



Point-Of-Sales Systems in Food and Beverage Industry: Efficient Technology and Its User Acceptance

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Abstract.

The objective of the study was to review the factors that influence the acceptance of the points of sales (POS) technology, as the main systems used in the restaurants environment. It is critical that those POS perceived as proper use for the business growth and development. A conceptual framework is explained by the Technology Acceptance Model (TAM), were reviewed 28 research articles associated with the acceptance of the points of sales (POS) technology. The literature evidence found indicates the acceptance of POS systems in the F&B industry, including those factors which may affect its implementation and use. Attitude toward POS is affected by individual differences, times, training and company supports. Perceived usefulness of the POS is influenced by information quality, benefits information. The perceived ease of use of the POS is influence by enjoyment. Therefore, that strategy implementation, employee learning, ethical decisions, positive employee-management relationship, and personalization level are factors that support technology acceptance.

Keywords: Food and beverage; POS; TAM; technology adoption; restaurants.

1. Introduction

The food and beverage (F&B) industry has a unique role in expanding economic opportunities. According to the National Restaurant Association (2016), the restaurant industry will generate \$783 billion in sales this year and jobs and careers for one in 10 U.S. workers. Although this will represent the seventh consecutive year of real growth in restaurant sales, the rate of growth remains moderate. The restaurant industry will remain the nation's second-largest private sector employer with a workforce of 14.4 millions. Given the impact of this industry in the economy became important to investigate diverse aspects of its management. It is so, Food and Beverage (F&B) industry needs to collect and process data in order to improve sales, customer service and loyalty, and to make the operations more efficient. This is why the technology is one of the most important aspects that restaurants have been forced to integrate. According to Kimes, S.E. (2008), the technology in the restaurants can speed service by reducing the order-taking time advancing food production, tightening service time, shortening payment time, and cutting turnaround time.

For that reason, most of the establishments in this industry implement point of sales systems (POS) technology with the intention of make their services faster and gain more control over diverse operational aspects. POS machines can process a lot of transactions and collect vast amounts of private data from customers as a part of their day-to-day operations through credit card transactions, online reservations, and rewards programs. In the case that this sensitive customer information does not be store properly may create a security risk. POS distributors usually provide a security measure to the systems in order to protect the data. However, it is important to take additional measures, protections especially when it will be handled by employees with different job categories. Unfortunately, few establishments operating under the F&B industry have the financial resources to protect these systems. Also, many of these businesses are understaffed which affect the good supervision of the systems use. In addition, other costs need to be considered like it is the internal cost involved with scheduling and paying restaurant personnel while they are training. Same with the cost associated with managerial commitment to the POS systems project. Getting employees as well as managers involved can be the critical difference leading to a successful systems installation. However, despite POS may represent the base of any operation in the F&B industry, little attention has been given in the literature to user acceptance. Research on POS user acceptance,

therefore, it will be extremely worthy in providing useful information, especially at this early stage of POS development and implementation. It is usual in the restaurants environment that employees performed their tasks quickly, in order to give the best attention to the customers. Kimes, S.E. (2008), the faster those employees adapt to the system the better will be the service, increasing effectiveness of the operation. But, it is possible that even if the administration offers a good training to the employees, there was limited time to practice it. In this case managers and employees could be force to practice during the tables' service. This may bring negative results that will inevitably affect customer service. Thereby, the user can get demotivated as seeing the system as one that brings more disadvantages than advantages.

Considering the above, this investigation tries to answers the following research question: *What factors influence user acceptance of POS system in the F&B industry?* In order to do that, this study used an adapted version of the technology acceptance model (TAM). The conceptual framework developed for this research, the factors that influence the acceptance of POS systems in the F&B industry, including those factors which may affect its implementation and use. According to Davis (1989), when users are presented with a new technology, a number of factors influence their decision about how and when they will use it, notably: Perceived usefulness, Perceived ease-of-use and Attitude Toward Using the system. The contribution of this investigation is examining those factors with the analysis of two other variables: individual differences and trust environment. The literature review showed several previous studies that used the TAM model and adapted with new variables in order to apply to different industries. However, no investigations were found in which the acceptance of the POS is integrate to this particular model, neither about the F&B industry. After the literature reviews on technology acceptance theoretical hypothesis were develop from the framework to facilitate future research. Finally, the study explains the design and the related implications.

2. Method

The method used for this research is a literature review. Twenty peer review articles were review, from 1992 to 2014; all of them using the technology acceptance model (TAM), in order to determine factors that influence the user's acceptance to information systems. According to Davis (1989), the model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it, notably: Perceived usefulness, Perceived ease-of-use and Attitude Toward Using the system.

3. Framework

The following figures show the Technology Acceptance Model (TAM) framework:

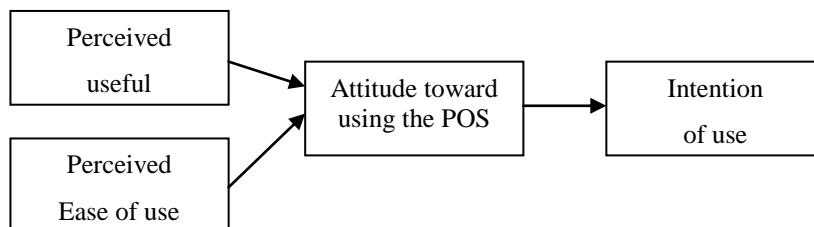


Figure 1: Technology Acceptance Model (TAM)

4. Literature Review Results

4.1 Technology Acceptance Model (TAM)

In 1989 Davis demonstrated that this model can be extremely useful in the development of research frameworks with the purpose of determine factors that influence the user's acceptance to information systems. According to Davis (1989), the model proposes that the system's use can be explained or predicted by the user motivation, which, in turn, is directly influenced by an external stimulus of the actual system's features and capabilities. Also, suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it, notably: Perceived usefulness, Perceived ease-of-use and Attitude Toward Using the system (Davis 1989). According to Lung Hsu and Peng Lu (2004), TAM need to be integrated with suitable context related variables for better understanding of information technology acceptance.

One of the obstacles to using TAM has been problems in applying it beyond the workplace. This is because TAM's fundamental constructs do not fully reflect the variety of user task environments. Therefore, to increase external validity

of TAM, it is necessary to further explore the nature and specific influences of technological and usage-context factors that may alter the user's acceptance. On the other hand, Davis (1989) investigated the relative effects of extrinsic and intrinsic motivation source on intention to use, and usage of, the computer in the workplace and, they defined perceived usefulness as an extrinsic source of motivation and perceived enjoyment as an intrinsic source of motivation. They found that perceived enjoyment and perceived usefulness mediated the influence of perceived ease of use on intention.

For example, a new model proposed by Taylor and Todd (1995) integrated the Technology Acceptance Model and Theory of Planned Behavior. They compare those two models to assess which best helps to understand usage of information technology. The models were compared using student data collected from 786 potential user of a computer resource center. Behavior data was based on monitoring 3,780 visits to the resource center over a 12-week period. Weighted least squares estimation revealed that all three models performed well in terms of fits and were roughly equivalent in terms of their ability to explain behavior. Decomposing the belief structures in the Theory of Planned Behavior provided a moderate increase in the explanation of behavioral intention. Overall, the results indicate that the decomposed Theory of Planned Behavior provides a fuller understanding of behavioral intention by focusing on the factors that are likely to influence systems use through the application of both design and implementation strategies.

Years later, Venkatesh and Davis (2000) proposed a new version of TAM called TAM2, which added new variables to the existing model. This model was tested using longitudinal data collected regarding four different systems at four organizations, with a sample of 156, two involving voluntary usage and two involving mandatory usage. Models constructs were measured at three points in time at each organization, pre implementation, one month pre-implementation, and three months' post-implementation. The extended model was strongly support for all organizations at all three points of measurement, accounting for 40%-60% of the variance in usefulness perceptions and 34%-52% of the variance in usage intentions. Both social influence processes (subjective norm, voluntariness, and image) and cognitive instrumental processes (job relevance, output quality, result demonstrability, and perceived ease of use) significantly influenced user acceptance.

Moon and Kim (2001) has added a new variable playfulness factors to study acceptance of the world wide web. Ease of use and usefulness are believed to be fundamental in determining the acceptance and use of various, corporate ITs. These beliefs, however, may not explain the user's behavior toward newly emerging ITs, such as the World-Wide-Web (WWW). This study, introduce playfulness as a new factor that rejects the user's intrinsic belief in WWW acceptance. The unit of analysis in our research is the individual user of the WWW. The population of interest is individuals who use it for their tasks. The sample consisted of 152 graduate students, who were majoring in the School of Management. All of the subjects had prior experience with the use of the WWW. The data were gathered by means of a questionnaire. Overall, of the 208 that were distributed, 152 usable questionnaires were received and used for analysis, giving a response rate of 78 percent. Ninety-one percent of the respondents were male, and 62 percent have more than a year of experience with the WWW. Results show that perceived ease of use and perceived usefulness were shown to be important to user's perceptions of the WWW systems. In addition, perceptions of playfulness appear to influence user's attitude toward using the WWW. Thus, perceived playfulness may also be an important consideration in the design of future WWW systems: they must provide more concentration, curiosity, and enjoyment. Using it as an intrinsic motivation factor, the investigators extend and empirically validate the Technology Acceptance Model (TAM) for the WWW context.

On the other hand, Sundarraj, and Manochehri (2011) adapted the TAM Model extended by the compatibility and trust constructs, with the objective of examine the adoption of Internet Banking. An empirical study, using students from a large university in the region, validates the research model. One of the important findings is that perceived-ease of use has positive influence to usage attitude directly, and, meanwhile, it also positively affects perceived usefulness and one of the experience factors. It suggests that sufficient training is still an important way to the adoption of mobile data services, and reasonably, this will be the same to logistics mobile services; key experience factors positively influence the usage attitude. The result, also, can conclude that experience should also be taken into consideration when the adoption of mobile logistics is studied.

Another interesting research in which the TAM model was adapted was develop by Hoehle, and Venkatesh (2015), they add the variable loyalty with the objective of understand the mobile application usability. Specifically, they adapted Apple's user experience guidelines to develop our conceptualization of mobile application usability. Then they developed into 19 first order constructs that formed 6 second-order constructs. To achieve their objective, four datasets were collected: content validity (n = 318), pretest (n = 440), validation (n = 408), and cross-validation (n = 412). A validity of that instrument was established by examining its impact on two outcomes: continued intention to use and mobile application loyalty. The researchers found that the constructs that represented their mobile application usability conceptualization were good predictors of both outcomes and compared favorably to an existing instrument based on Microsoft's usability guidelines. This investigation provides a rich conceptualization of an instrument for mobile

application usability that can serve as a springboard for future work to understand the impacts of mobile application usability and can be used as a guide to design effective mobile applications.

Likewise, Scherer, Wunderlich, and Wangenheim (2015) investigated using TAM including another research concept that is the customer retention. The researcher wants to study the value of self-service and the long-term effects of technology based self-service usage on customer retention. Using longitudinal customer data, the investigation objective was to answer how the ratio of self-service versus personal service use influences customer defection over time. The findings suggest that the ratio of self-service to personal service used affects customer defection in a u-shaped manner, with intermediate levels of both self-service and personal service use being associated with the lowest likelihood of defection. They also find that this effect mitigates over time. The conclusion was that firms should not shift customers toward self-service channels completely, especially not at the beginning of a relationship. The study underlines the importance of understanding when and how self-service technologies create valuable customer experiences and stresses the notion of actively managing customers' conception of value.

4.2 Attitude toward POS

Attitude toward POS is one of the measure variables found in most of the investigations that use any TAM adaption. The concept suggests that most of the consumers have a good attitude about technological solutions. For example, the POS system is convenient for the customer because it allows them to check-out anywhere on the store floor when they visit a restaurant. According to Davis (1989) attitude toward use in the TAM model is defined as the mediating affective response between usefulness and ease of use beliefs and intentions to use a target system. A prospective user's overall attitude toward using a given system is an antecedent to intentions to adopt. In other words, a prospective user's overall attitude toward using a given system is an antecedent to intentions to adopt. Consumers today have been exposed to a number of technology innovations. They are likely to have formed favorable or unfavorable attitude about them irrespective of whether they have actually used the product in question. Investigation of attitude toward using POS and identification of its relationship with intention to use is more appropriate and practically valuable for predicting usage behavior.

Illustrating the above, Leonard, and Cronan (2005) developed an investigation with the objective to identify factors that could influence an individual's attitude toward ethical behavior in the information systems environment and compare them to the findings of an earlier study to determine any changes. A sample of university students was used to assess environmental influences (societal, belief system, personal, professional, legal, and business), moral obligation, consequences of the action, and gender, in order to determine what influences an individual's attitude toward a behavior. Discriminant analysis was used to assess the factor influences. The findings indicate that many factors influence attitude toward ethical decisions and are dependent upon the type of ethical issue involved. Moreover, based on two time periods, the ethical attitude influencers have shifted over time. The gender findings indicate that attitude influencers are also dependent on the sex of the individual. The findings show that attitude influencers have shifted over time, which means that organizations must periodically reassess their employees' ethical climate and adjust their ethics' programs as attitude influencers change. The findings also show that training programs need to focus on the different influencers for males and females.

On the other hand, Park, Lee, and Khan (2014) explored the impact of franchise support on franchisee acceptance of intranet in quick service restaurant (QSR) franchise and to examine the technology acceptance model (TAM) to explain QSR users' attitude toward the franchise intranet usage. The investigation adopted the TAM to include an external variable, franchise support. A total of 161 returned and completed responses were examined. Descriptive analysis, validity, principal component factor analysis and regression analysis were used to estimate the relationships between constructs. The key finding of this study is that franchise support is a key in the decision for users to use intranet systems in the QSR franchise systems. This study also confirmed that there are positive and significant relationships among key variables: franchise support, perceived usefulness of intranet, perceived ease of use of intranet, attitude toward using intranet and behavioral intentions to use intranet. Regression analysis revealed that TAM is a valid model in predicting intranet adoption in restaurant franchise systems.

The analysis of the literature review provides a clear perspective about the importance of the user attitude toward the system. The studies presented show that TAM is a comprehensive model that is very useful to analyze that attitude in a variety of industries. This integration and adaptation of the model allows you to create operational changes.

4.3 Perceived usefulness

According to Davis (1989), perceived usefulness is defined as the degree to which a person believes that using a particular system would enhance his or her job performance. In addition, is defined as the degree to which a person believes that would be free of effort. Also, perceived usefulness indicates the extent to which an individual believes that using the target technology enhances his/her individual effectiveness. In other words, this suggests that if the person does not believe that this system is going to be useful in their work simply are not going to use or avoid doing so. The perceived usefulness also is determined by the perceived quality, according to DeLone and McLean (1992). On the other hand, Venkatesh et al. (2003), explained that there is also a great deal of evidence to point to perceived usefulness as the strongest determinant of information technology intention and use. As this shows, previous studies demonstrate that perceived usefulness is determined by various factors and their impact on the system acceptance can be crucial in its implementation.

For example, Rai, Lang, and Welker (2002), developed an investigation with the purpose of study empirically and theoretically assess DeLone and McLean's (1992) and Seddon's (1997) models of information systems success in a quasi-voluntary use context. Structural modeling techniques were applied to data collected by questionnaire from 274 system users of an integrated student information system at a Midwestern University. The Seddon structural model and the DeLone and McLean structural model each contained five variables (system quality, information quality, perceived usefulness, user satisfaction, and IS use). Both models exhibit reasonable fit with the collected data. The empirical findings were assessed in the broader theoretical context of the information systems success literature, including the Technology Acceptance Model and the Theory of Planned Behavior. The results support DeLone and McLean's focus on integrated IS success models and their observation that information systems success models need to be carefully specified in a given context. The Seddon model conceptually elaborates and clarifies aspects of the DeLone and McLean model, thereby effectively integrating core theoretical relationships espoused in the information systems success literature. The study also supports Seddon's three construct categories (system and information quality, general perceptual measures about net benefits about information systems use, and information systems behavior), as defining information systems success and its impact on nature of information systems use.

Similarly Venkatesh (2000), studied the determinants of perceived ease of use: integrating control, intrinsic motivation, and emotion into the technology acceptance model. His investigation presents and tests an anchoring and adjustment-based theoretical model of the determinants of system-specific perceived ease of use. The model proposes control (internal and external--conceptualized as computer self-efficacy and facilitating conditions, respectively), intrinsic motivation (conceptualized as computer playfulness), and emotion (conceptualized as computer anxiety) as anchors that determine early perceptions about the ease of use of a new system. With increasing experience, it is expected that system-specific perceived ease of use, while still anchored to the general beliefs regarding computers and computer use, will adjust to reflect objective usability, perceptions of external control specific to the new system environment, and system-specific perceived enjoyment. The proposed model was tested in three different organizations among 246 employees using three measurements taken over a three-month period. Finally, the proposed model was strongly supported at all points of measurement, and explained up to 60% of the variance in system-specific perceived ease of use.

Another investigation that use the perceived usefulness variable was made by Koufaris (2002), in which he applies the Technology Acceptance Model and flow theory to online consumer behavior. The study considers the online consumer as both a shopper and a computer user. The researcher test constructs from information systems (Technology Acceptance Model), marketing (Consumer Behavior), and psychology (Flow and Environmental Psychology) in an integrated theoretical framework of online consumer behavior. Specifically, examine how emotional and cognitive responses to visiting a Web-based store for the first time can influence online consumers' intention to return and their likelihood to make unplanned purchases. The instrumentation shows reasonably good measurement properties and the constructs are validated as a nomological network. Results confirm the double identity of the online consumer as a shopper and a computer user because both shopping enjoyment and perceived usefulness of the site strongly predict intention to return. However, the results on unplanned purchases are not conclusive. The researcher also test some individual and Web site factors that can affect the consumer's emotional and cognitive responses. Product involvement, Web skills, challenges, and use of value-added search mechanisms all have a significant impact on the Web consumer. The study provides a more rounded, albeit partial, view of the online consumer and is a significant step towards a better understanding of consumer behavior on the Web.

In the same way, that happens with the attitude toward POS, the analysis of the literature review supports the importance of analyze the perceived usefulness.

4.4 Perceived ease of use

According to Davis (1989), defined perceived ease of use as the degree to which a person believes that using a particular system would be free of effort. He also explained, behavioral intention is influenced by a user's attitudes towards a product or service which in turn is affected by the perceived usefulness of the product and its perceived ease of use the person understands that using this system is going to make easy. In this case, for example, of the use of POS should be a simple process. Similarly, the concept was defined by Adams et al. (1992), in which describe that the perceived ease of use leads to a user's continuous intention to purchase a new disposable technology because there is little cognitive effort involved during the interaction process with the technology.

Wu, and Kuo (2008) develop an empirical investigation of habitual usage and past usage on technology acceptance evaluations and continuance intention. This study investigated this issue by studying how habitual usage and past usage may influence the predicting power of perceived ease of use and perceived usefulness on intention. Using 232 cross-sectional responses from subjects who have continuously used the Google search engine, the results show that as individuals get into the habit of continuously using a system, the predicting power of perceived ease of use and perceived usefulness on intention is diluted by the addition of either habitual usage or past usage. This indicates that the stronger the habitual use of the Google search engine, the less conscious planning is involved, and the relationship between subjects' evaluations of perceived ease of use and perceived usefulness and their intention to use weakens. Furthermore, the study shows that past usage, often employed as a proxy of habitual usage, demonstrates a similar effect but differs in the predicting power from habitual usage. This result suggests that researchers may employ habitual usage for studies of post-adoption phenomenon concerning continuous information system usage.

Li, Hess, McNab, and Yu (2009), also developed an investigation with the objective of investigates the influence of national cultural values on acceptance of a personal web portal by users in China and the United States. Subjects from these two countries evaluated country-specific versions of a personal web portal designed to support the gathering of news, blogs, and other shared information and to provide communication features. The five national cultural dimensions of power distance, individualism/collectivism, masculinity/femininity, uncertainty avoidance, and time orientation were measured at the individual level to enable assessment of the influence from each cultural dimension on technology beliefs and adoption intentions. A research model integrating both moderating and direct effects of cultural values was proposed. Individualism and time orientation were found to influence perceived ease of use and perceived usefulness directly. No moderating cultural effects were significant. The results stress the importance of including the cultural value of time orientation in studies of technology acceptance and measuring cultural values at the individual level. The findings suggest that e-businesses should continue to focus on the cultural congruency of global web sites and consider how personalization features may assist in pursuit of this congruency.

Consecutively, Li, Tan, Xu, and Teo (2011) developed an investigation that seeks to identify the motivational factors influencing individuals' adoption intentions and the extent of a system adoption within the context of Open Source Software (OSS). Building on the theoretical underpinnings of the Self-Determination Theory, the investigation proposed and empirically assessed two conceptual models to examine OSS adopters' extent of adoption (based on intrinsic and extrinsic motivation) and OSS non-adopters' intentions for adoption (based on amotivation). Results from the survey collected from 264 OSS adopters and 212 OSS non-adopters reveal that strategy belief amotivation is the major factor for not using OSS (i.e., non-adopters) while identified regulation is the major extrinsic motivation affecting the extent of adoption. Results show that intrinsic motivation to accomplish and capacity beliefs amotivation do not significantly affect adoption extent and adoption intention respectively.

Perceived ease of use have been investigating in variety of context. Those analyses add importance to its study and contribute to the development some new strategies to manage the user perverseness.

5. Additional factors:

5.1 Individual differences

According to Hong, Thong, Wong, and Tam (2002), individual differences are believed to be most relevant to both IS success and human computer interaction research. Individual differences play a major role in determining user performance on information retrieval systems. According to that definition, Agarwal, and Prasad (1999), developed an investigation with the objective of clarify if individual differences germane to the acceptance of new information technologies? They did that by proposing a theoretical model wherein the relationship between individual differences and IT acceptance is hypothesized to be mediated by the constructs of the technology acceptance model. The theoretical model was tested in an empirical study of 230 users of an information technology innovation. Results confirm the basic structure of the model, including the mediating role of beliefs. Results also identify several individual difference variables that have significant effects on TAM's beliefs.

Similarly, Weiyin, Thong, Wai-man, and Kar-yan (2001), made a research to identify the factors that determine users' adoption of digital libraries. Using the technology acceptance model (TAM) as a theoretical framework, this study investigates the effect of a set of individual differences (computer self-efficacy and knowledge of search domain) and system characteristics (relevance, terminology, and screen design) on intention to use digital libraries. Based on a sample of 585 users of a university's award-winning digital library, the results strongly support the utilization of TAM in predicting users' intention to adopt digital libraries, and demonstrate the effects of critical external variables on behavior intention through perceived ease of use and perceived usefulness. All of the individual differences and system characteristics have significant effects on perceived ease of use of digital libraries. In addition, relevance has the strongest effect on perceived usefulness of digital libraries. Literature review mentioned above suggest that it is possible a correlation between individual differences which can influence the POS system adoption.

5.2 POS Trust environment

According to Lee (1998), business transactions require an element of trust, especially those conducted in the uncertain environment of electronic commerce. To build employees and consumers' trust in the safety of using POS systems for transactions, POS must have layers of security and any other solutions in order to protect sensible information. Trust is a complex social phenomenon that reflects technological, behavioral, social, psychological, as well as organizational aspects of interactions among various human and non-human agents.

June, Chun-Sheng, Chang, James (2003) developed an investigation about technology acceptance model for wireless Internet via mobile devices (WIMD, TAM for wireless Internet), a conceptual framework to explain the factors influencing user acceptance of WIMD. By revising the technology acceptance model (TAM) to represent some unique features of the wireless system under study, TAM for wireless Internet proposes that constructs such as individual differences, technology complexity, facilitating conditions, social influences, and wireless trust environment determine user-perceived short and long-term usefulness, and ease of using WIMD. These, in turn, determine user intention and willingness to adopt WIMD. Twelve propositions were developed to promote and facilitate future empirical research relating to WIMD. The study only discusses the propositions; no final results were provided.

On the other hand, Lee, and Wan (2010) made a study using a modified Technology Acceptance Model (TAM) that includes subjective norm and technology trust as antecedents of adoption intention. The study suggests that subjective norm is salient when adoption involves people living in collectivist societies. Trust in the ability of the technology is also important, particularly for people who are unfamiliar with new technologies. The proposed model was tested in the context of electronic ticketing for air travelers in China. The results of this study showed that trust in the ability of eticketing was related to adoption intention through perceived usefulness. Also the study showed that trust is important because people may have doubts about the capabilities of new technologies.

6. Conclusions

The literature review like, Weiyin, Thong, Wai-man, and Kar-yan (2001), strongly supports the use of the TAM model to predict the intended use in technological systems. They lobbied with digital libraries but explained that internally the effects of individual user differences and the particularities of the system will significantly affect the acceptance of the system. Being thus, the literature review demonstrated that are several factors that can affect the relationship of the variables that influence the intention of using POS systems in restaurants. Being thus, as presented by Kimes, S.E. (2008), one of the results indicates that the faster the employees adapt to the systems that they are required to use the better the service will be and this in turn will increase their productivity. On the other hand, Davis (1989) concludes one of the things that influences and mediates the intention of use is the perception that about the use that will be given to the POS and in addition the perception of how fun can it be to manage the system. Both, Luna and Kim (2001) and Taylor and Todd (1995), highlight the important to implement strategies that can modify the behavior of users so that their compartment is more easily adjusted to the management of the system. Venkatesh and Davis (2000), on the other hand explained that is the perceived ease to use it has been a proven factor. If the system looks difficult to use for the user will create a barrier that limits the learning and therefore will not allow the acceptance. Additionally, Leonard and Cronan (2005), present that the ethical decisions of the individuals can also affect the acceptance. They can even make significant differences depending on the gender of the user. That is why employee training programs should include the perceived impact of this particular system on the daily tasks of the members.

Park, Lee and Khan (2014), concluded that there are deeper factors that can affect the acceptance of a system, like it is the positive relationships between the administrative staff with the employee (users) can be an important aspects. This is because is the employee feel free and confidence about asking questions they will feel more comfortable with their use.

On the other hand, Venkatesh (2000), likewise the difficulty of many people towards technology can be a great barrier to accept a system, the authors call it an anxiety to computer science, and the way to get users to overcome this type of anxiety is by showing them the system use in and offer great support. Similarly, Koufaris (2002), also the users' practice toward to the system will allow them to become experts in it. The more they realize the benefits of using the system and its benefits to consumers, better and easier will be the acceptance process. Finally, McNab and Yu (2009), explained that the level of customization allowed by the system also becomes one of the factors that could support the acceptance of it. So as we see there are many factors that the literature presents and that sometimes are not taken into consideration to measure the acceptance, especially in technological areas. However, if these factors are known, it is easier to establish strategies to make the process more enjoyable, calm, simple and effective. However, as explained in the introduction the research for this study topic is limited, especially those that are dedicated to the restaurant industry. At the moment, it is extremely important that emerging companies spend time and resources to address these factors of acceptance, especially because all the great benefits that this knowledge can offer for the business development.

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References

- [1] Adams, D.A., Nelson, R.R, Todd, P. A. (1992). Perceived usefulness, ease of use, and usage of information technology: a replication. *MIS Quarterly*, 16(2), 227–248.
- [2] Agarwal, R., & Prasad, J. (1999). Are individual differences germane to the acceptance of new information technologies? *Decision Sciences*, 30(2), 361-391.
- [3] Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management Science*, 35(8), 982-1003.
- [4] Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
- [5] Delone, W.H., McLean, E.R. (2003). The Delone and McLean model of information system success: a ten year update. *Journal of Management Information System*. 19(4),9-30.
- [6] Hoehle, H., & Venkatesh, V. (2015). Mobile application usability: conceptualization and instrument development. *MIS Quarterly*, 39(2), 435-472.
- [7] Hong, W., Thong, J., Wong, W., and Tam, K. (2002). Determinants of User Acceptance of Digital Libraries: Empirical Examination of Individual Differences and System Characteristics. *Journal of Management Information Systems*. 18(3), 97-124.
- [8] Isaacman, J. (2014). 6 Ways to Improve POS Security. *Restaurant Hospitality*, 98(9), 39.
- [9] Lu, J., Yu, C., Liu, C., & Yao, J. (2003). Technology acceptance model for wireless Internet. *Internet Research*, 13(3), 206-222.
- [10] Kimes, S. E. (2008). The role of technology in restaurant revenue management. *Cornell Hospitality Quarterly*, 49(3), 297.
- [11] Koufaris, M. (2002). Applying the Technology Acceptance Model and flow theory to online consumer behavior. *Information Systems Research*, 13(2), 205.
- [12] Leonard, L. N. K., & Cronan, T. P. (2005). Attitude toward ethical behavior in computer use: A shifting model. *Industrial Management & Data Systems*, 105(9), 1150-1171.
- [13] Li, X., Hess, T. J., McNab, A. L., & Yu, Y. (2009). Culture and acceptance of global web sites: A cross-country study of the effects of national cultural values on acceptance of a personal web portal. *Database for Advances in Information Systems*, 40(4), 62-87.
- [14] Li, Y., Tan, C., Xu, H., & Teo, H. (2011). Open source software adoption: Motivations of adopters and amotivations of non-adopters. *Database for Advances in Information Systems*, 42(2), 76-94.
- [15] Lung H., & Peng L. (2004). Why do people play on-line games? An extended TAM with social influences and flow experience. *Information & Management*. 41, 853-868.
- [16] Moon, J.W., Kim, Y.G. (2001). Extending the TAM for a World-Wide-Web context. *Information and Management*. 38(4), 217-230.
- [17] *National Restaurant Association (2016)*. Facts at A Glance. Retrieved on June 26, 2016 of <http://www.restaurant.org/News-Research/Research/Forecast-20162016>.
- [18] Park, K., Lee, S., & Khan, M.A. (2014). Exploring the impact of franchise support on franchisee acceptance of intranet in quick service restaurant (QSR) franchise system. *Journal of Hospitality and Tourism Technology*, 5(2), 143.
- [19] Rai, A., Lang, S. S., & Welker, R. B. (2002). Assessing the Validity of IS Success Models: An Empirical Test and Theoretical Analysis. *Information Systems Research*, 13(1), 50.
- [20] Scherer, A., Wunderlich, N., & Wangenheim, F. (2015). The Value of Self-Service: Long-Term Effects of Technology-Based Self-Service Usage on Customer Retention. *MIS Quarterly*, 39(1), 177-200.
- [21] Spears, J. L., and Barki, H. (2010). User participation in information systems security risk management, *MIS Quarterly*, 34(3), 503-522.

- [22] Sundarraj, R., & Manojehri, N. (2011). Application of an Extended TAM Model for Online Banking Adoption: A Study at a Gulf-region University. *Information Resources Management Journal*, 24(1), 1-13.
- [23] Taylor, S., & Todd, P. A. (1995). Understanding Information Technology Usage: A Test of Competing Models. *Information Systems Research*, 6(2), 144-176.
- [24] Venkatesh, V. (2000). Determinants of perceived ease of use: integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information Systems Research*, 11(4), 342.
- [25] Venkatesh, V., & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, 46(2), 186.
- [26] Venkatesh V, Morris MG, Davis GB, Davis FD (2003). User acceptance of information technology: toward a unified view. *MIS Quarterly*, 27(3), 425–478
- [27] Weiyin, H., Thong, J. Y., Wai-man, W., & Kar-yan, T. (2001). Determinants of User Acceptance of Digital Libraries: An Empirical Examination of Individual Differences and System Characteristics. *Journal of Management Information Systems*, 18(3), 97-124.
- [28] Wu, M., & Kuo, F. (2008). An empirical investigation of habitual usage and past usage on technology acceptance evaluations and continuance intention. *Database for Advances in Information Systems*, 39(4), 48-73.