DOI: 10.7763/IPEDR. 2012. V57. 15

The Influence Factors of Online Purchase on Customer Satisfaction in Mongolian Airlines

Baasandulam Byambaa* and Kuo-Chung Chang[1]

Graduate Institute of International Business, National Dong-Hwa University, Taiwan

Abstract. The daily growth of the internet and electronic ticketing has become an integral part of airline companies' strategy for increased profits through better customer service. The electronic ticketing (E-ticketing) is experiencing growth in Mongolia. This study is defining Mongolian customer's satisfaction with online purchasing experience using the Technology Acceptance Model (TAM). Customer satisfaction factors included ease of use, website design, payment security, interactivity and information quality of the website. The objective of this study is to examine the extent to which these five factors effect passenger's satisfaction with Airlines in Mongolia. The survey based on 3 airlines: MIAT Mongolian airline, AeroMongolia, Eznis Airways and data collected from 138 passengers of those airlines. The results show that, there are three significant factors, interactivity, payment security and ease of use, affect satisfaction with the e-ticketing experience on customer satisfaction in Mongolia.

Keywords: Ease of Use, Information Quality, Website Design, Payment Security, Interactivity, Customer Satisfaction

1. Research Background

Airline electronic commerce market is one of the fast growing industries in the world. Airline industry's ticket distribution channel is changed to e-ticketing. This distribution channel gives customers to purchase e-ticket rapidly and it has a cost saving for both company and customers (Chen, 2007). Even virtual distributors on the Internet might be insecurity and trustworthy, but still one of the most important channel for airlines to sell tickets (Motlaq S.V., 2012). Mongolia is a landlocked country with territory of 1 564 166 sq.km with potential high demand in air transportation within 2, 7 million populations. According to the Statistic-2010 of Population and Housing Census there are around 709,600 internet users in Mongolia, implying a penetration rate of 30.6 percent. Many empirical studies examined e-commerce customer satisfaction in various countries. However empirical research with customer e-satisfaction going so far in the e-commerce, but it is starting to develop from 2010 in Mongolia actively. According to the 2010 statistics by Mongolian Civil Aviation Authority (MCAA), airline passengers increased by 24, 7 percent, compared with previous years. An important model for describing the customer satisfaction in e-commerce is Technology Acceptance Model (TAM). This study used TAM model and it can be explained by two salient beliefs: perceived usefulness and perceived ease of use. This study examines customer satisfaction of online purchasing ticket with regard to ease of use, information quality, website design, payment security and interactivity that have an effect on passenger's satisfaction levels of Airlines in Mongolia. The purpose of research is to identify what influence factors impact on customer satisfaction level in airline industry and what are the main factors that affect the Mongolian passenger's intention to purchase e-tickets through e-satisfaction? This study proposes hypothesis testing in trying to find answers to research questions and also identifies the demographic characteristics of customer and it might be influence consumer decisions to purchase e-ticket and e-satisfaction.

2. Literature review

2.1. Electron Ticket (E-Ticket)

An e-ticketing is a paperless electronic document, particularly in the airlines industry (Kurniawan, 2010). Nowadays all major airlines use e-ticketing method for selling ticket. When a customer buy or books airline

* Corresponding author. Tel,: +886-988 131 542; fax: +866-3-8633040.
Email address: dumaa_baaska@yahoo.com (Baasandulam, B).

ticket by telephone or internet, the detail of reservation are stored in computer. The benefit of e-ticketing is reduces expense of purchasing airline ticket by eliminating the need printing and mailing paper documents (Chen, 2007). Another advantage is that consumers can compare ticket costs easily online without transaction fee. In Mongolia, the airline reservation system started since November in 2007, according to the Statistic-2010 of MCAA.

2.2. Customer Satisfaction

The customer satisfaction may be a basic standard of service performance and a possible standard of faultlessness for any business organization (Gerson, 1993). Satisfaction is a response to a perceived discrepancy between prior expectations and perceived performance after consumption (Eid, 2011; Lau T.C, 2011; Merwe V.D, 2010). Customer satisfaction is defined by how satisfied with product/services. Thus satisfaction is extremely important to marketers of product and services because a satisfied customer has a positive purchase intention such as a repurchase, positive word-of–mouth and loyalty in the long term. For example: (Rosen, 2001) found that 35 to 40% of e-commerce website sales revenue comes from repeat visitors. Thus, customer satisfaction leads to customer loyalty and it has positive growth in market share and predict further market penetration of Airline Company (Yeoh & Chan, 2011).

2.3. Research Framework

According to models and studies of e-ticket satisfaction, several factors have been proposed to affect to online satisfaction (Eid, 2011; Lau T.C, 2011; Merwe V.D, 2010; Motlaq S.V., 2012; Szymanski & Hise, 2000). The five factors in this study have been explored including: the information quality, website quality, payment security, interactivity and ease of use (Figure 1).

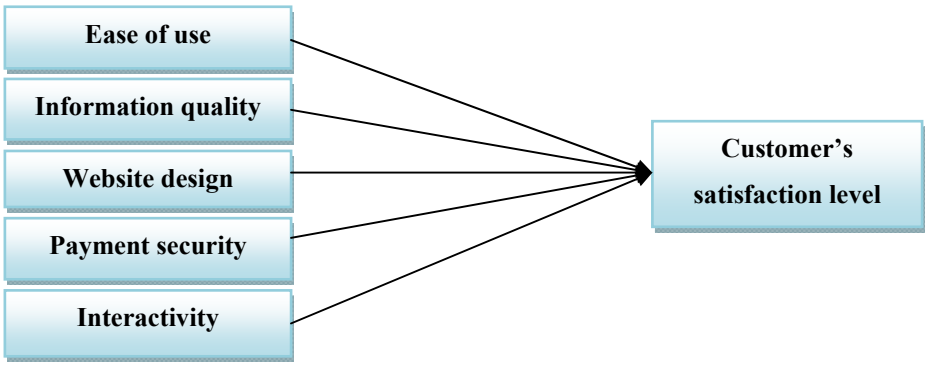

Figure 1: Research framework

2.4. Technology Acceptance Model

The Technology Acceptance Model (TAM) is one of the most widely used models for explaining end user behavior (Davis, 1989). This study used one variable of TAM which is ease of use; Davis suggested that ease of use has positive effect on perceived usefulness. The TAM improves a useful model for the prediction of customers' acceptance of airline online purchasing (Motlaq S.V., 2012). A good ease of use could lead to higher levels of satisfaction. Yoo and Donthu (2001) indicated of a website quality is how easy the site is to use and usability. Therefore, customer's usability is very important to customer's satisfy on online, this hypothesis is postulating that:

H1: The ease of use has a positive effect on customer satisfaction toward e-ticket purchase.

2.5. Information Quality

The information quality is becoming more important concept of livelihood organizations today. Merwe V.D (2010) divided Information system quality into systems quality and information quality. System quality refers to software development and information quality embraces accuracy, completeness, conciseness, relevance, understandability, meaningfulness, comparability and reliability of information (DeLone & McLean, 1992). Francis and White (2002) found that adequate information of product description can increase a customer's intention to purchase. When the information provided that the website is reliable and accurate, this will support online customer satisfaction enhance. Thus, it can be hypothesized that:

H2: The information quality of website has a positive effect on customer satisfaction toward e-ticket purchase.

2.6. Website Design

Manes (1997), reports that good website design represent a good organization. This means offering customers uncluttered screens, fast presentations, interface design, simple search paths, and interactivity tools available. Moreover, each of these elements of site design could impact e-satisfaction levels. Attractive web pages present to customer animated gifts, sound, video and entertainment contents like advertisement but some consumers don't like to web banners, because they slow down a web page (Szymanski & Hise, 2000). A website's navigation scheme is one of the most important elements of effective website design (Summers & Summers, 2005). So customers are likely to return to a website often that they perceive a well-designed navigation scheme. Thus, it can be hypothesized that:

H3: The website design has a positive effect on customer satisfaction toward e-ticket purchase.

2.7. Payment Security

Security is basically an important factor when customer consider about online purchase. The majority of B2C trades are paid by credit card about 60% and next most popular payment method is Electronic Funds Transfer about 30% (Turban, King, Lang, & Lai, 2011). All of payment method request payment security and it also identify website security and quality. Bruskin/Goldberg Research, reports that when customer decide to buy goods online, 75% of Internet shopper emphasize credit-card security (Szymanski & Hise, 2000). A high level of website security can lead to customer satisfying intentions. Thus, it can be hypothesized that:

H4: The payment security has a positive effect on customer satisfaction toward e-ticket purchase.

2.8. Interactivity

This study is included interactivity factor which means effective handling of problems and returns to customer through the site (Parasuraman, Zeithaml, & Malhotra, 2005). The interactivity is a dialogue between the customer and the website by email and chat programs and some scholar reported that the interactivity is related to how questions of customers are answered and it is save the customer time and increases electronic service quality (Merwe V.D, 2010). Robbins and Stylianou (2003) found that responsive website support to customers expect respond to their questions promptly. Therefore interactivity is one of the influence factors on customer satisfaction via the internet.

H5: The interactivity has a positive effect on customer satisfaction toward e-ticket purchase.

3. Methodology and Results

3.1. Measurement

This research measured by five variables which have an effect on passenger's satisfaction levels of Airlines in Mongolia. The dependent variable in this study is customer satisfaction and the independent variables are ease of use, website design, information quality, interactivity and payment security. Our questionnaire is designed by previous scholars Merwe V.D (2010), Forgas, Palau, Sánchez, and Huertas-García (2012) and Eid (2011). Questionnaire has two parts, first part is designed by Likert Scale questions which is every question consists of the items be based on the research variables and each item measurement in 5-point Likert Scale, ranging from 5 for "very satisfied" to 1 for "very dissatisfied," is used to measure responses to questions and second part is designed by demographic questions.

3.2. Data Collection

Before develop a formal questionnaire a pilot test was conducted. Subjects for the pilot test were among airline employees and customers who were known to have made use of an airline's website, which included MIAT, Aeromongolia and Eznis Airways, to book their ticket. The pilot questionnaire contained 44 questions which were reduced to 24 for the final survey. There were 22 invalid responses from 160 total completed responses. One hundred thirty-eight valid questionnaires were used to test are valid to test our hypotheses.

Table 1: Descriptive Statistics of Respondent Profiles

Measure	Item	Frequency	Percentage
Age	Less than 21	12	8.7%
	21-35	111	80.4%
	36-50	12	8.7%
	51 and over	3	2.2%
Gender	Male	52	37.7%
	Female	86	62.3%
Current status	Managerial level	32	23.2%
	Non-managerial level	37	26.8%
	Student	65	47.1%
	Unemployed	4	2.9%

Table 2: Correlation matrix of variables

	IQ	WD	PS	I	PEOU	SF
IQ	1					
WD	.724**	1				
PS	.658**	.371**	1			
I	.380**	.363**	.360**	1		
EOU	.775**	.558**	.593**	.280**	1	
SF	.622**	.408**	.718**	.746**	.616**	**1**

**Correlation is significant at the 0.001 level
Information quality–IQ, Website design–WD, Payment security–PS, Interactivity–I, Ease of use–EOU, Customer satisfaction–SF

Table 3: Results of multiple regression analysis

Model	Std. Coefficient β	t-value	Sig.
Constant	-	-7.888	.000
Interactivity (I)	.564	14.195	.000
Payment security (PS)	.373	7.431	.000
Ease of use (EOU)	.277	4.816	.000
Website design(WD)	-.111	-2.062	.041
Information quality (IQ)	.029	.382	.703

Dependent variable: Customer satisfaction (SF); p< .001; R^2 = .832

Table 4: Result of Research Hypotheses

Hypotheses	Result
H1 The ease of use has a positive effect on customer satisfaction toward e-ticket purchase.	Supported
H2 The information quality of website has a positive effect on customer satisfaction toward e-ticket purchase.	Not Supported
H3 The website design has a positive effect on customer satisfaction toward e-ticket purchase.	Not Supported
H4 The payment security has a positive effect on customer satisfaction toward e-ticket purchase.	Supported
H5 The interactivity has a positive effect on customer satisfaction toward e-ticket purchase.	Supported

3.3. Data Analysis

Demographic characteristics including age, gender, current status and income level. Statistics of the respondents shows that most of the respondents are students (47.1%) and non-managerial employees (26.8%). The majority of the respondent's ages between 21-35 years old (80.4%) because most of the respondents are students and purchase e-ticketing for study. Some demographic characteristics of respondents are shown in Table1.

The research model hypotheses were tested using ANOVA and multiple regression equations provided by SPSS computer program. The Table 2 shows that the correlation of the relationships between the study variables which are all 5 independent variables positive influence on customer satisfaction. The results of the regression analysis are summarized in Table 3; show that Interactivity (t=14.195, p<0.001), PS (t=7.431, p<0.001) and EOU (t=4.816, p<0.001) are found to significantly impact on SF positively supporting H1, H4 and H5. However, the variables WD and IQ are found not influential in SF even WD p=.041, t variable equal to -2.062 and IQ p=.703, t=.382. Thus H2 and H3 are not supported because R^2=.832, which means most of the 83.2% of the variance in SF is explained by PS, Interactivity and EOU variables and Interactivity variable have the strongest affect on SF ($\beta = .564$), followed by direct affect of PS on SF ($\beta = .373$) and PEOU on SF ($\beta = .277$) three variables have significant at the p<0.001.

4. Discussion and Conclusion

This study attempted to examine the determinants of e-commerce customer satisfaction in Mongolia. The result of the research was supported three factors (PS, Interactivity and EOU) and rejected two factors (WD and IQ), hypotheses is shown in Table4. In Mongolian customers, ease of use, interactivity and payment security of e-commerce services are important determinants of e-commerce customer satisfaction in B2C market. These results are in line with Lau T.C (2011) and Merwe V.D (2010) who found the ease of use, payment security and interactivity of e-commerce services significantly affects on customer satisfaction directly. However, this study found that the website design and information quality haven't impact on e-satisfaction, which disapproves with Eid (2011) and Lau T.C (2011) who argued that website design and information quality of e-commerce is an antecedent of an online customer satisfaction. More recently,

Ranjbarian, Fathi, and Rezaei (2012) indicated that the website design has no significant influence on e-satisfaction in Iran which is agree with this study.

Mongolian airline's customers focus more on interactivity and security of e-ticket purchases due to a lack of experience in using airline e-ticketing and being more comfortable with face-to-face interaction with airline personnel and the more traditional payment system. It is also one of the reasons for internet usage and e-ticketing is not common in Mongolia. Finally, this study evaluated that website payment security, interactivity and website's ease of use to ensure high level of customer satisfaction toward e-ticket in Mongolia.

5. References

[1] Chen, C. F. (2007). Passenger use intentions for electronic tickets on international flights. *Journal of Air Transport Management, 13*(2), 110-115.

[2] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 319-340.

[3] DeLone, W. H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information systems research, 3*(1), 60-95.

[4] Eid, M. I. (2011). Determinants of e-commerce customer satisfaction, trust, and loyalty in Saudi Arabia. *Journal of Electronic Commerce Research, 12*(1), 78-93.

[5] Forgas, S., Palau, R., Sánchez, J., & Huertas-García, R. (2012). Online drivers and offline influences related to loyalty to airline websites. *Journal of Air Transport Management, 18*(1), 43-46.

[6] Francis, J. E., & White, L. (2002). PIRQUAL: a scale for measuring customer expectations and perceptions of quality in internet retailing. *K. Evans & L. Scheer (Eds.)*, 263-270.

[7] Gerson, R. (1993). *Measuring customer satisfaction*: Crisp Learning.

[8] Kurniawan, B. (2010). Factors affecting customer satisfaction in purchase decision on ticket online: a case study in air asia.

[9] Lau T.C, h.-L. K. a. H.-P. T. (2011). Airline e-Ticketing Service:How e-Service Quality and Customer Satisfaction Impacted Purchase Intention *Medwell Journals, 5 (4)*, 200-2008.

[10] Manes, S. (1997). Web sites: slow by design? *Informationweek, 4*(642), 124.

[11] Merwe V.D, S. (2010). THE IMPACT OF ELECTRONIC SERVICE QUALITY DIMENSIONS ON CUSTOMER SATISFACTION.

[12] Motlaq S.V., F. G., M. Kazemi, T.V. Motlaq, M.V. Motlaq. (2012). The Estimation of Customer's Electronic Trust (E-Trust) Toward Airline E-Ticketing in Iran using the Technology Acceptance Model(TAM). *Midle Eastern Finance and Economics*(16).

[13] Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). ES-QUAL a multiple-item scale for assessing electronic service quality. *Journal of Service Research, 7*(3), 213-233.

[14] Ranjbarian, B., Fathi, S., & Rezaei, Z. (2012). Factors Influencing on Customers' E-Satisfaction: a case Study from Iran. *Journal of Contemporary Research in Business, 3*(9), 257-272.

[15] Robbins, S. S., & Stylianou, A. C. (2003). Global corporate web sites: an empirical investigation of content and design. *Information & Management, 40*(3), 205-212.

[16] Rosen, S. (2001). Sticky website is key to success. *Communication World, 18*(3), 36.

[17] Summers, K., & Summers, M. (2005). Creating Websites That Work, Boston: Houghton Mifflin Company.

[18] Statistic-2010 Mongolian Civil Aviation Authority (MCAA) http://www.mcaa.gov.mn/index.php/page/23

[19] Statistic-2010 Population and Housing Census, National Statistical Office of Mongolia http://www.nso.mn/v3/index2.php

[20] Szymanski, D. M., & Hise, R. T. (2000). E-satisfaction: an initial examination. *Journal of retailing, 76*(3), 309-

322.

[21] Turban, E., King, D. R., Lang, J., & Lai, L. (2011). *Introduction to electronic commerce*.

[22] Yeoh, E., & Chan, J. K. L. (2011). Malaysian Low Cost Airlines: Key Influencing Factors on Customers' Repeat Purchase Intention.

[23] Yoo, B., & Donthu, N. (2001). Developing a scale to measure the perceived quality of an Internet shopping site (SITEQUAL). *Quarterly Journal of Electronic Commerce, 2*, 31-46.