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The government website as user's information source: A model of user satisfaction, information, and system quality

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Abstract

Websites are widely utilized to disseminate news and publications to the public by government institutions. Although the website's user experience has been extensively studied, there is still a lack of understanding and assessment of the website's user satisfaction in the ministerial government. User experience in terms of optimizing website utilization has not been well explored, especially regarding satisfaction. Satisfaction is influenced by information quality and system quality factors. Information quality encompasses five variables (completeness, accuracy, format, currency, availability) and system quality consists of nine variables (reliability, flexibility, accessibility, responsiveness, integration, usability, functionality, design appeal, efficiency). This study surveyed the effect of information quality and system quality on the satisfaction of using the Ministry of Religious Affairs' website. The target population of this study was all users who had accessed the website at least once in the last three months. The data were collected from 420 respondents by the online questionnaire and analyzed using PLS-SEM. The findings indicated that the hypothesis of the variables completeness, accuracy, format, currency, availability, reliability, flexibility, accessibility, responsiveness, integration, usability, and functionality is not supported. However, the results of this research confirmed the positive and significant effect of design appeal and efficiency on satisfaction.

Keywords: *Website, Information Quality, System Quality, User Satisfaction*

INTRODUCTION

The website is adopted by mostly institutional governments, including the Ministry of Religious Affairs of the Republic of Indonesia. The website is one of the electronic government tools that is utilized to disseminate news and publications to the public. However, it is not clear whether citizens are satisfied with the information and the quality of the system. Websites are widely used as a medium of communication, providing publications and news as well as a representation of the organization. Websites are widely used to disseminate information (Bhanu et al., 2019). Delima et al. (2017) explained that a website is an application that utilizes web technology and can be accessible through an internet network, allowing it to have a wider reach and be more easily accessible to users. Hypertexts allow users to access information such as databases, notes, reports, audio, video, graphics,

and online help from various websites (Safdar et al., 2020). All of this information is interlinked and can be accessed publicly via the internet. Websites have become the largest hyperlinked hypertext documents, which are constantly changing and growing. Website development aligns with website evolution, both in terms of format and access platform. Website evolution in terms of format is the development from a static website to a dynamic website. Meanwhile, in terms of access platforms, websites are developed from stationary devices to mobile devices.

The development and application of new communication media, supported by the power that the media has, allows for mediation. Mediation is the process of conciliation, intervention, and negotiation between separate groups carried out by the media. Further, the website also undertakes mediation. Mediatization means the metaprocess of daily practices and social relationships built through mediation technology and media organization. Mediatization is a key concept in understanding the relationship between media, culture, and society (Hepp et al., 2015). The global Internet has grown into a giant network, so the role of the website as an intermediary has become ubiquitous.

Many people consider websites to be everyday digital communications technology and part of their daily routine. Websites are recognized as a potential new media that can become an extension of the communications industry, such as journalism (Christin, 2018), advertising, marketing communications (Straubhaar et al., 2012), and public relations (Sahoo & Mohapatra, 2019). Websites are an important communication medium for online public relations used by organizations or companies across the world, particularly for creating a strong online identity for organizations or companies (Sahoo & Mohapatra, 2019). Nowadays, the adoption of Web 2.0 and social media applications makes public relations place more emphasis on the two-way interactive communication model than one-way interaction (Komodromos, 2016). This brings new challenges for PR officers to learn new ways of speaking and writing web-based PR tools such as news releases, brochures, annual reports, and speeches (Macnamara, 2010).

The best practice for building a successful website is to make the website user-friendly and improve the user experience (Bucko & Kakalejčík, 2018). User experience is an important measure in examining website quality (Sivaji & Tzuaan, 2012). A positive user experience enables users to easily and efficiently get information and complete their tasks, thereby increasing user satisfaction, creating intimacy with users, and increasing brand reputation (Li & Jiang, 2019). A positive user experience can influence the user's emotions, perceptions, behaviors, and attitudes towards the website (Casare et al., 2020). Creating a positive user experience is an essential factor for achieving commercial success (Vila et al., 2021). The experience that users get by accessing the website must meet the user's expectations before accessing the website. On the other side, not all website features meet user expectations.

The public uses the website as the main source of information regarding policies, regulations, and rules related to religious activities in Indonesia. However, user experience in terms of optimizing website utilization has not been well explored, especially regarding user satisfaction. Satisfaction is influenced by two general factors, which are information quality and system quality. Information quality describes the quality level of website content, which can be measured by five variables: completeness, accuracy, format, currency (Toma et al., 2018) we examined the influence of the information system, and availability (Al-Hawary & Al-Menhaly, 2016). Meanwhile, system quality describes the ability of the website system, both technically and non-technically, to support the dissemination of information. System quality is measured by nine variables: reliability, flexibility, accessibility, responsiveness, integration (Nelson et al., 2005), usability, functionality (Abu-Shanab & Abu-Baker, 2011), design appeal, and efficiency (Rahardjo et al., 2007). Thus, this study aims to investigate the influence of information quality and system quality on the user satisfaction of the Ministry of Religious Affairs of the Republic of Indonesia's website. To answer this question, this study employed a quantitative approach, proposing a model to assess the relationship between variables using PLS-SEM.

LITERATURE REVIEW

Previous research related to information quality, system quality, and user satisfaction has been conducted both in commercial and government contexts. Rita et al. (2019) found that online shopping website design positively influences overall e-service quality. Similar finding from Widagdo and Roz (2021)particularly in buying and selling products and services both conventionally and online. Currently online activities provide opportunities for customers to get the desired needs. The purpose of this research is to examine the effect of website quality, hedonic shopping motivation, and impulse buying on customers' satisfaction of online shopping in Indonesia. Eight online marketplaces are the focus of this research. This study uses a quantitative approach. This is a structural equation research with data obtained from 177 students through an online questionnaire using a five-point Likert scale; the selection criteria is having shopped online from various universities in Indonesia. The statistical testing tool used is SPSS 26.0, with the effect between variables determined using Partial Least Square (SmartPLS 3.0 showed that website quality, such as usability, information quality, and service interaction, have a significant influence on customer satisfaction on the online shopping website. Chen and Chang (2018) also proved that information quality on rental properties market place has a significant role on consumer satisfaction. Meanwhile, Lee and Min (2021) discovered that on online travel agent websites, information quality aspects, such as accuracy, timeliness, and usefulness have a positive influence on website trust and continuous usage intention. On the government tax online service platform (e-filing), Veeramootoo et al. (2018) revealed that system quality has a more significant effect on user satisfaction than information quality. Based on previous studies, both commercial and public service contexts have measured user satisfaction based on information quality and system quality. The explanation of each concept is in the following section.

a. Information quality

Information quality is related to two approaches: intrinsic and contextual. For the intrinsic approach, information quality is strongly associated with the measurement or assessment of the quality of information (Nelson et al., 2005). The measurement considers the compatibility of the data, including actuality, accuracy, consistency, and timeliness. Meanwhile, the contextual approach suggests that the quality of information needs to be defined relative to the users' needs for the information, the users' tasks completed, and the user's applications used. The context approach extends the dimensions of information quality by including other dimensions such as relevance, completeness, and currency of information that build perceptions of quality in the context of use. In this study, the quality of information was measured using five variables: completeness, accuracy, format, currency (Toma et al., 2018) we examined the influence of the information system, and availability (Al-Hawary & Al-Menhaly, 2016).

Completeness determines whether the information presented on the website has completely presented all the necessary information and all possible states that are relevant to users (Nelson et al., 2005). Clearness, completeness, and conciseness of information are important aspects that need to be considered when providing information (Kurniawan et al., 2017). Websites that can provide a variety of information needed for different purposes are considered high-quality websites (Bhanu et al., 2019).

Accuracy relates to how users perceive the website in their minds regarding whether the given information is true. Moreover, accuracy is related to the degree to which all situations relevant to the user are illustrated contextually in the given information (Nelson et al., 2005). Reliable and accurate information sources can influence decision-making and a person's confidence in their decisions (Gamble et al., 2018). Further, Gamble et al. (2018) found that people have higher trust in more accurate information sources than less accurate sources.

Format investigates whether the information is conveyed in an understandable way and can be interpreted properly by the user, so that it can assist users in completing a task. Assessment of the format is determined by the user's perception, which is built from completing different tasks with the system over time (Nelson et al., 2005).

Currency evaluates user perceptions regarding whether the information presented is current enough and keeps abreast of current issues (Nelson et al., 2005). Furthermore, currency is about how current the information is and how accurately the information describes the current state of the world. Simanjuntak et al. (2022) found

that online media has the responsibility to provide information that is up-to-date, accurate, consistent, and understandable for readers. Each user's evaluation of the currency of information may differ depending on their tasks and perceptions.

Availability investigates whether the website has good service regarding providing information or other documents that can be provided without any obstacles. Good availability is built by properly handling and providing user requests for the expected services. Availability is also determined by how long it takes users to get the information they need (Al-Hawary & Al-Menhaly, 2016).

b. System Quality

While information quality is related to the output of the system, system quality is related to the information processing system that produces the output. System quality evaluates users' perceptions of their interactions with the system over time. The dimensions of system quality often intermingle with other dimensions relating to service quality and ease of use. Higher-quality systems will be easier to use and have a higher level of usability and usage (Nelson et al., 2005). Therefore, ease of use is an implication of system quality. System quality has two context: system-related and task-related context. System-related context is related to the characteristics of the system that do not change across various uses and can be assessed independently. Whereas in a task-related context, it is determined by the task and its settings, including accessibility, reliability, responsiveness, flexibility, and integration, which are variables for measuring system quality. In this study, system quality is measured using nine variables: reliability, flexibility, accessibility, responsiveness, integration (Nelson et al., 2005), usability, functionality (Abu-Shanab & Abu-Baker, 2011), design appeal, and efficiency (Rahardjo et al., 2007).

Reliability evaluates the extent of user dependency on the system over time. Reliability is perceived as the technical availability of the system and is measured by metrics such as uptime, downtime, or the mean time between failures. Dhingra et al. (2020) found that many researchers consider reliability an important predictor of service quality. Users may perceive system reliability independently of measured reliability (Nelson et al., 2005). Thus, measuring the reliability of a system becomes important in evaluating system quality.

Flexibility examines whether the system can adapt to changing conditions and keep up with changing user demands. Tseng et al. (2022) define flexibility as the system's ability to meet various user needs or tasks. Further, flexibility is also related to the ability to handle the different demands of different users and make it a task of system quality. The system is expected to be used over time and can also provide useful information that can assist in completing various tasks. Therefore, flexibility is a key determinant in measuring system quality.

Integration is related to a system that provides a variety of information from various sources that can assist users in making decisions. Integration will depend on the task and context, so integration refers to task-related properties. Tasks that are more interdependent require a system with a higher degree of integration (Nelson et al., 2005).

Accessibility represents the ease of a system and information to be accessed or extracted from the system. Nelson et al. (2005) argue that accessibility is perceived as a necessary variable for measuring system quality. Accessibility and usability are indicators of web quality that can lead to user acquisition and retention (Agrawal et al., 2019). Accessibility is related to the extent to which the system is accessible to users, regardless of the tasks that users want to accomplish.

Responsiveness refers to response time, whether the system provides a quick response to user demands for information or action. Responsiveness is included in the task-related property of a system, this means that it may be perceived by users only based on the kind of task they are doing. Thus, the perception of the responsiveness of a system may vary for each user. Suryani et al. (2020) concluded that responsiveness is one of the key indicators for measuring e-service quality. This variable leads to perceived quality and usage behavior (Nelson et al., 2005).

Usability is perceived as the ease of using a system or technology. Further, Abu-Shanab and Abu-Baker (2011) explained that usability refers to the ease of managing the system, the ease of memorizing the basic functions of the system, the level of efficiency of website design, how well the system avoids errors, and user satisfaction regarding manageability. Usability also evaluates the ease of use of interfaces with e-government

websites and has a significant and positive effect on user trust and user satisfaction.

Functionality is related to functional requirements or demands that need to be fulfilled by the website as a new medium of organizational communication (Abu-Shanab & Abu-Baker, 2011). Functionality ensures that the website works properly and according to its function. Functionality is included in the system quality because it relates to whether the links provided work properly and the graphics on the website can be downloaded by users. Then, alternative text can be used when the website is overloaded (Abu-Shanab & Abu-Baker, 2011). Design appeal refers to an aesthetic appearance that can attract the attention of users.

Attractive and favorable visual design contributes positively to the acceptance of digital media technology. Website attractiveness can be built from visual elements, such as optimizing the use of colors, layout, and features on the website. Pengnate and Sarathy (2017) found that the design features of the website contributed significantly to building users' online trust. The first impression of the visual design of the site can influence the user's attitude towards the website and the user's decision to stay on the site or move to another site (Alsudani & Casey, 2009). User perception of the website design is built quickly (within 1 second) and is influenced by the visual aesthetics of the website design (Pengnate et al., 2018).

Efficiency measures the ability of a website to provide practical and effective services. Efficiency is related to three things, namely effort, cost, and time. Efficiency in terms of business means that users can use services and features on the website according to user expectations, and users do not need more effort to use these services. Efficiency in terms of costs indicates that users can save money or not pay at all to use the services and features expected on the website. Meanwhile, efficiency in terms of time means that users can get services through an electronic system, and it does not take long to get the expected service (Rahardjo et al., 2007).

c. Satisfaction

Information quality and system quality affect user satisfaction, particularly with the government's website. User satisfaction is considered to be the level of satisfaction that comes from the experience of using an information system. Moreover, satisfaction is also related to an emotional assessment, usually positive emotion, that is consistent over time from the experience of consuming a service or product. Based on the technology context, the satisfaction that comes from previous media usage experiences can encourage users to continue using the media. It is expected that after users reach a certain level of satisfaction with the media, users' re-usage intentions can be created (Belanche et al., 2012). Iazzi et al. (2016) explained that satisfaction is considered a positive response that comes from the experience of using a product, and some academics consider satisfaction measurement as a comprehensive evaluation based on the purchase and consumption of a product or service. Based on the theory of customer satisfaction, when customers perceive their satisfaction with a product, they will also generate behavioral intentions (Fu & Juan, 2017). In this study, the satisfaction referred to is the satisfaction of accessing the kemenag.go.id website.

METHODS

The objective of the study is to examine the effect of information quality and system quality on the user satisfaction with using the Ministry of Religious Affairs' website (kemenag.go.id). The research use a quantitative research approach by conducting a survey that covered all 34 provinces in Indonesia (n=420). The respondents were recruited proporsionally weighted based on each province's population. The proposed models and research hypotheses are examined using Partial Least Square-Structural Equation Model (PLS-SEM) analysis, which allows researchers to simultaneously assess measurement models and structural models. The target population of this study was all users of the kemenag.go.id website who had accessed the website at least once in the last three months. The questionnaires are distributed online in a self-reported manner, meaning that the respondents filled out the questionnaire independently without any help from the researcher.

The research instrument consisted of three parts: (1) consent form, (2) demographic and technological data such as age, gender, religion, address, and knowledge related to the Ministry of Religion's website, and

(3) variable data. There are 15 variables measured in the study, namely: satisfaction (Sachan et al., 2018), completeness, accuracy, format, currency (Toma et al., 2018) we examined the influence of the information system (IS, availability (Al-Hawary & Al-Menhaly, 2016), reliability, flexibility, accessibility, responsiveness, integration (Nelson et al., 2005), usability, functionality (Abu-Shanab & Abu-Baker, 2011), design appeal, and efficiency (Rahardjo et al., 2007). The various variables considered in the current study are illustrated in Figure 1.

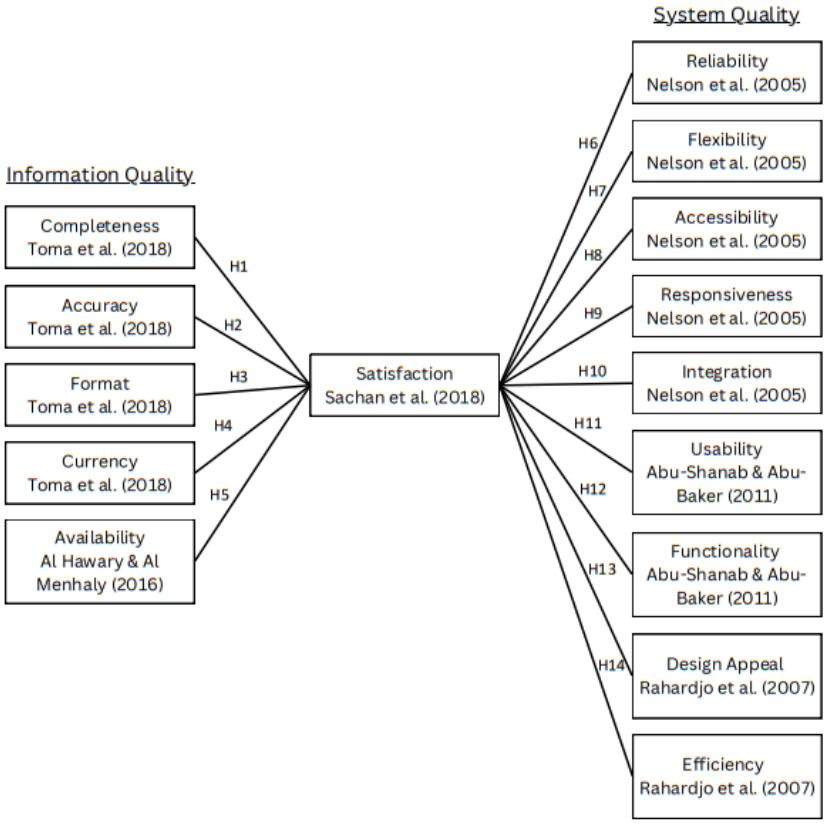

Figure 1: Research Model

Based on Figure 1, there are 14 research hypotheses that are proposed to evaluate the website and explore user satisfaction in accessing the kemenag.go.id website. The research hypotheses are as follows:

H_1 : Completeness significantly and positively affects satisfaction
H_2 : Accuracy significantly and positively affects satisfaction
H_3 : Format significantly and positively affects satisfaction
H_4 : Currency significantly and positively affect satisfaction
H_5 : Availability significantly and positively affects satisfaction
H_6 : Reliability significantly and positively affects satisfaction
H_7 : Flexibility significantly and positively affects satisfaction
H_8 : Accessibility significantly and positively affects satisfaction
H_9 : Responsiveness significantly and positively affects satisfaction
H_{10} : Integration significantly and positively affects satisfaction
H_{11} : Usability significantly and positively affects satisfaction
H_{12} : Functionality significantly and positively affects satisfaction
H_{13} : Design appeal significantly and positively affects satisfaction
H_{14} : Efficiency significantly and positively affects satisfaction

RESULTS AND DISCUSSION

In the first part of this section, the demographic properties of the respondents will be explored. Demographic characteristics data includes detailed data related to the respondent's province of origin, gender, age, religion, and education. In addition, demographic data also explores activities related to the use of the kemenag.go.id website. In the second part of this section, the evaluation of goodness of fit will be discussed. Then, the evaluation of research models, including measurement and structural models, will be presented in the third part of this session.

a. Respondents' Demographic Profile

Table 1: Respondents' demographic profile

Category		Frequency (f)	Percentage (%)
Gender			
	Male	165	39.3%
	Female	255	60.7%
	Total	420	100.0%
Age			
	17 - 26	274	65.2%
	27 - 36	92	21.9%
	37 - 46	30	7.1%
	47 - 56	18	4.3%
	57 - 66	6	1.4%
	Total	420	100.0%
Religion			
	Islam	240	57.1%
	Catholicism	105	25.0%
	Christianity	67	16.0%
	Hinduism	3	0.7%
	Buddhism	2	0.5%
	Confucianism	3	0.7%
	Total	420	100.0%
Education			
	Doctoral Degree (S3)	2	0.5%
	Master's Degree (S2)	34	8.1%
	Bachelor's Degree (S1)	246	58.6%
	Senior High School	137	32.6%
	Junior High School	1	0.2%
	Total	420	100.0%
Have accessed the website before			
	No	76	18.1%
	Yes	344	81.9%
	Total	420	100.0%
Intensity of accessing the website			
	Only once	118	34.3%

	Several times	180	52.3%
	Frequently	41	11.9%
	Very often (almost every day)	5	1.5%
	Total	344	100.0%
The most accessed content on the website			
	Mimbar Agama	48	14.0%
	Moderasi Agama	11	3.2%
	CPNS/Job vacancy	16	4.7%
	Hajj and Umrah Information	40	11.6%
	Regulations/Policies	9	2.6%
	Research result	13	3.8%
	Halal Products	23	6.7%
	Prayer Times/Imsakiyah	22	6.4%
	General News	119	34.6%
	Vaccine	8	2.3%
	KUA/Marriage	6	1.7%
	Service of the Ministry of Religious Affairs	9	2.6%
	Education	20	5.8%
	Total	344	100.0%

Table 1 manifests that the respondents in this study were dominated by female. A total of 255 respondents (60.7%) were female. Meanwhile, there were 165 male respondents in this study (39.3%).

Based on the age group category, the respondents in this study consisted of five groups. Including the age groups of 17-26 years old, 27-36 years old, 37-46 years old, 47-56 years old, and 57-66 years old. Most of the respondents are 17-26 years old with 65.2%. Followed by the age group of 27-36 years old with 21.9%, 37-46 years old with 7.1%, 47 -56 years old with 4.3%, and 57-66 years old with 1.4%.

In terms of religion, the respondents in this study were dominated by people who adhered to Islam with 57.1%. Respondents who adhered to Catholicism were 25%, respondents who adhered to Christianity were 16%, and respondents who adhered to Hinduism and Confucianism were 0.7%, respectively. Meanwhile, 0.5% of the respondents adhere to Buddhism.

Regarding the education category, most respondents have a Bachelor's Degree (58.6%). 32.6% of the respondents are Senior High school graduates, and 8.1% of the respondents have a Master's Degree. Followed by respondents who have a Doctoral Degree with a percentage of 0.5% and respondents who graduated from junior high school with a percentage of 0.2%.

Table 1 also shows the profiles of respondents who had accessed the kemenag.go.id website before the survey was conducted. Respondents who had accessed the website before the survey was conducted were 344 people, with a percentage of 81.9%. Meanwhile, the respondents who had never accessed the website before the survey was conducted were 76 people, with a percentage of 18.1%. However, when the survey was about to begin, all respondents were asked to access the kemenag.go.id website beforehand.

Most of the respondents accessed the kemenag.go.id website several times, which was 180 respondents (52.3%). Respondents who accessed the kemenag.go.id website only once were 118 people (34.3%). Respondents who frequently accessed the kemenag.go.id website were 41 people (11.9%). Meanwhile, the respondents who accessed the kemenag.go.id website very often were 5 people (1.5%).

The most accessed content on the kemenag.go.id website was general news, with a percentage of 34.6%.

Followed by *Mimbar Agama* with 14%, Hajj or Umrah information with 11.6%, and Halal products with 6.7%. The content that was least accessed by respondents was vaccines with 2.3% and KUA/marriage with 1.7%.

b. Evaluation of goodness of fit

In the analysis using PLS-SEM, there are criteria for the model-of-fit index that must be met, namely: (1) Standardized Root Mean Square Residual (SRMR), (2) Normed Fit Index (NFI), and (3) The Root Mean Squared (RMS_Theta). An SRMR value below 0.10 ($p < 0.10$) indicates a good fit model. NFI values that are closer to 1 indicate a good fit model. Meanwhile, the model can be concluded to be fit if it has an RMS_Theta value below 0.12 ($p < 0.12$). Table 2 displays the results of the goodness of fit evaluation of the model in this study. As shown in Table 2, it can be concluded that the overall model used in this study is fit.

Table 2: Evaluation of Goodness of Fit

Model-of-fit Indices	Index cutoff values	GOF Test Results	Conclusion
SRMR	< 0.10	0.038	Good Fit
NFI	0 (no fit) to 1 (perfect fit)	0.836	Good Fit
RMS_theta	< 0.12	0.121	Good Fit

c. Evaluation of the Research Models

In the PLS-SEM analysis, there are two models to be evaluated, namely the measurement model and the structural model. The measurement model determines the relationship between the observed variables (Schumacker & Lomax, 2016). Meanwhile, the structural model determines the relationship between latent variables (Schumacker & Lomax, 2016).

The evaluation of the measurement model includes an evaluation of the convergent validity of the measurement theory studied. According to Hair et al. (2019), convergent validity is achieved if all factor loading values are higher than 0.5, or ideally higher than 0.7. The value of factor loading can be seen in Table 3. All factor loading values in this study are above 0.7. Thus, it can be concluded that all factor loadings in this study are statistically significant.

Table 3: Result of the measurement model

Variable	Indicator	Factor loading	AVE	CR
Information Quality				
Completeness (Toma et al., 2018)	The website provides me with a complete set of information for recent events	0.926	0.840	0.905
	The website produces comprehensive information about recent events	0.902		
	The website provides me with all the information I need about recent events	0.922		
Accuracy (Toma et al., 2018)	The website produced correct information	0.897	0.833	0.900
	The information I obtained from the website for the news was error-free.	0.902		
	The information provided by the website was accurate	0.939		

Format (Toma et al., 2018)	The information provided by the website was well formatted	0.904	0.833	0.899
	The information provided by the website was well laid out	0.931		
	The information provided by the website was clearly presented on the screen	0.902		
Currency (Toma et al., 2018)	The website provides me with the most recent information about current affairs	0.940	0.870	0.925
	The website produces the most current information about the latest events	0.944		
	The information from the website was always up to date	0.913		
Availability (Al-Hawari & Al-Menhaly, 2016)	The e-government website provides information that easy to understand	0.910	0.792	0.869
	The e-government website is very easy to use	0.877		
	It is easy to search for information in e-government website	0.882		
	System Quality			
Reliability (Nelson et al., 2005)	_____ operates reliably	0.948	0.861	0.919
	_____ performs reliably	0.940		
	The operation of _____ is dependable	0.895		
Flexibility (Nelson et al., 2005)	_____ can be adapted to meet a variety of needs	0.920	0.856	0.916
	_____ can flexibility adjust to new demands of conditions	0.921		
	_____ is versatile in addressing needs as they arise	0.934		
Accessibility (Nelson et al., 2005)	_____ allows information to be readily accessible to me	0.937	0.898	0.943
	_____ makes information very accessible	0.956		
	_____ makes information easy to access	0.950		
Responsiveness (Nelson et al., 2005)	It takes too long for ____ to respond to my requests	0.939	0.882	0.866
	_____ provides information in a timely fashion	0.939		
	_____ returns answers to my requests quickly	0.939		
Integration (Nelson et al., 2005)	_____ effectively integrates data from different areas of the company	0.938	0.880	0.932
	_____ pulls together information that used to come from different place	0.929		
	_____ effectively combines data from different areas of the company	0.947		

Usability (Abu-Shanab & Abu-Baker, 2011)	Use and implementation of common features such as information about the government: The website contains easy and clear contact information	0.861	0.739	0.882
	User friendliness: There is an easy and effective way to give feedback	0.851		
	The website style of design is appropriate for this type of sites	0.879		
	The website has an attractive appearance	0.848		
Functionality (Abu-Shanab & Abu-Baker, 2011)	Website links are all workable	0.870	0.745	0.914
	Graphics in this website download quickly	0.873		
	Alternative text is available when the website is heavy and over loaded	0.796		
	Website has short download speed	0.911		
	Availability of the website	0.863		
Design appeal (Rahardjo et al., 2007)	Visual appeal of the website	0.853	0.747	0.915
	User friendliness of the website	0.868		
	Reputation of the website	0.883		
	Enjoyability in use of the website	0.899		
	Ability to receive personal services without interacting with human staff	0.818		
Efficiency (Rahardjo et al., 2007)	Ability to exert more control over the delivery of service	0.764	0.768	0.924
	Ability to receive service how and when the citizen constituent wants	0.896		
	Savings in cost for the citizen constituent and the government	0.903		
	Savings in time by obtaining the service electronically	0.910		
	Ability to tailor the delivery of the service more towards the citizen/constituent	0.900		
Satisfaction				
Satisfaction (Sachan et al., 2018)	I am satisfied with my decision to use e-government service	0.939	0.884	0.934
	My choice to access e-government service is a good one	0.951		
	I am confident it is the right thing to access public service from government website	0.931		

However, other measures can be used to evaluate convergent validity, namely average variance extracted (AVE) and construct reliability (CR) (Hair et al., 2019). AVE measures how accurately a latent variable explains the variance of its indicators (Hair et al., 2019). According to Hair et al. (2019), convergent validity is achieved if the AVE value ≥ 0.5. Further, another measure to examine the convergent validity of the measurement model includes the evaluation of the values of construct reliability (CR). Construct reliability measures how strong the relationship between indicators is, so that variables can be concluded to be internally consistent (Hair et al., 2019). Hair et al. (2019) found that construct reliability indicates good internal consistency if the value of construct reliability ≥ 0.7. Table 3 also displays the AVE and CR values of this study. As seen in Table 3, the

coefficients of AVE for all latent variables have values above 0.5, and the coefficients of CR have values above 0.7. Thus, it can be concluded that convergent validity is achieved and all indicators in this study can explain its latent variables well.

The next step is to evaluate the structural model. The evaluation of the structural model in this study involves the assessment of t-values and the path coefficients of the structural model. The results of the hypothesis testing are depicted in Table 4.

Table 4: Result of hypothesis testing

Hypothesis	Path	Path Coefficient value	T-value	Conclusion
H1	Completeness → Satisfaction	0.048	0.988	Not Supported
H2	Accuracy → Satisfaction	0.049	0.949	Not Supported
H3	Format → Satisfaction	0.068	1.43	Not Supported
H4	Currency → Satisfaction	0.008	0.151	Not Supported
H5	Availability → Satisfaction	0.017	0.314	Not Supported
H6	Reliability → Satisfaction	-0.014	0.189	Not Supported
H7	Flexibility → Satisfaction	0.067	0.964	Not Supported
H8	Accessibility → Satisfaction	0.085	1.371	Not Supported
H9	Responsiveness → Satisfaction	-0.064	1.465	Not Supported
H10	Integration → Satisfaction	0.062	1.066	Not Supported
H11	Usability → Satisfaction	-0.024	0.386	Not Supported
H12	Functionality → Satisfaction	0.116	1.724	Not Supported
H13	Design Appeal → Satisfaction	0.277	3.533*	Supported
H14	Efficiency → Satisfaction	0.303	4.187*	Supported

*Significant at the significance level of 0.05 (5%)

Based on the t-distribution table, the critical value for the two-tailed test with $\alpha = 0.05$ and degrees of freedom (dk) = 420 is 1.96 ($t_{critical}=t_{(\alpha/2(n-1))}=t_{0,025(419)}=1.96$).). If $|t_{value}| > |t_{critical}|$, then the hypothesis is supported. As shown in Table 4, there are only two supported hypotheses, namely hypothesis 13 and hypothesis 14. Meanwhile, the other 12 hypotheses are not supported. It can be concluded that the design appeal and efficiency variables significantly influence the satisfaction of using the Ministry of Religious Affairs' website. Hypothesis 13 indicates that design appeal has a significant and positive effect on satisfaction of 0.277. Then, hypothesis 14 indicates that efficiency has a significant and positive effect on satisfaction of 0.303. This means that the website design and the efficiency provided by the website get a positive impression from users and meet the preferences of young people, considering that most of the respondents are aged 17-26 years. Website design could attract young people, this could be a great opportunity to reach young people and convey information to this generation group.

In information quality, all hypotheses are not supported, this indicates that the information provided on the website is incomplete and not as expected by users. This also indicates the occurrence of technical issues that do not allow users to get information easily, such as search features that are not optimal, buttons that do not work properly, and the website not yet being mobile-friendly. Meanwhile, in system quality, there are only two hypotheses that are supported. Variable integration is also not supported. This is because the websites of the Ministry of Religious Affairs and the Indonesian Ulema Council (*Majelis Ulama Indonesia*/MUI) often share similar information, especially information about Islam. In addition, the kemenag.go.id website is still not as

interactive as the websites of other institutions, such as the MUI. This website does not have a live chat feature. In fact, interactivity is an important aspect of digital media to build engagement with users. The majority of system quality variables are not proven suspects. There are issues related to the searching feature, buttons, and mobile-friendly appearance. On the Kemenag.go.id website, the 'Search' feature is marked with a magnifying glass icon on the top right and is not considered good because the search results are zero (0) or the expected information does not appear in the search. So that users need to search manually, which requires more time and effort to get the desired information. Moreover, there are several buttons that do not work properly. For example, on the contact page, which consists of an office address, email, and telephone number, the button does not lead to another page. Even though the button looks active with a blue color and an underline. Last, the website is not considered mobile-friendly due to the fact that the interface is still in a stationary device format rather than a mobile device.

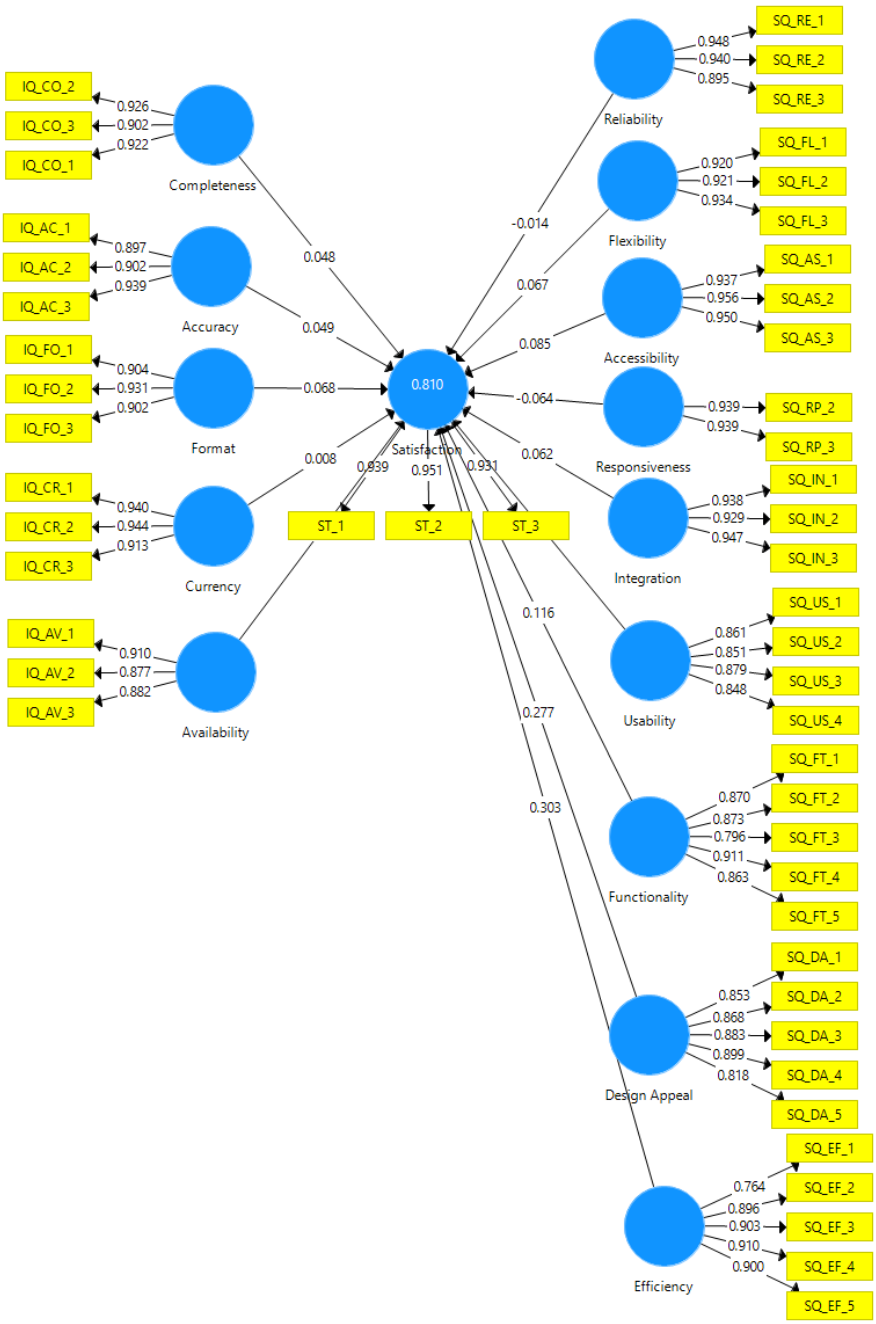

Figure 2: Results of the PLS-SEM analysis

The findings of this study confirm the significant and positive relationship between design appeal and efficiency with user satisfaction. However, the relationship between completeness, accuracy, format, currency, availability, reliability, flexibility, accessibility, responsiveness, integration, usability, and functionality with user satisfaction is not significant enough. Design appeal and efficiency lead to user satisfaction. Therefore, this study suggests organizations/companies that have a website pay much attention to the design appeal and efficiency of the website. Moreover, when the design appeal and efficiency are high, user satisfaction will also increase.

CONCLUSION

The present study aims at exploring the effect of information quality and system quality on satisfaction. Information quality encompasses five variables (completeness, accuracy, format, currency, availability), while system quality consists of nine variables (reliability, flexibility, accessibility, responsiveness, integration, usability, functionality, design appeal, efficiency). Using a survey method, questionnaires were distributed to 420 respondents, and data analysis was carried out using PLS-SEM.

The findings indicated that the hypothesis of the variables completeness, accuracy, format, currency, availability, reliability, flexibility, accessibility, responsiveness, integration, usability, and functionality is not supported. Meanwhile, the hypothesis of design appeal and efficiency variables is supported. Design appeal and efficiency also have a positive influence on user satisfaction. Generally stated, it was concluded that design appeal and efficiency significantly and positively influence user satisfaction. Therefore, organizations/companies that have a website need to pay much attention to the design appeal and efficiency of the website. It is also worthy to highlight that when the design appeal and efficiency are high, user satisfaction will also increase.

There are several suggestions regarding opportunities for future research. This research only includes information quality and system quality as two general factors that can affect user satisfaction. Other researchers may also consider analyzing other factors that may influence user satisfaction, such as service quality. The sample size of 420 people may not be large enough to represent the population of other studies. Therefore, other studies may require a larger sample size in order to obtain a generalization of the results and a more in-depth analysis.

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REFERENCES

Abu-Shanab, E., & Abu-Baker, A. N. (2011). Evaluating Jordan's e-government website: a case study. *Electronic Government, an International Journal*, *8*(4), 271. https://doi.org/10.1504/EG.2011.042807

Agrawal, G., Kumar, D., Singh, M., & Dani, D. (2019). Evaluating accessibility and usability of airline websites. In *Communications in Computer and Information Science* (Vol. 1045, Issue April). Springer Singapore. https://doi.org/10.1007/978-981-13-9939-8_35

Al-Hawary, S. I. S., & Al-Menhaly, S. M. (2016). The Quality of E-Government Services and its Role on Achieving Beneficiaries Satisfaction The Quality of E-Government Services and its Role on Achieving Beneficiaries Satisfaction Applied Study in Ministry of Interior of United Arab Emirates. *Type: Double Blind Peer Reviewed International Research Journal Publisher: Global Journals Inc*, *16*(11).

Alsudani, F., & Casey, M. (2009, September). *The Effect of Aesthetics on Web Credibility*. https://doi.org/10.14236/ewic/HCI2009.64

Belanche, D., Casaló, L. V., & Guinalíu, M. (2012). Website usability, consumer satisfaction and the intention to use a website: The moderating effect of perceived risk. *Journal of Retailing and Consumer Services*, *19*(1),

124–132. https://doi.org/10.1016/j.jretconser.2011.11.001

Bhanu, J. S., Kamesh, D. B. K., & Sastry, J. K. R. (2019). Assessing completeness of a WEB site from Quality Perspective. *International Journal of Electrical and Computer Engineering*, *9*(6), 5596–5603. https://doi.org/10.11591/ijece.v9i6.pp5596-5603

Bucko, J., & Kakalejčík, L. (2018). Website usability and user experience during shopping online from abroad. *E a M: Ekonomie a Management*, *21*(3), 205–219. https://doi.org/10.15240/tul/001/2018-3-013

Casare, A., Basso, T., & Moraes, R. (2020). Trust metrics to measure website user experience. *The Thirteenth International Conference on Advances in Computer-Human Interactions*, *c*, 1–8.

Chen, C.-C., & Chang, Y.-C. (2018). What drives purchase intention on Airbnb? Perspectives of consumer reviews, information quality, and media richness. *Telematics and Informatics*, *35*(5), 1512–1523. https://doi.org/10.1016/j.tele.2018.03.019

Christin, A. (2018). Counting clicks: Quantification and variation in web journalism in the United States and France. *American Journal of Sociology*, *123*(5), 1382–1415. https://doi.org/10.1086/696137

Delima, R., Santosa, H. B., & Purwadi, J. (2017). Development of Dutatani Website Using Rapid Application Development. *IJITEE (International Journal of Information Technology and Electrical Engineering)*, *1*(2), 36–44. https://doi.org/10.22146/ijitee.28362

Dhingra, S., Gupta, S., & Bhatt, R. (2020). A study of relationship among service quality of E-Commerce websites, customer satisfaction, and purchase intention. *International Journal of E-Business Research*, *16*(3), 42–59. https://doi.org/10.4018/IJEBR.2020070103

Fu, X., & Juan, Z. (2017). Understanding public transit use behavior: integration of the theory of planned behavior and the customer satisfaction theory. *Transportation*, *44*(5), 1021–1042. https://doi.org/10.1007/s11116-016-9692-8

Gamble, K. R., Cassenti, D. N., & Buchler, N. (2018). Effects of information accuracy and volume on decision making. *Military Psychology*, *30*(4), 311–320. https://doi.org/10.1080/08995605.2018.1425586

Hair, J. F., Babin, B. J., Anderson, R. E., & Black, W. C. (2019). *Multivariate Data Analysis* (8th ed.). Cengage Learning.

Hepp, A., Hjarvard, S., & Lundby, K. (2015). Mediatization: theorizing the interplay between media, culture and society. *Media, Culture and Society*, *37*(2), 314–324. https://doi.org/10.1177/0163443715573835

Iazzi, A., Vrontis, D., Trio, O., & Melanthiou, Y. (2016). Consumer preference, satisfaction, and intentional behavior: Investigating consumer attitudes for branded or unbranded products. *Journal of Transnational Management*, *21*(2), 84–98. https://doi.org/10.1080/15475778.2016.1167000

Komodromos, M. (2016). How web 2.0 and social media are changing public relations practitioners' work: A qualitative study. *International Journal of Technology Enhanced Learning*, *8*(1), 48–58. https://doi.org/10.1504/IJTEL.2016.075951

Kurniawan, F., Rakhmawati, N. A., Abadi, A. N., Zuhri, M., & Sugiyanto, W. T. (2017). Indonesia local government information completeness on the web. *Procedia Computer Science*, *124*, 21–28. https://doi.org/10.1016/j.procs.2017.12.125

Lee, S. K., & Min, S. R. (2021). Effects of Information Quality of Online Travel Agencies on Trust and Continuous Usage Intention: An Application of the SOR Model. *Journal of Asian Finance, Economics and Business*, *8*(4), 971–982. https://doi.org/https://doi.org/10.13106/jafeb.2021.vol8.no4.0971

Li, C.-F., & Jiang, Y.-Q. (2019). Research on the Optimization Method of Website Based on User Experience. In *Advances in Usability, User Experience and Assistive Technology* (pp. 412–421). Springer, Cham. https://doi.org/10.1007/978-3-319-94947-5_42

Macnamara, J. (2010). Public communication practices in the Web 2 . 0-3 . 0 mediascape : The case for PRevolution Jim Macnamara University of Technology Sydney. *Prism Journal*, *7*(January 2010), 1–13.

Nelson, R. R., Todd, P. A., & Wixom, B. H. (2005). Antecedents of Information and System Quality: An Empirical Examination Within the Context of Data Warehousing. *Journal of Management Information Systems*, *21*(4), 199–235. https://doi.org/10.1080/07421222.2005.11045823

Pengnate, S. (Fone), & Sarathy, R. (2017). An experimental investigation of the influence of website emotional design features on trust in unfamiliar online vendors. *Computers in Human Behavior*, *67*(July), 49–60. https://doi.org/10.1016/j.chb.2016.10.018

Pengnate, S. (Fone), Sarathy, R., & Lee, J. (2018). The Engagement of Website Initial Aesthetic Impressions: An Experimental Investigation. *International Journal of Human–Computer Interaction*, *35*(16), 1517–1531. https://doi.org/10.1080/10447318.2018.1554319

Rahardjo, E., Mirchandani, D., & Joshi, K. (2007). E-Government Functionality and Website Features: A Case Study of Indonesia. *Journal of Global Information Technology Management*, *10*(1), 31–50. https://doi.org/10.1080/1097198X.2007.10856437

Rita, P., Oliveira, T., & Farisa, A. (2019). The impact of e-service quality and customer satisfaction on customer behavior in online shopping. *Heliyon*, *5*(10), e02690. https://doi.org/10.1016/j.heliyon.2019.e02690

Sachan, A., Kumar, R., & Kumar, R. (2018). Examining the impact of e-government service process on user satisfaction. *Journal of Global Operations and Strategic Sourcing*, *11*(3), 321–336. https://doi.org/10.1108/JGOSS-11-2017-0048

Safdar, G., Javed, M. N., & Amin, S. (2020). Use of internet for education learning among Female University Students of Punjab, Pakistan. *Universal Journal of Educational Research*, *8*(8), 3371–3380. https://doi.org/10.13189/ujer.2020.080809

Sahoo, S. K., & Mohapatra, J. P. (2019). Online Public Relations, Use of Website and Social Media by State PSUs in Odisha. *International Journal of Communication and Media Studies*, *9*(2), 9–22. https://doi.org/10.24247/ijcmsapr20192

Schumacker, R. E., & Lomax, R. G. (2016). *A Beginner's Guide to Structural Equation Modeling: Fourth Edition* (4th ed.). Routledge.

Simanjuntak, M. L., Mansur, S., Saragih, N., Hayati, S., & Endri, E. (2022). The role of quality and trust on using website news. *International Journal of Data and Network Science*, *6*(3), 683–692. https://doi.org/10.5267/j.ijdns.2022.4.004

Sivaji, A., & Tzuaan, S. S. (2012). Website user experience (UX) testing tool development using Open Source Software (OSS). *2012 Southeast Asian Network of Ergonomics Societies Conference (SEANES)*, 1–6. https://doi.org/10.1109/SEANES.2012.6299576

Straubhaar, J., LaRose, R., & Davenport, L. (2012). *Media Now: Understanding Media, Culture and Technology* (7th ed.). Wadsworth Cencage Learning.

Suryani, T., Fauzi, A. A., & Nurhadi, M. (2020). The Determinant of Website Quality and E- Service Quality At Sme in Indonesia. *Jurnal Manajemen Dan Kewirausahaan*, *22*(2), 131–141. https://doi.org/10.9744/jmk.22.2.131-141

Toma, T. R., Mahmud, I., Hossain, M. E., Jahan, N., Ramayah, T., & Jayapal, P. (2018). To Read or Not to Read: Modeling Online Newspaper Reading Satisfaction and Its Impact on Revisit Intention and Word-Of-Mouth. *Interdisciplinary Journal of Information, Knowledge, and Management*, *13*, 337–359. https://doi.org/10.28945/4118

Tseng, F.-C., Huang, T.-L., Cheng, T. C. E., & Teng, C.-I. (2022). Evaluating e-commerce website qualities: personality traits as triggers. *Internet Research*, *33*(2), 741–773. https://doi.org/10.1108/INTR-01-2021-0001

Veeramootoo, N., Nunkoo, R., & Dwivedi, Y. K. (2018). What determines success of an e-government service? Validation of an integrative model of e-filing continuance usage. *Government Information Quarterly*, *35*(2), 161–174. https://doi.org/10.1016/j.giq.2018.03.004

Vila, T. D., González, E. A., Vila, N. A., & Brea, J. A. F. (2021). Indicators of website features in the user experience of e-tourism search and metasearch engines. *Journal of Theoretical and Applied Electronic Commerce Research*, *16*(1), 18–36. https://doi.org/10.4067/S0718-18762021000100103

Widagdo, B., & Roz, K. (2021). Hedonic Shopping Motivation and Impulse Buying: The Effect of Website Quality on Customer Satisfaction. *Journal of Asian Finance, Economics and Business*, *8*(1), 395–405. https://doi.org/10.13106/jafeb.2021.vol8.no1.395