Digital Transformation: Certified Accountants’ Perceptions of the Evolution in the Quality of Online Taxation Services

Pedro Coelho¹, Albertina Paula Monteiro², and Cláudia Pereira³

¹ ISCAP|P.PORTO, Porto, Portugal
   pedromscoelho95@gmail.com
² CEOS.PP|ISCAP|P.PORTO, Porto, Portugal
   amonteiro@iscap.ipp.pt
³ CEOS.PP|ISCAP|P.PORTO, Rua Jaime Lopes Amorim s/n, S. Mamede de Infesta, 4465-004 Porto, Portugal
   claudial@iscap.ipp.pt

Abstract. In this study, we analyse the quality of Portuguese public online service provided in the Finance Portal by Tax Administration and its evolution across the last decade. For that purpose, we focus on the five SERVQUAL online dimensions and convenience dimension. In addition, we examine if they are determinants of the users’ satisfaction based on the Structured Experience Theory. To collect data, we performed a survey for a sample of certified accountants, that are primary users of the Finance Portal. The evidence collected suggests that the security, empathy and convenience dimensions are the most critical features of the Finance Portal. Conversely, our results show that new services provided online tend to have better quality than older services. Besides, we find a negative evolution on the perceptions of the quality regarding the online taxation services over the last 10 years.

This study is important to Governments, fiscal authorities and specifically to the Finance Portal coordinators by giving some insights that may assist to improve the online services by providing specific perceptions of users regarding the strengths and weaknesses of the online services.

Keywords: Service quality · Online taxation services · Finance Portal · Tax Administration · E-Government · SERVPERF · Certified accountants

1 Introduction

New technology has been changing businesses’ models making most of them obsolete (Day-Yang et al. 2011). One of the main objectives of the European Union (EU) is creating and promoting digital solutions (Moroz 2018). This author states that the economy has been adjusted to the online era following the digital transformation.

Digital transformation is the integration of digital technologies in business processes (Bharadwaj, 2000). Digital transformation is inevitable to every sector of the activity including the public administration. According to European Commission (EC),
Portugal is one of the 5 countries with the best performance in terms of online service completion (EU 2020).

Rotchanakitumnuai (2008), refers that digital public service (e-Government) has great impact in the government’s operations due to the improvement of the service’s quality and the reduction of operations’ costs of the companies. Web Sites are useful tools because it enhances the public services provided, thus the objective of the web sites should be oriented to the improvement of the users’ satisfaction (Pinho et al. 2007; Monteiro 2007).

To assess service quality, it is widely used the SERVQUAL model. This model includes 5 dimensions (reliability, security, tangibility, empathy and responsiveness) and the service provider must take the appropriate actions to avoid customer dissatisfaction (Ellis et al. 2017).

With this concern, the present study intends to evaluate the evolution of the public service quality (SERVQUAL online service) provided in the Finance Portal in the last 10 years. The Finance Portal is a web site that consists of a powerful tool through which the Tax Administration (TA) offers a variety of online services to taxpayers, providing, on the one hand, greater convenience to users, on the other hand, a significant reduction in processing costs, as well as in the indexes of tax evasion.

Besides, this study also matters because Finance Portal is getting compulsory to comply with tax obligations. Therefore, to enhance the fulfillment of its tax obligations via online, TA shall be committed to provide its users with a portal that meets certain quality requirements. With this article we contribute to the existing literature regarding e-Government by providing some insights based on the users’ perceptions regarding the quality of the online taxation services. In addition, this study shows that certified accountants are able to identify the strengths and weaknesses of these online services and thus providing useful information for TA to improve them.

In the next section we present the conceptual background of the study. In the third and fourth sections we have the methodology and the analysis and discussion of the result. Finally, in the last section we highlight the main conclusions and make the final considerations.

2 Theoretical Background and Conceptual Research Model

2.1 TA in the e-Government Context

Over the last decades, the services provided by TA has been increasing according to European Commission (EC). The first programme introduced by EC was in December 1999, “eEurope” followed by “eEurope Action Plan 2002”, “eEurope 2005” and “i2010”. These projects had an objective of instructing the public administration to implement the proposed actions. Recently, the government presented the 10th edition of simplex – ISIMPLEX 2019 – on which predicts the impact on the simplification of the modernization in the citizens’ life as well in the certified accountants. ICT have a key role in the transformation of the services. The e-Government is the result of the combination between ICT and classic techniques of administration. According to OCDE E-Government Task Force (2003), e-Government is the use of ICT in order to
improve the services of public administration. It can be concluded that e-Government it is not only a program developed to improve online transactions, but it is also used to include changes in the operations and administrative structure.

Grant and Chau (2005) refer that there are several definitions of e-Government and while some focus on the strict use of ICT (particularly the internet as a more efficient tool for the distribution of public services), others present the concept as an effort largely done to transform government (governance).

With the advancement of technology and the digitization of processes, there is an increasing monitoring of this evolution by the TA. Processes, that previously required a face-to-face to visit to the TA installations and the consequent waiting time, began to be dealt on an online platform.

TA, over the years, has achieved a positive evolution in terms of the number of user registrations, the number of submissions of electronic declarations and the introduction of new services. However, any service, whether in the private or public sector, must be provided with quality, and this must be evaluated essentially from the user’s perspective, with different models in the literature that allow assessing the quality of the service both in the physical and digital environment.

2.2 Service Quality

The service quality assessment has been taking on a priority role in private and public institutions and is an indispensable requirement for consumer/user satisfaction. There are two basic ways of conceiving quality, one from the service provider’s point of view and the other from the user’s perspective. The later evaluates quality according to the expectations on an offer, that is, if the product or service exhibit characteristic that allow to meet his needs (Kotler et al. 2001).

Service quality is an important academic and scientific interest area, with special emphasis after the contribution of several authors (Parasuraman et al. 1985). According to Parasuraman et al. (1988), service quality results from the difference between the customer’s expectation and perception regarding the performance of a given service. For Parasuraman et al. (1985), the perceptions originate in the user’s beliefs while their expectations are related to their needs (Parasuraman et al. 1988). On the other hand, Cronin and Taylor (1992) and Grönroos (1994) argue that the service quality comes only from the customer’s perception. Martin (2016) states that, over time, the requirements and standards of customers have been increasing, which raises the development of studies within the scope of service quality assessment.

Although the services are intangible, heterogeneous, inseparable and perishable, there are countless authors who develop models that seek to evaluate the quality of the service. In the literature, it suggests several models to assess service quality. However, the best known are the SERVQUAL and SERVPERF models.
Parasuraman et al. (1985) identify more than 200 attributes that determine the service quality, which are subdivided into 10 dimensions (tangibility, reliability, responsiveness, competence, courtesy, credibility, security, access, communication and understanding). These authors, based on these dimensions, develop the SERVQUAL model that assesses the service quality through the difference between the customer’s expectation and perception of a given service. Later, Parasuraman et al. (1988) reduced these dimensions in half, with the competence, credibility, security and courtesy grouped in the security dimension and communication, understanding and access were combined in the empathy dimension. Thus and according to authors, the five final dimensions of SERVQUAL to evaluate the service quality include the reliability (ability to perform the promised service dependably and effectively), security (knowledge and capacity company to transmit trust and security in the service), tangibility (appearance of the facilities, website, products, personnel, logo, equipment, among others), empathy (care and attention in the relationship established between the company/employees and their customers), and finally, the responsiveness (willingness to help customers and ability to provide a quick service). However, “service quality has been conceptualized with different numbers of dimensions” (Yarimoglu 2015, p. 172).

In the SERVQUAL model, according to Parasuraman et al. (1988), service quality evolution is developed in three steps. In the first, the customer creates expectations regarding the service, in the second and after using the service, the customer evaluates the service’s performance received (perception) and, in the last, the customer compares the points mentioned above, determining the difference. In view of a positive result, it can be concluded that the customer’s perception of the service’s performance has exceeded their expectations, which demonstrates quality of the service, otherwise, the service is not presented with quality.

However, SERVQUAL model receives several criticisms associated with the gap score, the questionnaire extension, the predictive power of the model and the validity of the five dimensions (Babakus and e Boller 1992; Cronin and Taylor 1992; Teas 1993; Dabholkar et al. 2000; Brady et al. 2002). Butle (1996) argues that service quality, when measured by the difference between expectation and perception, can give rise to a negative externality in relation to the service, as it is easier to create a negative criticism than a positive one, making the quality of the service considered low. On the other hand, Babakus and Boller (1992) and Butle (1996) state that the results may not reflect reality since, using the SERVQUAL model, the survey takes longer and may cause some fatigue in the respondent. According to Cronin and Taylor (1992), the SERVQUAL model, which follows a disconfirmation paradigm, is inadequate to measure satisfaction. On the other hand, Buttle (1996) argues that the use of this paradigm can lead to low expectations, once based on past experiences, praising the harmful effect of negative confirmation, which can be greater than that of positive confirmation. Regarding to expectations, if they are low, it can lead to the non-existence of a gap between them and perception. Lee and Moghavvemi (2015) state that service quality assessment, based on the SERVQUAL model, is a multidimensional construct, with no consensus on generic dimensions.
Cronin and Taylor (1992), however, based on the SERVQUAL model, develop the SERVPERF model, which directly evaluates customers’ perception, disregarding their previous expectations in relation to a given service. Numerous authors support the view that SERVPERF is a better alternative than SERVQUAL in measuring service quality. In fact, Oliver and DeSarbo (1988) and Babakus and Boller (1992) state that perception is the result of the difference between the expectation and the perception of the service, and SERVPERF, by excluding the expectation factor, avoids repetition. On the other hand, Teas (1993) indicates that expectations should not be treated as a type of attitude, but as an ideal point, making the model based on the gap inadequate to assess the quality of the service. Loureiro (2006), in turn, supports the use of SERVPERF because it considers that perceptions and expectations assessments is a lengthy process and may cause some discomfort in the respondent.

SERVQUAL model, despite all the criticisms, is a reference model and has been used in several studies, both in the services provided physically (Mukherjee and Nath 2003; Casadesús et al. 2002; Donnelly et al. 2000), as digitally (Mukherjee and Nath 2003, Wang and Tang 2003; Kuo 2003). SERVPERF model has been widely used to assess service performance of recent research Yazdani 2020; Ellis et al. 2019, Almurshidee 2018; Akdere et al. 2018).

The literature links service performance to Structured Experience Theory, whose propositions incorporate the five dimensions, considering the service quality as perceived actions performed by a provider to avoid the dissatisfaction of its customers (Ellis et al., 2017). This theory was created to identify the strategies that allow to optimize the interactions between participant and provider during participation in a structured experience (Ellis et al. 2019; Ellis et al. 2017; Pine and Gilmore 2011). Ellis et al. (2019, p. 14) indicate that “a priority for future research will be conducting laboratory and field experiments to test propositions” of Structured Experience Theory.

TA leaders must focus their attention on internal structural needs, as well as assess the service quality provided to the taxpayer. Considering that most operations are mandatorily carried out on the Finance Portal, TA must offer a service that complies with certain quality requirements and contributes to the satisfaction of its users.

2.3 Service Quality and Satisfaction

The relationship between the service quality and the satisfaction has not been consensual among authors. Some suggest the concepts are similar, on the other hand other consider them the opposite (Dabholkar 1995; Dabholkar et al. 2000; Oliver 1993).

According to Dabholkar (1995), while the evaluation of the service quality has a cognitive character, satisfaction integrates simultaneously cognitive and affective elements. This author maintains that these two concepts are different for recent consumers of a product, however, in the long term, the affective dimension tends to fade, and, to this extent, the concepts tend to overlap. If these two concepts are distinct, an issue that immediately arises, is related to their order of occurrence in the consumer’s mind and, as such, in the causal relationship between both. In this regard Dabholkar et al. (2000) argues that, traditionally, most researchers argue that consumer satisfaction, resulting from a certain consumer experience, leads to an overall assessment/attitude overall about the service quality over a given period of time (Parasuraman et al. 1988).
However, the reverse situation has become more relevant. This position was particularly evidenced by Oliver (1993), who suggested that the service quality should be an antecedent of consumer satisfaction regardless of the experiential character or the time factor. Likewise, Cronin and Taylor (1992) analyze the effect of these concepts in both directions and concluded that the perceived service quality has a greater impact on customer satisfaction than the opposite. Several authors consider service quality as an important antecedent of satisfaction (Chiou et al. 2002; Zhang and Pruybutok 2005; Yarimoglu 2015). In this sense, and based on SERVQUAL online dimension, the first research hypothesis and respective sub-hypotheses are formulated.

**H1: Service quality perceived by the Finance Portal has a positive influence on the Certified Accountants’ satisfaction**

H1.1 - Tangibility of the Finance Portal has a positive influence on the Certified Accountants’ satisfaction.
H1.2 - Reliability of the Finance Portal has a positive influence on the Certified Accountants’ satisfaction.
H1.3 - Responsiveness of the Finance Portal, has a positive influence on the Certified Accountants’ satisfaction.
H1.4 - Security of the Finance Portal has a positive influence on the Certified Accountants’ satisfaction.
H1.5 - Empathy of the Finance Portal has a positive influence on the Certified Accountants’ satisfaction.

**2.4 Convenience and Satisfaction**

Convenience arises when something adds convenience to the consumer, reducing their effort in time and work (Zhang and Prybutok 2005). According to Berry et al. (2002), convenience is understood as the consumers’ perceptions regarding the time and effort required to buy or consume a product or service. Zhang and Prybutok (2005) concluded that convenience has a direct and positive effect on consumer’s satisfaction. Transposing the concept of convenience to the online service of AT, it can be said that the service is convenient for the taxpayer when it simplifies the fulfillment of tax obligations and allows a high saving of time and effort, when compared to the traditional process. According to Monteiro (2007), the perceived convenience of the service has an impact on the satisfaction of Certified Accountants. Thus, in this study, we also propose to test the second hypothesis of this study.

**H2: Convenience of the Finance Portal has a positive influence on the Certified Accountants’ satisfaction.**

Thus, from this study, it is proposed to evaluate the conceptual model presented in Fig. 1.
3 Methodology

3.1 Development of Measure Instruments

The purpose of this article is to evaluate the online service quality of the Finance Portal based on the certified accountants’ perception, taking into account the impact of the different SERVPERF online dimensions, convenience and satisfaction. Besides we also analyse the evolution of these services’ quality.

In order to ensure the use of valid and reliable measure instruments for the quality of online services provided by TA. Given the specific features of tax services, the measurement scale used in the study by Monteiro (2007), which is adapted from Yang and Jun (2002), Cai and Jun (2003), Iwaarden et al. (2003), Oliveira et al. (2003) and Brand and Roberts (2003). The scale used allows the assessment of the Certified Accountant’s perception in the different items relate to the five SERVPERF online dimensions, the convenience dimension and the satisfaction dimension.

The survey was subjected to a pre-test until it was considered that there were no difficulties in completing and interpreting it. The survey consists of the variables to characterize respondents and their perceptions of the main services, in terms of perceived quality of service, that is, 44 items (12 for reliability; 14 for tangibility; 5 for empathy, 5 for security and 8 for responsiveness), convenience of use (3 items) and satisfaction (5 items) (see appendix). Perceptions were measured on a 5-point Likert scale.

![Fig. 1. Conceptual model](image-url)
3.2 Data Collection Procedures and Sample Description

This study uses inquiry by questionnaire in order to collect data. From May 27th to July 10th of 2019 the questionnaire was shared in the social media by the certified accountants board and was able collect 248 answers. Out of those, 8 were excluded due to not being certified accountants. As the number of certified accountants was 70,000, the sample is not probabilistic but convenience. The sample is not uniform in terms of gender because 20,7% was male answers while 78,8% were female answers. In addition, most of them have more than 40 years (85,1%), present some type of graduation (80,8%) and have been working in accountant over than 10 years (60,8%).

The software used to compute the results was SPSS – Statistical Package for Social Sciences (version 24).

4 Empirical Results and Discussion

In Table 1 we report the perceptions among the certified accountants and analyse their evolution through the last 10 years by comparing with the study of Monteiro (2007). Opposite to the expected all the electronic services offered by tax authorities get worse. Services related to the consult of tax debts, fiscal infractions and property show the higher decrease in the quality. However, in Monteiro (2007) these services had the greatest results with values within 3.95 and 4.02. Furthermore, the results allow to conclude that the most recent services available such as issuing green invoices and receipts, e-invoice and e-leases exhibit the highest ratings.

Table 1. Evolution of certified accounts’ perceptions regarding online taxation services

| Services                                      | 2007  | 2019  | Evolution |
|-----------------------------------------------|-------|-------|-----------|
|                                               | Mean  | No.   | Mean    | No.    | Evolution |
| Exceptional delivery (except heritage)       | 3.89  | 345   | 2.73    | 240    | −1.16     |
| Change of address                            | 3.75  | 213   | 2.73    | 179    | −1.02     |
| Obtaining evidence                           | 3.90  | 338   | 2.57    | 240    | −1.33     |
| Obtaining prints and forms                   | 3.72  | 330   | 2.55    | 234    | −1.17     |
| Obtaining/using tax simulators               | 3.68  | 318   | 2.30    | 234    | −1.38     |
| Consultation of IRS refunds/payments         | 3.57  | 315   | 2.66    | 238    | −0.91     |
| Consultation of tax debts                    | 4.02  | 301   | 2.57    | 237    | −1.45     |
| Consultation of tax infractions              | 4.00  | 282   | 2.51    | 236    | −1.49     |
| Consultation of IRC and/or VAT data          | 3.75  | 326   | 2.47    | 240    | −1.28     |
| Consultation of heritage data                | 3.95  | 282   | 2.55    | 218    | −1.40     |
| Consultation of information/tax legislation   | 3.59  | 288   | 2.66    | 235    | −0.93     |
| Consultation of the tax calendar             | 3.49  | 252   | 2.37    | 220    | −1.12     |

(continued)
To further develop this study, we used measurement scales for each SERVPERF online dimension and tested them using a correlation analysis by total scores. This test has been used by many authors in order to maintain the levels of consistency and homogeneity of the scales (Balabanis et al. 1997). As the global score of the item was acceptable (r > 0.25), all the items were considered (Nunnally 1978). Then, the different items were aggregated in a composite variable that is used for subsequent analyzes.

To identify the psychometric validity of the scale, the Cronbach alpha coefficient was calculated for each SERVPERF online dimension [reliability (α = 0.91); tangibility (α = 0.92); empathy (α = 0.81); security (α = 0.73) and responsiveness (α = 0.81)].

Table 2 documents the Certified Accountants’ perceptions of the quality of e-Government, but also presents their evolution based on the study of Monteiro (2007). As we can see, the perceptions in the different SERVPERF online dimensions present a negative evolution, with empathy and tangibility being the dimensions that had the worst performance.

Table 1. (continued)

| Services                              | Mean 2007 | No. | Mean 2019 | No. | Evolution |
|---------------------------------------|-----------|-----|-----------|-----|-----------|
| Identification of customers/suppliers | 3.78      | 247 | 2.50      | 230 | −1.28     |
| IMI exemption requests                | 3.85      | 67  | 2.62      | 125 | −1.23     |
| Buildings inscription                 | 3.77      | 73  | 2.52      | 94  | −1.25     |
| Delivery of IMT declarations          | 3.76      | 42  | 2.62      | 91  | −1.14     |
| CC Management                         | 3.86      | 274 | 2.50      | 232 | −1.36     |
| Other services                        | 3.68      | 146 | 2.41      | 175 | −1.27     |
| Issuing green invoices and receipts   | –         | –   | 3.40      | 222 | –         |
| e-invoice                             | –         | –   | 3.03      | 239 | –         |
| e-lease                               | –         | –   | 3.23      | 193 | –         |

Likert scale of 5 points: 1 = significantly worsened; 5 = significantly improved
Source: Authors’ calculations

Table 2. Evolution of certified accountants’ perceptions regarding the SERVPERF online dimensions

| Dimensions | Perception mean (St.d.) Monteiro (2007) | Perception mean (St.d.) (2019) | Evolution |
|------------|----------------------------------------|-------------------------------|-----------|
| Reliability| 4.36 (.679)                            | 2.68 (.416)                   | −1.68     |
| Tangibility| 4.24 (.677)                            | 2.26 (.257)                   | −1.98     |
| Empathy    | 4.17 (.815)                            | 2.04 (.263)                   | −2.13     |
| Security   | 4.39 (.683)                            | 2.55 (.660)                   | −1.84     |
| Responsiveness | 4.28 (.727)                     | 2.39 (.352)                   | −1.89     |

Source: Authors’ calculations
We report the correlation matrix between the variables representing the dimensions included in the model in Table 3. The results illustrate that most variables have a positive and significant correlation with the dependent variable. However, the correlation coefficient does not exceed the critical value proposed by Tabachnick and Fidell (2001) of 0.70, which means the absence of multicollinearity between the variables.

**Table 3.** Correlations matrix (no. = 240)

|       | 1   | 2   | 3   | 4   | 5   |
|-------|-----|-----|-----|-----|-----|
| 1. Reliability | 1   |     |     |     |     |
| 2. Tangibility  | .472* | 1   |     |     |     |
| 3. Empathy      | .231* | .474* | 1   |     |     |
| 4. Security     | .293* | .439* | .574* | 1   |     |
| 5. Responsiveness | .385* | .473* | .445* | .541* | 1   |
| 6. Convenience  | .404* | .345* | .372* | .277* | .351* | 1   |
| 7. Satisfaction | .406* | .430* | .498* | .424* | .413* | .769** |

Note: *Correlation significance at 0.01; **Correlation significance at 0.05 (two-tailed).

Source: Authors’ calculations

Furthermore, we test the hypotheses by running the following regression of Satisfaction on SERVPERF online dimensions and convenience dimension:

\[
\text{Satisfaction} = \beta_0 + \beta_1 \text{REL} + \beta_2 \text{TANG} + \beta_3 \text{EMP} + \beta_4 \text{SECU} + \beta_5 \text{RESP} + \beta_6 \text{CONV} + \beta_1
\]

Where,

- Satisfaction represents the certified accounts’ fulfilment with Finance Portal based on 5 items collected from the survey;
- REL is the reliability assessed by 12 items in the survey;
- TANG consists of tangibility given by 14 items collected in the survey;
- ENP is empathy assessed by 5 items from the survey;
- SECU is security obtained form 5 items of the survey;
- RESP represents responsiveness resulting from 8 items in the survey;
- CONV is convenience resulting from 3 items of the survey.

We analyze ANOVA and the F-statistic to estimate the explanatory ability of the regression. As we can see in table, we obtain a F-value of 76.445 with 6 and 233 g.l. As the p-value = 0.000 (Sig.) we reject H0, therefore this model is significant. Regarding the adjusted value of R² an important part of the variance of the dependent variable (satisfaction) is explained by the independent variables present in the regression model (Adj. R² = 0.654).
According to the results obtained, the independent variables empathy, security and convenience are significant considering a significance level of p < 0.05, while reliability, tangibility and responsiveness are not statistically significant. In addition, the evidence shows that variable with the highest coefficient in this model is convenience (\( b_6 = 0.636; \ p = 0.00 \)), followed by Empathy (\( b_3 = 0.151; \ p = 0.003 \)) and Security (\( b_3 = 0.114; \ p = 0.026 \)). Based on the results, it is possible to partially support H1, since only empathy and security reveal a significant impact on satisfaction, supporting the sub-hypotheses H1.5 and H1.4, respectively. On the other hand, H2 is supported because there is a significant and positive relationship between convenience and satisfaction.

The results of this study are consistent with Monteiro (2007) except with regard to the relationship between security and satisfaction. Monteiro (2007), instead of security, finds a positive and significant relationship between tangibility and satisfaction, which is not observed in this study. It should be noted that all items that assess tangibility have an average perception that varies between 1.81 and 2.72. The items with the lowest rating refer to the following items; “I easily find what I’m looking for” (1.84), “I find the information I want with the minimum of clicks” (1.81) and “the design is aesthetically attractive” (2.09). However, certified accountants indicate that the main weaknesses of Finance Portal are related to the fact that it is not very intuitive (confused in the search for information), slow and with frequent site crashes. Resulting that tangibility has no longer impact on the satisfaction of those who are the main users of Finance Portal. A large part of the respondents indicate that they would prefer to go back to the previous Web Site and, others, warn of the need for TA to rethink the way services are being provided in the Finance Portal in order to contribute to better compliance with tax obligations.

**Table 4.** Regression of SERVPERF online dimensions and convenience dimension on satisfaction dimension

| Independent variables | Coefficient | t-value | p-value |
|------------------------|-------------|---------|---------|
| Intercept              | 0.000       | 1       | 1       |
| REL                    | 0.047       | 1.021   | 0.308   |
| TANG                   | 0.060       | 1.225   | 0.222   |
| EMP                    | 0.151       | 2.991   | 0.003   |
| SECU                   | 0.114       | 2.234   | 0.026   |
| RESP                   | 0.014       | 0.288   | 0.773   |
| CONV                   | 0.636       | 14.413  | 0.000   |
| F-value                | 76.445      | 0.000   |         |
| Adjusted R²            | 0.654       |         |         |

Notes: Satisfaction represents the certified accounts’ fulfilment with Finance Portal based on 5 items collected from the survey; REL is the reliability assessed by 12 items in the survey; TANG consists of tangibility given by 14 items collected in the survey; EMP is empathy assessed by 5 items from the survey; SECU is security obtained form 5 items of the survey; RESP represents responsiveness resulting from 8 items in the survey; CONV is convenience resulting from 3 items of the survey.

Source: Authors’ calculations
5 Conclusions

Given that we live in a digitalization Era, TA must improve their online public services. The increasing demand of information shared via online, the Finance Portal must fulfil standards of quality.

This study analyses the perception of services quality on the Finance Portal by the certified accountants and evaluates the evolution of the services over the last 10 years.

Within a 240 sample, the perception is that Finance Portal suffer a degradation. The services regarding enquiry of tax debts, tax infractions and the property had the lowest performance. These results contrast with Monteiro (2007) on which these services had the greatest performances. In addition, we find that the most recent services offered by Finance Portal have the greatest ratings.

Furthermore, we find that empathy, security and convenience have a positive impact in the satisfaction, being “convenience” the dimension that presents the greatest impact. Moreover, 65.4% of the model is explained by independent variables. Dimensions such as reliability, tangibility and responsiveness do not exhibit influence on the model. The results differ from Monteiro (2007), on which reliability dimension was relevant on the model instead of security dimension. According to Iwaardeen et al. (2003), reliability dimension is related to the design, accessibility e updated contents. Notwithstanding, the certified accountants described the service as slow, not intuitive and the frequent crash of the system. The common opinion of the certified accountants was that the updates were a “disaster”. The ongoing advance of technology and data protection could explain why security dimension as become important feature of the service in order to provide, with greater level of safeness, the data to TA (Table 4).

The data sample is the greatest limitation of this study. Due to the considerable number of certified accountants, this study is upon a convenience sample, not probabilistic. Therefore, as future research, it seems important to include a larger number of users. It is also important to focus on the evolution of the various online services provided on the Finance Portal during the period of COVID 19.

Overall, this article provides helpful insights to understand better the role of e-Government on the public sector and to identify services and features of services that shall be improved in order to boost the satisfaction and certified accountants’ work because easier.

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Appendix

SERVPERF online, convenience and satisfaction dimensions’ measurement scales

| Reliability                                                                 |
|----------------------------------------------------------------------------|
| 1. Access in the WWW universe is fast                                      |
| 2. Information on taxes and/or other tax obligations is clearly detailed   |
| 3. Information on all operations/functionality is available                |
| 4. The available information is correct                                    |
| 5. The available information is update                                     |
| 6. The registration process is simple                                      |
| 7. A validation is displayed before sending all information/declarations   |
| 8. All pertinent details of the confirmation of the sending of the information/declarations are presented immediately after its sending |
| 9. Consultation of all information/declarations sent is available          |
| 10. Information on the status of the information/declarations sent is available |
| 11. You have access to proof of delivery of information/declarations sent within 24 h |
| 12. The different forms of payment are clearly presented                   |

| Tangibility                                                                |
|----------------------------------------------------------------------------|
| 13. I easily find what I’m looking for                                      |
| 14. I find the information I want with the minimum of clicks               |
| 15. The “design” is aesthetically attractive                               |
| 16. I find the information necessary for the proper fulfillment of tax obligations |
| 17. Navigation is consistent and standardized                             |
| 18. All terms and conditions (e.g., sending declarations and payments) are accessible and easy to read/understand |
| 19. The size/time of the files available for download are accessible        |
| 20. All download forms are available                                       |
| 21. Guides to assist in the correct filling out of forms are available for consultation and download |
| 22. A list of all TA publications and related documents is available        |
| 23. Each available document or information has a publication date          |
| 24. All documents and miscellaneous information published are transferred, after the expiration date, to the file and are available for consultation |
| 25. All archived documents are accompanied by the date of publication and expiration |
| 26. All scheduled or ongoing events are available                          |

| Empathy                                                                     |
|----------------------------------------------------------------------------|
| 27. It is easy to contact the service representative on the telephone lines to clarify technical questions or file problems (e.g., help desk) |
| 28. Contacts are easily identified (postal, telephone, fax and functional and/or institutional email) |
| 29. It has a clear language and is accessible to any taxpayer               |
| 30. Has a Newsletter service                                               |
| 31. An online chat is accessible in order to enable the exchange of information and opinions with other contributors |

(continued)
Reliability

32. I feel secure in providing confidential information when submitting information/declarations

33. Whenever confidential information is available, the message that I entered a secure page appears

34. The privacy policy is available

35. Security policy is available

36. When sending electronic information/declarations the Certified Accountant and/or Company password is always requested

Security

37. Links are available to other relevant pages

38. The Frequently Asked Questions (FAQ) system allows me to get answers to my questions

39. Navigation is fast

40. Navigation is slow/congested only in the last days of document delivery*

41. You can easily open documents

42. When the documents cannot be opened, the necessary download option is available

43. There is an “e-mail” address for questions and complaints

44. All requests for clarification or complaints were answered within 5 working days

Responsiveness

37. Links are available to other relevant pages

38. The Frequently Asked Questions (FAQ) system allows me to get answers to my questions

39. Navigation is fast

40. Navigation is slow/congested only in the last days of document delivery*

41. You can easily open documents

42. When the documents cannot be opened, the necessary download option is available

43. There is an “e-mail” address for questions and complaints

44. All requests for clarification or complaints were answered within 5 working days

Convenience

1. The sending of electronic information declarations through the “Web Site” simplifies the treatment of taxes

2. The treatment of taxes “online” allows me to save a lot of time when compared to the traditional process

3. With access to the “Web Site” I can handle taxes at any time, 24 h a day

Satisfaction

1. I am satisfied with my past experience in handling taxes online

2. Tax treatment online is a satisfying experience

3. AT’s decision to deal with taxes online was correct

4. If it was not mandatory to send some declarations electronically, I would prefer to deliver them in the traditional way*

5. In general I am satisfied with the online tax service

Affirmations marked with an asterisk (*) were reverse coded.

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