

## Determinants of Purchase Intention on Agricultural Application

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### Abstract

### Original Research Article

Agricultural application is application created by the digital start-ups, act as men in the middle, who focus on empowering farmers, especially marketing and selling farmers' products directly to consumers. This study aims to analyze the effect of perceived ease of use, information quality, trust and perceived risk on purchase intention in agricultural application. The type of this study is causality study. The sampling technique used is purposive sampling. Data were collected on 136 respondents in Jabodetabek Region, Indonesia. Data were analyzed using Partial Least Square (PLS). The results show that perceived ease of use and information quality don't have a significant effect on purchase intention on agricultural application, while trust and perceived risk have a significant effect on purchase intention on agricultural application.

**Keywords:** agricultural application, purchase intention, partial least square, perceived ease of use, information quality, trust, perceived risk.

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## INTRODUCTION

The development of e-commerce over the past years give benefits for consumers to shop online. By online shopping, consumers can simply move the mouse to buy all products they needed. The agricultural products have also entered in this network platform that providing consumers a new shopping choice. According to Han & Mu [1], the e-commerce platform of agricultural products has played an important role in improving the circulation efficiency and the competitiveness of agricultural products. This will enable consumers to realize more desires in online shopping of agricultural product than traditional platform.

There are many researchers that have explored the consumers' behaviour on online shopping of agricultural products including attitudes, intentions and the factors. A study by Sari and Setiaboedhi [2] showed that perceived ease of use and trust are not influencing the purchase intention of agricultural products. This findings are different from the results of the studies in the context of online shopping that found perceived ease of use is a factor that influencing consumers' online purchase intention [3, 4]. This findings are also different from the results of the studies in the context of online shopping that found trust is a factor that influencing consumers' online purchase intention [5-7]. It indicates that although perceived ease of use and trust

are the factors that influence online purchase intention, those factors are not guaranteed to be the factors that influence online purchase intention of agricultural products.

Besides, a study by Wei, Wang, Xue, & Chen [8] showed that information quality and perceived quality are not influencing the purchase intention of agricultural products. This findings are different from the results of studies in the context of online shopping that found information quality is a factor that influencing consumers on online purchase intention [6, 9]. This findings are also different from the results of studies in the context of online shopping that found perceived risk is a factor that influencing consumers on online purchase intention [3, 7, 10]. It indicates that although information quality and perceived risk are the factors that influence online purchase intention, those factors are not guaranteed to be the factors that influence online purchase intention of agricultural products.

Based on the description above, this study aims to evaluate determinants of online purchase intention in the context of agricultural products. This study is focused on providing empirical findings of purchase intention on agricultural application. By the agricultural application, consumers can make purchases of agricultural products everytime and everywhere,

check the detail product informations, and request direct delivery to the customers [11]. Therefore, the purpose of this study are examine and analyze the effect of perceived ease of use, information quality, trust, and perceived risk on purchase intention in agricultural application.

In this regard, Indonesia was chosen as the region in which the study conducted because there are a variety of digital start-ups that produce applications in the agricultural sector, act as men in the middle, who focus on empowering farmers, especially marketing farmers' products and selling them directly to consumers. The development of e-commerce in Indonesia is increasing along with the increasing number of internet users from year to year. In 2018, the numbers of internet users is 64.8% from total population in Indonesia [12].

## LITERATURE REVIEW

### Purchase Intention

Purchase intention is defined as a part of consumer behaviour of what product or brand the consumer will purchase on his or her shopping activities [13]. Purchase intention is a consumer's willingness to purchase product at a specific time or situation [14]. Online purchase intention is consumer's willingness to involved in online transactions such as intention to use a sites in purchasing products [15].

Previous studies have measured the intention to purchase. Purchase intention is reflected through willingness to make transaction, to give recommendation or reference and to feel the most preference [16, 17]. Purchase intention is also reflected through explorative activities in getting informations about products [18].

### Perceived Ease of Use and Purchase Intention

The perceived ease of use is a level where someone is convinced that the use of technology is an easy matter and does not require hard effort in its use [19]. According to the technology acceptance model (TAM), the actual behaviour is determined by behavioural intention. The behavioural intention is determined by attitude toward use and perceived usefulness. One of factors that determines the attitude toward use is perceived ease of use.

The perceived ease of use can be seen from the appearance of the sites that easy to be understand [20]. The online sites must be designed using an interface that is user friendly, easily understood and easily used by users [5, 21]. The perceived ease of use has a significant positive effect on oline purchase intention [3, 4]. An application that is easier to use will be preferred to be adopted by users than applications that provide a high level of difficulty [3]. The easier the online transactions, the greater the online purchase intention [4].

### Information Quality and Purchase Intention

Information quality can be reflected through accurate, sufficient and clear [22]. According to Purwaningsih & Budyastuti [23], information quality that refers to the accuracy of information means that the companies serve the truth information. Information quality that refers to completeness and timeliness means that the information includes all information needed by users and the information is serviced on time.

Information quality has a significant effect on online purchase intention [6]. The more quality of information provided to consumers, the higher intention of consumers to purchase the products [9]. It means that the more quality of information provided by sellers to consumers on a site, it will lead consumers to purchase products on that site.

### Trust and Purchase Intention

Trust is a thing that makes consumers in deciding to transact online because consumers feel that the seller is honest enough to transact with them [7]. Trust can be reflected through the integrity and competence of seller [24]. The integrity of seller means that the seller is honest and reliable. The competence of seller means that the seller performs his/her roles very well and provides excellent service.

Trust has a positive effect on purchase intention [5-7]. Trust has the biggest effect to online purchase intention [25]. When consumer will make an online transaction, the main thing that they considered is whether the seller can be trusted or not.

### Perceived Risk and Purchase Intention

Perceived risk is the perception of consumers about the uncertainty and consequences of purchasing products [26]. Perceived risk can be perceived through components such as financial, product performance, delivery, privacy and information. According to Yusnidar *et al.*, [18] the risk on component of financial refers to the possibility of losing money related to online payment transactions. The risk on component of product performance is related to the suitability of the product ordered. The risk on component of delivery is related to the delivery of orders to the destination location and the length of delivery of orders. According to Oentario *et al.*, [27] the risk on component of privacy related to concerns about the personal data can be widespread and even misused. The risk on component of information related to the accuracy of the information presented by the seller

Perceived risk is a factor that lowers consumers' intention to purchase. Online purchasing involves more uncertainties than traditional purchasing [10]. Perceived risk has a negative effect on online purchase intention [3]. Online purchase intention will reduced when consumers feel the risk in losing money,

spreading personal information, and receiving unexpected products [7].

**Hypohotesis**

Based on the explanation above, the hypohoteses are formulated as below:

- H1: Perceived ease of use has a positive significant effect on purchase intention on agricultural application.
- H2: Information quality has a positive significant effect on purchase intention on agricultural application
- H3: Trust has a positive significant effect on purchase intention on agricultural application.
- H4: Perceived risk has a negative significant effect on purchase intention on agricultural application.

Based on the hypohoteses development, the conceptual framework of this study is illustrated in Fig-1.

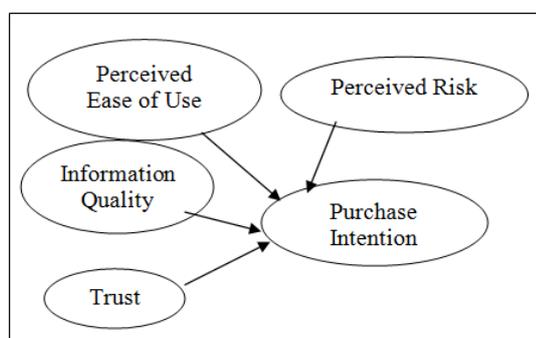


Fig-1: Conceptual Framework

**RESEARCH METHOD**

**Type of Research**

The type of this study is causality study. The variables that used in this study are latent variable (construct) and manifest variable (indicator). The construct perceived ease of use with indicators i.e. interface, loading time, navigability [3, 4]. The construct information quality with indicators i.e. accuracy, timeliness, and sufficiency [6, 22]. The

construct trust with indicators i.e. integrity and competence [7, 24]. The construct perceived risk with indicators i.e. financial, product performance, delivery, privacy, and information [3, 18, 27]. The construct purchase intention with indicators i.e. transaction, reference, preference, explorative [17, 18].

**Population and Sample**

Population of this study is internet users in Jabodetabek Region. The samples are taken by purposive sampling method with several criterias i.e internet user who had online purchase experinces but never had the experiences of purchasing on agricultural applications. The data obtained from 136 respondents which majority of respondents are female (74.25%), majority age of respondents are 20-29 years old (60.29%) and majority respondents are employee (68.39%). Referring to Hair *et al.*, [28], this number of respondents is still included in the sample size of SEM analysis which requires minimum sample of 5 times the number of indicators.

**Analysis Method**

The data were collected from March to April 2019. The data were collected using an online questionnaire. The items were measured on a five-level Likert Scale. The data were analyzed using Partial Least Square (PLS). Partial Least Square (PLS) is a component-based SEM technique because it estimates parameters similar to principal component with a multiple regression approach [29].

**RESULTS AND DISCUSSION**

The results of this study shows that the constructs have good convergent validity. It is because the loading factor for each indicator is above 0.7 that means all indicators are valid. All indicators are also significant at 0.05. Besides, all constructs have good reliability because the values of composite reliability are above 0.8 and the values of cronbach's alpha are above 0.7. The results of measurement model evaluation can be seen in Table-1.

Table-1: Results of Measurement Model Evaluation

Construct	Cronbach's Alpha	Composite Reliability	AVE	Indicators	Loadings	P-Values
Information Quality	0.928	0.954	0.874	Accuracy	0.929	0.000
				Timeliness	0.931	0.000
Perceived Ease of Use	0.943	0.958	0.884	Sufficiency	0.946	0.000
				Interface	0.969	0.008
				Loading	0.967	0.007
Perceived Risk	0.893	0.918	0.692	Navigability	0.882	0.018
				Delivery	0.862	0.000
				Financial	0.820	0.000
				Product	0.860	0.000
				Privacy	0.794	0.000
Purchase Intention	0.818	0.879	0.647	Information	0.822	0.000
				Transaction	0.865	0.000
				Reference	0.855	0.000
				Preference	0.721	0.000
				Explorative	0.768	0.000
Trust	0.955	0.978	0.957	Integrity	0.979	0.000
				Competence	0.978	0.000

Source: Primary data processed, 2019

Based on Table-1, all constructs are also valid because the values of Average Variance Extracted (AVE) are above 0.5. In order to confirm the discriminant validity among the constructs, the cross

loading was examined (Table-2). The indicators measuring the same construct (in bold) represent prominently higher factor loadings on a single construct than on the other constructs.

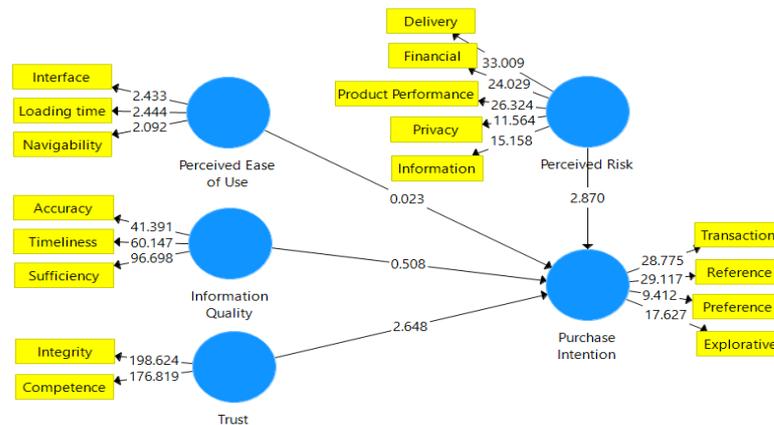
**Table-2: Discriminant Validity Test**

	Information Quality	Perceived Ease of Use	Perceived Risk	Purchase Intention	Trust
Accuracy	<b>0.929</b>	0.052	-0.330	0.429	0.804
Timeliness	<b>0.931</b>	0.047	-0.371	0.438	0.739
Sufficiency	<b>0.946</b>	-0.014	-0.356	0.467	0.827
Interface	0.010	<b>0.969</b>	0.044	0.029	0.065
Loading time	0.055	<b>0.967</b>	0.001	0.030	0.081
Navigability	-0.015	<b>0.882</b>	0.003	0.007	0.048
Delivery	-0.378	0.061	<b>0.862</b>	-0.320	-0.323
Financial	-0.178	-0.002	<b>0.820</b>	-0.345	-0.173
Product	-0.371	-0.012	<b>0.860</b>	-0.278	-0.335
Privacy	-0.277	0.055	<b>0.794</b>	-0.093	-0.189
Information	-0.378	0.008	<b>0.822</b>	-0.254	-0.284
Transaction	0.413	0.001	-0.230	<b>0.865</b>	0.516
Reference	0.413	-0.051	-0.317	<b>0.855</b>	0.422
Preference	0.227	0.087	-0.241	<b>0.721</b>	0.265
Explorative	0.435	0.080	-0.321	<b>0.768</b>	0.401
Integrity	0.824	0.066	-0.322	0.506	<b>0.979</b>
Competence	0.830	0.077	-0.304	0.497	<b>0.978</b>

Source: Primary data processed, 2019

Based on Table-2, the discriminant validity by all constructs is achieved. It can be seen that the values of factor loading of indicators measuring the same construct are higher than on the other constructs.

Besides, the evaluation of the structural model looks at the relationship between constructs and their t-values based on PLS output. The results of testing the structural model are shown in Fig-2.



**Fig-2: Results of Structural Model**

Fig-2 presents the results of t-statistics for constructs. Based on the results, there are two constructs are significant i.e. trust and perceived risk. There are

two constructs are not significant i.e. perceived ease of use and information quality. The results of structural model evaluation are shown in Table-3.

**Table-3: Results of Structural Model Evaluation**

Constructs	R-Square	Path	Coefficients	T-Statistics	P-Values	Results
Perceived ease of use	0.301	PEOU → PI	0.002	0.023	0.491	Not Significant
Information Quality		IQ → PI	0.077	0.508	0.306	Not Significant
Trust		Trust → PI	0.387	2.648	0.002	Significant
Perceived Risk		PR → PI	-0.192	2.870	0.004	Significant
Purchase Intention						

Source: Primary data processed, 2019

Based on Table-3, the model of the effect of perceived ease of use, information quality, trust and perceived risk toward purchase intention has r-square value of 0.301. It means that the variability of purchase intention on agricultural applications is explained by the perceived ease of use, trust, information quality and perceived risk of 30.1%. The remaining 69.9% is explained by other variables outside the model.

### **The Effect of Perceived Ease of Use on Purchase Intention**

The effect of perceived ease of use on purchase intention is not significant. It is because the p-value (0.491) is higher than 0.05. It means that H1 is rejected. It interprets that perceived ease of use that reflected through interface, loading time and navigability, is not influencing the purchase intention on agricultural application.

Consumers feel that they have experiences on online purchasing, so that the factor of ease of use does not affect them. If they are going to make a purchase on an agricultural application, they assume that they are familiar with online purchasing. They are familiar with interface, loading time and navigability. Therefore the perceived ease of use has no effect on purchase intention in agricultural application.

Perceived ease of use do not guaranteed as the factor that influences online purchase intention. It is because this finding is supported by Sari & Setiaboedhi [2] that showed that the effect of perceived ease of use on the online purchase intention of agricultural product is not significant. It means that in the context of online purchasing of agricultural product, perceived ease of use becomes a factor that not influencing online purchase intention.

### **The Effect of Information Quality on Purchase Intention**

The effect of information quality on purchase intention is not significant. It is because the p-value (0.306) is higher than 0.05. It means that H2 is rejected. It interprets that information quality that reflected through accuracy, timeliness and sufficiency, is not influencing the purchase intention on agricultural application.

Consumers feel that the information about product, price, company, transactions and other information that presented accurately, on time and completely do not affect the purchase intention on agricultural application. This finding is supported by Wei, Wang, Xue, & Chen [8] that the effect of information quality on the online purchase intention of agricultural product is not significant. It means that in the context of online purchasing of agricultural product, information quality becomes a factor that not influencing online purchase intention.

### **The Effect of Trust on Purchase Intention**

The effect of trust on purchase intention is significant. It is because the p-value (0.002) is lower than 0.05. It means that H3 is accepted. It interprets that trust that reflected through the integrity and competence of company, is positively influencing the purchase intention on agricultural application.

Consumers believe that the company has competence and integrity in fulfilling the consumers' needs. Consumers believe that the company can fulfill commitments and provides good services for consumers. Consumers also believe that company performs its role well as an intermediary between farmers and consumers.

This finding is supported by Chen & Theng [5], Luo, Zhang, & Li [6] and Putra *et al.*, [7] that showed that trust has a positive and significant effect on online purchase intention. The greater the trust of consumer in company, the greater the online purchase intention. This finding is also supported by Sari & Setiaboedhi [2] that showed that the effect of trust on the online purchase intention of agricultural product is significant. It means that in the context of online purchasing of agricultural product, trust also becomes a factor that influencing purchase intention.

### **The Effect of Perceived Risk on Purchase Intention**

The effect of perceived risk on purchase intention is significant. It is because the p-value (0.004) is lower than 0.05. It means that H4 is accepted. It interprets that perceived risk that reflected through financial, product performance, delivery, privacy and information, is influencing the purchase intention on agricultural application.

Consumers feel that money lost can occur as a result of an irresponsible company. Consumers feel that they can receive poor product quality and takes a long time. Consumers feel that their personal information can be spread and the informations on agricultural application can be mismatched. The greater the perceived risk regarding these matters, the lower the purchase intention on agricultural applications.

This findings is supported by Akhlaq & Ahmed [3] and Putra *et al.*, [7] that found that perceived risk has a negative effect on online purchase intention. This finding is also supported by Han & Mu [1] that showed that the effect of perceived risk on the online purchase intention of agricultural product is significant. It means that in the context of online purchasing of agricultural product, perceived risk also becomes a factor that influencing purchase intention.

## **CONCLUSION**

Perceived ease of use doesn't affect purchase intention on agricultural application. Consumers feel

that they have experiences on online purchasing. If they are going to make a purchase on an agricultural application, they assume that they are familiar with interface, loading time and navigation on online purchasing.

Information quality doesn't affect purchase intention on agricultural application. Consumers feel that the information about product, price, company, transactions, and the others, do not affect the purchase intention on agricultural application. Eventhough the information presented accurately, on time and completely, it doesn't affect the purchase intention on agricultural application.

Trust positively affects purchase intention on agricultural application. Consumers believe that the company has competence and integrity in fulfilling the consumers' needs. Consumers believe that the company can fulfill commitments and provides good services for consumers. The greater the trust of consumer in company, the greater the purchase intention on agricultural application.

Perceived risk negatively affects purchase intention on agricultural application. Online purchase intention will reduced when consumers feel that their money can be lost, the product quality is poor, the products is delivered in a long time, their personal information will be spread and the informations are incorrect. The greater the perceived risk regarding these matters, the lower the purchase intention on agricultural applications.

### Implication

Based on this findings, the company of agricultural application can do things that improves the consumers' trust and minimize consumers' perceived risk to gain consumers' purchase intention. In order to order to maintain the consumers' trust, the company of agricultural application must becomes the company that has competence and integrity in fulfilling the consumers' needs. In order to minimize risk perceived by consumers, the company can do things such as use trustworthy payment facilities, use reliable delivery service, present high resolution product pictures, and provide data securities.

Besides, this findings provides an empirical evidence about purchase intention on agricultural application. This findings are expected to enrich the empirical evidence in the context of online marketing. This findings also can be used as a references for academics and researchers especially for the same research framework.

### Limitation

This study is focused on purchase intention in agricultural application. The future studies can focus on exploring variables that affect the purchase intention or

evaluating variables that don't affect the purchase intention on agricultural application. The future studies can also add more variables or focus on the other specific applications.

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