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Identifying opportunities for improvement in online shopping sites

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ABSTRACT

The aim of this study is to show how different methods may provide online shopping managers with information regarding which attributes affect customer satisfaction, and how to identify what to improve or offer in the market. For this purpose, 409 Brazilian users of online shopping answered questionnaires, evaluating 26 attributes. These attributes are grouped on five dimensions: Accessibility, Fault recovery, Security, Flexibility, and Interaction/feedback. The present study evaluates different actions suggested by Importance Performance Analysis (Martilla and James, 1977; Slack, 1994) and Improvement Gap Analysis (Tontini and Picolo, 2010), exploring the limitations and strengths of each method. The results show that Improvement Gap Analysis overcomes the limitations of Importance Performance Analysis, related to the nonlinear relationship between attribute performance and customer satisfaction.

1. Introduction

The number of internet users is 3.3 billion, representing around 45% of the world's population in 2015 (http://www.internetworldstats.com/stats.html). In this environment, the main determinant of success or failure in e-commerce is not just the price, but also the process for delivering products and the quality of the website. If these factors are good, customers accept paying more for the product or service (Rababah et al., 2011). Therefore, the "quality" of both the website and the final service plays a crucial role in attracting and retaining customers and, consequently, is essential for the success of the company on the internet (Bai et al., 2008; Rababah et al., 2011) state that, in the same way as face-to-face service, an online store must continuously look for fulfillment of customers' needs, in order to ensure return visits and win their loyalty.

Several studies have attempted to understand how consumers evaluate the quality of retail websites and their services, and how this affects customer satisfaction and loyalty. In relation to assessment instruments, Stiakakis and Georgiadis (2009), among others, cite the work of 21 other authors from 2000 to 2008, addressing various dimensions of the quality of online services. Regarding the identification of how different attributes and dimensions affect the satisfaction and loyalty of users, among several other publications we can mention Ribbink et al. (2004) with 610 citations, and Cristobal et al. (2007) with 322 citations (GoogleScholar, 2016/02/13). Recently, Valvi and Fragkos (2012) synthesized the results of 62 empirical tools to measure e-loyalty. Thus, it is clearly of great interest to understand the dimensions of quality of online services and how to evaluate them.

A few studies have attempted to evaluate methodologies focusing on how to identify what should be improved or offered on websites and in online services. Most of them use Importance Performance Analysis (IPA) (O'Neill et al., 2001; Oh and Zhang, 2010; Dong, 2012; Öz, 2012; Pokryshevskaya and Antipov, 2013). Originally proposed by Martilla and James (1977), IPA is one of the most-used methods for identifying what should be improved in products or services (Azzopardi and Nash, 2013). Regarding the use of IPA in online services, O'Neill et al. (2001), based on an adaptation of the SERVQUAL scale, apply IPA to identify what to improve in an online library service. Oh and Zhang (2010) use IPA to identify the strengths and weaknesses of foreign sites, studying which factors contribute to the Chinese preference for domestic internet services. Seng Wong et al. (2011) use IPA to evaluate e-government services. Dong (2012) proposes an evaluation model of e-commerce customer satisfaction, covering the dimensions of transaction security, product information, website design, service integrity, and product features. He proposes to define what the company should improve by using IPA, but does not show its application. Öz (2012), exploring 93 attributes in 6 groups (Service information, Purchase process, Contact and customer support, Offered services, Site navigation and usability, Company information), applies IPA to investigate what to improve on airline companies' websites. Pokryshevskaya and Antipov (2013) apply IPA for evaluating 13 attributes of two internet stores, showing how this method may help companies to identify what to improve.

Although a widely used method, the traditional IPA approach (Martilla and James, 1977) has limitations if the company accesses only its own customers (Tontini and Silveira, 2007). To overcome

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these limitations, Slack (1994) presents an alternative for assessing the importance and performance of products or services, using diagonal IPA. Even though it is an improvement over traditional IPA, only Ahrholdt (2011), in a complementary analysis, uses diagonal IPA to evaluate what to improve on an e-tail website. A limitation of that work is that it uses statistically inferred importance, leading 12 attributes to be identified as having non-significant importance.

Both methods, diagonal IPA (Slack, 1994) and traditional IPA (Martilla and James, 1977), do not take into account the possible nonlinearity between the performance of attributes and customer satisfaction. According to Kano et al. (1984), the nonlinear relationship between attribute performance and customer satisfaction can be classified as one-dimensional, mandatory, neutral, or attractive. Mandatory attributes (M) fulfill basic functions of the service. Customers see these attributes as prerequisites, being highly dissatisfied if these attributes are not offered or if their performance is inadequate. On the other hand, these attributes do not bring satisfaction if they are present or have sufficiently good performance. For one-dimensional attributes (O), the higher the attribute's performance, the greater the customer satisfaction, and vice versa. Attractive attributes (A) bring superior satisfaction if they are joined with high performance. However, they do not bring dissatisfaction if their performance is low. Two other types of attributes can be identified in the Kano model: neutral (N) and reverse (R). Neutral attributes do not bring about satisfaction or dissatisfaction, while reverse attributes bring more satisfaction by their absence than their presence.

There are few studies dealing with the issue of nonlinearity in online services. Zhao and Dholakia (2009) and Chen and Wu (2009) use the traditional method of the Kano model for classification of attributes. Ramanathan (2010) uses a methodology proposed by Hartline et al. (2003), which is based on the same principles as Penalty and Reward Analysis (Picolo and Tontini, 2008). These studies only identify the distribution of online service attributes regarding Kano model classifications (attractive, mandatory, one-dimensional, and neutral). They do not use this nonlinear problem for identifying what should be improved or offered in e-commerce.

As demonstrated by Tontini and Silveira (2007), the traditional method of Importance Performance Analysis can lead to erroneous decisions when assessing whether mandatory or attractive attributes should be improved or offered. Aiming to overcome these problems, Tontini and Picolo (2010) propose Improvement Gap Analysis (IGA), a fusion of IPA with the Kano model. There is no application of this method to online shopping sites. Thus, we arrive at the following research question:

What are the differences in the results of IPA and IGA when assessing what to improve or offer in online shopping websites?

To answer this question, the present study makes a comparison of how these methods identify what to improve or offer in online stores. In order to do so, first we present the general dimensions of these services. Then, we discuss traditional IPA, diagonal IPA, and IGA, exploring their possible limitations and stating research propositions. These methods were applied to a sample of 409 e-commerce customers, investigating what to improve among 26 attributes. The results show that traditional IPA tends to dismiss attractive attributes due to not considering the nonlinearity between the attributes' performance and customer satisfaction. Furthermore, the results show that, although diagonal IPA overcomes some of the problems of traditional IPA, it does not distinguish attractive attributes from neutral ones. Finally, because it is a dynamic method, different to traditional IPA and diagonal IPA, IGA is more selective about the attributes that should be improved or offered.

2. Literature review

2.1. Dimensions of online services

An online store is a service. However, it is a distinct service, where customers browse and decide alone, with several aspects having a different impact on customer satisfaction in comparison to in-person services. Zeithaml et al. (2000) developed one of the first models for evaluating the quality of online retail services: e-SERVQUAL. This model identified 11 dimensions: a) Access (to the website or the company when needed); b) Guarantee/trust (client feels confident when accessing); c) Ease of navigation; d) Efficiency (site is simple to use, minimal data required to be input by the customer); e) Flexibility (in conducting an electronic transaction); f) Customization/personalization (based on customer preferences and purchase histories); g) Price knowledge (on transport, total, and comparative prices); h) Security/privacy (site security, personal information is protected); i) Aesthetics of the site (appearance attributes); j) Reliability (correct technical functioning of the site, fulfillment of promises made to the customer); k) Answer (quick response to customer needs).

Another model developed to assess the quality of online services comes with the ES-QUAL and E-Recs-QUAL scales, suggested by Parasuraman et al. (2005). In more recent studies these authors reduced the number of dimensions to seven: a) Efficiency (can access and use the site easily and quickly); b) Fulfillment (fulfillment of promises about order delivery and item availability); c) System availability (correct technical functioning of the site); d) Privacy (site is safe, customer information is protected); e) Reply (effective treatment of problems); f) Compensation (site compensates customers due to problems); g) Contact (service representatives available via phone or online). According to the authors, the first four dimensions constitute the “core” quality (ES-QUAL scale), while the latter three constitute the “recovery” quality (e-Recs-QUAL scale).

Besides Zeithaml et al. (2000) and Parasuraman et al. (2005), several other authors have sought to develop specific and different foci for scales assessing the quality of online services. We can mention eTransQual (Bauer et al., 2006), with five dimensions: a) Functionality/design; b) Pleasure; c) Process; d) Reliability; e) Responsiveness; and PESQ (Cristobal et al., 2007) with four dimensions: a) Web design; b) Customer service; c) Guarantee; d) Order management.

Regarding e-commerce, Collier and Bienstock (2006) say that the conceptualization of its quality consists of three dimensions: a) Quality of the process; b) Quality of the outcome; c) Quality of the recovery. Chou and Cheng (2011), cited by Goi (2012), approach this via three dimensions: a) Quality of the online system (usability, navigability, accessibility, privacy); b) Quality of information (relevance, wealth of understanding); c) Quality of the process (responsiveness, reliability, security, and empathy).

We could say that one reason previous studies use different sizes and scales is because distinct services (online shopping, banking, etc.) have different dimensions. Table, 1 shows 14 dimensions in relation to online services in general, and online shopping services in particular. Two dimensions can have a high correlation with each other, because a good design can lead to better navigation.

Table, 2 shows the results of 24 studies, considering evolution over time and the relation of the dimensions researched with customers' general evaluation of the service. Although these studies do not represent all dimensions of online services, we can see that the most-used methodology of analysis is structural equations (54%), and the most frequent output of the model (dependent variable) is customer satisfaction (29%).

Regarding the researched dimensions, presented in Table, 2, the