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Website user experience model: testing on journalists

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Abstract: This research aimed to analyse the components of the website user experience (WUX) and the influence of WUX on brand trust. Another objective was to build a WUX model from the perspective of journalist users. This research approach was quantitative with an online survey method. The research sample was 300 journalists. Partial least square-structural equation modelling (PLS-SEM) was used for data processing techniques and hypothesis testing. This research found two alternative WUX models. The first alternative WUX model showed a significant relationship between WUX (with six components in WUX) to brand trust. The second alternative WUX model showed a meaningful relationship between access speed, user value, user's emotion (three components in the WUX framework that were treated as variables) to brand trust. Of the two models, this research recommended the first alternative WUX model because the components of WUX were better and more complex.

Keywords: user experience; website; communication; website user experience; WUX; brand trust.

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1 Introduction

The development of the internet has given rise to various new media and communication media, one of which is a website (Straubhaar et al., 2012). The emergence of a website as a communication technology product also creates an experience for its users, often referred to as user experience (UX). UX usually relates to a person's experience using a particular product, system, or service (Khaleel et al., 2018). Then when it comes to a website product, what is called a website user experience (WUX) will appear. WUX can also be identified as the performance of a website. This is because website performance is an interesting UX to research, so the experience of using the website is one of the essential measurements from the user's perspective (Hogan, 2014).

Previous research (Hogan, 2014) has shown that when designing and developing websites, the main consideration is WUX. According to Hogan (2014), page load time and how quickly the website is accessed are the main components in WUX. This means that access speed is WUX itself. However, access speed is not the only component of WUX. In various other previous research, it was found that many components of WUX itself. In past research, there are at least seven other components of WUX besides access speed. The seven components are culture (Alcántara-Pilar et al., 2018; Lei et al., 2017), design (Lestari et al., 2014; Tuch et al., 2009), hedonic (Rauschenberger et al., 2013; van Schaik and Ling, 2008; Schrepp et al., 2017; Wani et al., 2017), public value (Kamau et al., 2016), usability (Bucko and Kakalejcik, 2018; Nielsen, 2012; Shasha and Weideen, 2016; Sia et al., 2017), user value (Mohd-Any et al., 2015), and user emotions (Agarwal and Meyer, 2009; Ernungtyas, 2014; Tarrant, 2007).

Unfortunately, the various components of WUX (at least eight components explored by this research) are still the result of separate research. No research unites these eight components of WUX into a single unit. In fact, if it can be combined into one, it will be a novelty in the WUX concept. For this reason, this research seeks to examine and unify the eight components of WUX, with the research question of whether access speed, culture, design, hedonic, public value, usability, user value, and user emotions are component of WUX?

While on the other hand, Hogan's (2014) research shows that WUX itself has a significant influence on brand trust. WUX as a whole affects the public's impression of the brand of an organisation, company, or anything related to the existence of a website. For example, Akamai has reported that 75% of online shoppers who experience issues, such as site freezing, crashing, taking too long to load a page, or having a cumbersome checkout process, will not buy from that website (Hogan, 2014). Furthermore, another research states that two-thirds of certain website users if they find a website that they access slowly every week, then 49% of users will leave the website they usually access and switch to competitors (Zhou et al., 2015). This shows that WUX significantly affects

brand trust from companies/institutions through UX. If the experience of using the website is not good, then trust will be bad, and vice versa (Hogan, 2014).

In the research of Hogan (2014), WUX is still identified with access speed. Though, the components of WUX are as diverse as previously mentioned. Therefore, this research seeks to analyse the influence of WUX with eight components of it on brand trust. Thus, the following research question is whether WUX significantly impacts brand trust? Then, this research also aims to observe and treat the components of WUX as separate variables. Therefore, another research question is whether access speed, culture, design, hedonic, public value, usability, user value, and user emotions which are treated as variables directly affect brand trust?

Meanwhile, this research also tries to examine the other side of the influence of WUX on brand trust. If the previous research by Hogan (2014) linked WUX with brand trust by looking at the brand from the aspect of a commercial company, this research looks at it, not from a commercial company perspective. However, from a non-commercial institution website. In the context of a non-commercial institution's website, WUX can also be related to an organisation's brand that does not pursue profit. For example, an official website of an educational institution that is trusted as a source of information by users, in this case, journalists, to develop news, but the way the information is presented is still not as expected so that users will have a bad experience and this will lead to a decrease in trust in the institution's brand (Prastya, 2017). In this research, the website that is the target or object of research is the Indonesian Institute of Sciences (LIPI) website. This website was chosen because it received the Bronze Winner award at the Public Relations Indonesia Award (PRIA) in 2020, so it deserves to be the object of this research (LIPI, 2020).

2 Literature review

2.1 Website user experience

UX becomes important especially for products called websites (Garrett, 2011; Hogan, 2014). WUX is the experience of receiving messages (communication) in the form of text and visuals from websites (Coloma, 2012). There are various features to carry out communication between users and the website. This feature also provides UX and understanding to produce a positive online experience (Shasha and Weideen, 2016).

By nature, websites are complex pieces of technology, and something funny happens when users struggle with complex pieces of technology. Website users tend to blame themselves. They (website users) feel they have done something wrong. Website users feel like they are not paying enough attention. They feel stupid, and of course, it is irrational. After all, it is not the user's fault that the website is not functioning as expected (Garrett, 2011). Regardless of the type of website, the website is a self-service product in almost every case. There are no instruction manuals to read beforehand, no seminars or training to teach their use, and no user service representatives (a kind of customer service) to help guide website users. Only users face the website alone with only common sense and personal experience to guide them. And here, UX becomes important. UX is an important component of any website (Garrett, 2011; Hogan, 2014). Furthermore, the website itself has grown rapidly from previously Web 1.0 to Web 2.0 (Sykora, 2017), which is also an important development for its users to get UX.

2.2 Components of the WUX

The performance of a website is UX (Hogan, 2014). There are various components of WUX. These components, among others, the first are access speed. Access speed is an essential component of UX. Benchmarking page load times for websites is component of UX. Users expect the page to load in two seconds, and after three seconds, about 40% of users will leave the website. On the other hand, website users with mobile devices, around 85% expect website loading at least as fast or faster than accessing websites from non-mobile (desktops/computers). In essence, the access speed is how long a website page takes when a user opens it. In addition, the speed in accessing the website is also determined by the page loading time, which is calculated from the search engine results. Websites with faster loading will be higher up in Google search results than slower websites. Google includes website speed in its search result ranking algorithm. Although Google still focuses on a website's content, the speed of loading times still influences the overall UX (Hogan, 2014).

The second component is culture. Culture is an integrated component of WUX (Alcántara-Pilar et al., 2018; Lei et al., 2017). In the context of WUX, culture is a complex concept that includes several things. These things are:

1 knowledge

2 norms

3 beliefs

4 customs

5 values

6 collective ways of thinking, feeling and behaving in society (Alcántara-Pilar et al., 2018; Hofstede, 2001; Lei et al., 2017).

Culture is indicated to be component of WUX as tested in previous research (Alcántara-Pilar et al., 2018). Tests in this previous research looked at cultural differences in the perception of website users. Exemplified in the study are tourism website users in Spain and England. The research results indicate that three dimensions measure the culture of website users themselves, including uncertainty avoidance, individualism, and long-term orientation (Alcántara-Pilar et al., 2018). On the other hand, another research also sees culture as an essential component of WUX (Lei et al., 2017). This previous research stated that website users in China prefer to browse websites more generally than users in the UK. The study shows that cultural context does play an essential role in user cognition and behaviour (Lei et al., 2017) which ultimately leads to WUX (Alcántara-Pilar et al., 2018; Lei et al., 2017).

The third component is design. Design is one of the main components of WUX (Lestari et al., 2014; Tuch et al., 2009). The appearance of the initial page, including its design, is very important. The reason is that the initial page display is an impression for the user when accessing the website for the first time, either through non-mobile or mobile devices. This first impression is often important for users and influences the user's decision to continue or not continue browsing the website (Tuch et al., 2009). For this reason, website developers need to have a comprehensive understanding of how to attract website users and provide an experience that has a profound impression so that

users repeat to visit the website. The complexity of the design can be one of the decisive keys in forming this deep impression for WUX, especially concerning the pleasure and passion experienced (Tuch et al., 2009). On the other hand, there is also research on how responsive web design on mobile devices is an essential component of WUX (Lestari et al., 2014). Responsive design can be interpreted as a technique by designers to provide an elegant visual experience regardless of browser size and constraints on access devices. Then, responsive web design ensures that information on the website is appropriately conveyed regardless of the device used to access it (Lestari et al., 2014).

The fourth component is hedonic. Hedonic as component of WUX can be interpreted as the pleasure of a user in accessing certain websites, such as the UX in accessing travel websites (Wani et al., 2017) and reading the latest entertainment news from a particular website (van Schaik and Ling, 2008). Two measures, namely measured hedonic in previous research: first is stimulation, namely is it interesting and fun to use the product? And also, do users feel motivated to continue using the product? These stimulation measurement items include: valuable or worthless, boring or fun, not interesting or interesting, and motivating or demotivating. The second is a novelty. Is the product design innovative and creative? And whether the product can attract the attention of users? As for items from novelty, they are: creative or boring, inventive or conventional, ordinary or advanced, conservative or innovative (Rauschenberger et al., 2013; van Schaik and Ling, 2008; Schrepp et al., 2017; Wani et al., 2017).

The fifth component is a public value. Public value is one component of WUX, which is defined as the interests and representatives of citizens in seeking public service experiences with strategic outcomes (Kamau et al., 2016). Thus, public values form the basis of a democratic system and must be reflected in websites, especially government websites. The measurement components in public value as part of WUX include:

a accessibility

b citizen engagement

c responsiveness

d transparency

e balancing of interests (Kamau et al., 2016).

The sixth component is usability. Usability is component of WUX, which is one of the main measures of website quality and an important component of website success (Bucko and Kakalejcik, 2018; Sia et al., 2017). Another usability definition in relation to WUX (Nielsen, 2012; Shasha and Weideen, 2016) explains that usability is simply described as a quality attribute (component) used to assess how easily the user interface can be used properly. Five important things determine the usability, including efficiency, errors, can be learned, memorable, and satisfaction (Nielsen, 2012; Shasha and Weideen, 2016).

The seventh component is user value. User value is an integrated component of WUX. Concerning WUX, user value testing is also based on multi components that make up e-Value, namely the UX value when using the website. User value here is measured based on several things, including:

1 utilitarian

2 emotional

3 social, perceived control and freedom

4 value for money

5 user cognitive effort (Mohd-Any et al., 2015).

The eighth component is user emotions. User emotions in accessing the website are defined as psychological reactions to events that are relevant to a person's needs, goals, or concerns. Then user emotions can be seen from the physiological, affective, behavioural, and cognitive components (Agarwal and Meyer, 2009; Ernungtyas, 2014). User emotions as component of WUX have been measured in several previous research by looking at two things (Ernungtyas, 2014), namely visual aesthetics (Tarrant, 2007) and website interfaces (Agarwal and Meyer, 2009), which are combined into one. The results of this previous research saw that there were nine valid indicators to measure user emotions, namely:

a interest

b balance

c brightness

d familiarity

e freshness

f sharpness

g worthiness

h friendliness

i satisfaction (Ernungtyas, 2014).

2.3 Effect of WUX on brand trust

One of the influences of WUX is the occurrence of brand trust (Hogan, 2014). For example, a successful e-commerce website attracts customers, making them (customers as users) feel that the website is trustworthy and reliable so that it has a positive effect on the brand trust of the company that houses the website (Liu and Arnett, 2000). Then, another example is that there is a hotel, which was studied in previous research, has an uninformative website that makes users distrust the hotel's website. The result is that trust in the hotel brand becomes less good (Bilgihan, 2016).

In the context of other websites, namely government organisations or institutions, WUX also affects trust in the institution's brand. For example, an official website of an educational institution that is trusted as a source of information by users, in this case, journalists as users to develop news (Prastya, 2017), but the way the information is presented is still not as expected, so users will have a bad experience and has an effect on decreasing trust in the institution's brand (Hogan, 2014).

Brand trust is indeed an essential thing for a company or institution. By definition, brand trust can be explained as a user's trust in a brand that originates from the user's belief that the product of a particular company (institution) is able to meet the promised value and has brand intention based on consumer confidence that the brand can prioritise the interests of the user (Delgado-Ballester and Munuera-Alemán, 2005).

2.4 Hypotheses and proposed WUX models

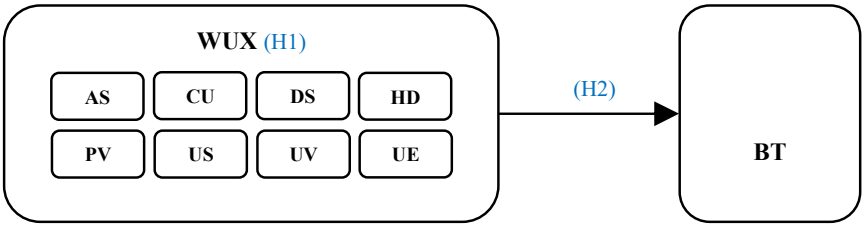
This research has three hypotheses developed from several research questions raised in the introduction to this article. These three hypotheses can be seen in Table 1.

Table 1 Research hypotheses

Hypothesis	*Statements*	*Supporting evidences*
H1	Access speed (AS), culture (CU), design (DS), hedonic (HD), public value (PV), usability (US), user value (UV), and user emotions (UE) are component of the WUX variable.	Agarwal and Meyer (2009), Alcántara-Pilar et al. (2018), Bucko and Kakalejcik (2018), Ernungtyas (2014), Hogan (2014), Kamau et al. (2016), Lei et al. (2017), Lestari et al. (2014), Mohd-Any et al. (2015), Nielsen (2012), Rauschenberger et al. (2013), van Schaik and Ling (2008), Schrepp et al. (2017), Shasha and Weideen (2016), Sia et al. (2017), Tarrant (2007), Tuch et al. (2009), and Wani et al. (2017)
H2	The WUX variable with eight components of it has a significant effect on the brand trust (BT) variable.	Hogan (2014)
H3	If AS, CU, DS, HD, PV, US, UV, and UE are treated as variables, then each of these variables has a significant effect on the BT variable.	Author proposed based on Hogan (2014)

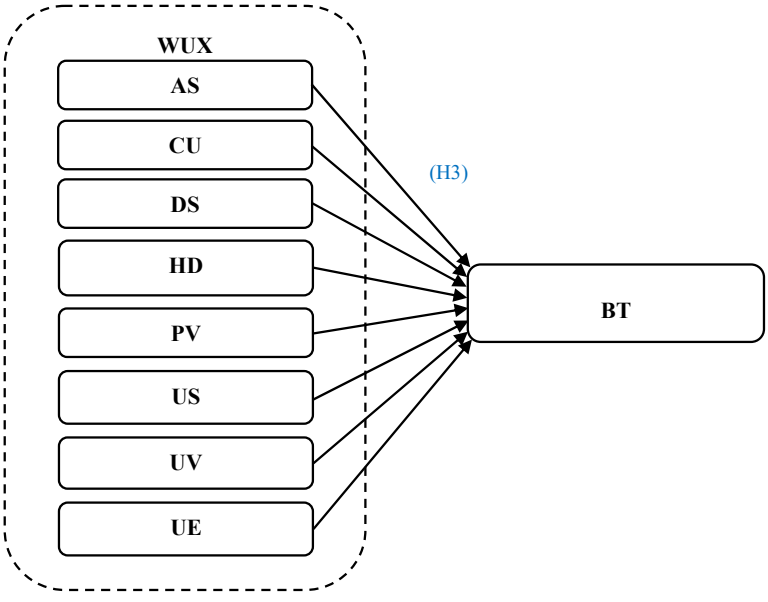
This research also builds and proposes two models of WUX based on the hypotheses of this research. The two proposed models can be seen in Figure 1 and Figure 2.

Figure 1 The first alternative of WUX model (see online version for colours)



Source: Agarwal and Meyer (2009), Alcántara-Pilar et al. (2018), Bucko and Kakalejcik (2018), Ernungtyas (2014), Hogan (2014), Kamau et al. (2016), Lei et al. (2017), Lestari et al. (2014), Mohd-Any et al. (2015), Nielsen (2012), Rauschenberger et al. (2013), van Schaik and Ling (2008), Schrepp et al. (2017), Shasha and Weideen (2016), Sia et al. (2017), Tarrant (2007), Tuch et al. (2009) and Wani et al. (2017)

Figure 2 The second alternative of WUX model (see online version for colours)



Source: Authors

3 Research methodology

This research approach is quantitative with a survey method as previous research on UX and WUX (Bucko and Kakalejcik, 2018; Mohd-Any et al., 2015; Wani et al., 2017). Then, the type of research is explanatory research (Wani et al., 2017) with a cross-sectional design (Alcántara-Pilar et al., 2018). The choice of cross-sectional design was due to collecting this research data in a specific time span and only once for collection, which aims to conduct explanatory research (Alcántara-Pilar et al., 2018).

This research tested eight components, which were treated as indicators and/or exogenous variables and one endogenous variable. The eight components are access speed (Hogan, 2014), culture (Alcántara-Pilar et al., 2018; Lei et al., 2017), design (Lestari et al., 2014; Tuch et al., 2009), hedonic (Rauschenberger et al., 2013; van Schaik and Ling, 2008; Schrepp et al., 2017; Wani et al., 2017), public value (Kamau et al., 2016), usability (Bucko and Kakalejcik, 2018; Nielsen, 2012; Shasha and Weideen, 2016; Sia et al., 2017), user value (Mohd-Any et al., 2015), and user emotions (Agarwal and Meyer, 2009; Ernungtyas, 2014; Tarrant, 2007). Meanwhile, one endogenous variable is brand trust (Hogan, 2014).

The population of this research is journalists as one of the website users. The total population is 300 LIPI partner journalists (LIPI, 2018). As for the sample, the sample of this research is the census or all members of the population being studied. This research used the census because the sample number was still below 1,000 respondents and was categorised in a small number of samples. Using the census is also the right way to achieve high statistical confidence (Guest, 2019). The selection of journalists as the population and research sample is because journalists are the main users of information

submitted through the website (Prastya, 2017), especially the LIPI website, which is the object of this research.

The choice of the LIPI website as the object of research is because this website is one of the main websites of government institutions that provides information on science, technology and innovation in Indonesia needed by journalists in this field. In addition, the website has undergone a significant redesign in 2016 so that it looks more current and user-friendly to attract more website users (Handoko, 2016; Prijono, 2016; Suestiningtyas, 2016). Government agencies such as LIPI can provide detailed explanations on various matters through the website. The official website allows institutions to provide direct explanations and minimise misreporting by the mass media. This is because the public can immediately find out how the institution's explanation actually is by looking at the statement submitted through the institution's official website (Prastya, 2017).

Meanwhile, this research uses primary data collection through online surveys (Mohd-Any et al., 2015; Wani et al., 2017). The online survey was conducted using self-administered questionnaires facilitated by Google tools, namely website-based Google Forms that have links and can be disseminated via internet-based messaging applications (Bucko and Kakalejcik, 2018; Sackmary, 1998). The online questionnaire in this research used closed and open questions with a Likert scale of 7 (seven) responses. The Likert scale in this research provides an answer category of 1 (one) representing the perception of 'strongly disagree', and 7 (seven) describing 'strongly agree' (Mohd-Any et al., 2015; Wani et al., 2017).

Then switch to data processing and analysis techniques. The technique is divided into several processing phases, including:

a classification of data results from respondents answers

b cleaning of data to match the actual information

c data processing and hypothesis testing with Smart PLS 3.2.9 application

d presenting or displaying data processing results in an easy-to-read and more attractive form such as tables and figures

e analysing data processing results and hypothesis testing (Babbie, 2010; Neuman, 2014).

Specifically for data analysis, this research analysed it in several ways, namely:

1 evaluation of outer model

2 evaluation of inner model

3 hypothesis testing (Hair et al., 2011, 2014).

Furthermore, after obtaining the results of data analysis, this research will look at the suitability of the model built in the hypotheses with the model from the research results. If the model is appropriate, this research does not re-specify the model. However, if the model built at the beginning does not match the model of the research results, then the model is re-specified. Re-specification of the model is measured by the goodness of fit (GoF) index. The GoF index is a value that indicates the quality of the model. The purpose of this index is to evaluate the measurement model and the structural model in

making predictions. The number 0.10 to 0.25 indicates a weak model, more than 0.25 to 0.36 indicates a medium model, and more than 0.36 indicates a strong model. The way to calculate the GoF index is the square root of the average communality index multiplied by the average R^2, with the formula: GoF = (Hair et al., 2010).

3.1 Demographic profile of respondents

The subjects of this research are journalists. The selection of journalists as research subjects is because journalists are one of LIPI's partners. Then, they are one of the public who is the primary users of the information displayed on the LIPI website. Because, providing information on research, activities, or others to LIPI partner journalists, one of the main channels is the LIPI official website. So, like it or not, journalists need to access the LIPI website (as one of the official websites of government organisations) to get the information they need. Therefore, there is a relationship between LIPI as an organisation, one of which is represented through a website, and journalists with an interest in LIPI. Thus, journalists as users of the LIPI website are an interesting subject to research.

The number of respondents who participated in this research were 233 respondents from 300 respondents who became the population. The response rate of respondents in filling out research questionnaires was around 77.67% (233 respondents). In detail, 203 respondents had accessed the LIPI website, and 30 respondents had never accessed the LIPI website. As for the demographic profile of the respondents in this research, it can be observed that of the 233 research respondents, 152 respondents were male, and 81 respondents were female. Then for the age of the respondents, the youngest age is 20 years, and the oldest age is 58 years. Then, the number of respondents who participated the most in the research was 38 years.

Based on education, the education range of the respondents in this research starts from the lowest level being senior high school/vocational/equivalent graduates to the highest being master's degree graduates. Meanwhile, the respondents who participated the most in this research were bachelor's degree graduates for the education level. The respondents of this research came from 89 diverse mass media. The most dominant device used by respondents to access the LIPI website is a combination of non-mobile and mobile. For the frequency of respondents accessing the LIPI website, the highest frequency is in the range of 1 to 5 times per month. Then, the duration of research respondents in accessing the LIPI website was most in the range of 1 to 10 minutes.

3.2 Outer model evaluation

The outer model provides an overview of the concept represented by how the manifest variables construct latent constructs (latent variables) simultaneously (Hair et al., 2014, 2017). The outer model needs to be evaluated to observe the model's level of validity and reliability. This evaluation needs to confirm the extent to which a manifest variable can represent the latent variable. The test is a prerequisite that must be done to analyse the SEM model as a whole. The evaluation of the outer model consists of a convergent validity test, a discriminant validity test, and a reliability test (Hair et al., 2014, 2017).

3.2.1 Test results of convergent validity

The valid and invalid measure of the convergent validity test is to look at the value of component loading and average variance extracted (AVE). Component loading is a value generated by each indicator to measure the variable. Meanwhile, AVE is the value possessed by each measured variable. Conditions convergent validity of the test results in this research is considered valid if the test results of the component loading value of more than 0.70 and more than 0.50 AVE (Hair et al., 2011, 2014, 2017). The convergent validity test in this research is divided into two, namely the first alternative WUX model (see again Figure 1) and the second alternative WUX model (see Figure 2).

For the first alternative WUX model, the convergent validity test tested the component loading of two variables, namely WUX (exogenous variable) and BT (endogenous variable). The WUX variable consists of eight components with 37 indicators, while the BT variable consists of three indicators. From the results of the component loading test, the results are 22 valid indicators (component loading value > 0.70) of the six components of WUX, which consists of as2 (US), ds1, ds2, ds3, ds4, ds5, ds6 (DS), hd3, hd4, hd5 (HD), us3, us4 (US), uv1 (UV), ue1, ue2, ue3, ue4, ue5, ue6, ue7, ue8, ue9 (UE), as well as three valid indicators of the variable BT, which consists of bt1, bt2, bt3. Then, there are 15 invalid indicators (component loading value < 0.70) consisting of as1, as3 (US), cu1 (CU), hd1, hd2, hd6 (HD), pv1, pv2, pv3 (PV), us1, us2 (US), uv2, uv3, uv4, uv5 (UV). As for the results of the AVE test, the results are presented in Table 2, where the AVE values of the two variables are > 0.50 and are declared valid.

Table 2 Values of AVE from the first alternative WUX model

Variable	*Average variance extracted (AVE)*
WUX	0.639
BT	0.872

Table 3 Values of AVE from the second alternative WUX model

Variable	*Average variance extracted (AVE)*
AS	0.829
CU	1.000
DS	0.930
HD	0.908
PV	0.756
US	0.901
UV	0.831
UE	0.953
BT	0.927

Meanwhile, for the second alternative WUX model, the convergent validity test tested the component loading of nine exogenous and endogenous variables, namely AS (exogenous variable), CU (exogenous variable), DS (exogenous variable), HD (exogenous variable), PV (exogenous variable), US (exogenous variable), UV (exogenous variable), UE (exogenous variable), and BT (endogenous variable). Of these nine variables, the number

of indicators is 40. The results of the 40 indicators component loading test are 39 valid indicators (component loading value > 0.70), namely as1, as2, as3 (AS), cu1 (CU), ds1, ds2, ds3, ds4, ds5, ds6 (DS), hd1, had2, hd3, hd4, hd5, hd6 (HD), pv1, pv2, pv3 (PV), us1, us2, us3, us4 (US), uv1, uv2, uv4, uv5 (UV), ue1, ue2, ue3, ue4, ue5, ue6, ue7, ue8, ue9 (UE), and bt1, bt2, bt3 (BT). Meanwhile, the indicator is not valid (component loading value < 0.70) only one indicator, namely uv3 (UV). Then for the AVE test results, the result is the AVE value of nine variables > 0.50, which means it is valid (see Table 3).

3.2.2 Test results of discriminant validity

The test results of discriminant validity are valid provided that the first is the square root of AVE in a latent variable value is greater than the value of correlation to other latent variables. Then, the second provision is that the value of the cross-loading of one latent variable with the indicator's value that measures it must be higher than the value of the other latent variable with the indicator that measures it. In addition, the cross-loading value of each latent variable must be more than 0.70 (Hair et al., 2014, 2017). As in the previous convergent validity test, the discriminant validity test is also divided into two. First, the discriminant validity test of a first alternative WUX model. Second, the discriminant validity test of a second alternative WUX model.

To test the discriminant validity of the first alternative WUX model, the results of the discriminant validity test of the first provision can be seen in the value of the Forner-Larcker criterion. What is observed is the diagonal numbers which are the square root value of AVE. Meanwhile, the value below and beside it is correlated with other latent variables. The test results can be observed in Table 4.

Table 4 Values of Forner-Larcker criterion from the first alternative WUX model

Variable	*BT*	*WUX*
BT	0.934	
WUX	0.750	0.799

Table 4 shows that the AVE square root of each latent variable is higher than its correlation value with other latent variables. This indicates that all latent variables' discriminant validity test results are valid.

Meanwhile, the results of the discriminant validity test of the second provision on the first alternative WUX model can be seen from the cross-loading value. This value can be observed from the correlation value of the latent variable with the indicator. The result in this research is that the value of the cross-loading of each latent variable with indicators that measure it is higher than the value of other latent variables with indicators that measure it. Next is the cross-loading value of each latent variable that has met the requirements greater than 0.70. From the discriminant validity test results of this second provision, it can be seen that each variable tested is valid as a whole.

Then continue to test the discriminant validity of the second alternative WUX model. The test results for the first provision can be observed in Table 5.

Table 5 shows that each latent variable has a higher Forner-Larcker criterion value than the correlation value of the latent variable itself with other latent variables. This means that all latent variables are valid based on the results of the discriminant validity test.

Table 5 Values of Forner-Larcker criterion from the second alternative WUX model

Variable	*AS*	*BT*	*CU*	*DS*	*HD*	*PV*	*UE*	*US*	*UV*
AS	0.849								
BT	0.691	0.934							
CU	0.618	0.609	1.000						
DS	0.723	0.648	0.560	0.858					
HD	0.598	0.670	0.604	0.749	0.829				
PV	0.604	0.620	0.605	0.597	0.619	0.814			
UE	0.695	0.741	0.576	0.867	0.799	0.638	0.849		
US	0.569	0.658	0.610	0.681	0.764	0.619	0.717	0.862	
UV	0.576	0.683	0.614	0.678	0.810	0.592	0.740	0.713	0.807

While the results of the discriminant validity test of the second provision for the second alternative WUX model can be identified from the results of the cross-loading value. As a result of this research, the value of cross-loading is each latent variable with indicators that measure it higher than the value of other latent variables and indicators that measure them. Then, the cross-loading value of each latent variable is also greater than 0.70. Overall, the discriminant validity test results of this second provision show that all of the variables tested are valid.

3.2.3 Reliability test results

The reliability test results can be identified through the value of Cronbach's alpha and composite reliability. The condition is that the latent variable is called reliable if the Cronbach's alpha and composite reliability values are greater than 0.70 (Hair et al., 2014, 2017). The latent variable reliability test in this research is divided into the first alternative WUX model latent variable reliability test and the second alternative WUX model latent variable reliability test.

After the reliability test has been carried out, the test results of the latent variables of the first alternative WUX model can be seen in Table 6.

Table 6 Cronbach's alpha and composite reliability values from the first alternative WUX model

Variable	*Cronbach's alpha*	*Composite reliability*
WUX	0.973	0.975
BT	0.926	0.953

Table 6 shows that the Cronbach's alpha and composite reliability values of the WUX and BT variables are more than 0.70. This means that both variables are reliable.

Next is the result of the second alternative WUX model latent variable reliability test. The results are presented in Table 7.

Table 7 shows that the Cronbach's alpha and composite reliability values of the AS, CU, DS, HD, PV, US, UV, UE, and BT variables are more than 0.70. This means that the nine latent variables are reliable.

Table 7 Cronbach's alpha and composite reliability values from the second alternative WUX model

Variable	*Cronbach's alpha*	*Composite reliability*
AS	0.804	0.885
CU	1.000	1.000
DS	0.928	0.943
HD	0.908	0.929
PV	0.745	0.855
US	0.885	0.921
UV	0.822	0.882
UE	0.951	0.959
BT	0.926	0.953

3.3 Evaluation of inner model

Inner model is a set of dependency relationships that connect model construction which has been hypothesised (Hair et al., 2014, 2017). The inner model is useful to show the linkages between variables and shows the estimated strength of influence between variables. The results of the inner model test can be interpreted through the value of R-square (R^2). A variable can be substantial if the R^2 value > 0.75, moderate if the R^2 value is between 0.50–0.75, and weak if the R^2 value is between 0.25–0.50 (Hair et al., 2011, 2014). In addition, the test results of the inner model can also be observed through the value of predictive relevance (Q^2). This value indicates how strong and accurate the structural model is. The way to look at it is if the Q^2 value is higher than 0, it means that the exogenous variable has predictive relevance to the endogenous variable (Hair et al., 2011, 2014).

Inner model test for this research was conducted on the first alternative WUX model and the second alternative WUX model. The results of the inner model test for the first alternative WUX model can be observed through the following R^2 and Q^2 values (see Table 8 and Table 9).

Table 8 Values of R^2 from the first alternative WUX model (see online version for colours)

Variable	*R^2*	*R^2 adjusted*	*P-values*	*Interpretation*
BT	0.562	0.560	0.000	Moderate

Table 9 Values of Q^2 from the first alternative WUX model

Variable	*SSO*	*SSE*	*Q^2 (= 1 – SSE / SSO)*
WUX	4,466.000	4,466.000	
BT	609.000	313.780	0.485

From Table 8, it can be observed that the BT variable has a moderate R^2 value because its value is in the range of 0.50–0.75. Then for Table 9, the value of Q^2 is greater than 0, which means that the exogenous variable (WUX) has predictive relevance to the endogenous variable (BT).

Switch to inner model test results for the second alternative WUX model. The results can be seen from the R^2 and Q^2 values in Table 10 and Table 11.

Table 10 Values of R^2 from the second alternative WUX model (see online version for colours)

Variable	*R^2*	*R^2 adjusted*	*P-values*	*Interpretation*
BT	0.665	0.651	0.000	Moderate

Table 11 Values of Q^2 from the second alternative WUX model

Variable	*SSO*	*SSE*	*Q^2 (= 1 – SSE / SSO)*
AS	609.000	609.000	
UE	1,827.000	1,827.000	
UV	812.000	812.000	
BT	609.000	273.629	0.551

From Table 10, it can be shown that the BT variable has an R^2 value of 0.665. The interpretation of this value is moderate because it is between 0.50–0.75. Furthermore, for Table 11, the Q^2 value of 0.551 means greater than 0. This means that exogenous variables (US, EU, and UV) have predictive relevance to endogenous variables (BT).

3.4 Hypothesis test

The results of hypothesis testing 1 (H1) in this research look at the value of component loading from the results of the convergent validity test of the WUX (exogenous) variable with its eight components (see Section 3.2). The results of the H1 test show that of the eight components of WUX, only six components are part of WUX. The result of this test is the result of three times the component loading test. The six components declared to be part of WUX, consist of the US, DS, HD, US, UV, and EU. Each indicator in these components has a component loading value > 0.70.

Then for the results of hypothesis testing 2 (H2), this hypothesis test is conducted by observing the t-statistics value. In this research, the value of t-statistics > 1.96 with a significance level of 5%, it can be said that the hypothesis is accepted (Hair et al., 2011, 2014). The results of the H2 test are presented in Table 12. Table 12 shows that the t-statistics value is greater than 1.96. This means that the results of the H2 test are accepted.

Table 12 H2 test results (see online version for colours)

Hypothesis		*T statistics (|O/STDEV|)*	*P-values*	*Interpretation*
H2	WUX → BT	23.819	0.000	Accepted

Similar to the H2 test, hypothesis test 3 (H3) also looks at the t-statistics value. The difference is that the eight components of WUX are treated as variables directly related to BT. The results of the H3 test can be seen in Table 13.

Table 13 shows that only three H3 results were accepted. This means that of the eight variables directly related to BT, only three variables (AS, UV, and UE) have a significant effect on the BT variable. The t-statistics value of the three variables is greater

than 1.96. Meanwhile, for other variables (CU, DS, HD, PV, and US), these variables have t-statistics values less than 1.96, so they are not accepted in hypothesis testing.

Table 13 H3 test results (see online version for colours)

Hypothesis		*T statistics (|O/STDEV|)*	*P-values*	*Interpretation*
H3	AS → BT	4.333	0.000	Accepted
H3	CU → BT	1.190	0.234	Rejected
H3	DS → BT	1.883	0.060	Rejected
H3	HD → BT	0.139	0.890	Rejected
H3	PV → BT	1.251	0.212	Rejected
H3	US → BT	1.364	0.173	Rejected
H3	UV → BT	2.161	0.031	Accepted
H3	UE → BT	3.057	0.002	Accepted

4 Research result and discussion

4.1 Three important findings of the research

This research yielded three important findings. The first finding is that there are only six components of WUX: access speed, design, hedonic, usability, user value, and user emotions. These six components have been tested and proven to be component of WUX. Meanwhile, two other components, namely culture and public values, did not prove to be component of WUX. This proves that although culture, which was based on previous research (Alcántara-Pilar et al., 2018; Lei et al., 2017), is an integrated component of WUX, it was not proven in this research. Likewise, with public values (Kamau et al., 2016), this research proves that public values are not component of WUX.

The second finding is that WUX, with its eight components, has an insignificant effect on brand trust. However, WUX, with its six components, significantly influences brand trust. After the culture and public value are removed as component of WUX, it is clear that this research proves that there are only six components that affect brand trust. This means that in previous research, although eight components have been separately proven to be component of WUX, they do not necessarily have a significant effect when associated with brand trust.

Furthermore, the third finding is that if the eight components of WUX are treated as variables, it can be observed that only three variables have a significant effect on brand trust. These three variables are access speed, user value, and user emotions. Meanwhile, the other five variables did not significantly affect the results of hypothesis testing in this research. This finding is a new result, which turns out that when culture, design, hedonic, public value, usability are directly related to brand trust, they do not have a significant effect on brand trust.

Overall, it can be stated that the three essential findings in this research changed or re-specified the WUX model, which was the initial proposed research model from the research hypotheses. Re-specifications must be made to see which model modifications best describe the WUX model.

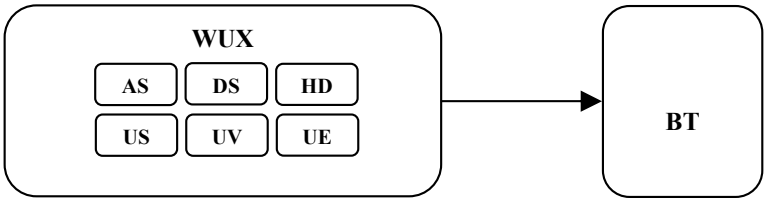
4.2 Re-specification of the WUX model

Re-specification is modifying the model. If the resulting model is not in accordance with the hypothetical framework of the research model, then the next step is to re-specify to obtain a good model. This re-specification is based on the results of the research hypothesis test, examination of the significant value of the path coefficient, and examination of the GoF index value. Re-specifications in this research were carried out on two models, namely the first alternative WUX model and the second alternative WUX model.

4.2.1 Re-specification of the first alternative WUX model

In testing this research, the results show that the first alternative WUX model proposal requires re-specification. This is because the H1 and H2 tests results show that there are only six components that are part of WUX. Furthermore, WUX with these six components significantly affects brand trust. This can be observed from the significance value of the path coefficient. If the path coefficient significance value is greater than 0.10, it is significant. Then, this research also tested the path coefficient. The test result is that the significance value of the path coefficient from WUX to brand trust is 0.75. This means that the influence of WUX on brand trust is significant. For clarity, the first alternative WUX model specification is as follows.

Figure 3 The first alternative of WUX model after tests



The next step is to check the GoF index value on the first alternative WUX model. The GoF index value is the square root of the multiplication between the average communality index and the average R^2, with the following formula: $GoF = \sqrt[2]{Com \times R^2}$, which if calculated, the GoF value is:

$$\sqrt[2]{0.691 \times 0.562} = 0.62$$

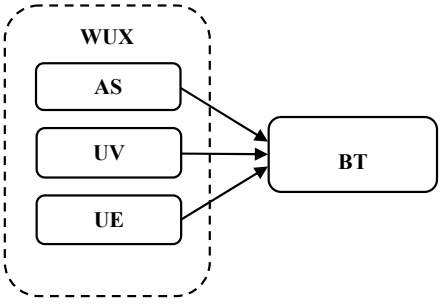
The GoF index value of 0.62 means that the quality of the model is strong.

4.2.2 Re-specification of the second alternative WUX model

The second alternative WUX model also requires re-specification. This is because the results of the H3 test show that of the eight components that are part of WUX treated as variables directly related to brand trust, only three variables have a significant effect on brand trust. These three variables are access speed, user value, and user emotions. These three variables have a path coefficient significance value greater than 0.10, which is significant. Each path coefficient significance value is access speed to brand trust of

0.310, user value to brand trust of 0.256, and user emotions to brand trust of 0.337. As for the re-specification of the second alternative WUX model, it can be observed as follows.

Figure 4 The second alternative of WUX model after tests



Then for checking the GoF index value on the second alternative WUX model, the value is:

$$\sqrt[2]{0.691 \times 0.665} = 0.68$$

The GoF index value of 0.68 means that the model quality is strong.

4.3 Discussion

The concept of WUX or WUX can be interpreted as the experience of receiving messages (communication) in the form of text and visuals from the website (Coloma, 2012). There are various features to carry out communication between the user and the website on the website. The existence of this feature also provides UX and understanding to produce online experiences (Shasha and Weideen, 2016). Therefore, UX becomes essential, especially for products called websites (Garrett, 2011). In addition, the performance of a website itself is the UX (Hogan, 2014).

This research has three essential findings from testing the three hypotheses. The first finding is that there are only six components of WUX: access speed, design, hedonic, usability, user value, and user emotions. The second finding, brand trust is also significantly affected by WUX, with six components as part of WUX. Then the third finding, if the eight components of WUX are treated as variables, it can be observed that only three variables significantly affect brand trust. These three variables are access speed, user value, and user emotions.

The three findings of this research show several things compared to previous research. First, several previous research has shown culture (Alcántara-Pilar et al., 2018; Lei et al., 2017) and public value (Kamau et al., 2016) to be separate components of WUX. But when this research put them together with other components, the result is that both components are not part of WUX. Only six components from previous research, which were carried out separately, become component of WUX.

Second, WUX can only significantly affect brand trust when there are only six components in it, not eight components as in the hypothesis. This condition indicates that the statements in previous research (Hogan, 2014) need to be updated with the results of this research. This means that access speed, which is also considered as WUX in Hogan's (2014) research, has a significant influence on brand trust, it is necessary to add more. It

is access speed that contributes as component of WUX that affects brand trust and other components such as design, hedonic, usability, user value, and user emotions.

Third, when the eight components of WUX are separated into separate variables, it is quite surprising because only three variables affect brand trust. This is a new finding, except for access speed that affects brand trust, tested by previous research by Hogan (2014). These two novelties are user values and user emotions, which in previous research (Agarwal and Meyer, 2009; Ernungtyas, 2014; Mohd-Any et al., 2015) are component of WUX, but when both components (which are treated as a variable) is directly related to brand trust, it turns out to have a significant effect on brand trust.

Meanwhile, if you look back at the results of testing the hypotheses on the first alternative WUX model and the second alternative WUX model, several things can be observed. For the first alternative WUX model, this model has a very high t-statistics value of 23.819, far above the standard value, namely the t-statistics value of more than 1.96. Therefore, it can be said that the level of acceptance of this model is very strong because the larger the t-statistics value from the standard value, the more well-accepted the model (Hair et al., 2011, 2014). As for the second alternative WUX model, three variables that affect brand trust have t-statistics values, respectively, namely access speed to brand trust of 4.333, user value to brand trust of 2.161, and user emotions to brand trust of 3.057. The t-statistics value of the three variables is considered acceptable, but the value is only slightly larger than the standard value of t-statistics > 1.96.

Thus, when comparing the first alternative WUX model with the second alternative WUX model, the t-statistics value of the first alternative WUX model is much greater than the t-statistics value of the second alternative WUX model. This means that the first alternative WUX model can be considered more robust. However, for the GoF value, the GoF value of the second alternative WUX model of 0.68 is slightly higher than the GoF value of the first alternative WUX model of 0.62. However, these two GoF values have the same interpretation that both models belong to a strong model quality (Hair et al., 2010).

As another note, this research also shows that respondents have diverse cultural backgrounds because journalists come and carry out their duties from different areas, such as from the Jakarta area (national scope), Depok and Bogor areas (West Java Province), and the Tangerang and South Tangerang areas (Banten Province). Then for differences in cultural backgrounds, it is also supported by journalists from different media platforms, different genders, and ages who becomes filters in selecting journalists as respondents, including journalists that answer questions on the questionnaire to completion. Please look again at Appendix 1.

5 Conclusions

This research has tested two alternative WUX models, focusing on respondents being journalists. After several series of tests, the results show that the first alternative WUX model shows a significant relationship between WUX (with six components in it) and brand trust. Then, another result is that the second alternative WUX model shows a significant relationship between three variables (three components of WUX which are treated as variables, namely access speed, user value, user's emotion) to brand trust.

Based on the results of the research that have been described, this research also provides several research recommendations. The main recommendation is that the first alternative WUX model is recommended because the components of WUX are more complex. At least six components that are part of WUX have a significant effect on brand trust. Then, the second alternative WUX model only raises three variables (components that are considered variables) that affect brand trust. Although the test results of both models have the same strong model quality, the first alternative WUX model shows a much larger t-statistics value and is considered stronger. This first alternative WUX model is expected to be developed again in further research, such as increasing the influence of WUX not only on brand trust.

In addition to the main recommendations, this research also provides theoretical recommendations and practical recommendations. A theoretical recommendation is that this research is still possible to be developed further with methods other than surveys. This other method is an experiment that has also existed in several previous research. Then, another theoretical recommendation is that research related to the WUX model is expected to use mixed methods by combining quantitative and qualitative approaches so that the results are more profound.

While turning to practical recommendations, the recommendation is that website users are expected to use various devices to access the website. This is because the results of this research show that most respondents choose to access the website with multiple devices, both non-mobile and mobile, to obtain a satisfying UX. For journalists as users, the use of non-mobile and mobile devices is expected to maximise the results of interaction with the website, especially for the need to search for news sources. Then another practical recommendation is that website developers need to pay attention to the WUX model as a development reference, both in terms of components and influences. The developer of this website is a government agency website as a news source such as LIPI or websites from other agencies or companies. By understanding the WUX model and its components that affect brand trust, website developers should focus on website development by paying attention to the details of the WUX model from the recommendations of this research.

On the other hand, this research also presents different subjects from previous research. If various previous research chose the general public's research subject (without looking at categorisation, such as profession), this research prefers a special subject, namely journalists. Journalists were chosen because this research wanted to see the user side no longer in general but rather on the specific user side. The argument is the selection of specific subjects to enrich and compare with the results of previous research. And after the results of this study were available, it turned out that there were differences between specific and general subjects. The components of WUX studied from previous studies separately amounted to eight components when the subject is specific. However, when the subject is specific, the result is that there are only six components from WUX. Nevertheless, this research reveals that WUX still has a significant effect on brand trust. In general, the results of the WUX model that affect brand trust in this research only apply to the websites studied in this research and the journalists that access it. Therefore, the results of this research can only be applied to the type of website that has the same characteristics as the LIPI website. The selection of the LIPI website as the object of research has been explained previously in the introduction and methodology sections.

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Appendix 1

Table A1 Respondent demographic profile question items

Part 1	
Number	*Item*
1	Full name
2	Gender
3	Age
4	Education
5	Mass media company name
6	Have you ever accessed the LIPI website?
7	What device did you use to access the LIPI website?
8	How many times have you accessed the LIPI website in a month?
9	How much time do you spend accessing the LIPI website?

Appendix 2

Table A2 Description of the research question item symbols

Part 2		
Component/variable	*Symbol*	*Item*
Access speed (AS)	as1	The length of time to open the LIPI website page is categorized as fast, you could say no more than three seconds with the device's internet speed to access it under normal conditions.
	as2	The fast accessible LIPI website provides a good user experience for me.
	as3	When I search in a search engine (such as Google) with certain key words (such as keywords: LIPI), I quickly find the LIPI website page in the first ranking of the search engine site.
Culture (CU)	cu1	The information presented on the LIPI website makes users avoid confusion about certain information that tends to have uncertainty about the truth.
Design (DS)	ds1	The LIPI website has a design appearance with a good first impression for users, so users want to continue to explore the website.
	ds2	The LIPI website has an uncomplicated level of visual complexity.
	ds3	The LIPI website has a level of visual complexity that is comfortable for users to see.
	ds4	The LIPI website has an uncomplicated text display.
	ds5	The LIPI website has a text display that is comfortable for users to see.
	ds6	The LIPI website is a website with a responsive design, which means it can be accessed on various devices such as computers, laptops, smartphones, tablets, and others, without reducing the attractiveness of the design.
Hedonic (HD)	hd1	I observe that the LIPI website provides interesting information.
	hd2	The use of the LIPI website can increase motivation.
	hd3	I observe that the LIPI website is not boring.
	hd4	I observe that the LIPI website is an innovative website.
	hd5	I observe that the LIPI website is a creative website.
	hd6	I observe that the LIPI website always provides new science and technology information.
Public value (PV)	pv1	The LIPI website displays telephone numbers, email addresses, and comment fields on web pages to facilitate interaction between website administrators and the public.
	pv2	The LIPI website lists every source of information displayed on the website, such as the author's name, initials of the author, the source of the article, and the source of the news.
	pv3	The LIPI website provides balanced information.

Table A2 Description of the research question item symbols (continued)

Part 2		
Component/variable	*Symbol*	*Item*
Usability (US)	us1	When I first opened the LIPI website, it was easy for me to learn about the website.
	us2	I feel more efficient in finding information about LIPI by accessing the LIPI website.
	us3	I have a good impression of the LIPI website after using it.
	us4	I have a satisfying experience when using the LIPI website.
User value (UV)	uv1	From an affective point of view, using the LIPI website can provide certain pleasures.
	uv2	I feel that using the LIPI website can increase my social values, such as more appreciating science and technology.
	uv3	The LIPI website gives me the freedom to use it without certain limitations, such as having to register and enter a password before accessing it.
	uv4	If I make a monetary sacrifice to access the LIPI website, such as buying an internet package, I feel that the sacrifice is commensurate with the results I get.
	uv5	The LIPI website has encouraged users to focus on certain information, without having to compare it with other similar information. For example, information about CPNS recruitment encourages LIPI website users to follow the information without comparing other similar information on other websites.
User emotions (UE)	us1	I feel that the LIPI website is interesting.
	us2	I feel that the LIPI website has a balance in terms of appearance.
	us3	I feel that the LIPI website has an adequate display brightness level.
	us4	I feel familiar with the LIPI website when accessing it.
	us5	I feel that the LIPI website has a fresh look.
	us6	I feel that the LIPI website has a sharp look.
	us7	I feel that the LIPI website is a valuable website to use.
	us8	I feel that the LIPI website provides friendliness to its users.
	us9	The LIPI website provides emotional satisfaction for its users.
Part 3		
Variable	*Symbol*	*Item*
Brand trust (BT)	bt1	My experience as a LIPI website user has a significant effect on trust in the LIPI brand.
	bt2	Good experience in using the LIPI website makes me give a good rating to the LIPI brand.
	bt3	The more often I access the LIPI website, the more positive my level of trust in the LIPI brand is.