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CONSTRUCTION AND EVALUATION OF A USER INTERFACE ACCEPTANCE QUESTIONNAIRE

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ABSTRACT

This study develops a questionnaire used to measure user acceptance of web user interface (UI), particularly web object locations. It explored ASEAN users' expectations based on constructs in Expectation-Confirmation Theory (ECT). Eight constructs were investigated further, namely expectation (E), perceived usefulness (PU), perceived ease of use (PEU), perceived performance (PP), confirmation (C), satisfaction (S), continuance intention (CI), and interface quality (IQ). A total of 160 respondents from the ASEAN community were surveyed for their acceptance of web-based prototype. An exploratory factor analysis that demonstrate satisfactory reliable and valid scales of the model constructs has been identified. Results show that model contained eight constructs with 21 items could be used to guide and assess the UI design. This study also suggest further analysis to confirm the model as a valuable tool to evaluate the user acceptance towards informational website. It is hoped that, the outcome from this study could be utilized in developing a sustainable web design, particularly in user-centred website which is based on user expectation for web object locations.

Keywords: *Mental Model, Expectation-Confirmation Theory, User Interface, User Acceptance*

1 INTRODUCTION

Nowadays, significant progress has been made in the development of user-centred or standardized websites for information sharing and distribution. We could see that many organizations, businesses, and governmental institutions benefited by delivering information and offering online services. It is vital to implement a suitable methods to measure, maintain, and optimize a quality user interface (UI) website that meets user satisfaction. It is particularly important for data sharing and distribution among shareholders to analyze and make decisions. User acceptance is often measured by implementing online questionnaires. This study attempts to develop a questionnaire that measure user acceptance of web UI, particularly web object locations. This study applies Expectation-confirmation theory (ECT) widely used in the consumer behavior literature to study the consumer satisfaction, behavior, and service marketing in general [1-6]. The predictive ability of this theory has been demonstrated over a wide range of product repurchase and service continuance contexts. Figure 1 illustrates key constructs and relationships in ECT.

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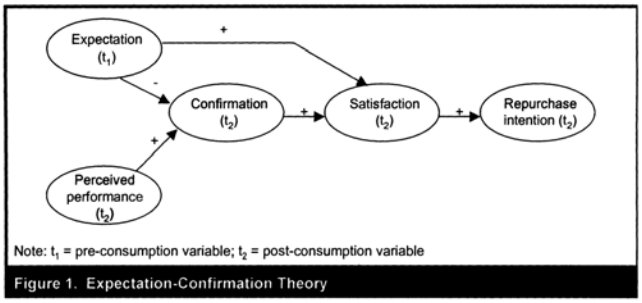

Figure 1. Expectation-Confirmation Theory [6]

ECT assumes that associated with perceived performance, initiates satisfaction. This effect is mediated through positive or negative confirmation between expectations and performance. Any product that outperforms a user's expectations with positive confirmation results is satisfaction. Whereby, a product that falls short of expectations (negative confirmation) which causes users to be disappointed with the particular product [4,7]. Expectations reflect anticipated behavior [1] as they are predictive, thus indicating expected product attributes at some point in the future [8]. Expectations serve as the comparison standard in ECT, which users use to evaluate performance and form a confirmation judgment. Confirmation is hypothesized to affect satisfaction, with positive confirmation leading to satisfaction and negative confirmation leading to dissatisfaction.

This theory was first introduced by Oliver [4-5] to form four major constructs, namely expectations, perceived performance, confirmation, and satisfaction along with the construct of Repurchase Intention which was included later (Figure 1). ECT is widely used in the purchase of products from the literature of behavior of buyers and integrated with theoretical and empirical findings of prior research on the use of Information System (IS) for the continuation of IS theoretical model. Bhattacherjee [1] is the first to study adapt the ECT in IS. The IS continuance model (Figure 2) proposed by Bhattacherjee [1] and generated from the original adaptation of ECT (Figure 1) by Oliver [5] was chosen to be adapted to the development model in this study due to the significant area of study in IS, Website and Continuance Intention construct, which is believed to be key to the success of a website [1] that later formed the proposed web continuance model.

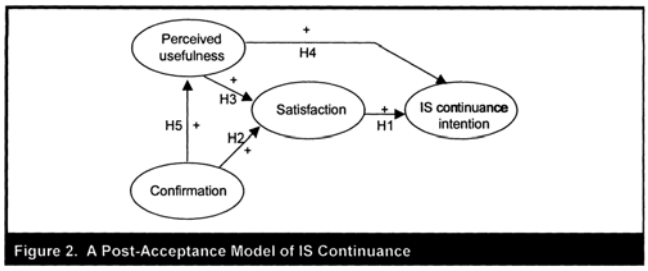

Figure 2. Model Of IS Continuance [1]

Bhattacherjee [1] examine the cognitive beliefs and effect that influences an individual to continuously use the IS on an online banking system. In the present study, eight hypotheses which were derived from ECT model were validated empirically through the survey of users' expectation of an informational website, a prototype of the ASEAN biodiversity website [9-10]. The results indicated that user satisfaction and perceived usefulness of Web use determine users' continuance intention.

Before an explication of the current research method and the results of the study, the following sections provide a discussion of the model replication to retest the original work and a brief description of the ECT model.

2 METHODOLOGY

This research focuses on empirically retesting the ECT model in a different setting with newly gathered data. The survey, settings, and the research results are discussed in this section. Eight constructs are discussed and summarized as in Table 1, namely expectation, perceived usefulness, perceived ease of use, perceived performance, satisfaction, interface quality, confirmation, and continuance intention.

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Table 1. Operationalization Of Constructs

Construct	Operational Definition	Items	Source
1. Perceived usefulness (PU)	Users' perceptions of the expected benefits of using the ASEAN biodiversity website	PU1. The interface helps me be more effective. PU2. The interface helps me be more productive. PU3. The interface is useful.	[1-3, 18-26]
2. Perceived ease of use (PE)	Users' perceptions of the ease and convenience of using the ASEAN biodiversity website	PE1. The interface is easy to use. PE2. The interface is simple to use. PE3. The interface is easy to remember to use it.	[19, 25, 27-30]
3. Perceived performance (PP)	Users' perceptions of orientation on the ASEAN biodiversity website	PP1. The interface is easy to navigate through the objects of the website. PP2. All the objects in the Web interface are well organized. PP3. The interface is easy to read the website's content.	[25, 32-34]
4. Expectation (E)	Users' expectations for the location of Web and interface objects on the ASEAN biodiversity website	E1. The Web objects in the interface fit my expectation. E2. The Web object's location operation fits my expectation. E3. The interface fits my expectation. E4. My experience using the interface was better than what I expected. E5. I am able to expect the location of the objects easily.	[29, 32-34]
5. Confirmation (C)	Users' perceptions of the congruence between expectations of the ASEAN biodiversity website use and its actual performance	C1. The interface meets my needs. C2. The interface fits my needs.	[2, 10, 20, 24-27, 29, 34-35]
6. Satisfaction (S)	Users' affect regarding (feelings about) prior use of the ASEAN biodiversity website	S1. The interface is pleasant to use. S2. I am satisfied with the use of the interface. S3. I am satisfied with the interface.	[1-2, 10, 22-27, 29, 34-35]
7. Continuance intention (CI)	Users' intention to continue using the ASEAN biodiversity website	CI1. I feel comfortable using the interface. CI2. I would recommend it to a friend. CI3. I like working with the interface.	[2, 21-22, 24-26, 34-36]
8. Interface Quality (IQ)	Users' affect (feelings) regarding the attractiveness of the user interface design on the ASEAN biodiversity website	IQ1. The interface is appealing. IQ2. The interface is pleasant. IQ3. The interface has a clear design. IQ4. The interface has a clear design. IQ5. The interface is user-friendly.	[1-2, 23, 29]

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2.1 Development of Instrument

Based on the screening of theory and empirical data from the literature, the first instrument with items was generated. This item has been filtered and combined for the first draft recommendation. The research results show the long list of questionnaires containing 42 items to measure consumer perceptions to design the UI.

2.2 Instrument and Content Validity

Expert assessment instrument allows to measure user acceptance through qualitative methods. An email invitation of instrument assessment was distributed to the experts to get feedback on the new instruments developed. There were 16 experts who agreed to give feedback evaluation instruments. Specialist expertise is divided into three parts; eleven experts in academia (HCI, IS, IT, strategic management, eye-tracking, usability, and multimedia), four experts in industry (creative director, web creator, chief technology officer, and online consultant), and one government staff in biodiversity field (case study), as well as their work experience of not less than five years. Experts were asked to rate 10 criteria contributing to the evaluation instrument. This instrument uses two measurement values of either 'Yes' or 'No'. Table 2 shows a list of 10 items for instrument validation study for the development of the construct and the resulting item of authentication experts. Results show that all instrument items give a positive result. This confirms that the list of the constructs and the resulting item is eligible to continue the next level.

Table 2. Results Of The Instrument Validation By Experts

Confirmation Study Instruments	Value	Total	Percentage
1. A format suitable for data collection	Yes	17	81.0%
	No	4	19.1%
2. The meaning of each item is clearly stated	Yes	16	69.6%
	No	7	30.4%
3. The language used is easy to understand	Yes	16	72.7%
	No	6	27.3%
4. Size appropriate and legible writing	Yes	20	87.0%
	No	3	13.0%
5. Instructions are clear	Yes	16	76.2%
	No	5	23.8%
6. Distance writing is appropriate	Yes	19	86.4%
	No	3	13.6%
7. Option meets answer questions	Yes	17	77.3%
	No	5	22.7%
8. No misspellings	Yes	14	66.7%
	No	7	33.3%
9. The number of items used are appropriate	Yes	21	87.5%
	No	3	12.5%
10. Questions achieve the overall objective of this study	Yes	18	85.7%
	No	3	14.3%

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Instrument Reliability. A pre-test was conducted for the reliability of the instrument. Feedback on the questionnaires and questions related to ambiguity layout was acquired. Some changes were made to the questionnaire as deemed appropriate. The revised questionnaire was distributed through online. There are 24 return responses, with the overall response rate of 75%. Of these participants, there are two return responses that are not valid which have been issued prior to data analysis. Thus, only 22 random responses from ASEAN were analyzed.

Instrument Administration. After gone through the validation and reliability process, finally, there are 27 items with 8 constructs were selected (Table 3) for the final version. These items represent the variables employed in the current study. No modification other than wording were made to the user acceptance scale. To ensure high reliability and validity all items were measured using five-point Likert scale [11], where 1 = completely disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = completely agree.

Table 3. Final Version of Questionnaire

PU1	The interface helps me be more effective.
PU2	The interface helps me be more productive.
PU3	The interface is useful.
PEU4	The interface is easy to use.
PEU5	The interface is simple to use.
PEU6	The interface is easy to remember to use it.
PP7	The interface is easy to navigate through the objects of the website.
PP8	All the objects in the web interface are well organized.
PP9	The interface is easy to read the website's content.
E10	The web objects in the interface fit my expectation.
E11	The web object's location operation fit my expectation.
E12	The interface fits my expectation.
E13	My experience using the interface was better than what I expected.
E14	I am able to expect the location of the objects easily.
C15	The interface meets my needs.
C16	The interface fits my needs.
S17	The interface is pleasant to use.
S18	I am satisfied with the use of the interface.
S19	I am satisfied with the interface.
CI20	I feel comfortable using the interface.
CI21	I would recommend it to a friend.
CI22	I like working with the interface.
IQ23	The interface is appealing.

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IQ24	The interface is pleasant.
IQ25	The interface has a clean design.
IQ26	The interface has a clear design.
IQ27	The interface is user-friendly.

Participants and Settings. There are 160 participants (Table 4) and equally balanced between genders, with 46% of male (n = 74) and 54% female (n = 86). All the participants were citizens or residents of an ASEAN country (Brunei, Myanmar, the Philippines, Indonesia, Lao PDR, Malaysia, Singapore, Thailand, and Vietnam). English is used as second language (82%) and they were familiar with international websites that uses English language. Most of the participants (85%) visited the Web every day. To determine the participants represent the culture of their country, only participants whom have resided in their country of origin longer than in any other country and that their native language was their main language of communication were selected. Data collection process took place either through online or face-to-face (at universities, institutes, and companies). Most of the participants had more than six years' experience in the field of technology and the Web.

Table 4. Background of Sample Survey (N = 160)

Demograp	Frequency	%	Demography	Frequency	%
Gender			Education level		
Male	74	46.3	PhD	17	10.6
Female	86	53.8	Master's	53	33.1
Nationality			Bachelor's degree	74	46.3
Brunei	11	6.9	Diploma/ Advanced	8	5.0
Myanmar	10	6	Certificate	4	2.5
The	11	6.9	Others	4	2.5
Indonesia	22	13.8	Computer literacy		
Cambodia	10	6.3			
Lao PDR	11	6.9	Expert	17	10.6
Malaysia	47	29.4	Advanced	60	37.5
Singapore	12	7.5	Intermedia	62	38.8
Thailand	16	10.0	Basic	21	13.1
Vietnam	10	6.	Web experience		
Religion			> 6 years	127	79.4
Muslim	78	48.8	5 – 6 years	22	13.8
Buddhist	60	37.5	3 – 4 years	8	5.0
Christian	18	11.3	1 – 2 years	2	1.3
Others	4	2.5	< 1 year	1	0.6

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3 RESULTS AND FINDINGS

Structural equation modeling using the partial least squares approach (PLS-SEM) was applied using SmartPLS (Version 3) to analyze the data. There are organized in three steps: 1) measurement model, 2) structural model, and 3) mediation effect test.

3.1 Reflective and Formative Measurement

Reflective and formative are two types of measurement model. Researchers are required to follow different evaluation process in order to measure the validity and reliability of reflective and formative measurement models. For the reflective measurement model, (1) internal consistency and indicator reliability, (2) convergent validity, and (3) discriminant validity need to be assessed. For the formative measurement model, (1) convergent validity, (2) collinearity among indicators, and (3) significance and relevance of indicators [11] need to be assessed. For testing the internal consistency, it is suggested using a different measure of internal consistency evaluation, which is 'composite reliability' [11].

Convergent validity is achieved by higher outer loading (which is well known as factor loading) and higher average variance extracted (AVE). The standardized outer loading suggested being higher than 0.708 based on the rule of thumb [11] AVE is a common measure of convergent validity, which is calculated by the sum of squared loading divided by the number of indicators [11] .

Discriminant validity is to ensure that different construct measures different concept. It can be tested by examining the cross-loading indicators and Fornel-Larcker criterion. The Fornel-Larcker criterion suggests that the square root of AVE value should be higher than its highest correlation with other construct [11] .

3.2 Bootstrapping

Bootstrapping is a technique that estimates statistical parameters by resampling to generate empirical estimates of population distributions. This technique softens the requirements of the conditions known to the parameters, assuming that the sample obtained completely specifies the actual data distribution [11]. Structural equation modeling (SEM) techniques have been significantly utilized in business and social science researches to model complex relationships. The two most widely employed estimation techniques in SEM are the maximum likelihood (ML) and partial least squares (PLS). Both estimation methods depend on bootstrap re-sampling to a large extent. While PLS relies completely on bootstrapping to obtain standard errors for hypothesis testing, ML relies on bootstrapping under conditions in violation of the distributional assumptions [14].

PLS-based structural equation models do not assume normality, hence employ bootstrapping to obtain standard errors for hypothesis testing. Instead, they assume that the sample distribution is a reasonable representation of the intended population distribution. Bootstrapping is a nonparametric approach to statistical inference that does not make any distributional assumptions of the parameters like traditional methods. Bootstrapping draws conclusions of the characteristics of a population strictly from the sample at hand, rather than making unrealistic assumptions about the population. That is, given the absence of information about the population, the sample is assumed to be the best estimate of the population. Hence, bootstrapping has advantages in situations where there is a weak or no statistical theory about the distribution of a parameter, or when the underlying distributional assumptions needed for valid parametric inference are violated.

In SEM, bootstrapping allows for the possibility to conduct significance testing of a statistic such as a path or a factor loading. Such significance tests analyze the probability of observing a statistic of that size or larger when the null hypothesis is true[14] .

3.3 Formative Measurement Model

For the validation of the formative measurement model, researchers followed the criteria, which are convergent validity, collinearity assessment, and significant of indicators.

Many researchers inadvertently use reflective measurement model evaluation criteria to assess the quality of formative measures in PLS-SEM as revealed by the review of PLS-SEM studies in the strategic management and marketing disciplines [11]. However, the statistical evaluation criteria for reflective measurement scales cannot be directly transferred to formative measurement models where indicators are likely to represent the construct's independent causes and thus do not necessarily correlate highly. Furthermore, formative indicators are assumed to be error-free which means the internal consistency reliability concept is inappropriate. Moreover, assessing

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convergent and discriminant validity using criteria similar to those associated with reflective measurement models is not meaningful when formative indicators and their weights are involved. Instead, researchers should focus on establishing content validity before empirically evaluating formatively measured constructs. This requires ensuring that the formative indicators capture all (or at least major) facets of the construct in creating the formative construct, content validity [11]

3.4 Measurement Validity

Using SmartPLS version 3, measurement model was used to test the validity of measurement. In order to detect the collinearity of the indicators, the variance inflation factor (VIF) was evaluated. When the VIF value is less than 0.5, collinearity issues are not suspected. In this study, the VIF values for all the constructs were less than 0.5, which indicated no collinearity issues. The next step was to examine the statistical significance of the outer weights using the bootstrapping method. In formative measurement, if both the weight and loading are not significant, there is no empirical sup-port for the indicator's relevance in providing content to the formative index. However, if any indicator weights are not statistically significant, then the size and significance of the indicator loadings should be examined. The results of the study showed that all the formative indicators were significant (Table 5). Using SmartPLS, the measurement model was used to test the validity of measurement (Figure 3).

Table 5. Measurement Model Assessment

Indicators	Weight		Loading		
	OW	T Statistics	OL	P	VIF
C1 -> Confirmation	0.226	2.367	0.851	0	2.4
C2 -> Confirmation	0.816	9.748	0.989	0	2.4
CI1 -> Continuance intention	0.41	4.124	0.882	0	2.1
CI2 -> Continuance intention	0.206	2.077	0.804	0	2.0
CI3 -> Continuance intention	0.514	4.996	0.919	0	2.1
E1 -> Expectation	0.344	2.99	0.876	0	2.5
E2 -> Expectation	0.334	3.549	0.779	0	1.6
E3 -> Expectation	0.216	1.805	0.833	0	2.4
E4 -> Expectation	0.179	2.021	0.783	0	2.0
E5 -> Expectation	0.18	1.782	0.655	0	1.5
EU1 -> Ease of use	0.452	2.098	0.898	0	2.0
EU2 -> Ease of use	0.501	2.345	0.924	0	2.2
EU3 -> Ease of use	0.187	1.042	0.698	0	1.5
IQ1 -> Interface quality	-0.009	0.065	0.8	0	3.1
IQ2 -> Interface quality	0.804	5.598	0.958	0	3.3
IQ3 -> Interface quality	0.222	1.257	0.539	0	5.3
IQ4 -> Interface quality	-0.337	1.661	0.451	0	5.1
IQ5 -> Interface quality	0.364	2.811	0.743	0	2.1

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Indicators	Weight		Loading		
P1 -> Performance	0.427	2.958	0.84	0	1.6
P2 -> Performance	0.444	3.24	0.817	0	1.4
P3 -> Performance	0.361	2.431	0.773	0	1.4
S1 -> Satisfaction	0.738	7.176	0.941	0	1.4
S2 -> Satisfaction	0.186	1.337	0.703	0	2.8
S3 -> Satisfaction	0.228	1.275	0.763	0	3.1
U1 -> Usefulness	0.397	2.794	0.855	0	1.9
U2 -> Usefulness	0.476	4.173	0.871	0	1.7
U3 -> Usefulness	0.297	2.245	0.83	0	1.9

*Note: OW (outer weights), OL (outer loadings)

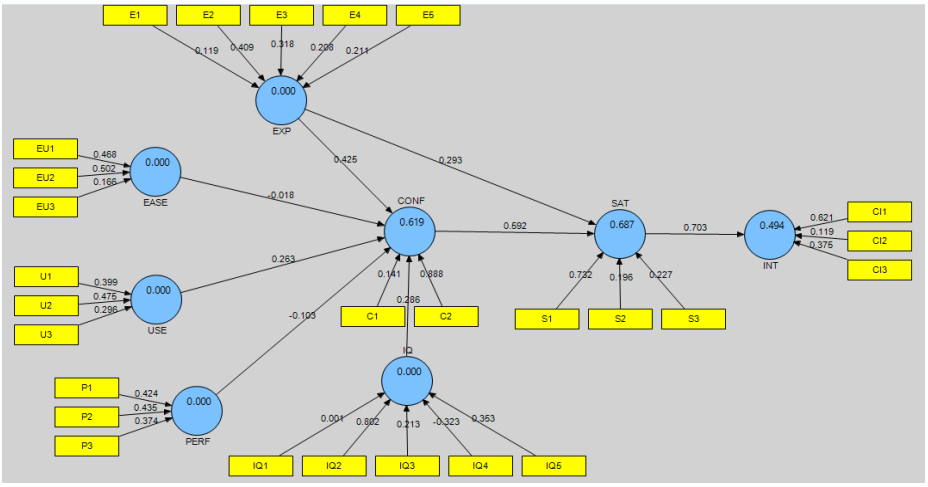

Figure 3. Measurement Model

3.5 Structural Model

The structural model is also referred as an inner model in the context of PLS [11] . As soon as the validity and reliability of the measurement model is confirmed, the structural model is applied to test the relationship between the constructs (endogenous and exogenous). The results of the structural model allow the researcher to evaluate how well the data support the theory or concept. The steps in assessing the structural model are examining the collinearity issues, checking for the path model (regression) and significance level, and inspecting the level of the coefficients of determination (R2). The first step in the structural model assessment is examining the collinearity of the model using ordinary least squares regression to check the probability of bias in the path coefficients if there is a significant level of collinearity among the predictor constructs [11] .

PLS-SEM fits the data to obtain the best parameter estimate by maximizing the ex-plained variance of the dependent or endogenous latent variable. Therefore, a number of steps were performed. First, in order to assess collinearity, each set of predictors was examined separately. Based on the rule of thumb, it is suggested that all VIF values are less than 2; however, a VIF value less than 5 is still not violent of collinearity [15]. In this study, the VIF values for all the predictor sets were below 4 (below the threshold) and all the constructs' tolerance values were higher than the recommended threshold (0.2). Therefore, there were no significant levels of collinearity between each set of predictor variables (constructs).

Collinearity between each predictive con-struct with other predictors have been assessed by calculating tolerance and VIF using SPSS version 22. The result for each set of predictor constructs is presented in Table 6. Hence, seven separate

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ordinary least squares (OLS) regressions have been performed as detailed:

Table 6. Collinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
1. Dependent variable: usefulness		
Ease of use	.429	2.3
Performance	.265	3.8
Performance expectation	.290	3.451
Confirmation	.509	1.96
Satisfaction	.379	2.63
Interface quality	.307	3.26
2. Dependent variable: ease of use		
Performance	.309	3.24
Performance expectation	.276	3.63
Confirmation	.477	2.1
Satisfaction	.395	2.53
Interface quality	.300	3.33
Usefulness	.444	2.25
3. Dependent variable: performance		
Performance expectation	.293	3.41
Confirmation	.475	2.1
Satisfaction	.383	2.61
Interface quality	.374	2.67
Usefulness	.441	2.267
Ease of use	.496	2.015
4. Dependent variable: performance expectation		
Confirmation	.505	1.98
Satisfaction	.386	2.59
Interface quality	.302	3.32
Usefulness	.473	2.11
Ease of use	.435	2.296
Performance	.288	3.47

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Model	Collinearity Statistics	
5. Dependent variable: confirmation		
Satisfaction	.426	2.34
Interface quality	.303	3.30
Usefulness	.471	2.12
Ease of use	.427	2.34
Performance	.265	3.78
Performance expectation	.287	3.49
6. Dependent variable: satisfaction		
Interface quality	.357	2.80
Usefulness	.443	2.25
Ease of use	.446	2.24
Performance	.269	3.72
Performance expectation	.277	3.62
Confirmation	.538	1.86
7. Dependent variable: interface quality		
Usefulness	.452	2.21
Ease of use	.428	2.34
Performance	.332	3.01
Performance expectation	.273	3.67
Confirmation	.482	2.07
Satisfaction	.451	2.22

Since there was no collinearity issue, the researcher moved to the next step, which is examining the regression weight with the endogenous variable and the significance level (Table 7). The next step was inspecting the path model and the significance of the structural model relationships. To do so, bootstrapping was run to assess the confidence interval of the result. The path coefficients for the structural model are shown in Figure 4. The path coefficient was calculated in order to assess the accuracy of the predictors in the proposed model.

Table 7. Structural Model Results

	Regression weight	T Statistics	P Values
Confirmation -> Satisfaction	0.59	6.4	0
Expectation -> Confirmation	0.42	4.15	0
Expectation -> Satisfaction	0.29	3.1	0
Interface quality -> Confirmation	0.29	3.23	0

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	Regression weight	T Statistics	P Values
Perceived ease of use -> Confirmation	-0.02	0.25	0.8
Perceived performance -> Confirmation	-0.1	1.08	0.28
Perceived usefulness -> Confirmation	0.26	3.13	0
Satisfaction -> Continuance intention	0.7	11.5	0

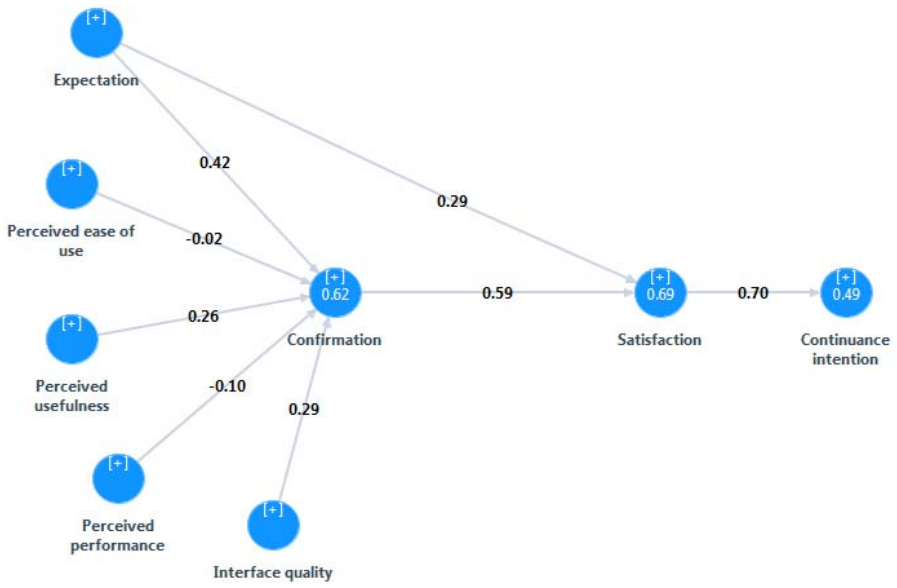

Figure 4. Structural Model

4. DISCUSSION

4.1 Hypothesis testing

H1 Satisfaction is connected positively and significantly to Continuous Intention.
The result of this study shows that Satisfaction is positively and significantly a predictor of Continuous Intention (β = -.7sig). The first hypothesis was accepted. Those who are satisfied have higher Continuous Intention.

H2 Confirmation has a positive and significant impact on Satisfaction.
The result shows that Confirmation has a positive and significant effect on Satisfaction (β=-.59sig). The first hypothesis was accepted. Those who are satisfied have higher Continuous Intention. The effect is high.

H3 Perceived Usefulness has a positive and significant relation with Confirmation.
The effect of Usefulness on Confirmation has been found to be positive and significant (β=-.26sig). The first hypothesis was accepted. Those who are satisfied have higher Continuous Intention. Those with higher perceive of Usefulness have higher Confirmation.

H4 Perceived Ease of Use has a positive and significant relation with Confirmation.
The effect of perceived Ease of use on Confirmation was not significant (β = -.02not.sig).
H5 Perceived Performance has a positive and significant relation with Confirmation.
The effect of perceived Performance on Confirmation was not significant ((β = -.1not.sig).

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H6 Expectation has a positive and significant in relation with Confirmation.
The result shows the effect of Expectation on Confirmation was positive and significant (β=-.42sig). Hence, the hypothesis was accepted. Those with higher expectation are more satis-fied.

H7 Expectation has a positive and significant impact on Satisfaction.
The result shows that the effect of Expectation on Satisfaction was positive and significant (β=-.29sig). Hence, the hypothesis was accepted. Those with higher expectation are more satisfied.

H8 Interface Quality has a positive and significant impact on Confirmation.
The result shows the effect of Interface quality on Confirmation was positive and significant (β=-.29sig). Hence, the hypothesis was accepted. Those with higher expectation are more satisfied.

5. CONCLUSION

As a conclusion, from the hypotheses testing as shown in Table 8 clearly indicated that the proposed model can predict user satisfaction and intention to continue surfing or browsing the Web with the developed prototype. However result that shows rejection of websites by users, the findings can be taken into account in the development of sustainable UI design guidelines in the future. The coefficient of determination (R2) results show that the proposed model predicted 49% of Web viability (R2 = 0.49) (Table 9).

Table 8. Hypothesis Results

Hypothesis	β	Result
H1 Satisfaction is connected positively and significantly to Continuous Intention.	-0.7	Accepted
H2 Confirmation has a positive and significant impact on Satisfaction.	-.59sig	Accepted
H3 Perceived Usefulness has a positive and significant relation with Confirmation.	=-.26sig	Accepted
H4 Perceived Ease of Use has a positive and significant relation with Confirmation.	-.02not.sig	Rejected
H5 Perceived Performance has a positive and significant relation with Confirmation.	-.1not.sig	Rejected
H6 Expectation has a positive and significant relation with Confirmation.	-.42sig	Accepted
H7 Expectation has a positive and significant impact on Satisfaction.	-.29sig	Accepted
H8 Interface Quality has a positive and significant impact on Confirmation.	-.29sig	Accepted

Table 9. The Coefficient Of Determination, R^2

	R Square
Confirmation	0.62
Continuance intention	0.49
Satisfaction	0.69

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In addition to evaluating the R2 values of all the endogenous constructs, the change in the R2 value when a specified exogenous construct is omitted from the model can be used to evaluate whether the omitted construct has a substantive impact on the endogenous constructs. This measure is referred to as the f2 effect size [11] The effect size, f2 allows an assessment to be made of an exogenous construct's contribution to an endogenous latent variable's R2 value. The f2 values of 0.02, 0.15, and 0.35 indicate an exogenous construct's small, medium, or large effect, respectively on an endogenous construct. In this study, the f2 value of confirmation on satisfaction was 0.16 (indicating medium effect size); the f2 value of expectation on satisfaction was 0.53 (indicating large effect size); the f2 value of expectation on confirmation was 0.16 (indicating medium effect size); the f2 value of interface quality on confirmation was 0.08 (indicating small effect size); the f2 value of perceived ease of use on confirmation was 0 (indicating small effect size); the f2 value of perceived performance on confirmation was 0.01 (indicating small effect size); and the f2 value of perceived usefulness on confirmation was 0.07 (indicating small effect size) (see Table 10).

Table 10. Effect Size

	Confirmation	Continuance intention	Satisfaction
Confirmation			0.53
Continuance intention			
Expectation	0.16		0.13
Interface quality	0.08		
Perceived ease of use	0		
Perceived performance	0.01		
Perceived usefulness	0.07		
Satisfaction		0.97	

In conclusion, an analysis of the measurement model and structural model produced a valid and reliable model. The original model contained eight constructs and 27 items that could be used to guide and assess the UI design. In the results, six items were removed, namely perceived ease of use (pe1, pe2, pe3) and perceived performance (pp1, pp2, and pp3). The remaining constructs facilitate the development of a UI that feels easy to use, is simple, and easy to remember. In addition, the information is conveyed on the website efficiently, as the user experiences the interface as easy to navigate, organized, and easy to read [16-17]. Even though some items were removed, the model provides an essential guideline for enhanced usability in interface design.

The findings of this study can be improved by reviewing the relationship between constructs and items or adding new items that conform to the constructs so that the existing constructs are accepted without the need to be denied. This is necessary as this study focuses only on the constructs and items taken from the literature and the adaptation of the theories used, namely the Expectation-Confirmation and Web Continuous theory. With the rapid development of computer technology, the need to increase or decrease items needs to be done to meet these changes. In addition, further analysis to confirm the model as a valuable tool to evaluate the user acceptance towards informational website.

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