The Role of Quality in Websites: A Discussion Focusing on Public Versus Private Sector Organizations

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Abstract. After 15 years of online experience among most organizations, we witness that increasingly more information and services are provided on the Web. Additionally, website users today are more demanding and knowledgeable compared to some years ago. High expectations and frequent use of online channels in dialogue and interaction place considerable pressure on most organizations. This paper discusses the importance of high quality websites and debates whether quality in public websites is more important compared to the private sector. The concluding remarks speculate on whether the subject of quality is more important within public sector websites, because they are serving all the citizens in provision of public information and services. Conversely, however, the quality of the website within the private sector is probably more important for creating business benefits and marketing exposure. This paper ends by providing suggestions for future research streams linked to the outcome of the present study.

Keywords: Human-Computer interaction · Website quality · eGovernment · Public sector websites · Private sector websites · User satisfaction

1 Introduction

Today we witness that most organizations, within both the public and private sector, see a window of opportunity by using Web technologies in reaching large and varied target groups, in various demographic areas around the world, or in a specific country. It is, therefore, recognized that the quality of websites is vital in the provision of online information and digital services. Compared to a decade ago, many and different types of services are available 24 h a day, without necessarily having a personal interaction with the service provider. The fact that, increasingly, information and services are made publicly available may, in many ways, create an easier and faster dialogue between the users and the service provider, and, after more than 15 years of online interactions and experiences, this applies to both the public and the private sector. Answers to questions might only be a few mouse-clicks away, and, compared to some years ago, we do not now need to use a phone or arrange a physical meeting in the search for information. Consequently, a huge amount of information and digital self-service are available online, both for the citizens and private concerns, as well as for business purposes and organizational use.

Because of the ever-growing use of the Web as an important channel for communication and interaction within a wide range of business areas, we need to prepare for the future and upcoming investment. In this regard, the role of human-computer interaction (HCI) activities is vital in order to create great user experiences and successful websites that meet the users' expectations and needs in information search and task performance.

HCI can traces its roots back to the early 1980s, evolving into a subject involving design, evaluation and implementation of computer systems [1]. HCI activities can be investigated through approaches such as usability testing, with real users in a real user setting and interviews with users of a specific system [2]. The results of such testing will provide designers and developers with valuable insights and knowledge about the extent to which the users find the website (solution) easy to use, efficient and attractive.

Although many research papers investigate and highlight the importance of website quality and usability issues [e.g. 3–5], so far, there is still a lack of contributions discussing the role of quality in websites in the public versus the private sector. An analysis of eGovernment initiatives and missions indicates that it is a prerequisite to ensure user adoption, in order to serve users effectively [6, 7].

The research objective of this paper, therefore, is to discuss quality in websites and investment in HCI activities and to debate whether quality is more important in public websites compared to the private sector. This is approached from the perspective of both the user and an organization. Additionally, this paper provides a meaningful discussion grounded in prior contributions within the field of HCI and eGovernment. Although HCI research has advanced significantly and practical guidelines concerning design issues have been discussed extensively [8], examples of bad design and a lack of usability occur frequently despite the many years of online dialogue and interaction within both the public and the private sector.

The rest of the paper is structured as follows: Sect. 2 sets the agenda for this paper and provides background information concerning websites within the private and public sector, while Sect. 3 provides the research method, which consists of a literature review. Section 4 deals with the findings from the literature search, which the paper discusses in Sect. 5. In the concluding Sect. 6, the paper provides inputs and recommendations about important issues to be addressed and recognized in HCI activities, development and quality improvement of websites. Further research opportunities will also be suggested, based upon the research implications of the present study.

2 Background of the Study

In order to set the scene for the present paper, we start out by defining the two business domains emphasized in this study. According to Srivastava and Teo [9]: "Electronic government (e-government) can be broadly defined as the use of online channels for enhancing the access and delivery of any facet of government services and operations to the benefit of citizens, businesses, and other stakeholders. Electronic business (e-business), on the other hand, can be defined as the use of Internet by commercial firms for improving their business, operations and customer service." (p. 268).

These definitions are relatively similar and overlap with other definitions of the two business domains we find within the literature.

Furthermore, Srivastava and Theo [9] state that e-business research can be dived into three main streams: (1) application, implementation and adoption, (2) technological issues, and (3) impact on organizational performance, while research on eGovernment can be divided into: (1) evolution and development, (2) adoption and implementation and (3) its impact on citizens and businesses by transforming the intermediate governance and control processes. Consequently, "[i]nformation and communication technologies afford public administrations the opportunity to communicate more directly with individual members of their constituencies by offering tailored information services on-line" [10, p. 177]. As stated earlier in this paper, during the last decade the public sector has provided increasing digital content (information and services) and this trend will, most likely, only increase in the coming years. Attention must, therefore, be given to the role of HCI activities in website development and quality improvements, and the consequences of not considering this.

Within a public sector context we also find that maturity models and evaluation frameworks are used to assess e-government capabilities and use of information systems and technologies. Such models have been developed over time and can be implemented in order to rank websites that provide various types of information and digital services. These models are not framework or specific quality indicators, but they provides us with knowledge concerning the use and adoption of technologies, and stages of maturity of the level of interaction that takes place in a government-citizen context [e.g. 11].

We also witness that during the last decade governments have launched many goals and strategies related to the provision of online information and digital services, at local, national and European level. The main purpose of this is to disseminate knowledge and to have some common goals within public sector organizations in addition to increasing the overall user satisfaction in user-friendly and effective solutions.

Actions taken in this regard can, for instance, be linked to annual quality assessment and ranking of public sector websites in Norway and Denmark, for example. Based on a given set of quality criteria, hundreds of websites have, since the beginning of year 2000, been assessed annually and ranked by quality. In such evaluations, the quality in websites is mainly linked to usability issues, content of the website and accessibility requirements (WAI principles). The winners are highlighted as good practice examples within the public sector and serve as a source of inspiration to many organizations.

In this regard, we can of course discuss the use of quality criteria and the fact that real users are involved to only a small extent in such assessment as the criteria are largely based on technical measures and not actual user performance in a real user setting. However, these types of initiatives put pressure on the public sector and force the use of resources necessary for website quality development and quality improvement. As regards the private sector, organizations do not have shared goals and strategies in the same manner and therefore have more freedom to define the role of quality in their specific organization (business domain) and which quality aspects are found to be of particular importance.

Summing up, the background and inspiration for writing this paper is anchored in the widening use of the Web as a channel for communication and interaction, and the great attention websites receive today because of their endless business opportunities for an organization. The users also experience benefits of online information and services, as communication with most organizations becomes easier and more efficient. In this regard, we need to prepare for increasing investment and prioritization of resources for websites.

3 Research Method

The focus in the present paper has been website quality within the domain of public sector websites (eGovernment) and private sector websites (such as e-business websites). In order to search for relevant literature and sources, textbooks and leading academic online databases (including journals) were investigated during the research process. A number of articles were identified and are included in this paper as examples of existing knowledge and references relevant to the topic of interest.

From a wide range of articles that could be citied, a representative sample that represents the most important aspects has been chosen for the purposes of this study. The aim has been to reflect the quality aspects that are of particular interest for the two business domains (public and private sector websites), although, to a certain extent, there exists an overlap on what qualifies as quality in websites and the role of this in each of the two areas.

A discussion of findings is provided in Sect. 5, drawing upon the literature review conducted for this purpose.

4 Findings

Hereby follows the findings driven by the completed literature search, where the aim has been to debate the role and importance of website quality in the public sector versus the private sector websites.

Firstly, concerning the large degree of digitalization within the public sector, we find that traditional face-to-face interaction has, in many cases, been replaced by online communication and transaction [12]. On the whole, this also happens within the private sector, representing various business domains such as e-businesses and other types of privately-owned companies. Moreover, paper-based forms are being replaced by information exchange, which is largely digitalized. The users can in many cases accomplish transactions and make online registrations, in a simple and efficient manner, from any location with an Internet connection. In this regard, physical meetings and personal interactions have reduced in number considerably over the last decade. Consequently, we need to facilitate high quality interactions and superior user experiences on the Web [13].

Lee and Kozar [14] argue that decision makers in e-business companies have made vast investments in developing websites but not always with a clear understanding of the important aspects of quality in websites and their impact on website success. While

Zhu and Kraemer [15] state that although large investments in e-business are being made, researchers and practitioners struggle to identify the degree to which these expenditures improve the business benefits, and how to assess e-businesses initiatives in the first place.

We also witness that website quality is a widely used term and there is no single consequent and unambiguous definition. Website quality can, therefore, be classified as a multidimensional construct [16], representing various features and quality aspects of a website, which must be specified within the individual study context and/or business domain. This provides us with room for interpretation and the need to identify aspects that are of particular importance for a given website. Website quality can be associated with the scope of the website, the business model, as well as the core target group, by focusing on the users' interests, requirements and needs.

Although there is no unique understanding of website quality, Mich [17] believes that "[q]uality is a mainstream issue for Websites and Web-based systems. Analysts, designers and developers can choose from a variety of models and methods to design and evaluate quality Websites" (p. 42). Although we find that such guidelines exist, many websites and systems lack usability and user friendliness, and there is great potential for improvements to many aspects of a website, including service provision. Design principles and good practice examples are not always taken into consideration and included in the design process.

Mich [17] addresses five gaps that should be considered in evaluation and quality improvements: (1) innovation gap, (2) knowledge gap, (3) policy gap, (4) user gap and (5) communication gap. By focusing on such gaps, we can get more comprehensive knowledge and insights from various viewpoints which should in the end contribute to greater solutions and user experiences. We need to minimize such potential gaps and create a common understanding concerning the solution (website) that is under development. Various needs of the users have to be considered and taken into account. Although it is hard, and sometimes not possible, to satisfy every user, by focusing on such gaps and with different approaches, we can make good decisions grounded in right knowledge and assumptions.

In a business context we find that "Website quality is crucial for acquiring user satisfaction and e-commerce website success" [18, p. 418]. Thus, awareness of usability issues is perceived as a main contributor to success and needs to be addressed in every website. According to Heim [19]: "Usability goals provide a foundation not a prescription for design. These goals have been studied by HCI practitioners and designers, and a great deal of research has gone into studying how we can make things easy for people to understand and learn. The result for these efforts is that these goals have been defined according to design principles." (p. 228).

A website with high usability can be associated with the following characteristics: it is efficient to use, effective to use, easy to learn and remember, safe to operate, and has high utility [1]. In order to achieve business goals, users should be the most important issue and HCI activities are found to be one of the main contributors in this [e.g. 2].

In a public sector context, we find that quality within eGovernment websites is mainly associated with aspects such as content quality, usability issues and accessibility requirements. Within a private sector setting, we largely find that website aspects can

be associated with aspects around product information and increased sales [e.g. 20], which are not the main concerns in public sector websites.

With public sector websites, in most cases we find a large and inhomogeneous group of users, representing various requirements and needs. The whole spectrum is represented, from extremely experienced users to those who have minimal knowledge of the use of such digital channels as websites and digital self-services. This results in the need to concentrate development not towards a very specific audience but, rather, to identify some focus points relevant to most users. Most of the effort in website development and quality improvement should, therefore, be as broad as possible, and not primarily focused on a specific audience or target group.

Porat and Tractinsky [21] suggest that issues related to usability and user satisfaction must assume considerable importance and be closely linked to enhanced task performance. It is thus vital to focus attention on issues concerning HCI activities, and the necessity to assess the quality of public websites is widely acknowledged by many researchers [22]. As a rule, public organizations enjoy an absolute monopoly on most information and services provided to the users, leading to a lack of competition. Furthermore, in the context of eGovernment, websites (including information and service provision) are funded by the government and the taxpayers' (citizens and businesses) money.

Consequently, we need to ensure that all users have equal access in our digital society, as the role played by eGovernment has evolved radically – and more information/services will be provided on the Web in the coming years. Accessibility requirements and the importance of inclusion of all type of users (with various disabilities) are also emphasized within a public sector context by, for instance, using Web Content Accessibility Guidelines (WCAG).

Moreover, according to Tan, Benbasat, & Cenfetelli [23], trust in eGovernment services is also vital for satisfaction in and use and adoption of services. The users must be able to rely on the information provided, and the digital services must be secure and trustworthy in use. We can also speculate that this is highly important in a private sector context, particularly when handling sensitive and personal information, or the transaction of money.

We can also investigate benefits driven by Web technologies and the use of websites for various purposes. Within public and private organizations we find that many benefits are overlapping and are appropriate for use in both sectors. However, Flak, Olsen, & Wolcott [24] identified two distinct approaches in eGovernment efforts; (1) cutting administration's costs and delivering services more efficiently, and (2) the desire to provide added value to the users. According to Colineau et al. [10], "Governments have, for some time, recognised the potential of the Web 2.0 to bring citizens and their government closer together by actively increasing their online presence" (p. 177). In this regard, social media such as Twitter and Facebook are also important contributors and information channels in the online dialogue between government bodies and citizens. In an e-business context, "[t]ypically, customers may spend a lot of time reviewing information and searching for products to satisfy their requirements" [20, p. 434]. Provision of customer reviews can, therefore, play a vital role in decision-making and in buying products from an e-business website, and can be seen as an important contributor in order to provide benefits.

Compared to a public sector context, economic performance and financial measures are considerations more often seen within the private sector, and in the context of selling products/services in competition within other contributors.

5 Discussion

The aim of this section is to debate whether quality in public websites is more important than in the private sector. Although prior contributions [e.g. 25] conclude that we cannot compare private and public sector websites, this paper discusses possible implications and consequences that quality might have, now that face-to-face interaction has been largely replaced by online interaction [12].

In general, provision of digital information and services gives the organizations a unique opportunity to communicate with a large group of users which is usually time-efficient and low cost compared to personal interactions and paper-based forms of communication. With the increasing use of websites for business purposes, users enjoy ease of access to information and services at all hours (24/7). This facility provides users with enormous flexibility, both in terms of freedom and monetary worth. An important aspect of this equation is website content, which, among many other characteristics, must be accurate, secure and reader-friendly. Also important is the creation of public values [26].

As the public sector lacks competitors and thus an absence of competition, when users struggle and/or are unable to find what they are looking for, they have no alternative but to send an e-mail, arrange a physical meeting with the organization or make a phone call. This would invariably result in low user satisfaction and, in the worst-case scenario, the organization would acquire a reputation of not being user-friendly. If this were to happen in a private company (e.g. within the domain of e-business), the company could lose traffic and sales, and, hence, the potential of damaging business tends to be greater. Consequently, it becomes imperative to discuss and evaluate the importance of providing high quality websites. Within public sector websites, it is common to find a large and inhomogeneous group of users, with diverse requirements and needs, while the target group in private sector websites is, generally, more homogeneous.

Only a mouse-click separates the private sector organization from its competitors, thus, if a user cannot find what they are looking for and struggles to find information/services, it is easy to give up and go to another website. Many organizations provide the same products, but the prices can vary as well as the service provided. From a user perspective, low usability and dissatisfaction can lead to frustration among the users [1]. For an organization, this can, as earlier stated, lead to loss of sales, fewer website visits and a bad reputation among the public (the target group). Thus, although many of the same issues can apply to both public websites and organizations, the consequences can be different; economic performance and the branding effect are not so vital in the monopoly situation.

The content quality in online information and service is one aspect given much attention in development and quality improvements [e.g. 2]. The content provided must be easy to read and understand, be updated, accurate and adapted to the business goals [1]. Public websites must provide a high degree of usability and focus on user-centered

issues [13]. The fact that more and more information and digital services are provided online, replacing personal interaction and communication, places considerable pressure on the organizations for the provision of high quality websites.

Grounded in the findings of this study, we can also speculate on the consequences of not devoting sufficient resources and investment in website quality and HCI activities (e.g. usability testing). For the public sector, the goals and aspirations that many countries have set may not be achieved. Digitalization is not just about launching new technologies and services; it is also about having a user-centered focus and creating innovative and attractive solutions. All users should be included in the digital society and have equal access to information and services provided. This means taking into account users with special needs, such as the visually impaired and those with impaired hearing. By not satisfying users' needs and expectations, the sector also gains a bad reputation among citizens, which in turn will create dissatisfaction about public websites.

Efficiency, both for the users and the organization itself, has also been central to digitialization. This can be viewed in relation to processing times associated with applications, the quality of feedback, time saving and cost. If users find more information and services online, this will also reduce inquiries by telephone and in person. By taking into account the importance of quality, the organization can additionally attract great job applicants interested in working with technologies, development and design in public agencies.

As regards the private sector, we can speculate that poor quality can lead to reduced sales and deteriorating financial results. In many cases, the webpage is used primarily to promote and sell products and/or services. If it does not work properly, customers can switch to a competitor. As demonstrated, this may have negative consequences. As with the public sector, it will create a bad reputation among customers (users). The website is also the organization's public face and among the employees, we can speculate that this is important for being proud of the employer. Similar for both sectors are the annual web contests, where websites come up against each other. The winner will be honored as a good practical example and this contributes to marketing exposure for the individual organization (and/or the sector as a whole).

6   Conclusion

The concluding remarks speculate on whether the subject of quality in websites is more important within the public sector, considering the role of eGovernment, the lack of competition and an inhomogeneous group of users. Within the private sector, the quality of the website is probably more important in creating business benefits. Looking at efficiency and effectiveness from an organizational point of view, provision of increasing online information and services that are easy to use and useful for the users can provide both public and private sector organizations with a reduction in manual work. From a user's perspective, this may results in a faster response to inquiries, access to information and services 24 h a day, and, in general, greater satisfaction.

The present study has limitations that are worth being aware of and take into consideration in future research. A selection of references is included based on a

literature review. A deeper review can lead to increased insight and knowledge related to existing research contributions. The discussion conducted is rooted only in current research and forthcoming studies could advantageously be rooted in empiricism.

As this topic is highly relevant and most likely increasingly so in the coming years, future research studies could focus on the investigation of unique and specific quality aspects important to each of the two business domains and addressing how benefits and success are relevant for both public and private sector websites. A more comprehensive discussion regarding the present topic could also be valuable in order to facilitate high quality interactions, great user experiences and benefits driven by websites in the coming decade. Consequently, collection of empirical data, within both sectors, concerning the present topic would be relevant in order to fill a gap in the research literature.

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