

Influence of Website Design toward Purchasing Airline E-Ticket

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Keywords: E-ticketing, Website Design, Security, Convenience, Perceived Ease to Use, Perceived Risk, Perceived Usefulness.

Abstract: In this digital age, many business activities have changed from conventional to more online processes. This also happens to airline industry. Airplane ticket sales can no longer use paper media as a proof of flight purchases, but are now more in digital forms, known as electronic tickets or e-tickets. E-ticketing can be processed when purchases are made online. Online purchases are made through a website. The aim of this research is to see how the quality of a website can influence e-ticket sales, especially those related to non-technical factors such as. Security, convenience, perceived ease to use, perceived risk and perceived usefulness. Samples used 127 respondents. The result of the research is that there are five factors that have a positive influence on the purchase of e-tickets, moreover, convenience, perceived risk, and perceived usefulness have significant influence on e-ticket purchases. Thus, it can be concluded that these five aspects, especially convenience, perceived risk, and perceived usefulness, should be considered most seriously by travel companies or e-ticket agencies in designing the web in order to increase e-ticket sales and corporate earning

1 INTRODUCTION

Transaction in the digital age at this time is required to be quicker, more accurate, and of lower cost. Digitalization occurs because the development of information systems and techniques is progressing rapidly. This condition is greatly supported by the internet, affecting the innovation of application systems and business models. Transactions using this communication network are known as online business. The Internet brings about changes in business environment (Bandara & Silva, 2016). Currently, online business model is highly valuable for retail outlets (Liat & Wuan, 2014). Businesses around the world are now trying to increase their competitive advantage by focusing on resources on the virtual bussines' environment (Fazli et al, 2009).

Two factors that influence online business and will grow in Indonesia are the number of Internet users and the growth of airline passengers. The growth of internet users is supported by the presence of smart phones and personal computers at affordable prices in line with technological developments (Feher & Towell, 2017). Based on

dataog from the Ministry of Communication and Information, internet users in Indonesia have made significant progress from 44 million uses in 2010 became 143.4 million in 2017 (Source: Ministry of Communication & Information)

According to the research by AC Nielson in 2017, online business in Indonesia in 2016 amounted to 145.83 billion US dollars for retail transactions and 1.68 billion US dollars for e-commerce as shown in table below:

Table 1: The Internet User 2010=2017

Year	in million
2010	42.0
2011	55.0
2012	63.0
2013	82.0
2014	88.1
2015	110.2
2016	132.7
2017	143.3

Source: Ministry of Telecommunication and Information of Indonesia

The growth of online business in the field of travel is supported by the growth of aviation industry especially for passenger services which is supported by competitive and transparent prices. The yearly growth of passengers using airplanes in Indonesia was significant, from 58.4 million people in 2010 became 1.060 million people in 2017 that presented in table below:

Table 2: The Aircraft Passanger 2010-2017 (in million)

Tahun	Dosmestic	International	Total
2010	48.9	9.5	58.4
2011	59.3	10.7	70.0
2012	70.7	11.7	82.4
2013	73.6	13.3	86.9
2014	71.6	13.7	85.3
2015	72.6	13.6	86.2
2016	80.4	14.8	95.2
2017*	89.4	16.6	106.0

Sumber: databoks.katadata.co.id dan *kompas.com

E-ticketing has become a challenge for airline industries to win the market competition. E-ticketing involves consumer behavior with cost reduction, providing communication and support (Fazli et al, 2009). The growth of the Internet also contributes to changes in operation of travelling business (Szopiński et al 2015). Transaction of e-ticketing uses the application of the website. The quality of website design in general is a critical factor to drive business online (Fazli et al. 2009).

According to AC Nelsen, the growth of e-commerce in Indonesia in 2016 about USD 145.85 million, however no one e-commerce in travel agent become Unicorn in Indonesia even though passenger of air craft in Indonesia has been showed every year..

Website design is one of some aspects that may increase sales of travelling, airline companies, or travel agents. The aspects studied in this research are the non-technical aspects of website design that consist of security, convenience, perceived ease to use, perceived risk, and perceived usefulness toward e-ticket purchasing.

2 LITERATURE REVIEW

2.1 E-Ticketing

E-ticketing is a combination of the issuing and delivery of ticket which is done by electronic operation without using physical paper (Kiong 2014) or replacing paper-based air tickets to electronic ticket images (Sulaiman et al, 2008). Purchasing e-ticket is made quick and at low cost for both the company and the customer. And, customers can compare air fares without administrative costs (Byambaa& Chang, 2012).

2.2 Website Design

Online business applications for retail companies are generally using a website. The definition of website according to The American Heritage Dictionary of the English Language is "a set of interconnected webpages, usually including a homepage, generally located on the same server, and prepared and maintained as a collection of information by a person, group, or organization ". In designing a website, two agents should be considered: the technical aspect and the non-technical aspect. The technical aspect is related to how the system is designed to handle transactions and administration. The non-technical aspect is the aspect that has much to do with the human behavior of the customer perspective (Ansani, 2015). People generally only care about the internet network in online business. In fact, the internet is just a medium to execute transactions. Obviously, the non-technical aspect has an important role in online business, especially in retail business (Evanschitzky et al., 2004 in Szopiński et al, 2015), such as ease of navigation, customer service and privacy policies (Reibstein, 2002). Customers can even make reservation and check in by using their mobile telephone (Christou & Kassianidis.2010) so that website design plays an important role to meet customer needs, and the level of customer satisfaction that describes the effectiveness of online services (Ansani, 2015). These non-technical factors should be adapted in the website. Websites should be designed with respect to human computer interaction (HCI) literature (Palmer 2002) and focus more on the website environment than on general usage (Kiong et al, 2014). Many studies have shown a correlation between the application model and the business outcomes (Dutta et al, 2017).

2.3 Technology Acceptance Model (TAM)

The concept used in system applications related to human behavior, is the concept of Technology Acceptance Model (TAM). The model was developed by Davis (1986), which stated that the computer system cannot improve performance if the system is not used. Unfortunately, resistance to the system was shown by managers and professionals as users (Davis et al., 1989). Therefore, it is important to know why they reject or accept a system affected by beliefs and attitudes of users. This model was developed from the theory of Reasoned Action (TRA) found by Fishbein and Ajzen in 1975. TAM uses two major variables in the development of technology-based systems, namely "perceived usefulness", which is defined as the extent to which a person believes that by using a particular system, the user will improve their job performance, and "perceived ease of use" is defined as the level of user confidence that requires minimum effort when using new technology (Davis, 1989; Davis, et al., 1989). This model explains a person's intention in using technology that is influenced by the perception of those using the technology. There are two main construct factors affecting behavior that accept information technology, namely user's intention using technology and actual usage (Chau & Lai, 2003). TAM is useful in explaining and acknowledging user behavior of information systems applications (Legris et al, 2003), and TAM can be used to develop a useful model for predicting customers' acceptance of airline online purchasing (Motlaq et al, 2012).

2.4 Security

The application in the e-ticket purchasing system depends on the security of the system. E-tickets must be as secure as paper tickets. Security issues are the main reason for customers to buy online (Kaur (2005) in Nikhashem et al, (2011). Information security is known as a significant element for widely believed participants (Younghwa & Kozar., 2006). Inadequate security may occur in e-ticket falsification (Puigserver 2012). The website must be able to secure customers' personal information, and they should believe that data will not be used by third parties (Kiong et al, 2014). Therefore, airline websites or e-ticketing agents must show professionalism and reliability to build a positive perception impact on e-ticketing. Nikhashem et al (2011) suggested that the safety factor shows a

positive relationship and has a significant influence on e-ticket purchases. Security is one factors in online transaction because customers will fill up personal and financial information to website operator.

Hypothesis 1 (H1): Security influences to e-ticket purchase.

2.5 Convenience

Convenience to buy e-tickets through airline websites or agents becomes a good indicator of the bad or good of a website. Stimulus of convenience relates to the risk of purchasing e-ticket (Sulaiman et al, 2008). Kare-Silver (2001) in Sulaiman et al, (2008) found that convenience is a fundamental driver of the Internet usage. Sulaiman et al. (2008) and Nikhashem et al. (2011) stated that convenience has a positive direction on the use of e-ticket purchases. The convenience will drive customers use internet to buy ticketing because they fill comfort when they search and order the the e-ticket via website.

Hypothesis 2 (H2): Convenience influences to e-ticket purchase.

2.6 Perceived Ease to Use

Perceived ease to use refers to the level of trust the customer believes that the website can help customers in searching for more information with less effort (Chui et al, 2005). Ease of use includes ease of ordering, functionality, navigation, and easy access to information (Reibstein, 2002). Conversely, if the user finds it difficult to use a website or it is a complex and confusing website display it makes purchaser reluctant to use. Similarly, in selling e-tickets, airlines need to provide the best experience of way along the customer journey (Florida & Lázaro, 2016). Customer satisfaction brings customer loyalty, has positive growth in market share and can predict market penetration from airline companies (Yeoh & Chan, 2011). In addition, cost effectiveness and flexibility are also critical things that must be considered in the ICT process. Liat et al (2014) found that perceived ease to use is not significant in predicting online purchasing requirements, not in line with Bigne et al (2014), who found that perceived ease to use has an influence on customer intention of buying via the internet. The easy use of website may have a positive experience in buying e-ticket, so that, factor of ease to use can increase the usage of online transaction.

Hypothesis 3 (H3): Perceived ease to use influence to e-ticket purchase.

2.7 Perceived Risk

Perceived risk is defined as the uncertainty of possible negative consequences of using a product or service. Perceived risk is a fundamental concept of customer behavior that implies the customer experience before purchasing at the loss rate due to purchase and use of the product (Cunningham et al, 2004). Perceived risk also occurs in the purchase of e-ticket. In online transactions, risks can occur due to the exchange of information using the internet that can be caused by malfunction or security problems in communication and information (Fazli et al, 2009). Customers are reluctant to provide personal information about their financial status and credit facilities. In other words, customers are concerned about personal information that may be misused by unauthorized parties. To reduce negative perceptions and attitudes, airline services need to provide an understanding of the perceived risk aspect from the customer's perspective in purchasing e-ticket (Fazli et al, 2009). If perceived risk is greater on online purchases, the lower the desire of customers to buy via the internet (Samadi & Yaghoob, 2009). Customers will prefer to purchase e-ticket if they are confident with the security of the payment system (Fazli et al (2009), (Binge et al. (2009). Samadi & Yaghoob-Nejadi (2009) found that perceived risk has no effect on e-ticketing. This is not in line with Cunningham et al (2004) who stated that the perception of security had a significant impact on actual purchase intention in purchasing e-ticket, because when the website give a positive perceived risk customers will feel free of worry about their information they give online transaction.

Hypothesis 4 (H4) Perceived risk influence to e-ticket purchase.

2.8 Percieved Usefulness

Perceived usefulness has a direct influence on buyers concerning the desire to use the internet as a purchasing mechanism (Renny&Siringoringo, 2013). Davis (1989) and Davis et al. (1989) identified perceived usefulness as a fundamental construct to determine the behavioral intention of the user and to offend the function of the application to encourage users to adopt it. Davis (1989) concluded in his study that perceived usefulness has a high correlation with user acceptance of information

systems. Delafrooz et al. (2011) stated that perceived usefulness is one area where online traders must focus on improving customers' attitude towards online shopping. Binge et al (2010) which stated that perceived usefulness is not a significant factor in the purchase intention in buying e-ticket. Contrary with Binge et al, Nikhashem et al (2011) found that perceived usefulness has a significant influence on the purchase of e-ticket. Perceived usefules will influence of website in buying e-ticket because customers have a perception by using website or online transaction they feel the website give effcentcy, effective, quick response and confirmity schedule of flight.

Hypothesis 5 (H5): Perceived usefulness influences to e-ticket purchase.

3 RESEARCH METHODOLOGY

The research method in this study is quantitative research that uses primary data to determine the effect of independent variables on the independent variables. The model of this research is shown below:

The model used in this research is:

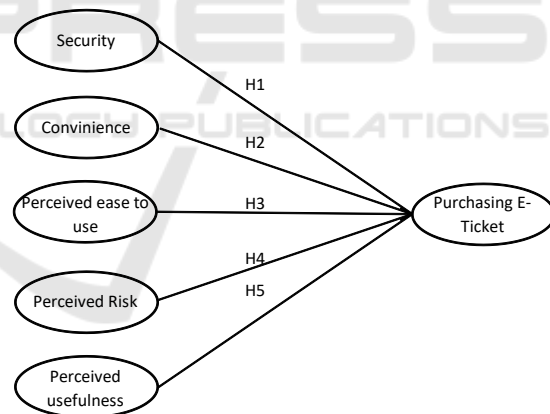


Figure 1: Model Hypothesis

The samples used in this study were obtained by spreading questionnaires with convenience sampling method of google form via WhatsApp to certain people, and they spread back to their acquaintances. The intended persons are people who have experience of purchasing e-ticket. The number of valid samples to process is as many as 127 respondents from 163 data collected. Questions in the questionnaire used Likert scale with five-point bipolar response, from very diagrre (1) to very agree (5). The process data used Partial Lease Square

(LPS). The demographics of respondents are as follows:

Table 3: Demography of Respondents

Gender		Age			
Gender	Total	18-25	26-35	36-45	>45
Men	32	13	7	3	3
Women	96	61	25	2	7
	128	74	32	5	10

Traveling within 1 year			
Times	<3	4-6	>7
Frequency of travelling	75	47	5

Income and Airplane they use					
	Income per month (in million rupiah)				
	less 5	5> to 15	15> to 25	25> to 50	more than 50
Respondent	73	40	6	5	3
Full Service Airline	18	8	1	2	1
Low Cost Carrier	55	32	5	3	2

Website they use			
Website	Airline	Agent	Travel
Respondent	51	44	32

Test the reliability of valid data collected. Reliability test is seen Cronbachs Alpha and Reliability Composite. If the alpha of the result are equal or more than 0,6 or Reliability Composite value indicates equal or more than 0.7, it concluded that the data will be used is reliable. From collected valid data, the result of reliability test as follow:

Table 4: Result of Reliability Test

Variables	Cronbachs Alpha	Composite Reliability	R Square
Security	0,733	0,818	
Convenience	0,617	0,791	
Perceived ease to use	0,788	0,850	
Perceived Risk	0,659	0,785	
Perceived usefulness	0,796	0,844	
Purchasing E-Ticket	0,600	0,762	0,191

All variables have Composite Reliability equivalent or more than 0.7 or Cronbach Alpha equivalent or more than 0.6, so it can be concluded that the data to be used in this research is reliable

Test the discriminant validity of valid data collected is seen of value of indicator correlation for the constructs, if the indicator correlation for the construct is higher than the indicator correlation value to other constructs, it conclude that the construct is valid. The result of discriminant validity after data processed, all variables have value of indicator correlation for the construct is higher than the indicator correlation value with other constructs, so it can be concluded that the data to be used in this research is valid

The result of discriminant validity is shown as follows:

Table 5: Latent Correlation

	Security	Convenience	Perceived Ease to Use	Perceived Risk	Perceived Usefulness	Purchasing E-Ticket
Security	0,856					
Convenience	0,424	0,785				
Perceived Ease to Use	0,363	0,424	0,888			
Perceived Risk	0,306	(0,003)	0,057	0,812		
Perceived Usefulness	0,124	0,194	0,241	0,017	0,892	
Purchasing E-Ticket	0,211	0,297	0,167	0,301	0,170	0,775

4 RESULTS AND CONCLUSION

4.1 Results

The results of the process on relationship of security, convenience, perceived ease to use, perceived risk, and perceived usefulness toward purchase of e-ticket is in figure 2.

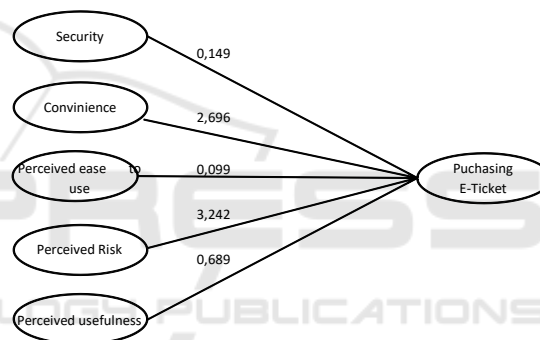


Figure 2: Result of Process PLS

While the results of the test of the influence and hypothesis of this research can be seen below

Table 6: Result of Influence Test and Hypothesis

	Original Sample (O)	Standard Error (STERR)	t Statistics ((O/STERR))
Security – Purchase e-Ticket	(0,019)	0,127	0,149
Convenience – Purchase e-ticket	0,280	0,104	2,696
Perceived ease to use – Purchase e-Ticket	0,012	0,119	0,099
Perceived Risk – Purchase e-Ticket	0,305	0,094	3,242

Percived Usefulness	0,110	0,159	0,689
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From tables above, the result is aspects of security, convenience, perceived ease to use, perceived risk, and perceived usefulness found in web design have a positive influence on the purchase of e-ticketing. Furthermore, factor of convenience, perceived risk, and perceived usefulness have significant influence at 95% confidence level. The security factor is the most significant and the most influential aspect.

4.2 Conclusion

Based on the demographics of respondents, the most of the respondents are women, income of respondents are 0-15 million rupiah per month, and most of them use low cost carrier airline, so it is very understandable that the perceived risk factor is very dominant to be considered. In many cases, customers pay in big amount for air fare by credit cards or debit cards. It becomes their concerns about the leaking of their financial information that may be misused by the Travel Company or hackers. So the higher perceived risk indicates that this factor becomes critical in web design, and convenience is directly proportional to perceived risk. The more customers feel convenient in using the website, they consider the risk is small. If the customer feels convenient in using the website, it can be interpreted the website gives benefit to customers in purchasing e-ticket. While the security aspect is not significant, because of the high perceived risk, then the sense of security is not so dominant. Meanwhile, perceived ease to use becomes less dominant because customers feel convenient and have high perceived usefulness.

The limitation on this study was in collecting data that used google form and did the distribution via WhatsApp. So, the research cannot see directly whether the respondents filled out the questionnaire by themselves or other people did it for them. The other limitation was that most respondents are from big cities in Java.

It cannot be denied that web design will play an important role in increasing e-ticket sales. Website design requires not only appearance, but it should also be designed with attention to users' attitude and background, such as easy to navigate, easy to use, informative and qualified content, cultivating trust, designed to have customers' personal affection, responsive, satisfactory service result, controllable process, technical adequacy and access, convenient,

and causing a sense of enjoyment, security of transactions in terms of financial and personal information. Customers' satisfaction will increase the use of the website.

For further research, other variables can be added such as quality, content of information of website, and other variables or put enhance the object of survey not only for e-ticket airplane but also for train, hotel, local or incound transportation and any related to traveling, so that travel/agent/airline websites can increase sales e-ticket entire.

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