Analysis of Consumer Risk Perception on Online Auction Features

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ABSTRACT

This study examines consumer's perception related to perceived risk while doing transaction in e-auction system. Previous researches found there are some features in e-auction system recognized unclarity features as they indicate having fraud or cheating. In the online auction environment, perception could be categorized in two types such as privacy and security. This study proposed a conceptual framework based on perceived risks from consumer's investigation, associated directly with four cost features of e-auction system: payment method, auction fee, bidding fee and third party services that combined with four perceived risk components: performance risk, psychological risk, financial risk, and time risk. Researcher has developed a questionnaire for collecting data from consumer's who has experience in using e-auction. Through statistical analysis using multiple regressions, this study found that payment method, auction fee, and bidding fee have a positive impact on perceived risk. However, third party services have a significant effect upon consumer perceived risk on financial risk but not significant effect to time risk. Furthermore, the online auction features is directly related to reducing consumers' risk perception. As a summary, online auction features associated with financial play a crucial role in reducing consumers' perceived risk in online auction transactions.

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1. INTRODUCTION

E-auction is an auction online system where buyers bid on auction goods based on the specifications. The number of people interacting with the world of internet is increasing; it will make it easier to run electronic auction system. E-auction popularity was introduced in1990s, and E-Bay is one of the notable success stories of e-auction founded in September 1995 by Pierre Omidyar. He created a website called Auction Web in his spare time to bring online auction as a mechanism for buyers and sellers to do transaction in online marketplace [1]. Currently, there are multi-billion dollar businesses doing operations over thirty countries. Malaysia, for instance, has auction website called Lelong.com.my. It was launched in 1999 and has become one of the top C2C auction sites. The website layout and the principle are similar to the eBay [1]. There are many potential issues will occur in transactions using e-auction; the problem of the transaction can cause big problem for beginner in general.

The use of e-auction system in selling auction goods increases significantly which cause the risk level of fraud to skyrocketing as well. *According to* Suriati *et al.* [2] about A Syariah Compliant e-Auction Framework, their research found eight features that do not comply with Syariah principles, do not have clarity and have fraud or cheating factors. The eight features are identification verification, product description, payment method, bidding fee, closing period, starting price, auction fee, and payment by third party service.

According to Abdul-Ghani [3], a consumer in an online auction faces at least two risks: the seller might defraud them by taking their money but fail to deliver the goods, or the delivered goods may not meet expectations on important dimensions product quality for example. *According to* Wang and Tian [4], situation-specific risk perception is an individual concern towards the Internet's reliability as a transaction medium. They concluded that there are two types of risk, namely predominant in the online auction environment on perceived risk associated with privacy and security. Some surveys showed that Internet's users are increasingly worried about unauthorized collection, improper storage, and inappropriate use of their personal data by online marketers.

There are three familiar samples of a well known publicly for trading, namely website Amazon, eBay and Yahoo. These three websites have extraordinary ability to draw a large number of buyers and sellers for one common market. Therefore, the three websites can be used as a view or perception risk by consumers in using e-auction system features.

This paper consists of five sections. In section two describe related work. Section three present the proposed framework. Section four will explain research method. Section five explain result. The last section present conclution of the paper.

2.   RELATED WORK

There are two main research related to this study:

First study conducted by Suriati *et al* [2]. They proposed a Syariah compliant electronic auction conceptual framework. Internet offers a broad range of applications. With its interconnected networks, everybody can involve in business and transaction can be made electronically. Online business also attracts more consumers because this medium eliminates extra cost by intermediary. Auction or al-muzayadah is allowed in Islam but when it becomes e-auction, the concept is no longer Islamic and it does not comply with Syariah; especially when it involves proxies and software agent to bargain on behalf of human users. The study found eight characteristics that do not comply with Syariah principles and have a risk, which are identification verification, product description, payment method, bidding fee, closing period, starting price, auction fee and payment by third party. Based on the findings, a conceptual framework and system architecture for e-auction is developed to address the issues of non-compliancy with the Syariah rules. The framework is validated by examiner of Syariah experts using Delphi technique to make sure that the particular features specified the detail issue regarding to Syariah. Moreover, the changes need to be made to comply Syariah principle.

Second study conducted by Youl Ha [5]. He was researching the effects of consumer information processing towards their perception of risk before purchasing been made. The main focus of this study is on pre-purchase information, where they found that brand, word-of-mouth, and customized information have a greater influence to customers compared to other types of online auctions information. They also stated that these are based on customers' experience and relevancy to product purchase. These types of information are useful because it can reduce the consumers' risk perception. Results from this study give insights to e-marketers and researchers about the advantages of pre-purchase in management and e-commerce.

3.   PROPOSED FRAMEWORK

Based on previous research discuss above, we developed a conceptual framework basis of the present research. The proposed framework has a distinction from the previous model on perceived risk [5]. The perceived risk of cost will impact time, effort, money, or inconveniences associated with a particular risk-modification strategy [6]. This conceptual framework can be developed base on perceived risks from consumer's investigation associated directly with four cost features of e-auction system: payment method, auction fee, bidding fee and third party services that are combined with four perceived risk components; performance risk, psychological risk, financial risk, and time risk.
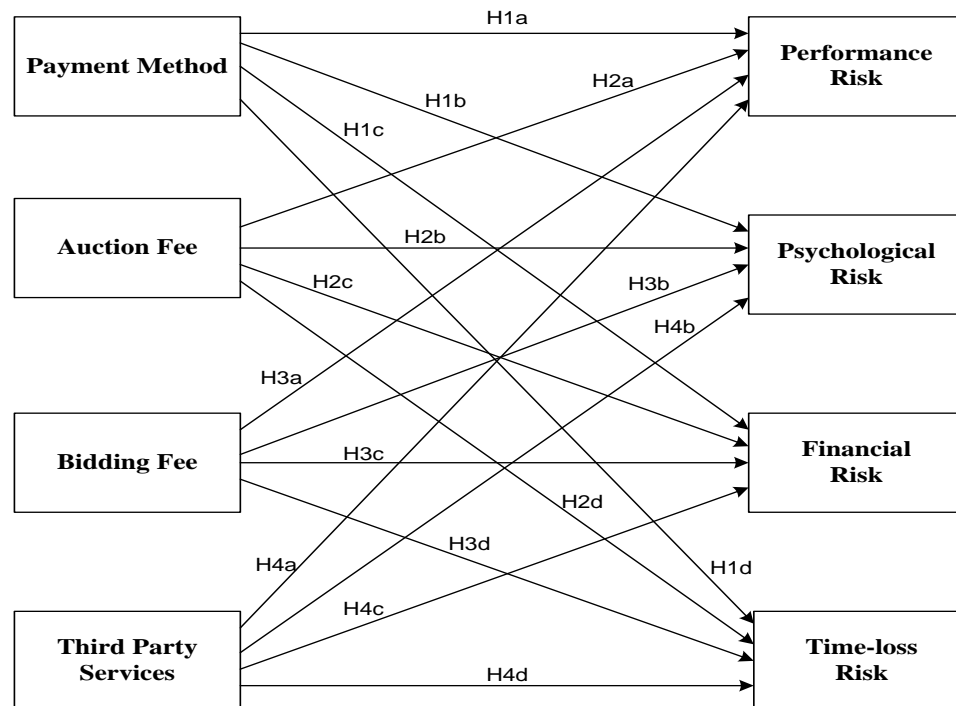
Figure 1. Conceptual framework of online auction features and perceived risk

Hypothesis for framework will be discuss below:

Table 1. Hypothesis of conceptual framework.

Variable	Hypothesis
Payment method	H1a: There is a significant relationship between payment methods and performance risk
	H1b: There is a significant relationship between payment methods and psychological risk
	H1c: There is a significant relationship between payment methods and financial risk
	H1d: There is a significant relationship between payment methods and the time-loss risk
Auction fee	H2a: There is a significant relationship between auction fee and performance risk
	H2b: There is a significant relationship between auction fee and psychological risk
	H2c: There is a significant relationship between auction fee and financial risk
	H2d: There is a significant relationship between auction fee and the time-loss risk
Bidding fee	H3a: There is a significant relationship between bidding fee and performance risk
	H3b: There is a significant relationship between bidding fee and psychological risk
	H3c: There is a significant relationship between bidding fee and financial risk
	H3d: There is a significant relationship between bidding fee and the time-loss risk
Third Party Service	H4a: There is a significant relationship between third party services and performance risk
	H4b: There is a significant relationship between third party services and psychological risk
	H4c: There is a significant relationship between third party services and financial risk
	H4d: There is a significant relationship between third party services and the time-loss risk

Relevan with this study we generate and adopt four construct related with perceived risk in order to examine consumer perceived risk when using online auction features. For construct will be present below:

(1) *Payment Method*. Servicing of payments for e-auction transaction. Payment services can be divided into two groups: Traditional transaction such as ATM or face to face transaction and non-traditional transaction which the transaction base on online service.

(2) *Auction Fee*. The service fee charge by service provider for individual who used the e-auction service. There are two categories of auction fee: service charge and final price fee

(3) *Bidding Fee*. In e-auction system, there is charge for bidding known as bidding charge or bidding fee. Bidding fee have format, in which all participants pay, but only the final bidder wins.

(4) *Third Party Service*. Mechanisms to build online trust such as incorporating feedback mechanisms using provided security seals and certificates stating a clear privacy policy, providing company information and etc.

From the perceived risk aspect the contruct that use in this study are [7]:

(1) *Performance Risk*. The possibility of the product malfunctioning and not performing as it was designed and advertised, and therefore fails to deliver the desired benefits.

(2) *Psychological Risk*. Potential loss of self-esteem (ego loss) from the frustration of not achieving a buying goal.

(3) *Financial Risk*. The potential monetary outlay associated with the initial purchase price as well as the subsequent maintenance cost of the product, and the potential financial loss due to fraud.

(4) *Time Risk*. Potential loss of time associated with making a bad purchasing decision by wasting time researching and making the purchase, only to have to replace it if it does not perform to expectations.

4. RESEARCH METHOD

Framework development was done to make a basic conceptual framework from the problem background of the study. By using hypothesis statement, researcher can create a model relation between four cost features of e-auction system and four dimensions perceived risk. Hypothesis is a testable statement predicting a difference between conditions (in an experiment) or a relationship between variables (in a correlation). It constitutes a hunch, assumption, suspicion, assertion or idea about a phenomenon, relationship or situation, the reality or truth of unknown. There are two criteria for "good" hypothesis and hypothesis statements. First, a hypothesis is statement about the relations between variables. The second, hypotheses carry clear implications for testing the stated relations. These criteria mean a hypothesis statement contains two or more variables that are measurable or potentially measurable and that they specify how the variables are related [8].

This research using quantitative method, using 112 as a sample. We are selected sample base on some criteria such as:

a. Student Faculty of Computing, Universiti Teknologi Malaysia.
b. Having experience using online auction system.

There were 120 questionnaires distributed to undergraduate and postgraduate students as the respondents. From 120 questionnaires, there are 112 questionnaire was return. Multiple regression under SPSS was using to analysis data. In this study we used five-point Likert scale for scale measures that we adapted from existing measures using with ''strongly disagree'' and ''strongly agree''.

Table 2. Results of hierarchical multiple regression to performance risk.

Variables	β Coefficient	Std. error	t-value	P-Value
Payment Method	0.226	0.101	3.490	0.0007
Auction Fee	0.246	0.098	3.650	0.0004
Bidding Fee	0.166	0.082	2.750	0.0070
Third Party Service	0.411	0.083	6.439	0.0001

Table 3. Results of hierarchical multiple regression to psycological risk.

Variables	β Coefficient	Std. error	t-value	P-Value
Payment Method	0.165	0.068	2.114	0.0368
Auction Fee	0.330	0.066	4.076	0.0001
Bidding Fee	0.289	0.055	3.986	0.0001
Third Party Service	0.209	0.055	2.733	0.0073

Table 4. Results of hierarchical multiple regression to financial risk.

Variables	β Coefficient	Std. error	t-value	P-Value
Payment Method	0.239	0.069	3.597	0.0005
Auction Fee	0.150	0.066	2.170	0.0321
Bidding Fee	0.299	0.056	4.847	0.0001
Third Party Service	0.363	0.056	5.567	0.0001

Table 5. Results of hierarchical multiple regression to time risk.

Variables	β Coefficient	Std. error	t-value	P-Value
Payment Method	0.277	0.083	3.085	0.0026
Auction Fee	0.270	0.080	2.891	0.0046
Bidding Fee	0.357	0.067	4.272	0.0001
Third Party Service	0.005	0.067	0.058	0.9539

Table 6. Reliability of the measures.

Construct	Number of items	Cronbach's alpha reliability
Payment Method (PM)	11	0.783
Auction Fee (AF)	11	0.836
Bidding Fee (BF)	11	0.870
Third Party Service (TPS)	11	0.865

5.   RESULT

5.1. Hierarchical multiple regression analysis

Hierarchical regression analysis is one of recognize method to test interactions between multiple variables. we used SPSS 16.0 to compute the regression coefficients of the framework. The results of hierarchical multiple regression to performance risk as indicated in Table 2 support H1a (b ¼ 0.226, p ¼ 0.0007) that Payment Method is positively associated with Performance Risk, furthermore support H1b (b ¼ 0.246, p ¼ 0.0004) that Auction Fee is positively associated with Performance Risk, support H1c (b ¼ 0.166, p ¼ 0.0070) that Bidding Fee is positively associated with Performance Risk, and support H1d (b ¼ 0.411, p ¼ 0.0001) that Third Party Service is positively associated with Performance Risk.

The results of hierarchical multiple regression to psycological risk as indicated in Table 3 support H2a (b ¼ 0.165, p ¼ 0.0368), that Payment Method is positively associated with Psycological Risk, furthermore support H2b (b ¼ 0.330, p ¼ 0.0001), that Auction Fee is positively associated with Psycological Risk, support H2c (b ¼ 0.289, p ¼ 0.0001), that Bidding Fee is positively associated with Psycological Risk, and support H2d (b ¼ 0.209, p ¼ 0.0073), that Third Party Service is positively associated with Psycological Risk.

The results of hierarchical multiple regression to financial risk as indicated in Table 4 support H3a (b ¼ 0.239, p ¼ 0.0005), that Payment Method is positively associated with Financial Risk, furthermore support H3b (b ¼ 0.150, p ¼ 0.0321), that Auction Fee is positively associated with Financial Risk, support H3c (b ¼ 0.299, p ¼ 0.0001), that Bidding Fee is positively associated with Financial Risk, and support H3d (b ¼ 0.363, p ¼ 0.0001), that Third Party Service is positively associated with Financial Risk.

The results of hierarchical multiple regression to time risk as indicated in Table 5 support H4a (b ¼ 0.277, p ¼ 0.0026), that Payment Method is positively associated with Time Risk, furthermore support H4b (b ¼ 0.270, p ¼ 0.0046), that Auction Fee is positively associated with Time Risk, support H4c (b ¼ 0.357, p ¼ 0.0001), that Bidding Fee is positively associated with Time Risk. However H4d, that the Investment Size is positively associated with Time Risk is not supported (b ¼ 0.005, p ¼ 0.9539).

Base on hierarchical regression analysis below, Results of the hypothesized framework is depicted in Fig. 2.
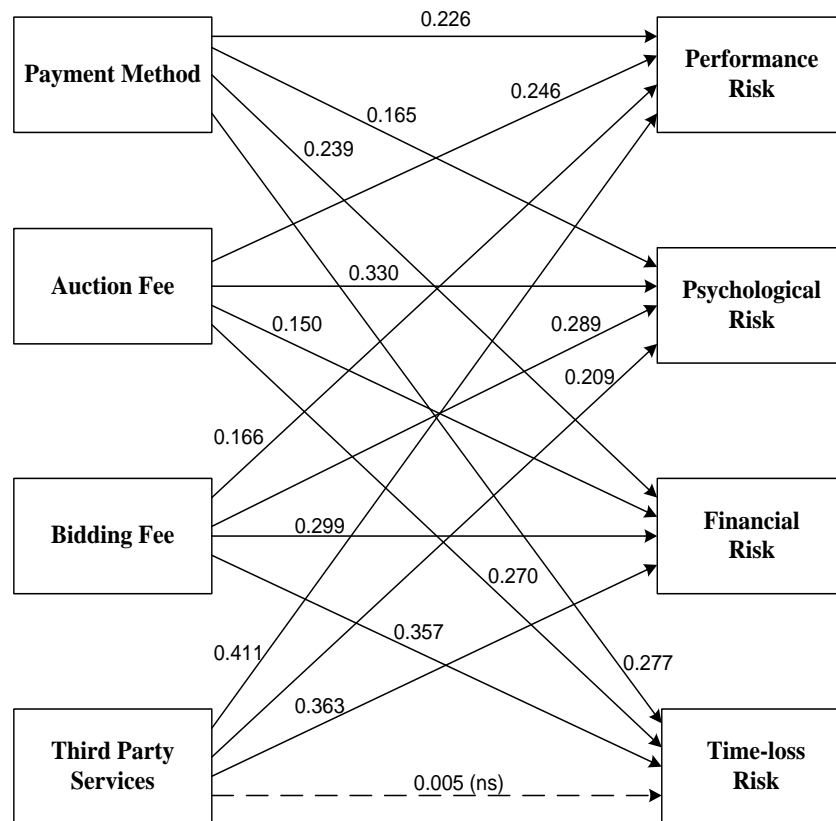

Figure 2. Results of the hypothesized framework

6. CONCLUSION

Based on results of the hypothesized framework shown in Figure 2, consumers who use payment method to do transaction of online auction was found that the consumers still believe the payment method. This factor, particularly have indicated significant results. Inexperienced consumer was confronted with the risk on using payment method. But, based on standardized coefficient value of payment method, consumers will still recognize the psychological risk as the greatest dimension of the other perceived risk because consumers are still not comfortable. However, Perceived risks were all significant because customers already had payment experience on the auction site. Thus, H1a, H1b, H1c, H1d were all supported.

Whereas in terms of auction fee, consumers who use auction fee for transaction in online auction was found that consumers still believe the auction fee. This factor, particularly have indicated significant results. The consumer who has lack of experience in using auction fee will be confronted with many risks. But, based on standardized coefficient value of auction fee, consumers recognized financial risk as the greatest dimension of the other perceived risk. Because, the auction fee that is imposed always changing and not fixed. However, Perceived risks were all significant because customers already had auction fee experience on the auction site. Thus, H2a, H2b, H2c, H2d were all supported.

In addition, consumers who transact using bidding fee in online auction shown that the consumers still believe in using transaction bidding fee. Factor of bidding fee, in particular has resulted significant implication. That is, inexperienced consumer facing the risk on doing bidding fee. But, based on standardized coefficient value in bidding fee, consumers recognized performance risk as the greatest dimension of the other perceived risk. This is because, the consumers will be impudence in purchasing some products and consumers try to overcome the problem, then it causes the transaction to be decreased. However, all perceived risks dimensions as mentioned above were significant because customers had experience in bidding fee on the auction site. Thus, H3a, H3b, H3c, H3d were all supported.

For third party service feature, consumers who transact using third party service were found that the consumers still believe in using the transaction feature. This finding could provide useful insights for interested parties to use third party service in auction websites. Factor of third party service resulted a significant implication on online auction transaction. That is, inexperienced consumer facing the risk on doing third party service. Of the perceived risks, the Time risk, however was not significant and the rests were significant implication because customers already had third party service experience in the auction site. Insignificant time risk was caused by the effect of long time in transfer. Agreement between buyer, seller and third party service should be made in advanced. This finding indicates that consumers still recognized the time risk as the greatest dimension of the four. Thus, H4a, H4b, H4c were supported, but H4d was rejected.

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Reski Mai Candra has graduated for her undergraduate study at the Islamic State University Sultan Syarif Kasim, Riau, Indonesia. He had a year of teaching experience before continuing her studies for MSc in Information Technology Management at the Information Systems Department, Universiti Teknologi Malaysia. His areas of Interest are Risk Management, e-Commerce, Software engineering.
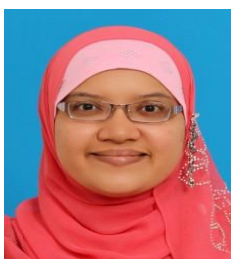
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