)	Mobile technology can be a planning tool, enabling better coordination of tasks, social activities and meetings. Mobile technology can be a planning tool, enabling better coordination of tasks, social activities and meetings. Spend less time and effort organizing your tasks.
Public X Private	JARVENPAA and LANG (2005)	Mobile technology can be used privately, but it can be used everywhere and at any moment, what may lead to the invasion of the space of others.
Illusion X Desillusion	JARVENPAA and LANG (2005)	Mobile technology creates expectation of new attributes and possibilities, but if unchecked they generate disappointment and frustration.
Continuity X Asynchronicity	MAZMANIAN, ORLIKOWSKI e YATES (2006)	The smartphone enables users to be continuously connected while maintaining a wide flow of information, but this continuity can be controlled by the user as he decides when and how to respond to the message.
Autonomy X Addiction	MAZMANIAN, ORLIKOWSKI e YATES (2006)	Using the smartphone makes users feel the increased autonomy and flexibility of their work, but also requires them to keep their connected and constantly updated devices.
Fluid Creativity X Limited Creativity	SORENSEN (2011)	Mobile users use creativity to manage conflicting needs, limited connection environments, and pressure for increased work, but being creative requires efforts to manage hitherto unintended consequences.
Fluid Collaboration X Limited Collaboration	SORENSEN (2011)	Mobile technology enables collective efforts and interactions, but the user can follow rules, rules, standards, and use mobile technology.in isolation in their tasks.
Fluid Control X Limited Control	SORENSEN (2011)	Mobile technology supports work management to control, manage and supervise activities, but can also provide opportunities for increase individual discretion in actions and decisions, making the practice of coordination and control difficult.

Source: adapted from Corso (2013).

3 METHODOLOGICAL PROCEDURES

This paper presents an empirical research and exploratory descriptive character. It presents a descriptive character, because despite being a topic still little address in academia, the paradoxes of technology have been discussed since Mick and Fournier, in 1998 (GIL, 2010; CORSO, 2013). It can also be characterized as exploratory because it brings the purpose of a new study hypothesis, as it seeks to find technological paradoxes in an area where they have not been identified yet, i.e., relating the existing technology paradoxes, to online consumers behavior (GIL, 2010).

The research method adopted was survey, so its approach is classified as quantitative (HAIR, 2005). The data collection technique used was the questionnaire, which presented three blocks. The first block aimed to identify the characteristics of online consumption, the second block brought the statements about the paradoxes of technology adapted to internet shopping users and the third block was formed by questions that aimed to identify the profile of this consumer.

The paradox block presented two statements by technology paradox, based on the studies of technologies paradoxes by Mick e Fournier (1998), Jarvenpaa and Lang (2005) and Mazmanian, Orlikowski and Yates (2006), each with Likert scale of 5 points, where 1 corresponds to "strongly disagree" and 5 to "strongly agree". The statements that formed this block were adapted from the works developed by (2013) and Borges and Joia (2013). Both questionnaires of these authors served as the basis for the construction of the questionnaire of this work, which sought to adapt the questions and statements to sentences related to online commerce users. It is noteworthy that the three paradoxes discussed by Sorensen (2011), addressed by Corso's (2013) research, were not considered since the focus of these paradoxes is the management and the context of work. In contrast, the objective of the present study is linked to the relationship between user and technology, so we consider 14 paradoxes in total.

After the sentences were elaborated, four researchers from the information systems area were consulted in order to reevaluate the statements of the paradoxes and validate the research instrument, making the necessary adaptations for a better understanding of the interviewed.

Table 2 presents the paradoxes addressed and the 28 sentences adapted for e-consumers.

Table 2 – Technology Paradoxes adapted for e-commerce

PARADOX	STATEMENTS
Control X Chaos	1-Shopping online helps me organize and control my daily tasks. / 2-Shopping online makes me feel unplanned and this causes a bit of a clutter in my day to day life.
Freedom/ EmpowermentX Enslavement	3-Buying online gives me freedom because it allows me to buy without restrictions. / 4- I often feel dependent on online commerce because of the need to always be buying.
New X Obsolete	5-The practice of online shopping is something new and allows my daily life to be facilitated. / 6-I have the impression that shopping online is already outdated.
Competence X Incompetence	7-Online shopping sites allow me to feel more efficient in my daily life, because it allows me to do things that I didn't do before. / 8-Buying online is complicated, making me often feel incompetent for not be able to finalize a purchase.
Efficiency X Inneficiency	9-Do online shopping faster and less effort than when I go to a physical store. / 10-Buying online is time consuming and wastes time.
Fulfills X Creates needs	11-Buying online makes my daily life easier and satisfies me. / 12-Shopping online gives me more needs and wants to buy.

Assimilation X Isolation	13-Buying online allows for greater integration between people as it allows for greater connectivity. / 14-Shopping online gives you greater distance between people as it minimizes personal contacts.
Engaging X Desengaging	15-Buying online makes me get involved and communicate in online shopping groups. / 16-Buying over the internet can cause distancing of interpersonal relationships.
Independency X Dependency	17-Shopping online gives me a sense of independence, since I can shop anywhere and anytime. / 18-Being able to shop anytime of my day and anywhere makes me dependent on shopping
Planning X Improvisation	19-Being able to shop online allows me to better coordinate my time, tasks, and appointments. / 20-Buying online gives me more ability to improvisation as I spend less time having to go to physical stores.
Public X Private	21-The process of buying online is something personal, which I do alone. / 22-The fact that being able to shop anywhere and anytime makes me shop online, even when I'm with other people.
Illusion X Desillusion	23-When buying online, I imagine that the process will give me new buying possibilities (quality products, promotions, news). / 24-I have already been disappointed to buy online because I realize that not always Products / services are as expected.
Continuity X Asynchronicity	25-Receiving and reading emails from online stores keeps me always up to date and in constant flow of information. / 26-I decide when and where I will read emails from online stores, choosing what I want to read according to my needs.
Autonomy X Addiction	27-Shopping online gives me more autonomy and flexibility in my day to day. / 28-I often feel the urge to constantly shop via internet.

Source: adapted from Corso (2013) and Borges e Joia (2013).

The questionnaire was made available online, through Google Forms application, and sent to online shopping groups and forums, as well as technical and higher education institutions, schools and businesses, in order to obtain as heterogeneous a sample as possible regarding the profile of consumers.

The results were treated and statistically analyzed descriptively and with hypothesis tests. As it was not possible for this study to determine the total number of Brazilian online consumers, this research presents a non-probabilistic sampling.

According to Mattar (1996), non-probabilistic sampling is more appropriate than probabilistic sampling when one does not have access to the population needed for the study.

Firstly, in order to identify the online consumer profile and the characteristics of internet consumption, for the sample considered, the data collected through block 1 and block 3 of the questionnaire are presented through descriptive statistics and hypothesis tests (T-test for independent samples and ANOVA, both with a significance level of 95%).

The hypotheses tested in this phase were elaborated based on the studies of Galinari et al. (2015) and Torres (2009), where it was sought to verify if the characteristics of the considered sample, in relation to the frequency of purchase via internet, match the literature. The assumptions are as follows: H1 - Women shop online more often than men; H2 - people with higher incomes buy more often via the internet; H3 - there is a difference in online shopping frequency according to education level; H4 - Young people shop more often over the internet than older people and adults.

The variable “internet purchase frequency” was measured by a 7-point Likert scale, where 1 is “Rarely” and 7 is “Every Week”. The variable “Income” was categorized according to social

classes (A, B, C, D and E) informed by IBGE (2016) and the education variable was divided into four groups, as follows: Elementary and High School, Graduating, Graduate and Postgraduate.

Regarding block 2, composed by the statements regarding the 14 technology paradoxes, the T-test for paired samples was estimated for each paradox, where the presence of the paradox occurs by accepting the null hypothesis, i.e., there is no evidence of differences between the means of the samples tested (HAIR, 2005; BORGES; JOIA, 2011). Following the proposal of Borges and Joia (2011), there are three levels of intensity to identify the presence of a paradox. If the p-value of the test is between 1% and 5%, there is an indication of a weak presence of the analyzed paradox, if the p-value is between 5% and 10%, then there is an average indication of the presence of the paradox. and if the p-value is above 10%, it is stated that there is a strong indication of the presence of the paradox.

All statistical tests were estimated via SPSS version 22 software.

4 RESULTS AND DISCUSSION

The online questionnaire obtained a total of 279 respondents. Of these, 263 said they bought at least once via internet. Of the sample of respondents who assume to buy via internet, 61,2% are women, with an average age of 29,28 years (SD≅8,27). Regarding education, 37,6% of e-commerce users have post-graduation courses, 21% are graduated, 27,8% are undergraduate students, 12,2% have completed high school and 1,1% have completed elementary school. The average gross family income was 6013,476 reais (SD ≅ 5650,751).

The notebook is the most used device for online shopping (79 votes), followed by smartphones (42 votes). Regarding to frequency of use to shopping sites, 47,9% said that they consult sales sites few times a week, 20,9% access monthly, 16% more than once a day, 8,7% only once a day and 6,5% rare times a year. When asked about the frequency of internet shopping, 29,7% they said they buy every 2 or 3 months, 28,5% make purchases once or twice a month, 16,3% make purchases once every 4-6 months, 12,9% said they rarely buy, around once a year , 6,8% buy every 7-11 months and only 1,5% buy every week some product via the internet. Regarding reading of offers received via email, 165 people reported reading the content of the message (71,5% sometimes, 28,5% always), while the remaining 97 stated that they do not usually read about offers received online. Around 53% of online shoppers have already made at least one purchase via *internet* influenced by some offer received in their personal emails.

The websites reported by users as the most used for shopping were Lojas Americanas (61,5% of votes), Mercado Livre (54,2% of votes), Saraiva (49,6% de votes), Submarino (45,8% of votes) and Netshoes (45,4% of votes). Of the sample, 74,1% of survey respondents said that they do not use collective buying and discount sites, while among those using such sites, most cited sites were Peixe Urbano and Privalia. As for subscription clubs only 8,8% of respondents make use. The category of products purchased through internet that most respondents voted was books /e- books, followed by the electronics and clothing, shoes and bags. According to respondents, the most used means of payment to make the online purchase is the credit card (62,4%), followed by the bank slip (24,3%).

For the first hypothesis informed in the methodology (H1), the T-Test of Student for independent samples was accomplished. Table 1 shows the values obtained with the test.

Table 1 – Result of Teste T for independent samples of Hypothesis 1

Gender	Mean	Standard Deviation	P-value	T calculated
Female	3,747	1,437	0,824	0,22
Male	3,706	1,493		

Source: own authorship.

As it was a unilateral test, the calculated t-value and the t-tabulated value were observed. The calculated t-value was 0,2 (<1,645), thus accepting the null hypnotists. Therefore, it cannot be stated that women in this sample buy online with more frequency than men (α=0,05), contrary to the study by Galinari et al. (2015).

Seeking to verify the other hypotheses (H2, H3 and H4), analysis of variance (ANOVA) was performance. For H2, the p-value obtained was 0,003 (<0,05), so there is at least one difference between the average online shopping frequency among the groups classified by income. Table 2 shows The Turkey multiple comparison test results.

Table 2 – Turkey Test result for H2

Income Groups	Mean
Class B(4)	4_a
Class C(3)	$3,754_a$
Class A(5)	$3,704_a$
Class D (2)	$3,311_a$
Class E(1)	1_b

Source: own authorship.

Observing the values presented Table 3, it can be said that the group that buys less through the internet is the individuals belonging to Class E. The other social classes did not present significant differences between the average frequency of online shopping, so it cannot be stated that people with higher incomes buy more via the internet than those with less income. This result does not corroborate the statement of Galinari et al. (2015), where class C consumes the most through the internet.

P-value for H3 was 0,000, which demonstrates that there is at least one difference between the average purchase of individuals with different educational levels.

Table 3 presents the Tukey Test Values.

Table 3 - Tukey Test Results for H3

Schooling Group	Mean
Post-Graduated (4)	$4,061_a$
Graduated (3)	4_a
Undergraduate (2)	$3,466_{ab}$
Elementary and High School (1)	$2,914_b$

Source: own authorship.

It is found that postgraduate and graduate individuals shop online more often than individuals with elementary / high school education. Therefore, it can be said that there is a difference in the frequency of online shopping according to education. However, the one proposed by Galinari et al. (2015) that people with elementary and high school are the most consumed in the online market has not been confirmed.

When performing the ANOVA for H4, the p-value obtained was 0. 001.Because this value is less than 0.05, it is estimated that there is at least one difference between the means of the groups divided according to age. Table 4 presents Turkey Test Results for these groups.

Table 4 - Turkey Test for H4

Age Group	Mean
Adults (1)	3,971a
Elderly (2)	3,545ab
Young people (0)	3,211b

Source: own authorship.

According to Table 4, it can be seen that adults have higher online shopping frequency than young people. The hypothesis that young people buy more than adults and the elderly as not been proved. As there is no significant difference between the average of adults and the elderly, the statement by Galinari et al. (2015) that adults shop online more frequently than other groups are not confirmed.

Seeking to verify the presence of technology paradoxes in the online consumer sample, The T-Test for paired samples was performed for 14 pairs of paradoxes. Table 5 shows the results.

Table 5 - T-Test results for paired samples

Technology Paradoxes	Affirmative of the Questionnaire	Mean	Standard Deviation	P-value	Paradoxal behavior?
Control/Chaos	1	3,277	1,1417	0,000	No
	2	1,814	1,0279		
Freedom/ Enslavement	3	4,004	1,0410	0,000	No
	4	1,996	1,1486		
New/Obsolete	5	2,674	1,1861	0,000	No
	6	1,530	0,8081		
Competence/ Incompetence	7	3,121	1,1305	0,000	No
	8	1,640	0,9449		
Efficiency/ Inefficiency	9	3,958	1,0474	0,000	No
	10	1,739	0,9730		
Fulfills/Creates needs	11	3,413	1,0822	0,000	No
	12	2,758	1,3203		
Assimilation/ Isolation	13	2,386	1,0867	0,015	**Yes**
	14	2,640	1,2407		
Engaging/ Disengaging	15	2,189	1,1177	0,000	No
	16	2,682	1,2716		
Independency/ Dependency	17	3,587	1,1065	0,000	No
	18	2,345	1,2541		
Planning/ Improvisation	19	3,583	1,0999	0,296	**Yes**
	20	3,511	1,1269		
Public/Private	21	3,473	1,1467	0,000	No
	22	2,970	1,2142		
Illusion/Desillusion	23	3,530	1,1265	0,005	No
	24	3,258	1,2216		
	25	3,004	1,1618	0,000	No
Continuity/Asynchronicity	26	3,712	1,1405		
Autonomy/Addiction	27	3,773	1,0758	0,000	No
	28	2,432	1,3351		

Source: own authorship.

According to the results presented in Table 5, only two pairs of statements showed no statistically significant differences between the two averages (p-value> 0.01), which confirms the presence of the technology paradox. The Integration / Isolation paradox was confirmed

with a p-value of 0.015, and its presence was classified as weak. In contrast, the Planning / Improvisation paradox proved to be a strong indication, with p-value equal to 0.296 (BORGES; JOIA, 2011).

With the confirmation of the Assimilation/Isolation paradox, the online consumer recognizes that the electronic market facilitates communication between people, such as online shopping groups, social buying and selling groups, *blogs*, forums, *reviews* and web*sites*, where users exchange ideas, comment on price and product quality, among other information made available and discussed. In contrast, these consumers also understand that the online shopping process is a solitary act, which occurs from the interaction between person and device, unlike physical purchase, which involves face-to-face interact contact between buyer and seller, with dialogue.

Considering the strong presence of the Planning/Improvisation paradox, it can be said that e-commerce user experiences a feeling that internet shopping makes their day-to-day life easier allowing better coordination of their activities. Therefore, the online shopper can schedule their purchases amid daily commitments. However, the ease of access to devices at any time also causes improvisation, where the user ends up making unplanned (impulsive purchases) and even unnecessary (compulsive shopping) (STRAUSS; FROST, 2012; BORGES; JOIA, 2013).

5 CONCLUSION

This work aimed to contribute bringing information on the characteristic profile of the Brazilian online consumer and one of the process of purchase of a type of commerce that is growing in Brazil and the world. As its main collaboration, it identified which technology paradoxes manifest themselves in online commerce users, and presented an instrument for identifying technology paradoxes adapted to the electronic market.

Regarding the general objective, the following pair of paradoxes had been identified: Assimilation/Isolation (weak presence) and Planning/Improvisation (strong presence). These results differ from those found in research used as references in this paper, such as the study by Corso (2013), which identifies three paradoxes: Freedom/Enslavement, Fulfills/Creates Needs and Continuity/Asynchronicity. Considering the study by Borges and Joia (2011), the Planning/Improvisation paradox was also verified, however, the other pairs identified in the research were: Continuity/Asynchronicity, Autonomy/Addiction, Freedom/Enslavement and Independency/Dependency.

Regarding online consumer profile of the sample considered, it was found that: there was no difference in the frequency of purchase according to gender; Class E is the least that purchases online compared to the other economic classes; people with elementary and high school education buy less than individuals with higher educated individuals; adults shop online more frequently than young people.

The limitations of this study are the time of data collection, which was three months, and non-probabilistic sampling. Therefore, its result cannot be generalized serving only to characterize the considered sample.

As future procedures, we suggest an increase in sample size and qualitative study to identify in depth how technology paradoxes manifest themselves n behavior of e-commerce users.

REFERENCES

BÔAS, B. Celular se torna principal meio de acesso à internet nos lares, diz IBGE. **Folha de São Paulo**. 2016. Disponível em: < http://www1.folha.uol.com.br/mercado/2016/04/1757972-celular-se-torna-principal-meio-de-acesso-a-internet-nos-lares-diz-ibge.shtml>. Acesso em: 4 de Jul. 2016.

BORGES, A. P. e JOIA L.A. Uma investigação acerca dos paradoxos presentes na relação entre executivos e smartphones. In: EnANPAD 2011, 04-07 Setembro, Rio de Janeiro, 2011.

BORGES, A.; JOIA, L. A. Executivos e Smartphones: uma relação ambígua e paradoxal. **O&S**: Salvador, v.20 - n.67, p. 585-602, Novembro/Dezembro, 2013.

BORNIA, A. C.; DONADEL, C. M.; LORANDI J. A. A logística do comércio eletrônico do B2C (business to consumer). XXIX Encontro Nacional de Engenharia da Produção. Salvador. **Anais...**, 2006.

CAMPOS, L. **Marketing industrial**. 1. ed. Curitiba: Ibpex, 2012.

CASTRO, W. **E-commerce: vantagens para consumidores e para as empresas.** 2011. Disponível em:<http://www.oficinadanet.com.br/artigo/e-commerce/e-commerce-vantagens-para-consumidores-e-para-as-empresas>. Acesso em: 01. Jun. 2016.

CATALANI, L.; KISCHINEVSKY, A.; RAMOS, E.; SIMÃO, H. **E-commerce.** Rio de Janeiro: FGV, 2004.

CORSO, K. Práticas sócio-materiais de gestores**: Investigando os paradoxos de uso da tecnologia móvel em uma Instituição de Ensino Superior.** 202 f. Tese (Doutorado em Administração) – Universidade Federal do Rio Grande do Sul, Porto Alegre. 2013.

EBIT. Webshoppers: o relatório mais completo sobre o e-commerce, 2017. Disponível em:< http://www.profissionaldeecommerce.com.br/webshoppers-35/>. Acesso em: 25 fev. 2017.

FERNANDES FILHO, F.; PITOMBEIRA, S. Paradoxos tecnológicos no uso de smartphone como ferramenta de trabalho. In: Encontro da ANPAD 2016, Salvador, Bahia, 2016.

FLIPIT. **O comércio eletrônico no Brasil e no mundo. 2014**. Disponível em: http://onegociodovarejo.com.br/infografico/o-comercio-eletronico-mundo/. Acesso em: 3 Jun. 2016.

GALINARI, R., et al. Comércio eletrônico, tecnologias móveis e mídias sociais no Brasil. **BNDES Setorial**: Rio de Janeiro, n. 41, p. 135-180, mar. 2015.

GIL, A. **Como elaborar projetos de pesquisa.** 5. ed. São Paulo: Atlas, 2010.

GONÇALVES, A. Executivos, gênero e smartphones: uma exploração quanto aos paradoxos tecnológicos e às copying strategies. Tese (Doutorado em Administração) - Escola Brasileira de Administração Pública da Fundação Getúlio Vargas, Rio de Janeiro, 2012.

GONÇALVES, A.; JOIA, L. Uma investigação acerca dos paradoxos presentes na relação entre executivos e smartphones. In: Encontro da ANPAD 2011, Rio de Janeiro, RJ, Brasil, set. 2011.

GWOZDZ, D., et al. Efeitos do Comércio Eletrônico: a percepção dos empresários associados à Câmara de Dirigentes Lojistas (CDL) de São Miguel do Oeste-SC. **Revista de Gestão e Tecnologia**: Florianópolis, SC, v. 4, n. 1, p. 111-125, jan./jun. 2014.

HAIR, J. et al. **Fundamentos de Métodos de Pesquisa em Administração**. Porto Alegre: Bookmann, 2005.

IBGE. Classes sociais de acordo com a renda. Disponível em: <http://www.datosmarketing.com.br/listas-detalhes-classes-sociais.asp>. Acesso em: 23. Nov. 2016.

KAYANO, E. Comércio Eletrônico: Tendências e Desafios no Brasil. **Desafio**: Campo Grande, MS, v. 9, n. 18, p. 65-68, mai. /ago. 2008.

JARVENPAA, S. L.; LANG, K. R. Managing the Paradoxes of Mobile Technology**. Ubiquitous Computing**: Information Systems Management, Fall, 2005.

LAUDON, K.; LAUDON, J. **Sistemas de informação gerenciais**. 9. ed. São Paulo: Pearson Prentice Hall, 2010.

MATTAR, F. **Pesquisa de marketing.** Ed. Atlas. 1996.

MAZMANIAN, M.; ORLIKOWSKI, W.; YATES, J. **Crackberrys: exploring the social implications of ubiquitous wireless e-mail devices**. Proceedings of the EGOS, 2006.

MICK, D.; FOURNIER, S. Paradoxes of Technology: consumer cognizance, emotions and coping strategies. **Journal of Consumer Research**: 5(20), 123-143, 1998.

MISTRY, J.; DHAVALE, D. Application of balanced scorecard in e-commerce environment. **Journal of Knowledge Globalization**: v. 4, n. 2, p. 91-113, 2011.

MORGADO, M. **Comportamento do consumidor online: perfil, uso da Internet e atitudes**. 2003. 160 f. Tese de doutorado - FGV-EAESP, São Paulo. 2003. Disponível em: < http://bibliotecadigital.fgv.br/dspace/bitstream/handle/10438/2515/86623.pdf?sequence=2&is Allowed=y>. Acesso em: 4 de Jul. 2016.

NASCIMENTO, A. R. do; SILVA, B. F. da; SANTOS, G. G. dos**. E-commerce: o melhor caminho no mercado**. 2009. 70 f. Trabalho de Curso (Graduação em Administração - Marketing) – Centro Universitário Eurípides de Marília, Marília, São Paulo. 2009.

NASCIMENTO, H.; LUFT, M.; SANTOS, L. **E-commerce: perfil dos e-consumidores entre os estudantes do curso de administração da universidade federal de Sergipe**. Revista Brasileira de Administração científica: Aquidabã, v.3, n.2, p. 25-40, 2012.

RNP. Rede Nacional de Pesquisa. Popularização da Internet: introdução ao uso de correio eletrônico e web. Instituto Tamis. 1997.

SANTOS, V. O mercado do e-commerce no Brasil e no mundo: tendências e entraves. Economia de Serviços, 23 fev. 2016. Disponível em: <http://economiadeservicos.com/2016/02/23/o-mercado-de-e-commerce/>. Acesso em: 25 fev. 2017.

SORENSEN, C. **Enterprise Mobility: Tiny Technology with Global Impact on Work**. New York: Palgrave Macmillan, 2011.

STRAUSS, J.; FROST, R. **E-marketing**. 6. ed. São Paulo: Pearson, 2012.

TAVARES, H.; SABBATINI, D.; FUENTES, D.; BLACK, D. Compras compulsivas: uma revisão e um relato de caso. **Revista Brasileira de Psiquiatria**, 2008.

TORRES, C. **A bíblia do marketing digital**. São Paulo: Novatec Editora, 2009.

Contribution	[Author 1]	[Author 2]	[Author 3]
1. Definition of research problem	√	√	
2. Development of hypotheses or research questions (empirical studies)	√	√	
3. Development of theoretical propositions (theoretical work)	√		
4. Theoretical foundation / Literature review	√	√	
5. Definition of methodological procedures	√		
6. Data collection	√	√	√
7. Statistical analysis	√		
8. Analysis and interpretation of data	√	√	√
9. Critical revision of the manuscript		√	
10. Manuscript writing	√	√	√
11. Other (please specify)			