PERCEPTIONS IN THE USE OF TECHNOLOGY FOR PAYMENTS: A STUDY OF CUSTOMER BEHAVIOR IN FOOD AND BEVERAGE SECTOR

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ABSTRACT: Surveys indicate that, companies in Food and Beverage instries in Brazil are cautious in adoption of payment technology with the use of mobile devices. The goal of this investigation was to explore the benefits perceived on the technology adoption and the desire of use on a new technology based on mobile payment. Additionally, it aimed to measure the speed, safety and control's influence that this new technology could have on costumer, as restaurants seek to minimize their labor costs and improve customer satisfaction. As a methodology, a convenience research was carried with 80 respondents, in which the need for changes and a rapid adaptation by commercial establishments to new technological resources was considered. All intereviewees were aware of new costumer-driven payment Technologies such as mobile applications (app), tablets, cashiers and remote payment devices. Those costumers expect restaurants to install those equipments at their establishments, beyond the apps' adhesion in their smartphones in the next two years. The results showed the potential benefits of allowing customers to use mobile payment methods on their billing processe, including a more agile process, less time to wait for staff (waiter, maitre, cashier), increased security and customer satisfaction, labor costs' reduction, increased table turnover, and access to better consumer data. Ironically, security is also considered a potential barrier. Other barriers may include infrastructure issues, cost of devices, the cost of integrating mobile payments with POS and regular payment systems, the impact of reduced customer contact, and also the fact that the use of existing customer-facing technology in the industry is still very disperse, in the incubation stage.

Keywords: Smartphone. Restaurant. Payment. Marketing. Consumer Behaviour.

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INTRODUCTION

The use of information technology – IT – is presente in our daily lifes, whether for relationships between business-to-consumers (B2C), business-to-business (B2B), consumers-to-business (C2B) and consumer-to-consumer (c2C). Such facility allows greater involvement between the parties and for companies' concern, the sustainable competitive differentiation, a more accurate profile of their customers and better value delivered. Customers, on the other hand, get more agile transactions, greater convenience and security in the buying process. In this perspective, the transactions of value transfers, bill payment among others, become increasingly common and regular in the market (OLIVEIRA, 2007).

It is possible to note a constant development in this area, as IT launches new devices and applications for commercial use or social relationships, especially for mobile devices. This new option is gradually spreading in Brazil with the cheapening of existing technologies, and, despite the current economic crisis, by the increase in the purchasing power of Brazilians seen in the last decade. According to Anatel, there are currently around 283 smartphones in Brazil, becoming an economic and social platform in the way costumers relate to companies.

Other relavant data that we can analyze, related to to the panorama that guides the present study, refers to the use of credit cards that reaches 1.08 trillion Reais, according to the Brazilian Association of Credit Card Companies and Services (ABECS). This data compares the expenditures of Brazilians, who, according to the Brazilian Association of Food Industries (ABIA), solely on the food and beverage industry moved an equivalent to more than R$ 143.60 billion, representing 1/3 of the family expenses according to IBGE (IBGE, 2017).

According to the National Restaurant Association (NAR), Bars and Restaurants Association (NAR, 2013) half of restaurants and bars have adopted some kind of payment technology with mobile devices, which is believed to be a trend to be replicated nationally. As an example of this growth in the North American market and reflecting on Brazillian market, Cluckey (2016) mentions Starbucks, that launched its mobile payment service in January 2016 in Brazil, and wishes to maintain the same numbers in the North American market, in which the mobile payment accounts for more than 20% of all transactions in the companys' stores in

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the United States, representing 7 million payments a week in the country (CLUCKEY, 2016).

A greater consumer involvement in the buying process allows them and companies to share ideas for innovation, design, new products, and communication strategies. In this context, customer satisfaction, service speed, perception of new technologies aggregated to a new product or an existing product, causes a closer relationship between both parties to be involved in the process of delivery / receiving of the product. It is not a relationship itself, but an initiative closer to co-creation. Therefore, it is fundamental to delimit the distancing of the concept used in this study from the meaning of traditionally used involvement in the area of consumer behavior (OLIVEIRA, 2007).

Considering this growing trend, the present study sought to analyze the payment processes role in bars and restaurants, the types of payment technology available to the customer and the possible advantages and disadvantages of their use (KIMES; COLLIER, 2014).

This study aimed to measure benefits of technology preceptions and the desire to use na application using mobile payment devices. Additionally, it was also sought to measure the speed, security and control influence of this technology on costumers, along with restaurants' seek to minimize their labor costs and improve customer satisfaction. In a collaborative way, seeking the interaction among costumers and the processes and stages of their experience in a meal, the study makes comparisons regarding the expectation and perception of the payment technology use, based on the study of Kimes (2014).

CONSUMER BEHAVIOR AND NEW TECHNOLOGIES

The marketing purpose is to understand how the consumer chooses, buys, uses, discards, and recommends certain products, to fulfill in essence, their needs and desires. Through their prerogatives, the determinants of client behavior such as cultural, social, personal and psychological factors are studied. Based on that, one can think of the most precise offers to satisfy the consumer at the moment of purchase (KOTLER; ARMSTRONG, 1993; OLIVEIRA, 2007).

In this area, the involvement presents the sense of personal relevance of a

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product or service (ENGEL; BLACWELL; MINIARD, 2000), and new technologies allows a better understanding of the consumers, allowing a greater involvement between costumers and companies and thus, as much as companies are able to transform the new technologies into business strategies, in a involvement process, as customers took part in the company strategy processes (COLLIER; KIMES, 2012).

It is a process in which companies use new digital technologies to understand their customers' desire. Those customers contribute with their information shared in the technological media, and companies use this data to develop or improve available products or services. And also, understand how companies can improve their consumers' experience by delivering purchase differentials, in which it is possible to highlight speed, convenience, security and transactions' control (COLLIER; KIMES, 2012).

When it comes to new Technologies' use in the market, particularly in Food & Beverage industry, several factors need to be analyzed, from consumer involvement in the new product development process or improvement of actual products, and the experience provided through the possibilities that new technologies enable consumers. All of these factors will be analyzed from the marketing point, especially consumer behavior (CLEMES; GAN; SRIWONGRAT, 2013).

Consumer perception and involvement in product development processes (PDP) have been investigated as an alternative technique for companies to collect data in a variety of areas, including the food and beverage industry, which seek lasting competitive advantages through launch of innovative products and new forms of relationship with the Market (VON HIPPEL, 1986; URBAN; VON HIPPEL, 1988; ALAM, 2002; NAMBISAN,2002; LILIEN et al, 2002). Several authors from Slater and Narver (1995) to Franke et al (2006) pointed out that companies that wish to develop their capacity for innovation should seek alternatives to complement the market research traditional techniques, including information technology and ways of improving consumer satisfaction. In this context, consumer involvement in product development processes (PDP) has been investigated as an alternative technique for companies to collect valuable data, seeking competitive advantage through the launch of innovative products.

Consumer engagement in the offering creation enables consumers and businesses to share ideas for innovation and new products' design. This conception

is directly related to the conceptual changes in marketing field, about the way companies interact with their customers. Lusch (2007) proposed that the discipline has undergone three stages since its emergence in the academic area, stages that allowed better relationships between companies and their markets (LUSCH, 2007) :

1. To marketing: the marketing main purpose is to deliver products to the market, since buyer and seller are separated in the market. Supply and productive capacity are scarce and the marketing role is the allocation of scarce resources;

2. Market (ing) to: the marketing main purpose is to identify customers and conduct marketing for them, because, since the economy has become more developed; what emerged was not a lack of supply and efficient distribution, but a lack of customers and markets. Organizations needed to find customers for their products, which means they should be customer oriented.

3. Market (ing) with: would be the most advanced stage. The companies have the philosophy to see the client as endogenous and a co-creation partner. It would be a more advanced stage of the Marketing relationship and thinking, and would already be practiced by a growing number of innovative companies.

In this context, customer satisfaction, speed of service, perception of new technologies aggregated to a new product or an existing product, generates a relation with the concept of involvement, also the more advanced stage of marketing thinking and companies relationships with their respective markets. Kimes (2013) reports that customer-driven payment technology for mobile technology equipment such as smartphones, tablets and mobile devices has been gradually growing in popularity among consumers and has been applied in bars and restaurants. This argument meets the current trend of using technologies as a way of adding value to organizations through greater involvement with consumers. This technology diffusion can benefit all operators in the F & B industry.

The National Restaurant Association (NRA, 2013) reports that in more than half of full restaurant services, customers would use payment technologies if using mobile devices. However, less than 5% of restaurants have any type of technology

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installed. As commented (DIXON; KIMES; VERMA, 2009), consumers use mobile payments due to ease of use, speed, security, and control, while restaurants see the potential for labor cost savings, increased revenue, and increased customer satisfaction .

CONSUMER SATISFACTION WITH SELF-SERVICE TECHNOLOGIES

Most technology research in the hospitality and food and beverage industries has focused on technology in service, production, operations and web-based marketing (SEVERT; DIPIETRO; HERRERA, 2010).

Different ways for restaurants to use technology is through online exposure, offering services and using social media and specialized websites with recommendations to consumers. In this model, consumers enter the restaurant criteria or keywords of interest, based on their preferences, and the system is triggered (XIANG et al., 2007).

The potential benefits of allowing customers to pay electronically include faster payment, less waiting time on table's turnover, greater security, better customer satisfaction, reduced labor costs, increased revenue and access to better customer data (KIMES; JOEL, 2014). Ironically, security is also considered a potential barrier, other may barriers include infrastructure problems, cost of devices, the cost of integrating the self-service payment system with POS systems (HUBER; GEORGE, 2010)

However, to integration with an online recommendation system be effective, restaurants should use language consistent with their consumers when describing their services and products (CAMPBELL, 2013). Some restaurants are allowing customers to order from distance (online services or tabletop tablet services) and make a payment without talking to any restaurant employee (KIMES, 2011).

Some POS systems capture customer information, such as food preferences and the status of their latest dining experiences. POS systems can be used beyond the basics of placing an order and processing credit card payments, as well as its ability to work with other programs to analyze each customer's orders and their purchase and payment preferences.

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NEW TECHNOLOGIES AND RESTAURANTS

These new technologies on payment have been particularly successful for fast-service and casual restaurants. For example, Starbucks launched its mobile payment service in 2011, and by 2013, 20% of its transactions were by mobile payment application. A Juniper Research survey (2014) estimates that global mobile payment market will grow from $170 billion in 2010 to $ 630 billion in 2014, while a Gartner Reasearch survey (2013) estimates that by 2016 global mobile payment market will encompass 448 million users with $ 617 billion transaction value.

Restaurants have invested in internal processes with the information technology support, ranging from a scheduling system to payment and including even a satisfaction survey. These processes have become even more useful as a way of visualizing how we can achieve the best meal experience. According to Collier and Kimes (2013), the client´s experience in a meal consists of six main components:

1. Pre Arrival: from when costumers decide to go to the restaurant until the arrival to the restaurant
2. Post Arrival: from when costumers arrive at the restaurant until they are seated
3. Pre Process: from when costumers are seated at the restaurant until the first course arrival
4. Experience: from when costumers receive the bill until they request payment
5. Payment Process: from when costumers request payment until they leave the restaurant
6. Table turn: from when costumers leave the table until it is reset

For most guests, the most enjoyable part of meal is when they are enjoying the experience of appreciating what has been requested. The other phases of the meal are of a more utilitarian and minimalist nature. However, the payment process usually takes place after the experience, and it is during this payment process that stress occurs. It can be noted that in some mobile applications or online ordering systems, payment may occur even during the pre-arrival phase, where the customer decides which restaurant he wants to eat (DIXON; KIMES; VERMA, 2009).

Payment technologies can have a strong influence on meal stimulation, particularly for experience's post-stages (KIMES; WIRTZ; NOONE, 2002). Studies have been conducted to identify how long customers think dinner should last, and on the impact of the pace on customer satisfaction. However, the rhythm effect varies according to the stage of the meal and the type of restaurant.

In casual and sophisticated restaurants, customers prefer a faster pace during pre- process and post-process stages, and a slower pace during the in-process phase. This implies that fast payment processes should lead to greater customer satisfaction. In addition to the potential to improve customer satisfaction, the shorter meal period due to the acceleration of payment process may also allow additional guests to be served at busy times (KIMES; JOEL; COLLIER, 2014).

In casual and upscale restaurants, customers prefer a faster pace during pre and post- phases of the experience, but a slower pace during the experience (meal) (NOONE et al., 2007). This implies that faster payment processes should lead to increased customer satisfaction, greater involvement in the purchasing process, and consequently a competitive edge for organizations. In addition to the potential for improving customer satisfaction, shorter meal times, and speeding up payment processes, it can also allow additional customers to be accommodated in crowded times.

TYPES OF COSTUMER-DRIVEN PAYMENT TECHNOLOGY

Mobile payment is a method of payment that uses a new alternative of mobile devices, involving a payment process with the purpose of initiating, authorizing and/or confirming a financial value exchange in exchange for a wide range of services or digital goods instead of paying with cash, check or credit cards (AU; KAUFFMAN, 2008).

There are three basic types of customer-facing payment technologies: mobile applications (app), NFC (mobile technology) and mobile remote payment machines (DIXON; KIMES; VERMA, 2009). At the moment, it seems that most payments made through payment technology use credit cards and checks.

With mobile applications, such as the approach used by Starbucks, customers have the option of associating their credit or debit card with an application on a

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smartphone and use their mobile phone as a means of payment. The use of proximity technology (NFC) that allows wireless communication between two devices, only approaching them without the user having to perform some action, such as the password, to make the connection (KHALILZADEH; OZTURK; BILGIHAN, 2017).

Some mobile applications and the NFC feature enabled on the smartphone (Google Wallet, SquareWallet Isis) require the customer to tap the device for a specific read, while others (MCX, TabbedOut) automatically detect where the customer is and do not require a specific reader. There are still no exact data on the use of this technology in Brazil, since just a few restaurants and bars use it. There are few restaurant chains that uses tablets with integrated credit card systems and mobile technology providing a variety of services including payment by credit or debit card, ordering, entertainment and information (BODHANI, 2013).

The mobile remote payments' use allows customers to have the opportunity to purchase their meal without being physically present in the restaurant. As a rule, remote mobile payments often occur in conjunction with an online system to place a meal order. Many online and mobile ordering systems allow customers to save their payment information so they can quickly submit payment once they have verified the accuracy of the order (AHN; KIM, 2017). The IFOOD and *Pedidos Já* systems are already the most used as mobile applications and online application in Brazil.

What makes a consumer pick up a cell phone, access the internet, download an app, and order food to be delivered at home? Whether for convenience, lack of time or any other reason, the delivery and to go sectors - when the consumer buys a food and consumes it in another place, such as drive thrus - ended 2015 with a turnover of R$ 9 billion. And, even with the crisis, it managed the feat of accounting for R$ 1 billion more than in the previous year, according to data from the Brazilian Association of Bars and Restaurants (ABRASEL). A growth of 12.5%. The segment accounts for 6% of the out-of- home food market. The food outside the home market is one of the aspects of the national economy that offers investors profitability well above the projections of the Brazilian GDP. Currently, due to the political and economic crisis, there are some setbacks, but the trend in the sector is high.

Although most restaurants have not yet adopted a system that uses the latest technologies to perform integrated electronic transactions for delivery, scheduling

systems, and / or advance payment, food and beverage entrepreneurs believe that this technology will become commonplace in future due to the association of speed and greater customer satisfaction. It has been seen that it is a slice of the market to be filled with the biggest benefit associated with the technology, increased transactions. The use of technology can reduce payment operation time at fast service restaurants (upscale) and fast service restaurants (upscale). A survey by American Express found that non-contact payment is 63% faster than cash payment and 53% faster than credit card payment (KIMES; JOEL; COLLIER, 2014).

Speed is not the only consideration, however (KISHORE KUMAR et al., 2013). By allowing operators to reduce the number of steps in the payment process, the technology use offers the opportunity to improve customer satisfaction, reduce labor costs and increase revenue and provide better customer service data, as well as offer options entertainment for guests, as highlighted before (KIMES; JOEL; COLLIER, 2014).

METHOD

Once this is an evaluation of the perception of customers in the use of information technology for payments in bars and restaurants, the study sought to gather some information about services that serve customers. Mainly their needs of gettng a true dining experience away from home, more precisely in relation to the outstanding experience attributes like speed, convenience, security and transaction control.

The methodological procedures to reach the proposed objectives were of exploratory nature with a quantitative-descriptive approach, since it tried to expose the characteristics of a certain population or phenomenon. Oliveira (1997) emphasizes that descriptive studies make it possible to identify the different forms of phenomena, their order, classification, explanation of cause and effect relationships, which leads to a better understanding of the behavior of several factors and elements that influence determined phenomenon.

The current research follows the structure of the study held by Collier (Mississipi State University) and Kimes (Cornell Universities) in 2014, which focused on speed, convenience, security, and control of transactions made when restaurants

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offered payment through mobile phones (smartphones). The questionnaire was updated and adapted to national customs and the current technological reality, and data were analyzed seeking the expectations and perceptions of the clients on use of payment technology driven to the customers.

The research instrument was adapted from the similar one by Collier and Kimes (2014), maintaining the same Likert scale of seven points, according to appendix. The questionnaire was made available at https://pt.surveymonkey.net/. The data collection took place between May and June 2016. The research's universe was chosen for convenience among groups of Internet users through Facebook and Whatsapp groups (mobile application). The members of these groups are mostly professionals of both genders, who use these resources as exchange of professional experiences, food and travel.

Concerns about the validity of the research conducted with student samples were extensively debated (DRUCKMAN, 2011). It was also also used the non-probabilistic sampling technique when we do not know more about the population. Non-probabilistic samples may provide good estimates of population characteristics but do not allow an objective assessment of the accuracy of the sample results (CHURCHILL JR, 1995).

Of all sampling techniques, convenience sampling is the least time consuming and the least expensive. Despite these advantages, this form of sampling has limitations. There are multiple potential sources of selection bias, including the self-selection of respondents. Samples for convenience are not representative of any population. Therefore, we can not generalize the results to the population from a sample for convenience. They are not appropriate for market research projects involving population inferences (CHURCHILL JR, 1995).

The questionnaire contained 20 questions, which sought to capture the experience and perception of customer-oriented payment technology use (annex). The guideline for the questionnaire was to relate the questions between traditional methods of payment, and the method using mobile devices.

RESULTS AND ANALYSIS

Eighty questionnaires were answered, of which sixty-two had a 78%

completion rate. Initially, the data were processed by the JMP SAS software, using the Probability Proportional to Size (PPT) method. It was estimated a population of 10,000,000, obtained a margin of error of 7%, and a confidence level of 80% of the research.

It has been found that 16% of the respondents attended luxury restaurants, 20% informal restaurants, 29% family restaurants, 10% fast food restaurants, and 22% of the respondents attended self-service restaurants, a sample of clients of all the restaurant models present in the Brazilian market.

According to the survey, 69.35% of the people live in urban areas, (there was no rural area), 20.97% are in large centers, 1.61% in the interior of the states, and 8.06 in the Coast. In the sample, 54.84% of the female gender, 43.55% of the male gender and 1.61% of the non- gender were identified, the age group of the study comprised 20 to 24 years old, 8.90%, 25-34 years old, 37.60 %, 35-49 years old, 46.40%, 50-64 years old, 7.10%, there were no subjects over 65 years of age. Relatively to the average ticket of the interviewees, on average they spend between R$ 35,00 and R$ 120,00 per person.

Soughting to check and compare the knowledge approach in the use of the diferente types of payment technology in the United States and our recent study in Brazil. Practically all (97.9%) of US respondents have heard of at least one type of payment technology. Smartphones (74.3%), tablets (63.4%), portable credit card readers (61.6%) lead the list but respondents also had some familiarity with 48.3%), mobile wallets (43.9%), and NFC (41.3%), below is the comparative data on chart 1:

Chart 1 – Actual payment technology knowledge
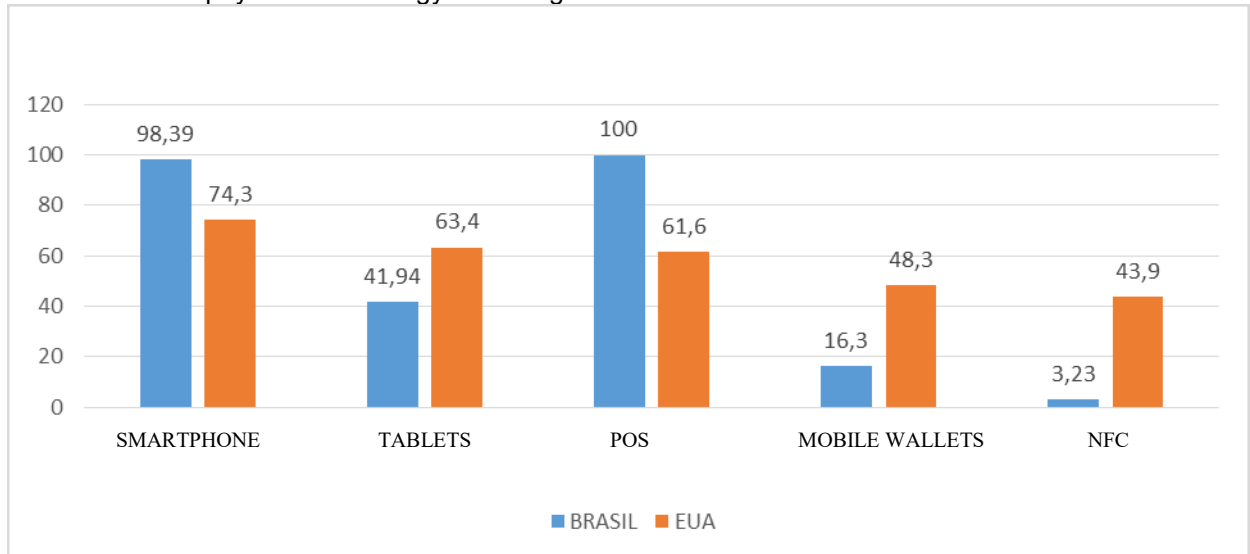
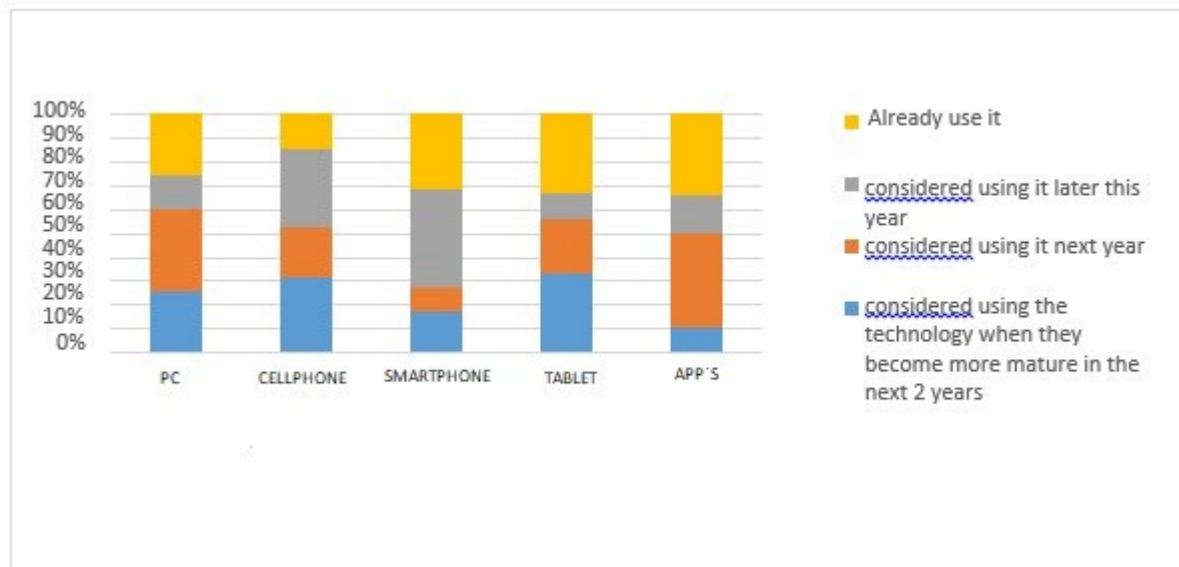Source: elaborated by the authors

Respondents in Brazil were asked if they were aware of the payment technology use in restaurants, 98.39% of respondents used mobile phones with mobile applications, 41.94% had used tablets to perform some kind of operation, 14% used smartphones and tablets, and 15% never used any type of application or made payments if using mobile technology. Portable credit card readers 100% already lead with this type of equipment, but the respondents also did not have a certain familiarity with auto-pay equipment or mobile wallets (16.3%), and only a small group uses NFC technology (3.23%). It can be verified that, at least when related to the public of this study, its totality uses the new digital technologies to make purchases.

Another question was whether customers used or thought to use payment technology, 31.63% of the respondents already use some kind of payment technology, 15% considered using it later this year, 36.65% considered using technology in the next year and 10% considered using the technology when they become more mature in the next 2 years. It is interesting to highlight the potential market for that technology, since there is still a considerable number of customers that companies can target for their business transactions.

It was found through the survey that possibly all customers who answered the survey, would at some point download some type of app on the mobile (app), while 6.5% would very unlikely to use applications for payment in restaurants or bars, 4,8% of customers were undecided, 32.2% would probably use a mobile application and

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56.5% would be very likely, this data confirms the approach taken earlier on the perception of technology and its use, as seen in chart 2.

Chart 2 - Technology Use and Expectations

Source: elaborated by the authors

The same study conducted in the United States, by Kimes (2014) found that a relatively small group 3.78% were very unlikely to use restaurant or bar payment applications, 16.3% of customers were undecided, 25.6% would likely use a mobile application and 28,2% would very likely use it in the nex 2 years, as presented on chart 3.

Chart 3 – Use of payments via app and smartphone in the future

Source: elaborated by the authors

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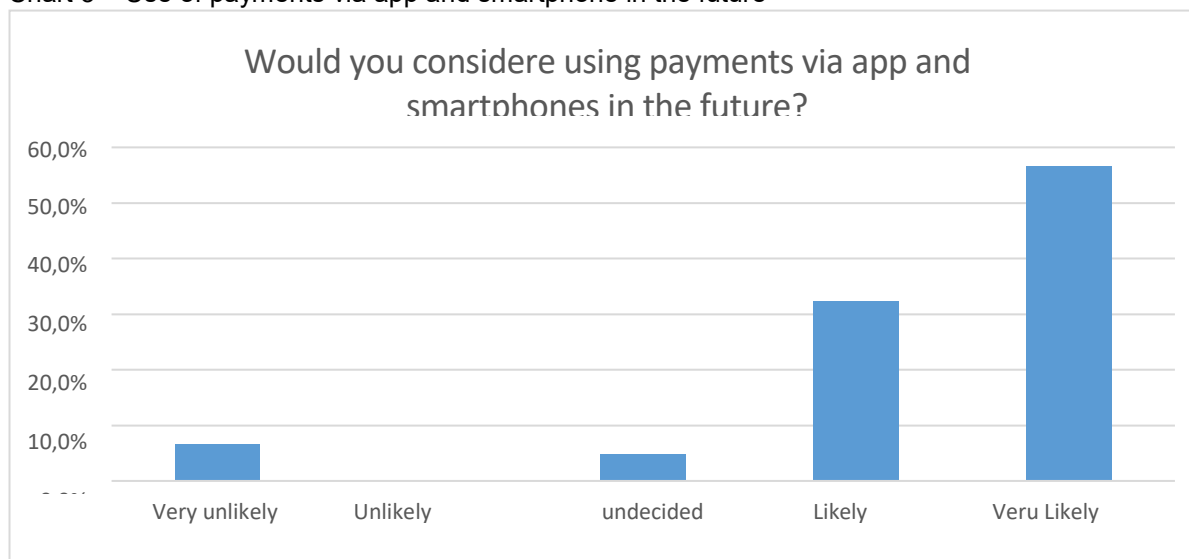
The trend is of increasing use of an NFC-type application or technology, both because of the need for convenience, time savings, safety and comfort, the most outstanding items for the public aged 30 to 40 years; 73% of clients within this age group would adopt payment technology, where 54.83% are male, 43.54% female, and 1.61% opt for the non-gender option.

Compared to the survey conducted by Collier and Kimes (2014), where less than 12.2% of the respondents in the United States wanted to adopt some kind of payment technology; being that all the interviewees were aware of the existence of this technology and half of them were thinking about adopting some type of technology in the next two years. This strongly suggests that the adoption of technology by restaurants and customers will increase significantly in the near future.

An important point of the research was the perception of information security, where 22.50% do not feel comfortable with this type of payment, due to the secrecy and sharing of information, 10.13% remained neutral on the issue of information security, 67.37% rely partly and totally on information security in means of payment if using mobile technology.

Relatively to comfort and convenience in the use of types of customer-drive payment if using mobile technology, 12.66% disagree totally or partially alleging that it would not change the comfort and did not offer convenience in making payment if using mobile technology, 8.86% have remained neutral and 84.81% agree partially or totally that by using customer-facing payment technology they would benefit and provide convenience, thereby improving their meal experience.

The payment speed using mobile technology was evaluated by respondents, 8.86% disagree partially or totally that the pace of payment would improve with the deployment and use of technology, 15.19% remains neutral on the subject, while 75.95% agree partially or totally that the procedure improves the rate of payment.

Finally, in a general analysis, the attributes related to excellence in service, quality, ease and exceptionality were analyzed. It was observed higher averages in the perception of the experience with the payment via smartphone in comparison to the traditional way, the results are exposed in Table 1.

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Tablela 1- Difference of means and standard deviation (smartphone payment vs. Tratitional payment)

	Mean	Standard Deviation
Are you satisfied with the actual payment process at the restaurant?	5,00	1,35
How do you evaluate your experience when it concerns payment process via smartphone?		
Excellence in service	5,63	1,17
Quality	5,56	1,09
Facility	5,54	1,27
Exceptionality	5,47	1,26
How would you classify your experience when it concerns traditional payment at the restaurant?		
Excellence in service	4,23	1,43
Quality	4,21	1,31
Facility	4,16	1,63
Exceptionality	3,88	1,62

Source: elaborated by the authors

Regarding the non-parametric tests to test differences in means between groups, the Mann-Whitney test did not indicate significant differences in relation to the gender or age group of respondent (p<0.05).

As presented in Table 1, the variable 'excellence in service' for mobile service users is the highest average (5.63) among the analyzed constructs, this perception of excellence in service is supported by the presented mean (5.00), and supported by Kimes' research (2014), which found that faster post-processing experience in casual, sophisticated restaurants leads to better customer satisfaction. The speed of the transaction also generates a perception of excellence in service being one of the main factors of customer satisfaction in limited service restaurants (KIMES, COLLIER, 2014). On the other hand, the variable exceptionality has the lowest average using mobile services (5,47) and the traditional method with the average (3.88), this variable shows that the method used is not exclusive or an exceptional variable for the consumer.

FINAL CONSIDERATIONS

This study aimed to measure the perception of the technology benefits and desire to use an application using mobile payment methods; as well as the influence of speed, security, and control that this technology can provide to consumers. As much as restaurants seeks to minimize labor costs and improve customer

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satisfaction.

Among the analyzed constructs, speed perception is the most perceived by users, and supported Kimes' study (2014), which found that faster post-processing experience in casual and sophisticated restaurants leads to better customer satisfaction. Transaction speed is also one of the key factors of customer satisfaction in limited service restaurants.

The security construct is directly linked to trust in information systems, 67.37% rely partly and totally on information security in the means of payment if using mobile technology, even though some restaurants expressed concern about information security in the systems of payment, the perception of security is improved in this research, once the credit card or smartphone does not leave the consumer's hand.

The survey has shown that 73% of consumers responded they were aware of payment technologies and are considering installing smartphone applications over the next two years to make payments based on the experience of early adopter customers.

Along with this article development, it became possible to infer that restaurants should ensure that the technology will be fully integrated with their point of service or sales (POS) system, train their staff both on how to use the system and how to help solve any problems that customers may encounter. Any payment system should be easy for customers to understand and use. Finally, it is essential that the traditional method is also available as a payment option in case of mobile system failure, or for those customers not adherent to mobile technologies.

As any other research activities, this study has some limitations. First of all, the study was based on a research where data collection was performed by a restricted group of college students for convenience and the survey was answered with a sample with the high margin of error. Thus it is possible that there is response bias where respondents may not have answered the questions accurately, or that they may not have understood the meaning of the questions. The study found that all users interviewed intend to adopt some type of technological application to make payments in bars and restaurants.

In addition, the interviewees were selected from a convenience sample, therefore, they may not be representative for entrepreneurs' use in Brazil. Finally, the

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previous study was conducted in the United States and adapted to Brazil. Each culture has different habits and is in not necessarily similar stages technology access. Therefore, the results could be different if performed in other countries, metropolitan regions and or covering a larger number of respondents.

The contribution to the managerial field is given by adapting to Brazil a survey conducted in a highly developed country. Such unprecedenty may open the way for the food and beverage industry to engage in this type of investigations, which will greatly contribute to the advancement of the sector. On the other hand, in the academic field the contribution is given for the same reasons and an additional one, namely, the opening of a research front to a sector with few studies of customer service availble. In the future this research will be expanded to cover more information to understand consumer behavior.

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