

# Measuring Website Quality using Service Quality and User Satisfaction Dimensions: A Conceptual Framework

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## Article history

Received: 23-08-2021

Revised: 31-03-2021

Accepted: 20-04-2022

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**Abstract:** The study aimed to develop a conceptual framework for measuring the website quality of public sector organizations through users' feedback on service quality and satisfaction. The methodology involved a full review of previous studies on website quality service quality user satisfaction and website quality evaluation models. The review highlighted the need for further research to explore public organizations' website quality from users' perspectives. A conceptual framework was proposed to explore website quality using sequel and user satisfaction models.

**Keywords:** Service Quality, Public Agency, UAE, User Satisfaction, Website Quality

## Introduction

The advent of the internet has ushered new opportunities and challenges across different spheres of human endeavors. One of the most prominent changes brought by the internet is the explosion of information that is available via networked digital media technologies (Metzger and Flanagin 2013). As a result of this revolution, people gained a lot of opportunities in terms of learning about social networking entertainment and personal enhancement. (Hasan and Abuelrub, 2011) stated that the information explosion is not only driving the global economy but also transforming societies into knowledge-based economies all over the world. Similarly, the rapid advancement in information and communication technologies is increasingly enabling firms and organizations to provide higher-quality services to customers or users (Hasan and Abuelrub, 2011). On the other hand, these opportunities are accompanied by some challenges among which the issue of credibility, quality, and veracity are of great concern (Metzger and Flanagin, 2013).

The rapidity with which digital media products are spreading across various sectors and industries had a tremendous effect on the conventional ways in which individuals, organizations, and government institutions operate. (Nuseir, 2018) pointed out that the proliferation of digital media products has traversed into industries or sectors

that cut across health, government, education, business, technology, learning, education and training, advertisement, marketing, sports, entertainment, and a lot of other industries and sectors. These developments have changed the way information, knowledge, and entertainment are created, disseminated, accessed, and used by different groups or entities, individuals, organizations, or governments. The resultant effect of this change is the availability of a huge amount of information that is easily accessible online through various platforms. Moreover, these changes have resulted in increased concern about the quality of the information contained in the new digital media (Gasser *et al.*, 2012).

When viewed from the information quality perspective, digital media poses greater challenges in terms of assessing the quality of the content provided. This is raised from the fact that, unlike what is obtainable in the old analog systems where information provided through such medium is normally subjected to scrutiny through the traditional editorial board's judgment to establish its quality, the quality of the information found in the digital media lacks such physical and practical check of quality (Gasser *et al.*, 2012). Nevertheless, the existence of search engines and other information aggregators that served as intermediaries, yet, such applications or services are considered not adequate to be relied on as digital media content quality determinants (Gasser *et al.*, 2012).

Content quality, being the major source of value to customers or users, is regarded as an important dimension in describing the characteristics of the information contained in websites and other digital media products (Hasan and Abuelrub, 2011). (Kim and Kim, 2017) described digital content quality as the embodiment of intangible, expressive, and aesthetic qualities experienced by users from the products or services which are determined by the trustworthiness, quality, aesthetic quality, accuracy, and reputation of the digital content provider.

Different theoretical frameworks and models targeted at measuring various facets of online quality have been proposed and tested. For instance, (Barnes and Vidgen, 2002; Signore, 2015; Chang *et al.*, 2014) developed measurement models for the assessment of website quality. Similarly, (Ping Zhang, 2001) developed a theoretical framework for assessing the website quality of educational institutions website using user satisfaction as a measure of quality. Other researchers, such as (Ping Zhang, 2001; Choudrie *et al.*, 2004) studied different quality-related issues that were related to e-governance in government websites. In the business domain, evidence of studies related to the quality of banking websites has been found. The studies involved those that were concerned with evaluating and building a digital business environment from the users' perspective. Some studies proposed frameworks for evaluating internet banking websites and the service quality of internet banking (Achour and Bensedrine, 2005; Awamleh and Fernandes, 2005).

Among all these studies, however, only a single study by Awamleh and Fernandes (2005) was conducted in UAE. Even though more than 93% of the country's population has access to the internet, ranked 11<sup>th</sup> position globally in terms of a favorable environment for ICT (WEF, 2016) and had the highest mobile phone penetration rate in the Middle East region (187%) ranked 35<sup>th</sup> globally in the 2016 UN ICT Development Index (Radcliffe and Lam, 2018). These indices positioned UAE as a suitable environment to investigate the issue of digital content quality.

Similarly, there is a considerable number of studies covering various subjects about social media platforms such as user relationships and user behavior (Aral *et al.*, 2013; Aral and Walker, 2011; Chen and Teng, 2013; Zhao, 2016; Khalil, 2017; Ryan, 2010) societal, organizational and group management issues in social media platforms (Phang *et al.*, 2013; Strother *et al.*, 2009; Wu and Wang, 2006) social media technological issues such as system design, application design (Sakaki *et al.*, 2012) (Hearst, 2011) information collection and analysis (Asadi and Lin, 2013) (Crandall and Snavelly, 2012) recommended the need for more research in the area of content quality of digital media platform, especially within organizations. Thus, the current research is expected to fill the identified gap.

### *Website Quality in Public Sector Organization/Agencies*

Crandall and Snavelly, (2012) pointed out that the goal of e-government is to gain the benefits promised by the electronic government, leading to the increasing trend of organizations incorporating or expanding the use of ICT in their activities. Although large-scale investments by many organizations have driven higher expectations, it is often difficult to identify and assess the intrinsic benefits of the public sector (Awamleh and Fernandes, 2005). According to (Crandall and Snavelly, 2012) emerging trends in European countries suggest that the current practice of e-government should focus on improving the quality and efficiency of services provided by the public sector. As a result of this, previous research indicates that most actual government projects have failed. Loiacono *et al.* (2002) lamented the high failure rate of e-government projects and find that more problems are found in the public sector.

Although the standards for measuring success in the public sector are often ambiguous, there is increasing awareness of the need to consider not only the user's point of view but also a range of public values to assess success. According to (Loiacono *et al.*, 2002) although the most important measure for successful e-government is the adoption of services by individuals (or citizens) and institutions (enterprises), the authors believe that such adoption is directly related to three key performance indicators namely: Efficiency, accessibility, and availability.

In the public sector, benefits have traditionally been assessed through simple financial measures, such as Return on Investment (RoI), and cost-benefit analysis, and they are assessed by (internal) efficiency, (external) effectiveness, and democracy/openness. In addition, a distinction between hard and soft measures and beliefs due to the interaction between organization and users (citizens), a series of hard measures (for example, cost-benefit analysis, benchmarking and soft measurement (for example, qualitative intangible benefits) must be applied to solve problems in evaluating e-government.

In the field of Information Systems (IS) the Maturity Models have been discussed and refined to categorize the extent to which IS has been successfully adopted. For example, government organizations can create value by reducing the costs associated with using public websites. In response, public organizations are resolutely adopting IT to provide digital services to citizens and businesses to meet management's expectations for providing e-government services (Bai *et al.*, 2008). This scenario demonstrates the vague use of IS in e-government agencies to stimulate the interests of users and organizations. Subsequently, by providing online information and services in a user-centric rather than a government-centric manner, the government's goal is to build a better connection with citizens and thereby increase citizens' trust in the government (Laja, 2015).

To institute a citizen-centric approach, user involvement in the development and improvement of website quality becomes a recommendable action (Laja, 2015). By considering value from a citizen's perspective, the value of the public sector can be assessed by criteria such as the benefits associated with government-provided results and the cost-effectiveness achieved by the public sector. The quality of websites in the public sector is critical to measuring the success and promoting user satisfaction.

In this respect, most quality aspects for measuring a website quality in general, apply to the public sector scenario too, but some quality issues are considered important in e-government, such as meeting accessibility requirements, (Crandall and Snavelly, 2012). Also, on public sector websites, there is often a broad and uneven user base with different beliefs and opinions. To provide all users with equal opportunities to participate in the digital society, (Loiacono *et al.*, 2002) argued that various needs and requirements need to be considered in website development and continuous quality improvement.

To measure webmaster's knowledge of e-government website quality and reasons for increasing website accessibility, conducted a study that covered 175 webmasters. (Bai *et al.*, 2008) analyzed web masters' knowledge and practices about accessibility and conclude that no single government website passes the (WC3 priority I) accessibility check, indicating that accessibility issue is a major aspect of research in the e-government domain compared to website quality measures in IS research.

While working on issues concerning user satisfaction in the e-government context, (Bai *et al.*, 2008) analyzed research contributions in this area from 2000 to 2012. Their findings showed that quantitative techniques and survey methodologies were the dominant applications. According to (Bai *et al.*, 2008), previous research in the field of e-government provides, to a limited extent, in-depth knowledge related to user performance and the practical use of public information and services. This contribution gives insight into the most common user satisfaction (design and methods applied) in the public sector environment and the extent of knowledge, which helps drive the sector forward and provides valuable input.

According to (Chang *et al.*, 2014) website evaluations in an e-government environment do not always cover the goals of the website but focus on content and quality issues rather than providing public value. To fill this gap, the authors looked at the public sector website from a public value perspective. The results showed that the website performed better in terms of content and quality than measures related to public value. A website evaluation is conducted using the evaluation criteria that combine traditional measures of website quality and dimensions of public value including content, usability, quality, broken links, update range, visual elements, transactions, website

layout, accessibility, citizen engagement, transparency, responsiveness, dialogue and balance of interests (Loiacono *et al.*, 2002). In a study that aimed to understand the benefits of including citizens' perspectives in an e-government setting, (Laja, 2015) emphasized the importance of the public value perspective as an aspect of the success of a quality website.

Through e-government initiatives, various forms, information, and services were provided for citizens and businesses alike. In e-government, it is also found that various types of information and services are provided on top of citizens and businesses. Bai *et al.* (2008) categorized these online services into a five-stage maturity model as follows:

- 1) Information
- 2) One-way interaction, ready-to-download form
- 3) Two-way Interactions, (electronic forms)
- 4) Transactions, (complete electronic case processing); and
- 5) Targeting/automation (initiative and automation)

Loiacono *et al.* (2002) posited that there is a high level of maturity in the provision of e-government services among the Scandinavian countries. For instance, the launching of digital strategies in Norway and Denmark has shaped the development of new actions and technologies in the public sector (Kuk, 2003). In this regard, (Chang *et al.*, 2014) argued that any discussion on the impact of website quality on the use and adoption of online services should focus on the maturity level of the e-government. This is because the more information and services that are available on a particular website, the more important user-friendliness and access to information and services (Bai *et al.*, 2008). Highly matured e-government is often associated with complex systems that process large amounts of information at a time, while transactions are executed in different systems, such as databases. While the third level, two-way interactions, and fourth level (transactions) have become the norm in many countries, only a few countries have successfully attained the level\5 (targeting/automation) maturity stage.

Discussion on the quality of public websites needs to focus on how network quality affects citizens' e-government adoption and user satisfaction. This becomes necessary because public sector websites largely monopolize most of the information and services offered. In this way, it is noteworthy to speculate on how and to what extent the quality of the site affects user adoption and satisfaction.

By engaging in digital self-services on public websites, such as filling in online forms, the users of public websites can achieve user satisfaction which may affect their revisit intention. (WEF, 2016) investigated whether perceived playfulness and flow mediate the relationship between website quality, user satisfaction, and purchase intention. The results showed that

playfulness and flow are affected by the quality of the site. The study also found that service quality is more important than information quality and system quality in terms of user satisfaction and purchase intention. Juxtaposing this with the experience of an e-commerce site user, the design, flow, and appeal of the sites may influence their perception of the quality of the website. (Hasan and Abuelrub, 2011) found that “e-services quality” is significantly related to “efficiency”, “responsiveness” and “network assistance” and is more important than “privacy”. Similarly, “use” is also found to be positively related to “citizen satisfaction”.

A survey of citizens' satisfaction with the public website, (WEF, 2016) found that most of the respondents indicated their readiness to use digital services if offered by the government, especially for routine transactions. Besides, over half of the respondents indicated their intention to conduct all government business digitally in the future. Additionally, (Loiacono *et al.*, 2002) found that experienced IT users are generally more inclined to use the services provided by the public sector, while older users and less educated users are associated with lower use and support of e-government services. In this regard, (Loiacono *et al.*, 2002) found that "trust", "perceived behavioral control" and "attitude" successfully explain the intention to use e-government services. "Trust" is measured by the trust on the internet and trust in the government which is also found to be important in other studies.

### *Literature Review and Theoretical Framework*

According to reference (Khalil, 2017), the concept of website quality is imperative in the discussion of the World Wide Web. This is attributed to the role of a good quality website in influencing visitors' choices and decisions. In its simplest form, website quality centers on a website's ability to allow users to accomplish their goals which are measured by the extent of users' willingness to revisit the site and perform the same on an ongoing basis (Loiacono *et al.*, 2002). Website quality has been established to affect the credibility and reliability of the business and by extension, the user's willingness to revisit and conduct a transaction via the website (Chang *et al.*, 2014), (Laja, 2015), (Bai *et al.*, 2008) stated that website quality is seen as a characteristic of a website that adds value to users. In this regard, different measurements and dimensions have been proposed by researchers as indicators of website quality.

Technology and the media are interwoven and neither can be separated from contemporary society and the nation. The ever-changing innovation in digital media technology alongside the rapid changes it has brought about in almost all aspects of human life has raised concerns over the truth, integrity, and security of the users of the content provided by such media (Zhao, 2016). The issue of the user or consumers' trust in the digital media

content was raised because of the difficulty in validating the truthfulness and veracity of the content (WEF, 2016). This is because innovations in digital media have removed barriers to content creation in such a way that almost everyone can create and publish content with little or no censure.

From the business perspective, evidence from some empirical studies indicates that the level of quality of digital media content and its usefulness for users' needs have a substantial influence on the media content (Loiacono *et al.*, 2002). This suggests that ensuring the content quality of digital media through the creation of content that aligns with users' attitudes and needs becomes imperative for organizations to market themselves better to the target audience (Hasan and Abuelrub, 2011). With the tremendous growth of online information, the need for proficiency among online content users and their ability to filter such materials and maintain a level of control is vital (Achour *et al.*, 2005). This reality triggers the need for a workable and reliable framework or model that would guide stakeholders in the digital media business to gauge the quality of the content provided on the different online platforms be it social media, organizational, and/or institutional websites.

The vastness of the information makes the impractical to control interest which helps to access the information on the virtual imaginable area as well as digital media has brought flexibility. This limitation has raised concerns regarding the quality of the content found in the digital media (Choudrie *et al.*, 2004) lamented that an increase in the volume of content is associated with the rise in the amount of incorrect information on online platforms which presents a challenge in evaluating the credibility of online content.

Although various studies have been conducted that examined different topics on the issue related to content quality, there is still a need to further investigate this phenomenon (Metzger and Flanagin, 2013). This is especially true when most of the recent studies concentrate on the development of instruments that could be used in measuring website quality in an exploratory manner (Khalil, 2017). These studies highlighted and recommended further research to refine the content quality dimensions through the testing of the developed instruments in a confirmatory manner (Crandall and Snavelly, 2012).

Different theoretical frameworks and models to measure various facets of online quality have been proposed and tested. For instance, (Achour and Bensedrine, 2005; Awamleh and Fernandes, 2005) developed measurement models for the assessment of website quality. Similarly, (Phang *et al.*, 2013) developed a theoretical framework for assessing the website quality of educational institutions' websites using user satisfaction as a measure of quality. Other researchers, such as (Sauro, 2016) studied different quality-related issues which are related to e-governance in government

websites. In the business domain, evidence of studies related to the quality of banking websites was found. The studies focus on evaluating and building a digital business environment from the users' perspective (Ping Zhang, 2001). Some studies proposed frameworks for evaluating internet banking websites and the service quality of internet banking (Chang *et al.*, 2014).

Among all these studies, however, only a single study by (Phang *et al.*, 2013) was conducted in the UAE. Ironically, more than 93% of the country's population has access to the internet (Choudrie *et al.*, 2004) and the UAE was ranked 11<sup>th</sup> place globally in terms of a favorable environment for ICT (Jeon, 2009). Additionally, the UAE has the highest smartphone penetration rate in the Middle East region and was ranked 35<sup>th</sup> globally in the 2016 UN ICT Development Index, (Achour and Bensedrine, 2005). These indices have positioned the UAE as a suitable environment to investigate the issue of digital content quality.

### *Dimensions of Website Quality*

There are numerous dimensions of website quality depending on the context of the study concerned. For instance, in the hospitality industry, reference (Jeon, 2009) enumerated website quality dimensions to include information quality, system quality, customer service, and reputation. (Rocha, 2011) proposed a high-level structure for a global website quality evaluation based on three main dimensions, namely: Content quality, service quality, and technical quality. In addition, reference (Mebrate, 2010) identified content, usability, reliability, efficiency, and functionality as the dimensions of website quality. Investigating website quality of public sector organizations, (Zaman, 2010) identified seven dimensions of website quality: Navigation, e-service, appearance, transparency, site credibility, connectedness, and integration. On the other hand, (Sauro, 2016). Came up with a four-dimensional website quality factor that is made up of usability, trust, appearance, and loyalty.

Irrespective of the nature of the service being rendered by the organization that owns the website and despite the variation in the dimensions of website quality put forward by various researchers, website quality dimensions can broadly be categorized into the following.

### *Usability*

The content of a website is only valuable to the users when the information is accessible and functional (Chakraborty *et al.*, 2005; Palmer, 2002) Usability has been defined as the quality of a user's experience when interacting with a website often measured by the ease with which the user can obtain the desired information (Palmer, 2002). In the context of website evaluation usability has received attention in both private and public sector websites (Zaman, 2010).

Usability in the context of website quality assessment covers areas that mostly pertain to user-friendliness or ease of use such as navigation, search measures, categorization of content, and links to other sites and services (Agarwal and Venkatesh, 2002). Perceived Ease of Use (PEoU) is an important predictor of technology usage (Davis *et al.*, 1992; Hackbarth *et al.*, 2003)

Even though users of the NMC website might not be unfamiliar with websites in general, however, it is worthwhile to capture the PEOU of the website from the users' point of view to avoid the risk of low usability. It is proposed here that usability and item richness are linked integrally. Usability is used as a proxy for measuring the quality of item richness.

Wells *et al.* (2011) pointed out that website quality attributes can be used as a form of signal that indicates the quality of product or service being rendered by an organization or institution. In the e-commerce context, website quality has been shown to help consumers perceive product quality in the presence of information asymmetry. Customers' perception of website quality has been found to influence their willingness to purchase the product. Harris and Goode (2010) evaluated website quality in four ways: Aesthetic appeal; layout; functionality; and financial security. Kim *et al.* (2012) identified three dimensions: System; information; and quality of service. Reference (Moez, 2013) assesses the impact of site properties (navigation, visual appearance, and a customized preview of consumer commitment to the site and purchase intentions.

Similarly, (Liu *et al.*, 2013) found that product availability, website ease of use, and visual appeal are three website attributes that affect online impulse purchases. Ease of use is an important factor in website cues as highlighted in many studies (Avçilar and Özsoy, 2015; Verhagen and Van Dolen, 2011).

### *Information Quality*

Zhao, (2016) explained Information quality as detailed, complete, and accurate product or service-related information, including promotions; comparisons; company information; reviews and ratings; and recommendations. Mai (2013) defined information quality as a product of the degree to which the exchange and production of meaning have been successful. Previous research showed that consumers are satisfied with the e-commerce system if the system provides high-quality information (Petter *et al.*, 2012; Ulbrich *et al.*, 2011). Once the customer processes useful rich and understandable information, they can better understand products that reduce the difference between expectations and actual products, thereby increasing consumer satisfaction (Gao *et al.*, 2012). Thereby, high information quality is associated with high user satisfaction. In addition, when consumers get accurate information, they will generate trust in online products

which helps them to evaluate the product with complete and detailed information. Mai (2013) pointed out that good quality information usually conveys ideas effectively, and lets users feel that it is a trustworthy product. So, the quality of information can also influence consumer trust (Vila and Kuster, 2011).

### *Appearance*

Visual appeal is a well-designed format for presenting product information or layout information such as size, color, and several images (Wang and Dai, 2013) It focuses on online environmental conditions and levels Consumers consider the site attractive or attractive (Harris and Goode, 2010). There are many factors to consider in visual appeal, including Overall introduction; number and size of online images (Ekhaml, 1996); suitable background (Callahan and Koemann, 2000); consistent typography (Ekhaml, 1996); and color (Flanders, 2019). Professionally designed websites can attract consumers and increase enthusiasm attitude and satisfaction with the website. Liu *et al.* (2013) posited that a visually appealing website will enhance the sense of satisfaction of online purchases. Wells *et al.* (2011) emphasize that perceived visual appeal through user satisfaction has an indirect effect on impulse buying.

In addition, it was found that websites that have acceptable visual interfaces often lead to a better online shopping experience and help in building trust and strengthening relationships with online sellers (Liu *et al.*, 2013; Dai and Salam, 2010). In short, effective website design can influence customer purchase decisions through positive attitudes such as satisfaction and trust. Thus, in the context of public sector organizations, the visual appeal of a website is expected to influence the users' satisfaction as it applies to e-commerce websites.

### *Privacy and Security*

Privacy/security refers to the customer's perception of payment security, procedures, and privacy for sharing information (Harris and Goode, 2010). Customers pay attention to previous online transaction security or privacy before they take action to buy products (Yoon and Occena, 2015). Information security plays an important role in website reliability and influences trust in transactions (Chang *et al.*, 2014). To improve perceived reliability, many e-commerce sites use third-party certification to ensure and guarantee consumer trust (Hu *et al.*, 2010; Wu *et al.*, 2010). In addition, security awareness is also a link to satisfaction. Customers are satisfied when they think the site is safe. Therefore, perceived reliability has a positive impact on satisfaction and trust before buying. Applying this to a public organization context, perceived reliability is expected to have a positive impact on users' satisfaction and site revisit intention.

### *Service Quality*

Quality of service can be defined as user satisfaction with customer service from online sellers or websites (Santouridis *et al.*, 2009; Wolfinbarger and Gilly, 2003). Quality of service covers both online and offline elements: Online factors include instant feedback that is easy to order and respond to customer requests; Offline factors include fast delivery and refunds, order changes, and return (Kim *et al.*, 2012). (Petter *et al.*, 2012) pointed out that users' views on website services have a positive impact on satisfaction. If an e-commerce site is not providing good service, consumers will not be satisfied and will stop browsing. Similarly, (Choi *et al.*, 2008) found effective help during online-assisted transactions is positively related to customer satisfaction. In addition, a very high quality of service encourages consumers to form a positive attitude towards the website (Chen and Teng, 2013).

Ha and Stoel, (2009) also found evidence that product delivery and product return convenience significantly increase consumer enthusiasm because consumers think online sellers care about their interests and so they will trust the online site and are further inclined to purchase their products. Therefore, good online service quality can produce a positive perspective for the consumer which by extension generates satisfaction and trust.

### *User Satisfaction*

In the field of Information systems and marketing, performance refers to users' assessment of the various features or parts of the product or services concerned based on their recent experience with the product or service (Churchill and Surprenant, 1982; Oliver, 1980; Van Ryzin, 2006) Performance has been a key indicator of user satisfaction with a product or service and has been shown to influence the continued patronage of the service of good in question by the user in the future (McKinney *et al.*, 2002; Yen and Lu, 2008). However, objective measure of performance has been a challenge (Van Ryzin, 2006; McKinney *et al.*, 2002; Yen and Lu, 2008; Goodhue *et al.*, 2000). This led to the popularity of user evaluation of systems, services, or products as a proxy for performance.

An objective measure of quality has been more successful in IT product performance (Zaman, 2010). Many studies that attempted to measure website quality adopted the SERVQUAL framework (Cao *et al.*, 2005; Chiou *et al.*, 2008; Huizingh, 2000; Lee and Kozar, 2006).

Developing the online relationship between website users and any organization requires that the users are enticed to visit the website. In this case, the content of the website (content quality) will be a key factor in ensuring that the users are attracted to the site (Huizingh, 2000). Content quality has been described as the most important aspect of a website evaluation, irrespective of the type of

website and the industry it represents (Palmer, 2002; Agarwal and Venkatesh, 2002). Unfortunately, there is a multitude of definitions related to content quality that has been put forward by researchers which makes it cumbersome to be contextualized (Wu *et al.*, 2006), (Lee and Kozar, 2006; Gonzalez and Palacios, 2004; Premkumar *et al.*, 2006). The two most common definitions summarized content quality in the following ways (Zaman, 2010)

- Content is used to represent actual text, data, or wording on the website
- Content used in a broad sense indicates the presence of functionality on the network on site

Although the two definitions differ, they are, however, both relevant when evaluating website quality. For instance, concerning the first definition, the content that is measured by accuracy, relevance, and currency is referred to as Information Quality (IQ) (Katerattanakul and Siau, 2008; Lin and Lu 2000). This form of content includes the introductory publicity or advertisement that may be available on the site which is readily available for the visitor. The quality of such items on the website is critical to the organization's performance as IQ has been found to affect website visitor satisfaction and visit intention (Cao *et al.*, 2005; Ethier *et al.*, 2006; Muyille *et al.*, 2004). Reference (Zaman, 2010) lamented the dearth of studies in the area of website quality in Public Sector Websites. The few available studies suggested that completeness and currency of information were among the highly rated features indicated by users as measures of website quality (Zhang *et al.*, 2001). Concerning the second definition, the item richness of the website is the key factor of concern. Item richness is measured by the presence of features that support website objectives (Zaman, 2010). It is considered a good indicator of the maturity level of public sector websites (Kuk, 2003; Reddick, 2004 a, b) which reference (Zaman, 2010) referred to as hygiene factors similar to Herzberg's two-factor theory (1968). The presence of these factors is explained by reference (Ping Zhang, 2001) makes the website useful and serviceable while their absence results in user dissatisfaction. In the context of public service websites, user dissatisfaction needs to be minimized by ensuring that these hygiene factors are present on the websites (Kuk, 2003).

### Framework

Satisfaction is conceptualized as a summation of psychological attitude and appropriate reaction to the total online information searching experience. Good service quality allows consumers to develop a positive attitude toward a webpage, resulting in increased satisfaction and trust. Consumers' perceptions of online

service quality have a favorable impact on satisfaction (Zaman, 2010).

In the work environment context, these factors could be salary, company policy and administration, interpersonal relations, and supervision. The presence of these factors in the workplace removes dissatisfaction, however, they do not cause people to be highly satisfied or motivated in their work. Rather, satisfaction is derived from a group of intrinsic factors, the satisfiers. These factors describe a person's relation to what he or she does. The factors could be the job content, achievement of the task, responsibility for the task, and professional advancement or growth in task capability (Ping Zhang, 2001).

Applying this theory in the website context, a typical task user of a website is involved in accessing and retrieving information. The web interface provides the environment within which the user performs these tasks. The website features such as navigation; aesthetics; connectivity and others could be equal to those website hygiene features whose presence in a website is likely to add to user satisfaction but are not sufficient to guarantee user satisfaction (Zhang *et al.*, 2001). For instance, a website having a quick loading time or easy navigation does not guarantee that the users will be satisfied while browsing it. Although these can add to the overall user satisfaction, user satisfaction can only be achieved when the content of the website meets the needs and aspirations of the users.

One of the main goals of website designers is to achieve user satisfaction. When users are satisfied, it is expected that they may revisit the website later and recommend it to others. In the context of the public sector website, user satisfaction can be determined through the quality of the service received through the website. Thus, in this context, the intrinsic factors that drive overall user satisfaction are those factors that relate to the service dimensions while the extrinsic factors are those related to the website design. For example, a website may have a good loading time; good aesthetic; and sound external links; however, a user may not get the optimal satisfaction from the service offered. Therefore, the present research integrated the service quality model into Herzberg's Theory to investigate website quality from user satisfaction through the service quality perspective. The next section presents a discussion on the framework proposed in the current study.

### *Proposed Public Agency Website Quality Assessment Model (PWebQAM)*

This section describes the research framework that guides the current research. The framework is based on the e-CIRM model proposed by reference (Zaman, 2010) and the SERVEQUAL model of reference (Parasuraman *et al.*, 1988; Zeithaml *et al.*, 2001). Figure 1 shows the conceptual framework for public agency website quality assessment. The framework comprises three constructs, namely: Websites Quality (WQ) and User Satisfaction (US). WQ

served as the independent variable and it is measured by seven (7) indicators (navigation, e-service, appearance, transparency, site credibility, connectedness, and interaction). Considering the pair WQ and SQ. SQ serves as a dependent variable while the pair WQ and the US serve as the dependent variable in the model. In addition, considering the whole three constructs together, the US depends on both WQ and SQ. Based on the literature review presented, the following hypotheses are formulated: This research intended to bridge the gap context of public sector websites where very little research about the quality of the website by investigating the digital media content quality issues with a specific focus on the website quality of the National Media Council of the UAE. This study proposed a framework that would help in ensuring that the content provided on the Council's website meet the quality criteria desired by the users.

*Service Quality and Website Quality*

In the context of internet service, (Palmer, 2002). described service quality as overall customer assessment and judgment about the service provided through the website. Zeithaml *et al.* (2001) argued that to improve users' patronage of websites and establish user loyalty, organizations have to change their focus from the aspect of exchange and transactions to the aspect of service quality. Previous studies conducted in the e-commerce subsector revealed that service quality plays a significant role in influencing the decision of website users. For instance, in an e-business context reference Doling (2010) found that users' perception of website quality positively impacts their revisit and subsequent purchase decision. Therefore, concerning the current study it is hypothesized as thus:

H<sub>1</sub>: Website quality has a significant positive effect on service quality

*User Satisfaction and Website Quality*

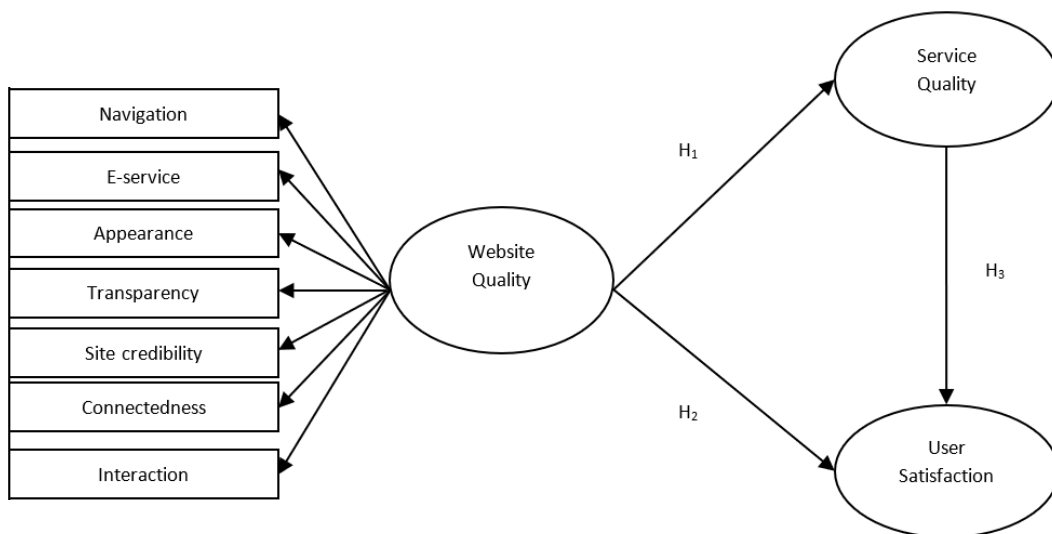
User satisfaction is the extent to which the user's perception of the service confirms his or her expectations. By implication, a high degree of satisfaction is achieved when the user's expectations are met and vice-versa. Many researchers have established a positive relationship between online user satisfaction and patronage of organizations' websites, especially in the e-commerce context. For instance, (DeLone *et al.*, 2003) found that website quality dimensions have a significant effect on user satisfaction. In a study that investigated citizen's satisfaction with e-government services, it was found that website quality dimensions have a significant influence on user overall satisfaction (Zaidi, 2017) Therefore, in the context of this study it is hypothesized that:

H<sub>2</sub>: Website quality has a significant positive effect on user satisfaction

*Service Quality and User Satisfaction*

Devaraj *et al.* (2002) defined satisfaction as the summary psychological state and effective response to the overall online information-seeking experience. High service quality encourages website users to form a positive attitude towards a website which leads to increased satisfaction and trust (Chen and Teng, 2013) Similarly, (Petter *et al.*, 2012) pointed out that users' perception of website service quality has a positive effect on satisfaction. Thus, it is hypothesized that:

H<sub>3</sub>: Service quality has a significant positive effect on user satisfaction



**Fig. 1:** Conceptual framework



## Methodology

A descriptive research design was adopted to conceptualize the relationship between the research constructs. The conceptualized framework was modeled using three key constructs: Website quality, service quality, and user satisfaction. The constructs were identified from the previous literature. Website quality was operationalized to have seven (7) dimensions each measured by items on a 5-point Likert scale. Service quality was operationalized to have five (5) dimensions all measured on a 5-point Likert scale format. User satisfaction was measured by several items based on a 5-point Likert scale format too. The conceptualization of the model presumes that website quality depends on the service quality and the degree of user satisfaction. Thus, service quality served as the dependent variable in the model whereas service quality and user satisfaction served as the independent variables.

## Conclusion

The purpose of every research endeavor is to contribute to the body of knowledge. The information gained from this study would be useful to policymakers in terms of restructuring policies governing the media, this changes the ways how certain operations are conducted or even in a manner of individual's social living. These target groups could be government institutions, corporate organizations, or specific interest groups. Therefore, the current research is significant in various ways.

For organizations or agencies to remain relevant and attract customers or users' patronage, there is a need to provide quality content. Providing a framework that would assess the quality from the users' perspectives would provide decision-makers in such organizations or agencies with a tool to improve their services and/or products to ensure quality content that would satisfy the users' needs. Similarly, by understanding the relevant dimensions that will determine the overall quality of digital media content, regulatory bodies would design policy initiatives that would aid in monitoring online digital content that is disseminated by various organizations or institutions to protect users and to lay down laws governing digital media services.

Embracing academic research, this research contributes to the existing body of knowledge regarding digital media content quality. The outcome of the research is expected to reveal the relevant determinants of digital media content quality in the context of the UAE where few types of research of this nature have been undertaken. Being a country with high internet access and most smartphone users, the result of this research is expected to provide information on the services provided to users on various online platforms and gauge how they feel about the quality of the content they interact with, hence, adding to the existing

knowledge on the issues of digital media content quality that arise in developed countries. Thus, the result of this research is expected to provide an insightful view of the subject matter.

The need for public organizations' websites to meet the quality criteria desired by users is imperative to ensure inclusiveness in government e-service provision. Even though the UAE government through the TSA provides the framework for measuring the quality of public sector websites, it is worthwhile to explore a new framework for measuring website quality based on user feedback. Therefore, the current research sets to achieve this goal by proposing a conceptual framework that intends to measure website quality by relying on user feedback based on SERVQUAL and User Satisfaction models.

## Acknowledgment

I would like to express my deep gratitude to Dr. Zanariah Jano and Dr. Indra Devi my research supervisors, for their patient guidance, enthusiastic encouragement and useful critiques of this research paper.

I would also like to thank Dr. Ashraf Abazeed and Mr. Maktoum Alkaabi for their advice and assistance in keeping my progress on schedule and their effort to make the necessary resources and analysis on research background and finding.

Finally, I would also like to thank everyone who will apply this study in order to develop the e-services provided to the public to enhance the reputation of the institution and exceed customer expectation.

## Author's Contributions

**Mohammed Ali Albalushi:** Participated in all experiments, coordinated the data-analysis and contributed to the writing of the manuscript.

**Zanariah Jano:** Supervise, direct and suggest research details, designed the research plan and organized the study.

**Indra Devi and Ashraf Abazeed:** Analyze research and review all inputs and suggest the necessary adjustments.

**Maktoum Alkaabi:** Collect, analyzing and review the literature and prepare references.

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