A Literature Review of User Satisfaction Models Towards Information System Success

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ABSTRACT
User satisfaction is considered an important aspect of information system success. The objective of this article is to present a literature review on the usefulness and importance of user satisfaction as a measure of the effectiveness of information systems in modern Information Society. At the same time, the article follows the evolution of user satisfaction models, to study the research efforts in light of its multidimensional nature. Towards this direction, several widely accepted user satisfaction models are considered and compared. As a result, it turns out that the most adequate model for the measurement of user satisfaction is the 3Q model. This model focuses on the system, information and service quality aspects of an information system and highlights the causal relationships among them in order to study user satisfaction. Moreover, the article investigates the functional applicability and assessment of the fundamental user satisfaction models in the e-commerce and e-governance domains.

KEYWORDS
e-Government, Information Quality, Information Satisfaction, Service Quality, Service Satisfaction, System Quality, System Satisfaction, User Satisfaction Models, User Satisfaction

INTRODUCTION
Modern Information Systems (IS) are highly diversified from previous decades as their usage has spread to multiple users and for a wide range of purposes; nonetheless in their core they serve the same fundamental goal: the communication of information in an appropriate form so as to enable users to make decisions or take actions towards: (a) improving the organization, (b) actively participating in public policies or even (c) entertaining themselves (Petter, Delone, & Mclean, 2012).

Today, ISs do not only opt for being merely effective, but also for providing added value information. Therefore, taking into account that ISs should provide solutions to more and more complex problems under demanding conditions, the evaluation of IS success and effectiveness becomes a condition sine qua non for their function. Additionally, not only the user satisfaction models, but also the evaluation mechanisms of IS success should encompass even those users who transcend an organization (i.e. customers and citizens), because they are part of its valuable assets. As stated by Petter et al., “The challenge for the models - which will measure IS success in the future - like user satisfaction models, is to be compendious and at the same time simple, comprehensive and flexible. In short, the difficult task for those models is to be adaptive to constantly evolving environments (e.g. the developing environment of e-services)” (Petter et al., 2012).

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Another objective of our work is to highlight indicative case studies of the abovementioned user satisfaction models and more specifically to investigate their functional applicability and assessment in the e-commerce and e-governance domains (Table 3) as they constitute the major instances of e-business sector.

The literature search of review studies on user satisfaction in the domain of ISs resulted to the articles mentioned below. The narrow number of such articles strengthens the value of our work. No previous study has attempted to gather and study the characteristics of the most popular models in the field, thoroughly comparing their features under the prism of the application domains of e-commerce and e-government.

User satisfaction measurement has long been applied in the field of computer science and many efforts have been devoted for its clarification (Vaezi, Mills, Chin, & Zafar, 2016). Therefore, even though there is not till today a standardized categorization of the concept of user information satisfaction, two broader approaches can be discerned: (a) the outcome-oriented, which focuses on the measurement of the attributes of user satisfaction as well as on the measurement of the outcomes of use and (b) the process-oriented, which by utilizing theories of marketing and psychology explicates the process of satisfaction formation and traces the procedures that lead to IS satisfaction or dissatisfaction (Vaezi et al., 2016).

The outcome-oriented approach has been extensively applied in the IS domain (Vaezi et al., 2016), because its resulting conclusions prove to be useful for an organization’s strategic planning and it is does not incorporate complicated data-collection processes. At the same time, it offers the potential for creating valuable knowledge. However, none of both research paths transcends the other, since each approach studies user satisfaction from a different point of view and contributes in a different way towards apprehending user satisfaction procedures. The objective of this article is to study the most important IS user satisfaction models, to monitor the evolution of the notion of satisfaction, to record case studies of the models’ applications and finally suggest the directions for future research in the ISs domain.

The comparison of determinants and outcomes of end-user satisfaction across the e-government and e-business domains is studied by Morgenson in (Morgeson, 2011). The author used data from the American Customer Satisfaction Index (ACSI) and the results revealed that while some similarities do exist, for e-business users, satisfaction is predominantly a function of the personalization potential of the website, while satisfaction with e-government is determined more equally by the personalization, ease of navigation, reliability and organization predictors. Furthermore, a review work conducted by Irani et al. (Irani et al., 2012), included 114 publications from the e-government domain and studied their research design, methodologies and approaches that were mainly quantitative and evolved around the issue of user satisfaction. The results of the study identified the key journals in the field, as well as highlighted the less used but rather useful alternative methodological perspectives.

The remainder of this paper is organized as follows: Section 2 attempts a comparison of user satisfaction and IS success. Section 3 records the applicability of user satisfaction models. Section 4 discusses the main findings of our work and Section 5 presents our concluding remarks and suggests directions for future research in the domain.

**LITERNATURE REVIEW**

**Comparison of User Satisfaction and Success of Information Systems**

Several definitions of the notion of user satisfaction are suggested in the literature (Briggs, Reinig, & Vreeede, 2012; Melone, 1990). The reason behind this is because IS stakeholders – due to their position – evaluate the systems under different prisms and assign to them a different meaning (Alter, 2008; Bartis & Mitev, 2008). One of the conceptual approaches focuses on “the literal meaning of satisfaction, that is the fulfillment of needs or desires” (Ives, Olson, & Baroudi, 1983; Simon, Grover, & Teng, 1996;
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