An Integrated Model of WebQual 4.0 and SERVQUAL: Answer to the Next Research Call

Model Integrasi WebQual 4.0 dan SERVQUAL: Jawaban untuk Penelitian Lanjutan

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Abstract

In the original paper of WebQual 4.0, Barnes and Vidgen (2002) called for an improvement of their WebQual 4.0 model. Since WebQual 4.0 is a tool for assessing the quality of e-commerce websites, therefore a modification should be made in order to use WebQual 4.0 for other types of websites. This research offers an integrated model of WebQual 4.0 and SERVQUAL to fulfill the need. The proposed integrated model resulted in seven variables: Usability, Design, Information, Empathy, Responsiveness, Assurance, and Reliability. To test the model, a questionnaire based on the proposed model was created to assess the quality of a company website that is primarily used to manage employees' data. There were 124 data samples that can be used for analysis. A spider web diagram was created based on the reliability (Cronbach's alpha) scores to show the overall website quality. Based on the confirmatory factor analysis (CFA) results, it can be concluded that the integrated model that was created in this research was considered a good model. The implications and lessons learned from the study were discussed in the paper.

Keywords: WebQual 4.0, SERVQUAL, integrated model, quantitative method.

Abstrak

Dalam artikel asli WebQual 4.0, Barnes dan Vidgen (2002) meminta kepada komunitas peneliti untuk melakukan perbaikan model WebQual 4.0. Karena WebQual 4.0 adalah alat untuk menilai kualitas situs web e-commerce, maka modifikasi harus dilakukan dengan tujuan agar WebQual 4.0 bisa digunakan untuk mengakses jenis situs web lainnya. Penelitian ini menawarkan model integrasi antara WebQual 4.0 dan SERVQUAL untuk memenuhi tujuan tersebut. Hasil model terintegrasi yang diusulkan menggunakan tujuh variabel: Usability, Design, Information, Empathy, Responsiveness, Assurance, dan Reliability. Untuk menguji model tersebut, dibuatlah kuesioner berdasarkan model yang diusulkan untuk menilai kualitas situs web perusahaan yang fungsi utamanya untuk pengelolaan data karyawan. Terdapat 124 sampel data yang dapat digunakan untuk analisis. Diagram spider web dibuat berdasarkan skor reliability (Cronbach's alpha) untuk menunjukkan kualitas situs web secara keseluruhan. Berdasarkan hasil confirmatory factor analysis (CFA) dapat disimpulkan bahwa model terintegrasi yang dibuat dalam penelitian ini dapat dianggap sebagai model yang baik. Implikasi dan kesimpulan yang diperoleh dari penelitian ini dibahas di dalam paper.

Kata kunci: WebQual 4.0, SERVQUAL, integrated model, metode kuantitatif.

INTRODUCTION

WebQual is an established model for assessing the quality of a website that was created by Barnes and Vidgen (2000), and then revised in Barnes and Vidgen (2002) and became WebQual 4.0. In this paper, the term "WebQual" refers to the WebQual framework by Barnes and Vidgen in general, while "WebQual 4.0" refers to the latest version of WebQual. WebQual has widely been implemented to assess websites or web-based applications. For example, Coker (2013) combined some variables from WebQual 4.0 with some other factors such as Ease of Search, Load Speed, Visual Appeal, and Trust to predict User Satisfaction, Loyalty, and the likelihood of a customer making a referral of a product or service. WebQual 4.0 is also being used in medical research such as conducted by Benedict et al. (2022) which used integrated WebQual 4.0 model for testing the usability of a website application for cancer survivors. Since WebQual 4.0 is originally developed for commercial websites, therefore the use of WebQual 4.0 so far was dominated for assessing websites with e-commerce activities. A study by Durova and Amin (2009) used WebQual 4.0 for assessing the B2C website for cosmetics e-commerce in Russia. They found that the website design holds the highest score for the aggregate website quality. It seemed that in users' perceptions, the professional look of the website (website design) implied the company's reputation. In other studies, Goswani (2013) and Punyani, Dash, and Sharma (2015) had used WebQual 4.0 for assessing online banking systems. Both studies have similar constructs: they use WebQual 4.0 to define user satisfaction toward the quality of the online banking systems. Goswani (2013) found that user satisfaction is cultivated by three factors: easy to navigate, to use, and have an attractive design/appearance. Punyani, Sharma, and Dash (2015)'s study concluded that user satisfaction can be derived from usability, information quality and interaction quality. WebQual 4.0 was also being used to assess websites or applications in travel and tourism such as the research by Anand, Kagzi, and Kar (2015), Hengki (2014), and Majali (2015).

Searching scientific papers containing "WebQual" keyword in Publish and Perish application has returned 998 papers listed in Google scholar that were published between 2010 – 2022. Searching using the same keyword in Crosref indexed journals returned 284 papers. The search through Google Scholar with keywords "WebQual" from 2010-2023 resulted in around 9,220 research papers. The study of literature shows that WebQual has been used in various fields of research projects (Rita, Oliveira, and Farisa 2019), (Anand, Kagzi, and Kar 2015), (Shia et al. 2016). Searching in Google scholar from 2010-2023 using keywords "WebQual" and "e-commerce" gave 4,980 papers. The idea behind putting the keyword "e-commerce" is because WebQual was initially meant to be used for e-commerce websites. Searching further in Google scholar using keywords "WebQual" and "health" gave 2,280 papers, while using keywords "WebQual" and "e-government" resulted in 1,290 papers. In term of integrating other variable(s) into WebQual framework, user satisfaction or customer satisfaction are considered the most frequent variables being integrated by researchers. The search through Google scholar using keywords "WebQual" and "satisfaction" gave around 6,220 papers. It gives us a clue that scientific community is most interested in positioning WebQual dimensions on the factors that affect user satisfaction when using a certain website.

In the systematic literature review paper that focuses on website quality, Morales-vargas et al. (2020) considered WebQual as a website quality framework that focuses on strategic orientation. That means using WebQual is recommended when the goal of the assessment is to create a strategic planning regarding company mission through website employment. Assessment

using WebQual framework gives an output a spider-web-like diagram that shows the profile of the website.

WebQual, as is implied by its name, is a tool for assessing website quality that originally has four measurement dimensions: ease of use, experience, Information, and communication and integration (Barnes and Vidgen 2000). Ease of use means that a website should be easy to use to be qualified as a good website. Website is the representative of an organization or a business. Among its roles is to provide services to its users. However, if for some reasons the users are frustrated because the website has a lot of hassles in order to use it then the aforementioned services cannot be fulfilled. The next WebQual dimension is experience which refers to the pleasant personal experience of the users during the use of a website. That personal experience is the result of experiencing a great and wonderful website design mixed with the ease to navigate and find the information they need.

WebQual 4.0 framework that is published in Barnes and Vidgen (2002) is the latest version of WebQual. In WebQual 4.0, there are five latent variables involved in the model: Usability, Design, Information (information Quality), Empathy, and Trust. The number of indicators for each latent variable has grown into a total of 29 items. Usability is the degree to which the website can be used practically by the users, for example whether the website is easy to use, easy to navigate, or easy to understand. Design is the degree to which the website has a great appearance and pleasant to see, for example how the menus are being designed, whether the color is appropriate, and the website gives a great user experience. The Information variable quality is the only latent variable that has not changed in the latest version of WebQual. Empathy variable is the degree to which the website understands the users while using it, for example whether the website creates a sense of personality, treats the users as part of community (not a stranger), and the website makes it easy to communicate with the company. Trust is the degree to which the users feel secure when assessing the website, including storing personal data and providing confidential information. The latest WebQual model (WebQual 4.0) is shown in Figure 1.
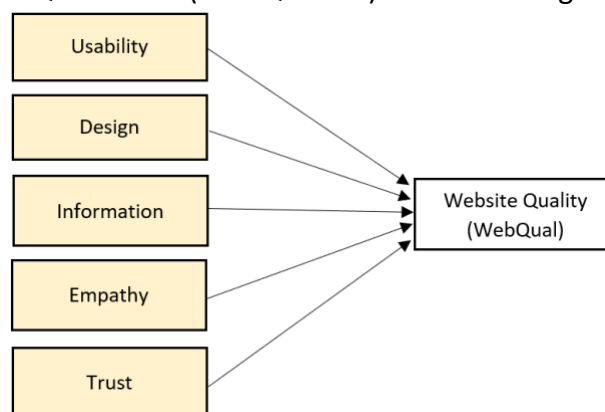

Figure 1. WebQual 4.0 model (Barnes and Vidgen 2002)

In their paper, Barnes and Vidgen (2002) provides some directions for the next research. One of their calls is creating a new model based on WebQual 4.0 (with additional variables) that can be applied on other than e-commerce websites. This research is based on that call. Therefore, the aim of this paper is to create a model that can be applied in more varied websites and test whether the proposed model is a good model.

Barnes and Vidgen (2002) stated that WebQual 4.0 was created based on several theories/frameworks that were established earlier. One of them is SERVQUAL that was

introduced by Parasuraman, Zeithaml, and Berry (1988). SERVQUAL is a robust model and until today is widely used by researchers and organizations, including governments, to measure the quality of their services. For a comparison, searching research papers via Google Scholar using keyword "SERVQUAL" returned around 16,000 papers. The number of citations of Parasuraman, Zeithaml, and Berry (1988) as of today is 46,804. SERVQUAL has five variables to measure service quality: Reliability, Assurance, Tangibility, Empathy, and Responsiveness. The SERVQUAL model is depicted in Figure 2.

The Reliability variable in SERVQUAL refers to the degree of the organization's ability to provide services as promised. Assurance refers to the ability of the organization to create "trust and confidence" on the customers through service. Tangibility measures the physical appearance of the service providers, including the tools they use and the location where the service takes place. Empathy measures the degree of empathy of the people who provide services (these people are organization's employees). In the case of a website, the empathy can be implemented as website design that caters and understands users' needs. Responsiveness is the degree to which the organization helps the customers and provides service immediately without delay. Based on the descriptions above it can be seen that even though SERVQUAL had influenced WebQual in some ways, however, most of their variables are quite differ based on their underpinning concepts. From this point of view, it can be concluded that variables from SERVQUAL are the perfect candidates to be integrated into WebQual 4.0 since the variables are not overlapped entirely. Instead, it will enrich the measurement capability of the new proposed model.
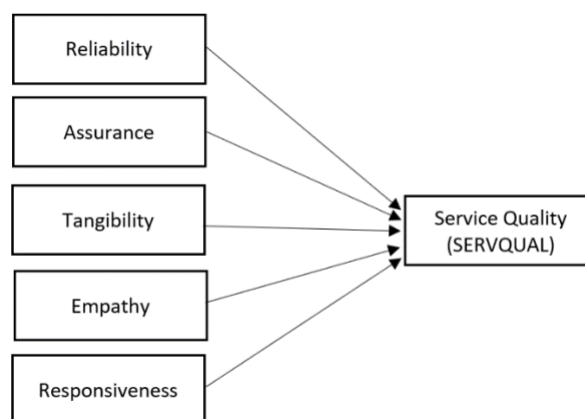

Figure 2. SERVQUAL model (Parasuraman, Zeithaml, and Berry 1988)

Another reason for integration of WebQual 4.0 and SERVQUAL is because both of the models theoretically have similar roots, that is service quality. SERVQUAL initially was developed for measuring the quality of service of an organization/company and more focus on the service provided by people (company's employees) (Jiang et al. 2012). WebQual was created more than a decade later with more concern about the service provided by the company's website. As we know, after the proliferation of computer usage during the 1990's, people (companies' employees) started to be replaced by websites for providing services. As shown in WebQual 4.0 model, it lacks dimensions or variables that measure how reliable the system is, how the system can create esteem to the users (that the system is capable of handling the matter accurately and without error), and how fast the system response toward user request. On the other hand, SERVQUAL does not provide measurement for usability of the system and the actual user

experience during interaction with the system. Therefore, the proposed integrated model is created as shown on Figure 3.

It can be seen in Figure 3 that the variables for the proposed integrated model are the combination of variables from WebQual 4.0 and SERVQUAL. There is one variable from WebQual 4.0 that is removed: Trust. The reason for the removal is because the constructs for measuring trust are already covered by the Assurance variable from SERVQUAL. The Empathy variable from WebQual 4.0 is quite the same concept as the Empathy variable from SERVQUAL, therefore both variables are being merged into one variable. On the other hand, variable Tangible is removed from the model because conceptually Design variable dan Tangible measures the same thing: the look and appearance of the website. Originally, variable Tangible in the measurement of information system quality concerns on the physical facilities, the appearance of the device, and the people who provide the services along with the system (Pitt, Watson, and Kavan 1995). However, for a website which gives the service, variable Tangible is arguably about the design and appearance of the website itself (Stiakakis and Georgiadis 2009).
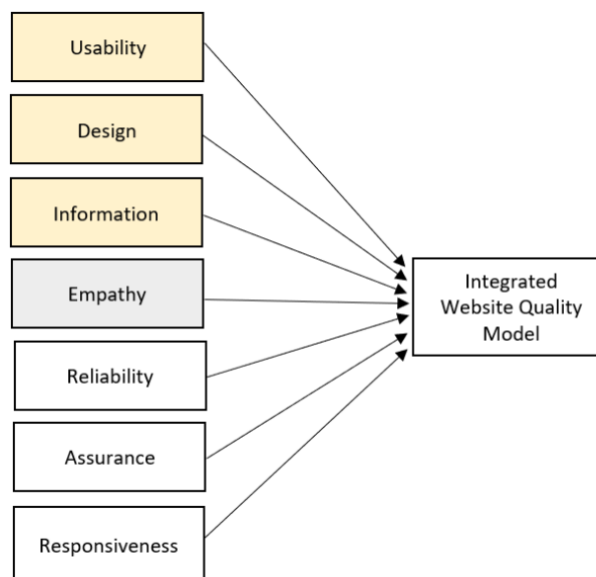

Figure 3. The proposed integrated model

The integrated model in Figure 3 has the variables and corresponding questionnaire as shown in Table 1. The questionnaires have been modified to fulfill the need of this research.

Table 1. Questionnaire items for the integrated model

No	Variable	Var Abbrev	Questionnaire	Framework origin
1	*Usability*	USA1	The website is easy to use	WebQual 4.0
2	*Usability*	USA2	You do not find difficulties when interacting with the website	WebQual 4.0
3	*Usability*	USA3	Menus on the website is structured and understandable	WebQual 4.0
4	*Usability*	USA4	The website is usable as an employees' portal	WebQual 4.0
5	*Usability*	USA5	The website application contributes greatly to your job	WebQual 4.0
6	*Design*	DES1	The website has an attractive appearance	WebQual 4.0

7	*Design*	DES2	The website design is appropriate for the employees portal	WebQual 4.0
8	*Design*	DES3	The website provides a positive experience for you	WebQual 4.0
9	*Information*	INF1	The website providing accurate Information.	WebQual 4.0
10	*Information*	INF2	The website provides information that can be trusted.	WebQual 4.0
11	*Information*	INF3	The website provides information that is up to date.	WebQual 4.0
12	*Information*	INF4	The website provides information that is relevant to employees.	WebQual 4.0
13	*Information*	INF5	The website provides information that is easy to understand.	WebQual 4.0
14	*Information*	INF6	The website provides sufficient Information in detail.	WebQual 4.0
15	*Information*	INF7	The information contained on the website was delivered in the proper format.	WebQual 4.0
16	*Empathy*	EMP1	The website provides help when needed	WebQual 4.0 /SERVQUAL
17	*Empathy*	EMP2	There is contact(s) available on the website that you can contact immediately	WebQual 4.0 /SERVQUAL
18	*Empathy*	EMP3	The website understands what employees' need	WebQual 4.0 /SERVQUAL
19	*Reliability*	REL1	You can open the website anytime 24/7 even on the holidays/weekend	SERVQUAL
20	*Reliability*	REL2	You can access the website using any standard device (PC, laptop, smartphone, tablet)	SERVQUAL
21	*Reliability*	REL3	There has never been an error on the website	SERVQUAL
22	*Assurance*	ASS1	The website provides features related to the needs of employees	SERVQUAL
23	*Assurance*	ASS2	The website stores your personal data securely	SERVQUAL
24	*Assurance*	ASS3	Every employee has a username and password as an authentication for accessing the website.	SERVQUAL
25	*Assurance*	ASS4	The website requires users to change the password regularly	SERVQUAL
26	*Responsiveness*	RESS1	You get notification from the website regarding your query	SERVQUAL
27	*Responsiveness*	RESS2	Response for answering questions about the Information on the Website can be completed in 24 hours.	SERVQUAL
28	*Responsiveness*	RESS3	You get email notifications related complaints have been submitted	SERVQUAL
29	*Responsiveness*	RESS4	It doesn't need a long time to upload any page of the website	SERVQUAL

METHOD

To test the proposed integrated model, the data was collected using the questionnaire from Table 1. The respondents for the study are the employees of an IT-based company. Based on the questionnaire's provision, the employees are required to assess the company website which has some functions including an Employees Self Service (ESS) application. The employees use the ESS application regularly to manage the data that are needed by the human resource department. The salaries for the employees are also calculated based on the data in the ESS. That illustrates

how important the ESS application is for the employees. The questionnaire was using a 5-points Likert scale for measurement as shown in Figure 4. The construction of the Likert scale follows the suggestion of Nemoto and Beglar (2014) that scoring for questionnaire items should be in a single direction (toward positive or toward negative score).

Figure 4. 5-points Likert scale

The questionnaires that had been distributed to the employees resulted in 124 usable data. The data analysis follows Barnes and Vidgen (2002) which used Cronbach's alpha as a standard for measuring the reliability of the construct and will be used for variable scoring. Reliability is the degree to which an instrument (in this case is the questionnaire) will give the same result when the measurement is taken repeatedly (Taber 2018). The score of reliability is between $0 - 1$, however, Tavakol and Dennick (2011) suggest that a good reliability score of Cronbach's Alpha is between $0.7 - 0.95$, even though the alpha score between $0.6 - 0.7$ is considered acceptable (Ursachi, Horodnic, and Zait 2015). A low alpha score could stem from a low number of questions in the questionnaire or low homogeneity in the constructs (latent variables).

RESULT AND DISCUSSIONS

The data that collected from the employees gives the information needed for analysis. Table 2 shows the profile of the respondents. Most of the employees (more than 80%) are considered young employee. It is quite safe to say that about 50% of the respondents are in the age 21-35. They are the millennials (Pyöriä et al. 2017) and Gen Z who are tech-savvy (Francis and Hoefel 2018). Most of them are highly educated with at least a bachelor degree. However, most of the respondents have been with the company as long as six years and below. This profile definitely will have an impact on the result of the survey.

Table 2. The respondents' profile

No.	Characteristics of Respondents	Percentage	Amount
The length of employment (year)	< 1	6.50%	8
	1-3	34.70%	43
	4-6	30.60%	38
	> 6	28.20%	35
Age (year)	< 21	0%	0
	21-30	34.70%	43
	31-40	47.60%	59
	41-50	15.30%	19
	> 50 Years	2.40%	3
Education	High school	0%	0
	Non-degree	16.90%	21
	Undergraduate	72.60%	90
	Master degree	10.50%	13

The result of data analysis using SPSS can be seen in Table 3. That score is basically the result of the employees' perception toward the website where the ESS application can be accessed. The lowest score is concerning the reliability of the website. The Reliability variable is measuring the reliability of the system. Looking further into the data, it turns out that the lowest mean score for Reliability is the statement regarding accessibility through device (REL2: You can access the website using any standard device (PC, laptop, smartphone, tablet)). The possibility of the low score is because most employees open the website via their smartphones. This quite makes sense since 43% of the respondents are young people between 21 – 30 years old. Some features on the ESS are better to be accessed and viewed via PC or laptops/notebooks because of the document settings (ESS system handles a lot of employees' documents that are related to human resource departments).

Table 3. ESS website based on employees' perception (Cronbach's Alpha)

Variables	Cronbach's Alpha	Results
Usability	0.8097	acceptable
Design	0.8073	acceptable
Information	0.8809	acceptable
Empathy	0.6889	acceptable
Reliability	0.7156	acceptable
Assurance	0.7464	acceptable
Responsiveness	0.7968	acceptable

Another variable which has a relatively low score is Assurance. Assurance is the degree to which the website can create a sense of trust and confidence that the website handles the matters professionally. The data from the respondents shows that the lowest mean score for Assurance comes from the statement ASS4: The website requires users to change the password regularly. That means some employees do not think (or do not remember, or do not know) that they have to change the password regularly. Another possibility is that the management does not have clear policy or standard operating procedure regarding website security, including changing the password.

Empathy is the only variable that has an alpha score below 0.7. Even though Tavakol and Dennick (2011) suggest the lowest ideal alpha score is 0.7, however, Ursachi, Horodnic, and Zait (2015) argue that an alpha score between 0.6 – 0.7 is acceptable. The lowest mean score given by the respondents is the statement EMP3: The website understands what employees' need. It seems that certain features are not available on the website (the employees have to come to the HR department directly to get certain services that actually can be deployed through the ESS system). Measuring empathy means concerns about the emotional side of service quality. Roy, Lassar, and Ganguli (2015) emphasized the importance of focusing service quality measurement toward emotional factors of the users. So far, most researchers focus more toward cognitive factors, while in fact most users' decisions (especially on buying something) are based on emotional factors (Consoli 2009), (Bagozzi et al. 2016). This concept is very important especially for websites which are operated for e-commerce.

From Table 3 it can be seen that the variables Information, Design, Usability, and Responsiveness are respectively getting high scores from the respondents. It is not surprising for the Information variable to get the highest score because Cronbach's alpha score tends to become higher when the number of measurements (statements in the questionnaire) is higher (Tavakol and Dennick 2011). It can be seen from Table 1 that the Information variable has seven statements (questions). It is the variable with the most questions.

Figure 5 depicts the spider chart of Table 3. It is quite straightforward that Information is the most advanced in the ESS website quality score. The IT department and the management that are responsible for the implementation of the ESS website could get the insight from the diagram. It is quite clear from the diagram that there are at least three factors that need to be upgraded in relation with the ESS website quality: Reliability, Assurance, and Empathy.
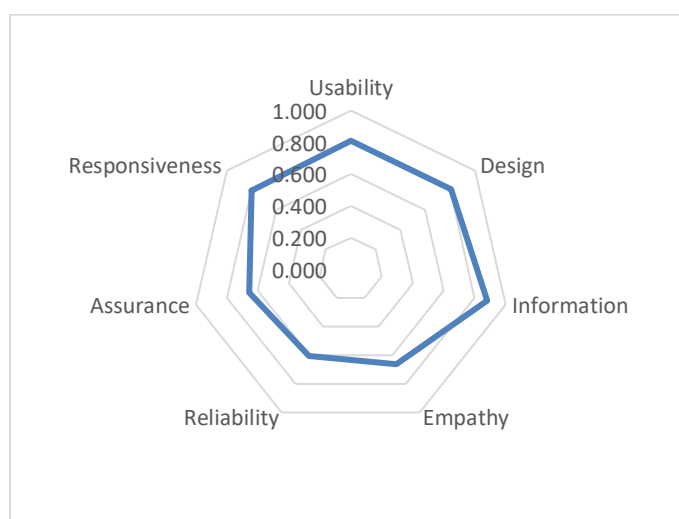

Figure 5. Spider Chart of Cronbach's Alpha

The analysis result also gives some insights that the integrated model was capable of carrying out the assessment for a non-commerce website, in this case an employee website. In the original paper of WebQual 4.0 framework, Barnes and Vidgen (2002) found that for a great e-commerce website, the users perceive that the variable Trust is the most important factor. In this research of non-commerce websites, a website that affects the working life of the respondents, respondents perceive that Information (Information quality) is the most important factor. Because when people are on the job, working in their office, getting the correct, accurate, and on-time information is crucial. It could affect their current and future career, especially for the millennials and Gen Z.

In a meta-analysis study regarding e-service quality, Blut et al. (2015) found that there four variables that are used frequently by researchers (hence the researchers consider them important), they are Website Design, Fulfillment (how the website fulfills its promise to provide the service), Customer Services, and Security. Those four factors are already included in this research. Website design is in the Design variable. Fulfillment is included in the Usability variable, Information, Empathy, and Responsiveness. Some instruments that correspond with Customer service are included in Empathy and Responsiveness, while Security factor is contained in Assurance and Reliability variables.

To test whether the observed variables (questionnaire measurements) represent the corresponding latent variables, a confirmatory factor analysis (CFA) was conducted using

SmartPLS® application. The CFA is considered important since the integrated model is a combination of two different models (WebQual and SERVQUAL) hence the observed variables are taken from both models. In such a situation, the convergent validity of the construct could be in jeopardy. Therefore, CFA is needed to see whether the integration of both models could preserve its convergent validity. It has been explained in the previous sections that when two latent variables were merged, some indicators from both variables were diminished because of their similarities. For example, design and tangible variables were merged to become design variables in the integrated model and resulting in only three indicators left. The CFA is crucial to make sure that all observed variables (that are created from the indicators) have sufficient values, thus ensuring the validity and reliability of the construct.

Table 4. Factor loadings for each indicator

	Assurance	Design	Empathy	Information Quality	Reliability	Responsibility	Usability
ASS1	0.5765						
ASS2	0.7264						
ASS3	0.5441						
ASS4	0.7204						
DES1		0.7593					
DES2		0.8198					
DES3		0.7173					
EMP1			0.5099				
EMP2			0.7891				
EMP3			0.6928				
INF1				0.6998			
INF2				0.5667			
INF3				0.7498			
INF4				0.6808			
INF5				0.6889			
INF6				0.7809			
INF7				0.8095			
REL1					0.5199		
REL2					0.6447		
REL3					0.8297		
RES1						0.7251	
RES2						0.7418	
RES3						0.7210	
RES4						0.6265	
USA1							0.6439
USA2							0.6121
USA3							0.8690
USA4							0.6474
USA5							0.6117

For conducting CFA, there are at least two results from SmartPLS® analysis that have to be examined: the factor loadings of indicators and construct reliability and validity. Table 4 shows the factor loadings of each observed variable or indicator. Hair et al. (2019) stated that when the sample size is greater than 120 then the factor loading of 0.50 should be sufficient. Indicator with factor loading less than 0.50 has to be removed. Table 4 shows that factor loadings for all indicators are above 0.50, therefore it is sufficient.

Another output from SmartPLS® that has to be checked is construct validity and reliability. The reliability result of Cronbach's Alpha is shown in Table 3. It is shown that all of the constructs are deemed to be reliable with scores above 0.70. The overall result for construct validity and reliability is shown in Table 5. Hair, Ringle, and Sarstedt (2011) requires that the value for AVE should be greater than 0.50. However, Fornell and Larcker (1981) stated that AVE value 0.40 is acceptable as long as the composite reliability is above 0.60. Based on those premises it can be concluded that the requirement for convergent validity of the construct is fulfilled. Based on the aforementioned results, it can be concluded that the integrated model of WebQual and SERVQUAL is considered a good model.

Table 5. Construct reliability and validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Assurance	0.7464	0.7512	0.7393	0.4188
Design	0.8073	0.8132	0.8100	0.5877
Empathy	0.6889	0.7328	0.7078	0.4542
Information Quality	0.8809	0.8841	0.8785	0.5109
Reliability	0.7156	0.7426	0.7098	0.4581
Responsiveness	0.7968	0.8006	0.7975	0.4971
Usability	0.8097	0.8275	0.8114	0.4675

CONCLUSIONS

As mentioned earlier, according Morales-vargas et al. (2020) WebQual is a website assessment framework that can be regarded as a strategic-focus framework. That gives the implication that WebQual is suitable for assessing a website when the goal of assessment is to create further strategy for the company regarding their website. By examining the result of the website assessment that is conducted in this research, the management could roll the new plan for their next strategy regarding their ESS website. In a company or organization, their website is part of an information system that can be used as a strategic advantage (Alshubaily and Altameem 2017).

The goal of this research to 1) create the integrated model of WebQual and SERVQUAL, and 2) testing the integrated model have been fulfilled. Some implications and conclusions regarding this research will be discussed. First of all, WebQual and SERVQUAL are proven to be robust frameworks for assessing the quality of a website. Both frameworks can become a complement for each other. Second, composing the questionnaire for the survey has to be done carefully and follow the theories and standards accordingly, because the questionnaire is a measurement tool. Especially when the factors come from different models/frameworks. Three, WebQual and

SERVQUAL have been modified so many times and applied to many research objects, therefore there is possibility that the measurements give different results.

There are some limitations regarding this research. First, the integrated model is tested only for one type of website which is a company website for employees where the use of the website is mandatory. This type of website and the nature of usage can affect the result of the assessment. Second, the respondents of the study worked at the same office. Most likely they filled out the questionnaire together during the survey. That situation can affect the objectivity of the respondents since their answers might not purely based on their own evaluations.

There are some directions for the next research. With the development of new security measurements, websites are getting both more secure and more intrusive. The question is how website quality defines the balance between both factors. Another research agenda, even though some researchers have conducted a similar idea, however, integrating the WebQual of Barnes and Vidgen's version and the WebQual of Loiacono et al.'s version nevertheless will enrich the research in website quality.

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