Consumer Perceptions of Agribusiness E-Marketplace Opportunities in Indonesia

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ABSTRACT

E-commerce for agribusiness products began to develop in Indonesia in 2015, but it is still very small in number when compared to products from other industries. E-marketplace allows farmers to reach a wider range of consumers, so that everyone who has internet access has the opportunity to be able to enjoy fresh agricultural products. The success of an e-marketplace is supported by the good performance of the web, so that consumers will feel comfortable in searching for products and making transactions. This study discusses the performance of e-marketplaces, and consumer perceptions to determine consumer purchase intentions of agricultural product e-marketplaces. The population in this study are consumers who have used the agricultural product e-marketplace. The data were obtained through a questionnaire using 100 respondents, then a classic assumption test was carried out to determine the appropriateness of the statements used in the questionnaire and the distribution of the data used. Data was analyzed using multiple linear regression. Results show that e-marketplace performance as in convenience to buy has impact on consumer purchase intentions for agricultural products while other variables does not impact consumer purchase intentions. Simultaneously, the results of the study indicate that e-marketplace performance, perceived ease of use, and perceived benefits influence consumer purchase intentions in agricultural product e-marketplaces. The contribution of the influence of the independent variables to the dependent variable is 17.9%, and the rest is influenced by other variables not included in the study.

1. INTRODUCTION

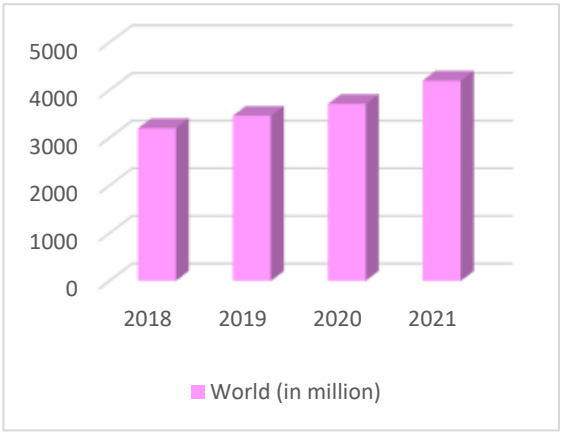
World Wide Web (www) or as commonly called, the Internet, has made the information accessible to the people world over. Person sitting in remotest part of the world has now access to information on almost everything. Reportedly, the data over the internet have increased multifold. In last few years, data production on the internet has doubled (Statista, 2021) – and search engines like Google and Bing – are increasingly indexing and ranking this data-based information. This is labelled as Information Society and people producing this data or information are referred as Communities of the Knowledge Economy.

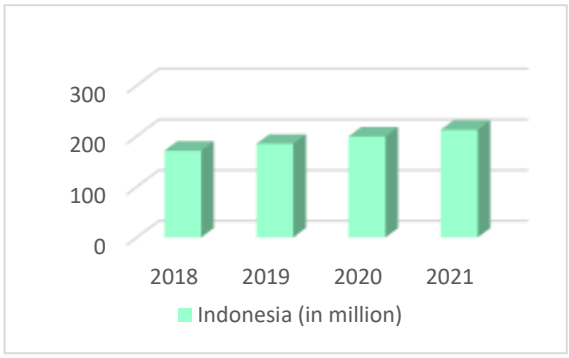
Internet growth has been rapid and most important reason for behind this growth is shift from computer to mobile – as device to access internet. With mobile data plans becoming cheap, more people have access to the Internet. Internet itself is becoming faster with 5G like technologies and firms are working towards continually creating simple user interface. This means information access is more than ever affordable and increasingly higher number of consumers have access to the Internet through mobile devices. Mobile devices segment itself becoming so competitive that it is forcing mobile adoption and through it, the Internet.

There is a paradigm shift in consumer demographics that have now access to information over the Internet. Initially focused around Gen Z and metro-urban population as primary Internet users who

could afford and contribute to data information sets on the Internet; today, this is no truer. It is now mostly the people from different sections of societies like agriculturists and population in rural areas that gives it the volume. Today, people making a living from farming have access to information like – what crops they should grow, what price they should sell, where to sell, how to control production quality, things to observe – almost everything accessible to them.

Even the Governments are pushing such initiatives that can improve living standards for these agriculturists by providing them desired information, cutting down on intermediaries, getting best prices for their yield and locating a market they wish to sell to. All this on a mobile device with internet connection that is cheap compared to the advantages it offers. This has created a 'information exchange' between people to people, firms to consumers, Governments to societies. No more this is restricted to chatting and exchanging emails only as earlier thought of.





Source: Statista, 2021
Fig. 1 Internet User Growth

Today, agriculturist and farmers, who grow and produce grains and vegetables, as well as those, into farming like eggs and meat or dairy products are directly selling to consumers over the Internet. This model Direct to Consumers (D2C) is gaining traction. It has a community or a firm that buys locally, the vegetables and/or poultry products and sell directly to consumers. Agro-producers have more control over who they sell to and for consumers this model brings convenience and freshness. In fact, studies have revealed that the modern societies prefer convenience over cost, and quality (fresh and organically grown) over price.

Classic example is dairy producers who deliver fresh milk daily on subscription, hygienically delivered to consumers – direct from rural producers to end consumers. What more, you can track the delivery on the device with details like – time it will take to reach your doorstep, temperature at which product is kept, and sourcing information where exactly your milk has come from. This shows how the Internet is being adopted as means of exchange – for delivering information, for marketing of products and overall, as a business model.

The acronyms like SaaS (software as a service), D2C (direct to consumers), e-commerce and apps suggest that virtual marketplaces are gaining a lot of traction. As per some survey, on average, consumers worldwide have more than 34 apps on their phones. From small start-ups to unicorns – almost every firm now have virtual presence either as a website or as seller in the market place online – or both. Therefore, marketing is a key element in promoting 'Business on the Web'. It can help overcome and navigate through the challenges in the environment affecting products especially the perishable items like agriculture products.

Marketing can control this information exchange, make it more meaningful and relevant to both farmers (agro-producers) and their consumers. Agri-business marketing can promote produce (e.g., organically grown) and farmer community, define product freshness (time to market) and, emphasize quality to justify the price. This will help in connecting the interests of farmers and consumers to each other [4]. When parties have their interests connected to each other, a better business-consumption model shape up. In addition, marketing can help deal with dynamic environmental changes like – what's trending and balance the needs.

A particular demand may peak the demand for a certain product that's not seasonal. It is here in cases like these, marketers can promote similar other products and shift the demand. As for example, during Covid-19 times, at a certain peak, the consumption for citrus fruits and in particular demand for Kiwi fruit went up multi-fold. Exports increased and domestic demand fell short and prices in local markets nearly doubled. Marketers helped shift the demand to pineapple, moringa and coconut water with a simple blog on the buy fruits and vegetables section and those searching for "kiwi" on the app and the website educating them about how same vitamin C value with same nutrient value can be delivered through other fruits combination at a 30% less costs.

The role of marketing is imperative therefore in sales of agri-products digitally. It can attract consumers to buy and repurchase, shift their choices to alternatives available and limit the external environment forces that can affect the consumption. SWOT (Strength, Weakness, Opportunity, Threat) analysis, PESTEL (political, economic, social, technology, ecological and legal) analysis and Porter's five forces model are few models in this direction to understand the internal and external factors affecting an Industry and its firms .

The interplay of digital technology, the internet and the marketing theories have been paving way for e-commerce firms and agriculture business is not any exception. Environmental forces like Covid-19 situation have changed consumer perception and behaviour in many ways. Lock-downs, weekend/night curfews, prohibition on large gatherings in festivals or functions have changed the way regular business was being done. A lot of consumers to avoid going out and out of sheer necessity, have embraced the online model. This shift from physical market place to online or virtual market place have caused businesses to think how to market their products in the online setting, over the internet.

The choice that they had – either to create a marketplace for themselves or join hands with firms offering such marketplace. The first choice requires heavy investment and not a feasible route for mid-small firms while the second option require less investment and gives a broader readily available market place to sell goods to but same time gives less control as well. This is how digital platforms have changed the business landscapes and forcing consumers to adopt to new regime and altering consumer behaviour and perceptions. The growth of online shopping data is presented in Fig 2.

Source: Statista, 2021

Fig. 2 Global Online Shopping and E-commerce Growth

The virtual or e-market place has been providing great opportunity to traders including the ones engaged into selling agriculture goods like grains and vegetables and meat and dairy. It is due to the shift in consumer attitudes towards online platforms, these producers have a readily available market place to sell directly to consumers. Not only this has help break the long chains of intermediaries called middlemen in the business ecosystem but also have helped agribusiness to focus on production, made their yield accessible to millions of consumers and for buyer's they get fresh agriproducts at their doorstep with easy transactions option.

In nutshell, the application of e-commerce in the field of agribusiness is called e-agribusiness. It provides great benefits to farmers, retailers ss well as the consumers [11] [12] in many ways. For example, farmers get right price for their yield, consumers have convenience and retailers earn

commission from the potentially big marketplace as broker. Agricultural product e-marketplace applications can be categorized from the farmer's point of view according to production factors, services, and outputs. The first agribusiness e-marketplace that was established in Indonesia was Agromaret.com, and currently has more than 120 thousand agropreneurs.

During the Covid-19 pandemic, the use of online transactions through e-commerce was not only dominated by high-income consumers, but also by consumers with lower-middle incomes. In Indonesia, various agricultural products have begun to be marketed through e-commerce, either through marketplaces, special e-commerce, or social media channels. Marketplace-based e-commerce applications are growing, so that farmers can use them to market their agricultural products directly to consumers. Several marketplace-based agri-food e-commerce that were established in 2015-2021 such as Kecipir, Tanihub, Sayurbox, Simbah, Limakilo, Regopantes, Brambang, PanenFresh, e-tanee, Agripedia show that the trend of e-marketplaces for agribusiness is growing better.

Literature Review

Consumer behaviour is changing due to external forces like pandemic, change in course of doing business, shifting consumer interest to online and producers and retailers looking to cut down on number of intermediaries from the consumption chain. Today most producers are present online besides being present offline through a brick-and-mortar store. Increasingly number of people are shifting to online however mostly prefer both channels. For groceries and clothing usually a large number of people prefer online purchase however for products that are costly and needed to be explored like high-end durables, jewellery or perfumes most transactions are in-store. Another trend that's more observed now are people like to see the product in-store and then for availing a better discount may look to purchase online.

This is driving consumer sentiments to adopt online, giving them a sense of satisfaction that product purchased by them has been procured at the best price possible. In consumer behavior theory this is more commonly known as Mercenary Segment – those who are not loyalist and continually seek to increase their gains from the product purchase. This behaviour shows how consumers evaluate products and make purchase decisions. This is inspired by their demographic, cultural and psychological aspects. These factors drive the urge to seek discount, deals, convenience over time, alternate available, cost of alternate and innate need driving the motivation for consumption of product. Therefore, marketing activities are targeted at satisfying these conditions measured as post purchase behaviour that gives a sense of (dis)satisfaction to customers about their purchase.

Purchase behaviour or consumer behaviour overall is defined by the purchase channel. For example, purchase experience may differ when customer is in-store or in the online store. Discount or deal seekers explore internet stores while other prefer to get hands on experience. So, the channel and medium play an imperative role. Promotions thus becomes important in driving customers to these channels and how convenient the medium is to pay for the product, track product delivery or initiate refunds. This is the opportunity that is provided by the digital marketing delivered through e-marketplace. This e-marketplace is rather a virtual mall connected by online sellers who are looking to sell their products at one place.

As for agri-farmers or agri-business firms this marks an important milestone in the sense they have a readily available big market for their spices, cereals, grains, vegetables and fruits. The intermediaries would be less which means direct to consumers and hence better profits. This is an important factor for agro-producers whose motivation to farm rests upon profits he is seeing. Thus, e-commerce through these marketplaces have tendency to create better consumption relationship between farmers and consumers which is faster and affordable, and bigger marketplace that has a wider reach – as wide as world itself. This expansion in the virtual world as in form of e-commerce or e-marketplace is redefining opportunities and challenges for farmers and agribusiness retailers.

These opportunities and challenges in the internet-online regime is affected by external forces. Post pandemic the world has changed in terms of its outlook towards avoiding crowd, social gatherings and events and this has impacted their consumption to much extent. Consumers started preferring convenience over cost, quality over the price and therefore online purchases for vegetables and fruits have now become necessity rather a choice. All is needed it right marketing strategy, to reach out to this available customer segment at a click or tap. Indonesian agri-producers are largely selling their commodities on several available platforms and in future, they might look forward

creating a new and dedicated market place for selling their produce and increasing their income sustainably.

Agro producers like Agromaret.com, Kecipir.com, Limakilo.id, Agribusinesspedia.com are few examples. However, this marketplace isn't restricted to this list. Many more are selling on bigger marketplaces like Amazon and Tokopedia. Many e-marketplaces for agricultural products currently available are competing on features (organic, fresh), content, convenience, and benefits that consumer can get on these marketplaces. Previous research recommends that the outlay and design of the homepage of the e-marketplace website is very important in order to attract and engage consumers. Other important challenge is to give consumers safe-browsing experience when going through the information about products and/or doing transactions.

2. METHOD

Theory of Planned Behavioral was used as the grant theory of this research, which postulates three independent concepts oft determine intentions, namely attitudes, norms, and behavioral control. Technology Acceptance Model (TAM) used as a research model which is compiled by. TAM explains that a person's behavior in using information technology begins with a perception of the benefits and ease of using information technology.

This study used a quantitative descriptive approach with survey methods through questionnaires, then examines the effect website performance on purchase intention of agricultural products which is sold in e-marketplaces. The researcher does not know the number of consumer populations who have visited the e-marketplace of agricultural products, so that a sample was taken for this study using a purposive sampling technique because of the consideration of the characteristics of the respondents needed in this study. The sample used in this study were 100 respondents who had visited the e-marketplace of agricultural products.

The data that has been collected is processed using SPSS application. The questionnaires given to respondents are descriptive information or consumer demographics which contains information about consumers, and consumer statements related to research variables. The Likert scale 1-5 is used in this study to measure the perceptions, opinions, and attitudes of research respondents towards the phenomenon being studied. Data on respondents are presented in Table 1.

Table 1. Demographic Characteristics of Respondents

Profile	**Characteristics**	**%**
Gender	Male	32
	Female	68
Age	16-20	33
	21-25	43
	26-35	10
	36-45	10
	>45	4
Education	Senior High School	17
	Diploma	12
	Bachelor	51
	Postgraduate	11
	Doctoral	9
Profession	Freelancer	7
	Private Employee	26
	Lecturer	16
	Students	30
	Entrepreneur	21

3. RESULTS

The research aims to examine website performance on purchase intention of agricultural products sold through e-marketplaces using 100 respondents. Validity test results showed a significant

value <0.05 and greater than r table 0.197, it means all items used in the questionnaire were valid and can be used in research. Reliability test was used to find out the consistency level of a questionnaire used in the study, and the results showed the value > 0.60, it means that the data can be trusted. The normality test results show that the significance value is >0.05, it means the data are normally distributed. Regression analysis is used as the next step to see the effect of website performance on purchase intention. The results are presented in Table 2.

Table 2. T-Test Results (Partial)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	47.751	7.807		6.116	.000
	Website Features	.303	.270	.106	1.124	.264
	Website Content	.272	.265	.104	1.026	.307
	Website Convenience	.584	.215	.273	2.717	.008
	Perceived Ease of Use	-.298	.230	-.124	-1.297	.198
	Perceived Benefits	-.334	.204	-.156	-1.638	.105

a. Dependent Variable: Purchase Intention

The results of the partial test in Table 2 show that the website convenience variable has an influence on consumer purchase intentions in the e-marketplace of agricultural products. Consumers like websites that provide fast access for users, so consumers do not have to wait long to be able to find the desired product. In addition to fast access, consumers also consider the latest information presented by the e-marketplace, and the speed of seller's response if consumers have questions about the products sold on the e-marketplace. The results of this study are in line with research conducted by previous researchers who stated that the flow of information is very important for digital marketing.

Variable website features and website content have no effect on consumers' purchase intentions for agricultural products, this happens because e-marketplaces that sell agricultural products already have complete features where consumers can easily find the desired product and complete with information about the product. Each e-marketplace for agricultural products also lists the prices of each product, as well as the payment methods that consumers can choose from. Consumers are also given offers regarding delivery services that can be selected according to consumer wishes.

The completeness of features and content in the e-marketplace for agricultural products is what causes consumers to trust it. Even though there are e-marketplaces that offer agricultural products with incomplete features and content, consumers will still have the intention to buy these products if there are other things that provide benefits, such as lower prices or perhaps better service. The results of this study are in line with previous research which states that increasing e-marketplace content services is the factors that consumers considerate to, and as a form of care and attention given by e-marketplaces to consumers.

Consumer perceptions are very important in obtaining the ease of obtaining agricultural products and the benefits obtained by using e-marketplaces that offer agricultural products to meet their daily needs. The results showed that perceived ease of use and perceived benefits did not affect consumers' purchase intentions on agricultural products. This happens because consumers already know that there are many advantages that consumers get when they use e-marketplaces to buy agricultural products, where consumers can search for the desired product online, and make transactions safely through the e-marketplace, so that consumers can save time, energy, and cost. Consumers argue that if the ease of use and benefits obtained from e-marketplaces are not followed by product offerings with good quality, consumers will still not have the intention to buy on the e-marketplace.

The ease of use and benefits obtained from e-marketplaces must be followed by offering quality products at prices that are in accordance with the benefits received by consumers. The

development of technology supports the activities of marketing agricultural products, so it can help break the long distribution chain of agricultural products. The result is in line with previous research which states that the adoption of e-marketplaces still faces many challenges, to be successful, it is necessary to be able to understand customers by providing convenience in using e-marketplaces and providing security guarantees in transactions.

Simultaneous test results show that website performance variables, perceived ease of use, and perceived benefits affect consumers' purchase intentions for agricultural products, as presented in Table 3.

Table 3. Simultaneous Test Results

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	99.232	5	19.846	4.111	.002[b]
	Residual	453.758	94	4.827		
	Total	552.990	99			

a. Dependent Variable: Purchase Intention
b. Predictors: (Constant), Perceived Benefits, Perceived Ease of Use, Website Features, Website Convenience, Website Content

The results of determination test (R squared) show the contribution of the influence of website performance, perceived ease of use, and perceived benefits (X) on purchase intention (Y). The value of the coefficient of determination is useful for predicting and seeing how big the contribution of the influence given by website performance, perceived ease of use, and perceived benefit simultaneously to purchase intention, as presented in Table 4.

Table 4. Results of the Coefficient of Determination

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.424[a]	.179	.136	2.197

a. Predictors: (Constant), Perceived Benefits, Perceived Ease of Use, Website Features, Website Convenience, Website Content
b. Dependent Variable: Purchase Intention

The coefficient of determination test results showed a value of 0.179 or 17.9%, this number means that website performance variables, perceptions of ease of use, and perceptions of benefits simultaneously affect consumer purchase intentions on agricultural products by 17.9%, while the remaining 82.1% is affect by other variables such as trust, experience, etc.

4. DISCUSSION

The results of the study show that there is very little agribusiness marketing done through e-marketplaces, so the use of digital platforms such as e-marketplaces still needs to be improved so that the agricultural sector can break the length of distribution channels for agricultural products.

5. CONCLUSSION and SUGGESTIONS

The results showed that the website convenience variable had an effect on consumers' purchase intentions for agricultural products in the e-marketplace, while the perceived ease of use, perceived benefits, features, and website content had no effect on consumers' purchase intentions for agricultural products in the e-marketplace. The contribution of e-marketplace website performance variables, perceived ease of use, and perceived benefits on consumer purchase intentions on agricultural products in e-marketplaces is 17.9%. This small contribution is due to the lack of marketing of

agricultural products that utilize digital platforms, so that there are still opportunities for the agricultural sector to utilize e-marketplaces in marketing their products in order to reach a wider range of consumers.

Managerial Implications

This research will be useful for practitioners involved in selling agricultural products through e-marketplaces, especially for farmers and new entrepreneurs. This study will also provide information to the agricultural sector, from those involved in the production of agricultural products to those involved in marketing them by helping them understand the factors that make consumers intend to buy agricultural products. For consumers, the results of this study are expected to help in appreciating farmers by consuming agricultural products directly from farmers. For academics, the results of this study are expected to help in understanding the theory of consumer behavior in relation to consumer perceptions and the performance of e-marketplace websites in the agricultural sector.

Research Limitations

The respondents used in this study are still very small when compared to the total population and number of internet users in Indonesia. The data will be more representative if the number of respondents sampled in this study is more. The theme of consumer perception tends to involve consumer privacy, so the data obtained can be biased in expressing the true opinion of respondents. However, it does not mean that the data used in this study is invalid, because in some cases it is impossible to obtain perfect data.

Research Development Plan

In future research, we want to study other internal and external factors such as, culture, trust, experiences that will influence consumer behavior of agricultural products. Thus, the author hopes to improve his research and make it more objective and comprehensive.

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