E-Travel Model: An Emprical Study of Technology Acceptance Model and Self Efficacy

Fauziah Adli, Nikos Joshua H.S, Vera Pujani, and Meuthia

Abstract—The purpose of today business is not only the national business, but also the international business through e-business concept in particular e-travel contexts. E-travel is a tourism activity that done automatically through electronic technology and can be accessed from anywhere via its websites. The current paper presents to develop the conceptual framework of e-travel adoption model. Self-efficacy, ease of use and usefulness are identified as influencing factors of e-travel model. In this study, e-travel users as the research object. Most of research that has studied about e-travel shows that it gets influence from customer perspective. This theoretical framework explains how self-efficacy, ease of use and usefulness, that are the part of customer perspectives, affect the actual use of travel website. The finding of this theoretical framework is self-efficacy, ease of use and usefulness give positive impact to actual use. The afterward research would exanimated empirically using a survey method which employing PLS as a SEM software of analysis technique.

Keywords—Travel, website, international business, self-efficacy, ease of use, usefulness

I. INTRODUCTION

TODAY, the Internet users worldwide have reached 2.4 billion and the number is still growing based on Internet World Stats, 2012. According to Daily source in 2013, "the number of Americans actively using the Internet from their homes in a given week in April 2006 was 113.644.910 out a total of 205.133.028 with Internet access, according to Nielsen. These users spent an average of 8 3/4 hours on the Internet per week. The total number active on the Internet from their homes in the whole month was 143,596,769 with an average of over 30 hours spent per month".

The internet has been regarded as a potentially effective communication platform connecting the public for a variety of organizations. In the area of public relations, scholars have argued that public relations on the Internet (e-PR) can play a bigger role than they do in the "real world", because on the Internet, corporations have the initiative to present content. Through Websites and have the chance to directly communicate with their stakeholders, which is crucial for organizations to build and maintain positive relationship with the public [1].

Website is collection of a webpages. Website has so many functions, and nowadays for business world it used as E-commerce, and usually used in Small Medium Enterprise (SME). In the pre-Internet era, without the required resources to establish multiple physical storefronts and channels of distribution, most small- and medium-size enterprises (SMEs) were limited to serving markets relatively close to their home [2].

According to Davis, proposed the technology acceptance model (TAM) to explain the potential user's behavioral intention to use a technological innovation. TAM is based on the Theory of Reasoned Action (TRA), a psychological theory that seeks to explain behavior stated by Fishbein and Ajzen [3], and involve two primary predictors – perceived ease of use and perceived usefulness and the dependent variable behavioral intention, which TRA assumed to be closely linked to actual behavior.

Tourism is one of the fastest growing sectors in the economies of many countries [4]. Tourism is one of the industries that are most impacted by the popularity of the Internet [1]. Because of this trend, in line with time there is a high raising amount of travel agency that exist in the online market now in order to get attention from the tourist. So, they focus on building their own website now. The Web offers an alternative to mass communication and can radically change how firms do business with customers and provides a platform that enables 'many: many' interactions between the customers, the media and firms [5].Given the preceding consideratons, the following research questions are proposed:

How the factors of self-efficacy, usefulness and ease of use influence the actual use of ecommerce website?

This paper is organized as follows. In the beginning, the review self-efficacy, usefulness and ease of use are presented. The research hypoyhesis are proposed and continued by research methodology and results to answer the research questions. In the last section, the conclusion and implication are discussed.

II. LITERATURE REVIEW

A. Self-Efficacy

Self-efficacy is people's judgement of their capabilities to perform a given task [6]. It relates on the belief of each individual to perform a spesific tasks. Social cognitive theory

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posits that people are neither driven by inner forces, nor simply by external stimuli [6]. As the key of the activator in determine the human behavior is self-efficacy.

Wood and Bandura stated that, self-efficacy refers to belief in one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands [7]. It means, self-efficacy have an important role in influencing motivation and behavior. Those individuals who distrust their capabilities are easily discouraged by failure, whereas those who are highly assured of their efficacy for goal attainment will intensify their effort when their performances fall short and preserve until they successed[7]. People who think the computer is too complex and it is hard to operate it, they will prefer to avoid and not use it.

Individuals can believe that a particular course of action will produce certain outcomes, but if individuals entertain serious doubts about whether they can perform the necessary activities such information does not influence their behavior [7]. This argument state that there is a must to understand about self-efficacy and outcomes expectation. Self-efficacy, the belief that one has the ability to perform a particular action, is an important construct of the Social Cognitive Theory. The theory postulates that "psychological procedures, whatever their form, alter expectation of personal efficacy" [6], which in turn determines what action to take, hoe much effort to invest, how long to preserve, and what strategies to use in the face of challenging situations.

Computer self-efficacy (CSE) is a multi-level construct operating at two distinct levels: at general computing level (general CSE) and at the specific application level (application-specific self-efficacy) [6]. General CSE is defined as an individual judgement of efficacy across multiple computer domains and application-specific self-efficacy is defined as an individual perception of efficacy in using a specific application or system within the domain of general computing [6].

B. Ease of Use

As one of the most widely cited models for the topic, the technology acceptance model by Davis et al. argues that people's acceptance of new technology is determined by two perceptions of the technology: perceived usefulness and perceived ease of use [8]. A study on a group of senior government officials in Brunei went so far as to suggest that only perceived ease of use contributed to an attitude that further predicted Internet usage [8]. However, perceived ease of use directly affects IT adoption only when the primary task for which IT is deployed is directly associated with intrinsic IT characteristics, such as when the task itself is an integral part of an IT interface [8]. On the other hand, when the Web site is used to inquire about products, perceived ease of use tends to affect IT adoption because the required information is embedded in the IT and thus its quality is directly related to IT ease of use. The vital role perceived ease of use plays in IT adoption makes it imperative to understand those factors that contribute to this user experience [8]. Computer self-efficacy served as a determinant of perceived ease of use both before and after hand-on use of a computer system [8].

Perceived of use is the extent to which a person believes that using the technology will be free of effort [6]. People tend to use or not to use an application to the extent that they believe it will enhance their job performance [9]. It's also about the technology can decrease the amount of work hours and increase the efficiency and accuracy. Self-efficacy will influence usefulness through ease of use. When people are intrinsically motivated, they become productive and [6]. Usefulness is how deep is the belief of the people to their productivity and usefulness in increase while using the technology.

Perceived ease of use makes the perception of the user and makes the user have a strong believe that using technology will be effortless. As such, it is possible that educational technology with a high level of perceived usefulness is more likely to induce positive attitudes. Furthermore, the relation between perceived usefulness and perceived ease of use is that perceived usefulness mediates the effect of perceived ease of use on attitude [9].

Perceived ease of use could be a causal antecedent to perceived usefulness, as opposed to a parallel, direct determinant of system usage. In other words, systems that are easy to use, and have easy, simple interfaces, should be systems that are also useful for people in their jobs [10].

C. Usefulness

Perceived usefulness (PU) is defined as the degree to which a person believe that using a particular technology will enhance his or her job performance and people tend to use or not use an application to the extent that they believe it will enhance their job performance. In this context, the performance would be centered in the benefits of purchasing a product through internet retailing minus the tradeoff of a physical retailing. Additionally, the internet retailing should be "free form effort", which reflects the former as the perceived ease of use construct in the TAM of Davis [11]. This also can decrease the working hour, and reach more efficiency and accuracy. In other words, the users believe that in applying the technology will give benefit to their personal and/or for their organizational performance. Perceived usefulness reflects the prospective user's subjective probability that applying the new technology will be beneficial to his/her personal and/or the adopting organization's well-being [9].

Perceived usefulness is an important factors in determining the adaptation of innovation [12]. A person willingness to transact with a particular system is already considered as perceived usefulness [12]. It shows that the user behavior is determined by the mindset of the user about perceived ease of use and perceived usefulness about the technology. Perceived usefulness as the user's subjective probability that using a specific application system will increase his or her expectations [12].

D. Actual Use

Technology adoption (or usage) decisions have been typically characterized by a strong productivity orientation [12]. In TAM, similar to TRA, an individual belief determines the attitude toward using the system and, in turn, the attitude develops the intention to use [12]. So, this intention influences the decision of actual system usage.

Actual system refers to ('how often') and the volume of system use ('how much') by the user [12]. Davis asserts that one's behavioral intention influences actual system usage. Technology Acceptance Model (TAM) has earlier postulated that two beliefs, known as the perceived usefulness and perceived ease of use, determine the attitudes of people toward using a particular system and such attitude together with PU would subsequently determine use intention and furthermore, this would lead to the actual use of the system [12]. Studies by Agarwal and Karahana , Venkatesh and Davis both indicate that perceived ease of use and perceived use affect behavioral intention through "direct" and "indirect" forms [12].

Finally, five hypothesis are developed for this research.

Hypothesis 1: Self-efficacy influence ease of use in using ecommerce website.

Hypothesis 2: Ease of use influence usefulness in usingecommerce website

Hypothesis 3: Usefulness influence actual use in using ecommerce website.

Hypothesis 4: Ease of use influence actual use in using ecommerce website.

Hypothesis 5: Self-efficacy influence actual use in using ecommerce website.

III. RESEARCH METHODOLOGY

In this research will use quantitative research model which will exam the relationship among the variables. Quantitative research design had been selected in order to find out the appropriate answers to the research questions and to test the hypotheses [13].

Population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate [13]. The population of this research is all customers in the two travel agent, they are Pelangi Holiday and Padang Indah Tour, Padang, West Sumatera.

A sample is a subset of the population. It comprises some members selected from it. This research use sample about ±100 employees. The data processing is using SmartPLS program (Partial Least Square).

IV. RESULT

Questionnaires were distributed via online. The respondent taken from the travel agent information, where they are the customers of the travel agent. And also, we distributed the questionnaires to the people who ever open the travel agent website.

This research use PLS software to test the instrument validity of indicators in every variable that used. The result of validity test is based on convergent validity and discriminant validity, where the indicator measured from the value of outer loading thorugh algorithm process. The indicators will be stated as valid if the value of outer loading more than 0.70. but, for loading 0.50-0.70 still can be accepted as long as the value of AVE and communality more than 0.50 [14].

TABLE I
OUTER MODEL

Item	Ease of Use	Self-efficacy	Use	Usefulness	AVE	Composite Reliability
PEOU1	0,757577	0,543099	0,390767	0,548058		
PEOU2	0,850016	0,608067	0,468898	0,700167		
PEOU3	0,768646	0,470009	0,429208	0,648561	0,562422	0,884546
PEOU4	0,673272	0,280074	0,270125	0,512596		
PEOU5	0,674687	0,451947	0,445563	0,446292		
PEOU6	0,760766	0,510928	0,537006	0,480776		
PU1	0,462551	0,533859	0,421557	0,630365		
PU2	0,523233	0,392094	0,281481	0,700863		
PU3	0,508076	0,498779	0,430413	0,664994		
PU4	0,659302	0,531861	0,453450	0,829318	0,561188	0,898610
PU5	0,585615	0,505875	0,367047	0,818776		
PU6	0,591916	0,504726	0,378522	0,815519		
PU7	0,566898	0,549090	0,366951	0,757821		
SE1	0,457437	0,744108	0,574803	0,500284		
SE10	0,564185	0,760808	0,569464	0,558137		
SE11	0,557434	0,820544	0,538646	0,593400		
SE12	0,474544	0,754175	0,488566	0,485841		
SE2	0,534149	0,776690	0,509664	0,515167		
SE3	0,524425	0,689409	0,563251	0,495488	0,578499	0,942632
SE4	0,491207	0,761594	0,571193	0,408796		
SE5	0,489191	0,770250	0,495919	0,505554		
SE6	0,480201	0,827214	0,499788	0,579693		
SE7	0,424421	0,743697	0,467277	0,552632		
SE8	0,498116	0,753473	0,529450	0,535145		
SE9	0,395020	0,714467	0,478470	0,387243		
USE1	0,267639	0,511883	0,575341	0,336318		
USE2	0,483994	0,564726	0,821094	0,355733	0,556000	0,831195
USE3	0,457217	0,515782	0,800237	0,458425		
USE4	0,475816	0,463843	0,760530	0,391650		

PEOU= Perceived Ease of Use, PU=Perceived Usefulness, SE=Self-Efficacy, USE=Actual Use

The convergent validity is rated based on correlation (outer loading), between score item or indicators (component score) with a score of invalid constructs. Convergent validity is used to determine the validity of any relationship between indicators with invalid constructs (indicator). In this study, indicators that have the value of loading are less than 0.5 will be removed on testing the validity of the instrument and then conducted reestimate. Results of the data processing by using the PLS will generate value for the initial loading of the outer for each indicator of each of the variables examined. The value of initial loading indicator on the outer variable self-efficacy, ease of use and actual use.

A. Validity Test

Discriminant validity is used to indicate that the construct or latent variable can predict the size of their blocks is better than other block size. If the construct indicator correlation has a

higher value than the correlation of these indicators to the other constructs, then it says that the constructs have high discriminant validity. Table I above shows that all of the indicators already have a higher correlation value to the variable that tested them than other variables, so that already meet the validity of the discriminant. The discriminant validity is not only can be viewed from the value of cross-loading but also can be seen by comparing the root of AVE (Square Root of Average) a construct must be higher than the correlation between latent variables [15]. The Model has a discriminant validity that will be sufficient if the root AVE for any invalid constructs larger than the correlation between invalid constructs and other invalid constructs in the model.The value of cross-loading and AVE can be seen in tablel I above.

B.Reability Test

Reliability test is done to find out the extent of the measurement tools have the accuracy and precision of measurement that are consistent over time. Reliability instrument on these research is determined from the value of composite reliability for each block of indicators on reflective invalid constructs. Rule of thumb value for cronbach's alpha and composite reliability must be greater than 0.7, 0.6 value though still acceptable [16]. The value of composite reliability can be seen in table I above.

C. Structural Measurement

The structural measurement shows in Table II and Appendix. It is observed H3 is not supported (insignificant t-values) while the hypotheses H1, H2, H3, H4 and H5 are supported (significant t-values). The test relationships between constructs indicate the self-efficacy affect ease of use, ease of use affect usefulness, self- efficacy and ease of use affect actual use in using ecommerce websites with significances at 0.05 (T count greater than1.96).

TABLE II
INNER MODEL AND HYPOTHESIS TESTING

Hypothesis	Observed t-value	Sig. Level (1-tail)
Self-efficacy =>Ease of Use (H1)	12.349505	Supported
Ease of Use =>Usefulness (H2)	21.184651	Supported
Self-efficacy =>Actual Use (H3)	11.547144	Supported
Ease of Use => Actual Use (H4)	2.411157	Supported
Usefulness=>Actual Use (H5)	0.0.351397	Not Supported

V.CONCLUSION

This study examined the influence of self-efficacy, ease of use, usefulness to actual use in using ecommerce website. This research use 128 respondents quesionnaires and SEM/PLS. Four of five hyphotheses were significant influences and the rest, that is one hyphoteses was insignificant. It means, the self-efficacy and ease of use give impact on the actual use of a website. These three factors will influence the user wheter they want to use website travel or not. But, the usefulness is not really affect a user to use ecommerce website.

APPENDIX

Item	Statement
PEOU1	Learning to operate the e-travel website is easy for me
PEOU2	I find e-travel website to be flexible to interact with
PEOU3	I find it easy to get e-travel website to do what its intended to
PEOU4	It is easy for me to become skillful at using the e-travel website
PEOU5	I find the e-travel website easy to use
PEOU6	My interaction with the e-travel website is clear and understandable
PU1	Using the e-travel website provides me with information that would lead to better decisions
PU2	Using the e-travel website would improve my job performance
PU3	Using the e-travel website in my job would enable me to get the respective information more quickly
PU4	I would find e-travel website is useful in my job
PU5	Using the e-travel website in my job would increase my productivity
PU6	Using the e-travel website would enhance my effectiveness on the job
PU7	Using the e-travel website would make my job easier
SE1	I am confident about my ability to use the e-travel website
SE2	I have the skill to find information in the e-travel directory
SE3	I know how to fill up the online forms of the e-trave website
SE4	I have the ability to communiacte through the e-travel website
SE5	I have the ability to download the file through the e-travel website
SE6	I have the ability to send email through the e-travel website
SE7	I have the ability to use favorites in the e-travel website
SE8	I feel confident to use e-travel websites although no one teaches me
SE9	I feel confident to conduct trouble shooting whenever the e-travel website has problems
SE10	I feel confident when using the e-travel website though i have never used it before
SE11	I feel confident to find information in the e-travel website
SE12	I have the necessary skills for using the e-travel website
USE1	I use e-travel websites to get information of tourism products
USE2	I use e-travel websites to get service (customer service)
USE3	I make an order through the e-travel website
USE4	I make payments through the e-travel websites

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