

E-Marketplace Adoption of MSMEs Agro-Industry Fishery Products in Kalanganyar Village, Sidoarjo: a UTAUT Model Approach

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Abstract

This study analyzes the factors influencing the adoption of e-marketplace by fishery product agro-industry MSMEs in Kalanganyar Village using the UTAUT (Unified Theory of Acceptance and Use of Technology) model. The research method used is Structural Equation Modeling with a Partial Least Square (SEM-PLS) approach, involving observations and interviews with 50 MSMEs. The results showed that Effort Expectancy and Social Influence had a positive and significant effect on Behavioral Intention, while Performance Expectancy had no significant effect. Facilitating Conditions have a positive and significant effect on e-marketplace adoption, but Behavioral Intention has no significant effect on adoption. The R-Square value shows that the variables studied affect 31.4% of Behavioral Intention and 47% of adoption. The Predictive Relevance (Q^2) value of 0.6364 indicates a fairly good model. This study emphasizes the importance of the availability of information, assistance, and training to improve the utilization of e-marketplaces by MSMEs, especially for housewives who have difficulty understanding technology.

Keywords: E-Marketplace Adoption, UTAUT Model, Fishery Product Msmes, SEM-PLS Analysis, Technology Acceptance Factors



INTRODUCTION

The development of the internet has changed the way business is done, including the emergence of e-commerce that facilitates transactions between sellers and buyers online (Rerung, 2018). In Indonesia, the value of digital economic and financial transactions continues to increase, demonstrating the growing trend of online shopping. Marketplaces are becoming an important platform for MSMEs, helping to market products, attract consumers, and create safe and easy transactions (Apriadi & Saputra, 2017). MSMEs play an important role in economic development and poverty alleviation in Indonesia (Tambunan, 2021). The marine and fisheries sector also has a significant role in the management and utilization of fish resources (Republik Indonesia, 2009). Sidoarjo Regency, which is designated as a Minapolitan area in East Java, has great potential in shrimp and milkfish farming (Firmansyah et al., 2022), encouraging the emergence of fish processing agro-industry MSMEs in Kalanganyar Village. Despite their growth potential, MSMEs in Kalanganyar Village still face constraints in utilizing digital marketing (Lailiyah, 2022). Barriers faced by MSMEs include limited access to markets, resources, and technology (Setyorini & Meiranto, 2021). Internet utilization by MSMEs is considered an effective way for business development (Khairin et al., 2021), but it has not been optimally utilized. The We Are Social survey (2023) shows that 65% of Indonesia's population does online shopping, opening up great opportunities for MSMEs to expand their markets through digitalization. To understand the adoption of new technology, the Unified Theory of Acceptance and Use of Technology (UTAUT). This theory includes four independent variables: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC), and two dependent variables: Behavioral Intention (BI) and Use of Behavior (UB) (Venkatesh et al., 2008).

This study aims to analyze the factors that influence the adoption of e-marketplace by fishery product agro-industry MSMEs in Kalanganyar Village, Sidoarjo, using the UTAUT model. The research methodology uses a quantitative approach with a survey method. The research sample was fishery product agro-industry MSMEs in Kalanganyar Village. Data were collected through questionnaires and analyzed using the Structural Equation Modeling (SEM) method. The research results are expected to provide a clear picture of the factors influencing the adoption of e-marketplace by fishery product agro-industry MSMEs in Kalanganyar Village. This understanding can be the basis for developing strategies and policies to increase e-marketplace adoption among MSMEs. The implications of this research include recommendations for local governments, MSME



development institutions, and MSME actors themselves. The research results can be an input for the development of more effective training and mentoring programs in encouraging e-marketplace adoption. MSME development institutions can use these findings to design more targeted programs to help MSMEs adopt digital technology. This research can also contribute to the development of technology adoption theory, especially in the context of MSMEs in developing countries. By applying the UTAUT model to the specific case of fishery product agro-industry MSMEs, this research can provide a new perspective on how the factors in the UTAUT model interact in this unique context.

In the long run, increased adoption of e-marketplaces by fisheries agro-industry MSMEs in Kalanganyar Village can have a positive impact on the local and regional economy. With wider market access through digital platforms, MSMEs can increase sales, expand business networks, and ultimately contribute to regional economic growth. However, keep in mind that e-marketplace adoption is not an instant solution to all the problems faced by MSMEs. Other challenges such as improving product quality, financial management, and improving HR capacity also need to be considered. Therefore, this research can be part of a more comprehensive effort in supporting the development of MSMEs in the digital era. In conclusion, research on the adoption of e-marketplaces by fishery product agro-industry MSMEs in Kalanganyar Village, Sidoarjo, using the UTAUT model has the potential to make a significant contribution, both theoretically and practically. The research results can be the basis for developing more effective strategies and policies in encouraging the digitalization of MSMEs, especially in the fisheries agro-industry sector. Thus, it is expected that MSMEs can be better prepared to face challenges and take advantage of opportunities in the digital economy era.

METHOD

Preliminary Research

Preliminary research is an important early stage in the research process to gather preliminary information and data. In this study, researchers conducted a survey of 15 fishery product agro-industry MSMEs in Kalanganyar Village to investigate the low usage of e-marketplaces. The results show that although all respondents (100%) have e-marketplace accounts such as Tokopedia, Shopee, Facebook Marketplace, and Gojek, utilization is still very low. Only 13.3% use e-marketplaces for product sales, 6.6% prefer e-marketplaces over conventional methods, and 20% have ever done promotions on these platforms. These findings prove the existence of empirical problems related to the

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low adoption of e-marketplaces by fishery product agro-industry MSMEs in Kalanganyar Village, justifying the importance of further research on the factors that influence this phenomenon (Primary Data Processed, 2024).

Location and Object of Research

This research was conducted in Kalanganyar Village, Sedati Subdistrict, Sidoarjo Regency, which was chosen purposively because it is famous for its fishery products and is nicknamed “Iwak Village”. Although many residents run fish processing businesses, the use of e-commerce is still limited. The object of research is the adoption of e-marketplaces by fishery product MSMEs in the village, with a focus on the low level of adoption of digital technology in marketing their products.

Sampling Method and Number of Samples

This study uses a non-probability sampling method with a saturated sampling technique (Supriana, 2013), where the entire population is taken as a sample. This technique was chosen to minimize errors in generalizing the research results (Sugiyono, 2022). The sample consisted of 50 owners of fish processing MSMEs in Kalanganyar Village, Sidoarjo Regency. The choice of this method is based on considerations of limited funds, energy, and time, as well as the researcher's desire to get a comprehensive picture of the population under study.

Data Collection Methods

This study used primary data collected through three main methods (Sugiyono, 2022):

1. Observation: Direct observation and systematic recording to obtain accurate data according to facts in the field.
2. Interview: In-depth questions and answers with MSMEs, consumers, and employees of relevant government agencies to obtain additional information.
3. Questionnaires: The distribution of a list of questions or statements to respondents to determine the level of technology acceptance in fishery product agro-industry MSMEs in Kalanganyar.
4. This combination of methods aims to obtain comprehensive and accurate data regarding the adoption of e-marketplaces by fishery product agro-industry MSMEs in the village.



Data Analysis Methods

This research uses two main data analysis methods: descriptive analysis and SEM-PLS (Structural Equation Modeling - Partial Least Square) analysis. Descriptive analysis is used to describe the characteristics of respondents and research variables in a concise and organized manner. Meanwhile, SEM-PLS analysis, which was conducted using SmartPLS version 4 software, consisted of several stages: model conceptualization (outer and inner model), determination of algorithm analysis method, determination of resampling method (bootstrapping), creation of path diagram, and model evaluation (Hamid, 2019). Model evaluation includes assessing the outer model (convergent and discriminant validity and reliability) and inner model (relationship between constructs through significance and R-Square values) (Ghozali & Latan, 2015). This method was chosen to examine the variables affecting e-commerce acceptance behavior by fishery product Agroindustry MSMEs in Sidoarjo, by combining regression, factor, and path analysis in one comprehensive analytical framework.

Research Hypothesis

H1: Performance Expectancy has a significant effect on the behavioral intention of fishery product agro-industry MSMEs in Kalanganyar Village in adopting the e-marketplace.

H2: Effort Expectancy has a significant effect on the behavioral intention of fishery product agro-industry MSMEs in Kalanganyar Village in adopting the e-marketplace.

H3: Social Influence has a significant effect on the behavioral intention of fishery product agro-industry MSMEs in Kalanganyar Village in adopting the e-marketplace.

H4: Facilitating Conditions have a significant effect on the adoption of e-marketplaces by fishery product agro-industry MSMEs in Kalanganyar Village.

H5: Behavioral intention has a significant effect on the adoption of the e-marketplace in fishery product MSMEs in Kalanganyar Village.

RESULT AND DISCUSSION

Characteristics of Fishery Product Agro-industry MSMEs in Kalanganyar Village

The characteristics of the respondents are a description of the description of the identity of the respondents according to the research sample that has been determined by the researcher. The purpose of the description of the characteristics of the respondents is to provide an overview of the sample of this study. In this study, the samples used were

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fishery product agro-industry MSMEs in Kalanganyar village, both those who actively use the e-marketplace and those who have never used it at all. Researchers classify respondents into several characteristics. These characteristics are divided based on gender, age, education level, and business turnover.

Table 1. Characteristics of Fishery Product Agro-industry MSMEs in Kalanganyar Village

Sex	Amount (People)	Percentage (%)
Male	1	2
Female	49	98
Total	50	100
Age	Amount (People)	Percentage (%)
20 – 30	2	4
31 – 40	5	10
41 – 50	26	52
>50	17	34
Total	50	100
Education	Amount (People)	Percentage (%)
Junior High School	1	2
High School	47	94
Bachelor	2	4
Total	50	100
Turnover (per-year)	Amount (People)	Percentage (%)
< IDR 300 Million	48	96
> Rp 300 Million - Rp 2.5 Billion	2	4
> Rp 2.5 Billion - Rp 50 Billion	0	0
Total	50	100

Source: Primary Data Processed, 2024



Based on data on the characteristics of fishery product agro-industry MSMEs in Kalanganyar Village, it can be seen that this sector is dominated by women (98%) with the majority aged 41-50 years (52%). The education level of MSME players is mostly high school graduates (94%), indicating a fairly evenly distributed secondary education background. In terms of turnover, 96% of MSMEs have annual revenues of less than IDR 300 million, indicating that most are still classified as micro or small businesses. This profile illustrates an MSME sector dominated by middle-aged women with secondary education and a relatively small business scale, which can be an important consideration in designing e-marketplace technology development and adoption strategies that suit the characteristics and needs of business actors in the village.

Adoption of the UTAUT E-Marketplace Model by Fishery Products Agroindustry MSMEs in Kalanganyar Village

Descriptive analysis is used to determine the distribution of respondents' answers from the results of distributing questionnaires to 50 people. In this study, there are variables which include Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Condition, Behavioral Intention, and Use Behavioral variables. The description of the characteristics of respondents' answers to each variable is reviewed from the results of the frequency distribution and the average value. Measurement of each item of each variable using a Likert scale with a score of 1 - 5. then to find out the majority of respondents' answers to each item, the Sturges formula can be made as follows:

$$\text{Class Interval (c)} = \frac{X_n - X_1}{k}$$

Description:

c = estimated magnitude

k = number of classes

X_n = highest score value

X₁ = lowest score value

So, the results of the calculation of the class interval assessment (c) according to the formula above are:

$$\text{Class Interval (c)} = \frac{5-1}{5} = 0,8$$



Table 2. Interpretation of Average Respondent Answers

Average Interval	Statement
1,0 – 1,79	Very Bad
1,8 – 2,59	Bad
2,6 – 3,39	Medium
3,4 – 4,19	Good
4,2 – 5,00	Very Good

Source: (Ghozali & Latan, 2015)

The results of these calculations are used as the basis for interpreting the average assessment of each indicator on the research variables.

Table 3. Average Score of Respondents' Answers to Each Variable

Indicator	Item	Statement	Average	Category
Perceived Usefulness Job-fit perceived when using the e-marketplace	X1.1P1	I believe the use of e-marketplace can make it easier for me to sell processed fish products.	4.20	Very good
	X1.1P2	I believe the use of e-marketplace can help increase my productivity in selling processed fish products.	4.22	Very good
Relative advantage obtained when using the e-marketplace	X1.2P1	I feel the use of e-marketplace is useful for the continuity of my business	4.10	Good
	X1.2P2	I believe the use of e-marketplace can help me cut time and costs in selling processed fish products.	4.02	Good
Perceived UsefulnessJob-fit perceived when using the e-marketplace	X1.3P1	Using emarketplace can more easily expand market reach than conventional ways	4.10	Good
	X1.3P2	Using an e-marketplace can help me increase sales rather than using conventional methods.	4.16	Good
Relative advantage	X1.4P1	If I use e-marketplace, it will be easier for me to do sales	4.14	Good



obtained when using the e-marketplace		promotion at a more affordable cost.		
	X1.4P2	If I use e-marketplace, I can sell more products with the same effort when I use the current marketing method.	4.22	Very good
Overall Average			4.15	Good
Indicator	Item	Statement	Average	Category
Agro-industrial MSMEs have a perception of the ease of use of the e-marketplace (Perceived Ease of Use)	X2.1P1	I think I can do transactions through e-marketplace easily and skillfully.	3.58	Good
	X2.1P2	I think learning how to use e-marketplace is seamless.	3.50	Good
Agro-industrial MSMEs feel the ease of use (Ease of Use) of the e-marketplace	X2.2P1	I can understand the use of features on e-marketplace (transaction management features, inventory management, shipping, operational costs, etc.)	3.50	Good
	X2.2P2	I see that the features of the e-marketplace can help my business grow.	4.06	Good
Perceived complexity when using the e-marketplace	X2.3P1	The e-marketplace display is easy to understand	3.64	Good
	X2.3P2	Creating an e-marketplace account does not require a lot of effort	4.24	Very good
Overall Average			3.75	Good



Indicator	Item	Statement	Average	Category
Subjective norms that influence agro-industrial MSMEs to use the e-marketplace Social factors that influence agro-industrial MSMEs to use the e-marketplace	X3.1P1	Similar MSMEs suggest I use e-marketplace to grow my business	4.24	Very good
	X3.1P2	Family members who help my business suggest I use e-marketplace to grow my business	4.02	Good
The image that will be obtained after using the e-marketplace (Image) Subjective norms that influence agro-industrial MSMEs to use the e-marketplace	X3.2P1	I want to use e-marketplace because the trend of online shopping is increasing	4.56	Very good
	X3.2P2	The success of similar business colleagues in using e-marketplace attracts me to use e-marketplace	4.36	Very good
Social factors that influence agro-industrial MSMEs to use the e-marketplace	X3.3P1	I want to use e-marketplace so that my business looks more modern	3.88	Good
	X3.3P2	In my opinion, MSME colleagues who intensely use e-marketplace look cooler and more developed.	4.28	Very good
Overall Average			4.22	Very good
Indicator	Item	Statement	Average	Category
Perceived behavioral control (Perceived Behavioral Control)	X4.1P1	I have easy access to technical facilities needed in using e-marketplace.	3.52	Good
	X4.1P2	I have sufficient knowledge to use the e-marketplace application	3.10	Medium



Facilitating conditions for using the e-marketplace				
Compatibility level in using the e-marketplace	X4.2P1	I feel my products are suitable to be sold through the e-marketplace	3.34	Medium
Perceived behavioral control (Perceived Behavioral Control)	X4.2P2	I feel my processed fish products can compete in the e-marketplace	3.52	Good
Facilitating conditions for using the e-marketplace	X4.3P1	Assistance plays an important role for my business to implement the use of e-marketplace.	4.26	Very good
	X4.3P2	Socialization plays an important role for me to understand the use of e-marketplace.	3.28	Medium
Overall Average			3.50	Good
Indicator	Item	Statement	Average	Category
Desire to add devices to support their performance	Y1.1P1	I plan to prepare all the necessary resources to use the e-marketplace	3.56	Good
Will recommend e-marketplace to other MSMEs	Y1.1P2	Seeing the benefits provided by the e-marketplace, I plan to be more active in participating in e-marketplace counseling.	3.60	Good
Motivation to use continuously	Y1.2P1	I will tell my umkm friends about the benefits of e-marketplace.	3.58	Good
Desire to add devices to support their performance	Y1.2P2	I will suggest my umkm friends to use e-marketplace for promotion.	3.52	Good
Will recommend e-marketplace to other MSMEs	Y1.3P1	I intend to update the store display on my e-marketplace page to make it more attractive.	3.42	Good
	Y1.3P2	In the future, I intend to use e-marketplace to sell my products.	3.56	Good

Overall Average			3.54	Good
Indicator	Item	Statement	Average	Category
Frequency of using technology	Z1.1P1	I often sell processed fish products through marketplaces	3.06	Medium
	Z1.1P2	I often spend time learning promotion strategies through e-marketplace	3.10	Medium
	Z1.1P3	I often spend time to learn the features offered by the marketplace	3.12	Medium
Overall Average			3.09	Medium

Source: Primary Data Processed, 2024

Based on the data analysis presented in Table 3. It can be concluded that the adoption of the e-marketplace by fishery product Agroindustry MSMEs in Kalanganyar Village shows mixed results across various variables. Performance Expectancy has an average score of 4.15 (good), indicating that MSMEs believe the e-marketplace can increase productivity, but still experience difficulties in its use. Effort Expectancy with a score of 3.75 (good) indicates that there are barriers in learning the e-marketplace, mainly due to limited knowledge and time. Social Influence scored 4.22 (good), illustrating MSMEs' awareness of the increasing trend of online shopping, although a modern image is not a top priority. Facilitating Conditions with a score of 3.50 (good) shows the lack of knowledge of MSMEs, but they consider the role of companions very important. Behavioral Intention scored 3.54 (good), reflecting MSMEs' interest in participating in the counseling, although they have not focused on the display aspect of online shops. Finally, Use Behavior with a score of 4.19 (good) shows that the majority of MSMEs still sell more conventionally, but there is motivation to learn about e-marketplaces. Overall, this data illustrates that while MSMEs show interest and awareness of the benefits of e-marketplaces, they still face various challenges in their adoption and effective use, which require further support and assistance.

Partial Least Square (PLS) Analysis

Data processing techniques using the Partial Least Square (PLS) based SEM method. The PLS software in this study uses software developed at the University of Hamburg Germany called SMARTPLS version 2.0 M3. In PLS there are two stages, the

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first stage is evaluating the outer model or measurement model. The second stage is the evaluation of the inner model or structural model. The measurement model consists of observable indicators. The structural model consists of latent constructs that cannot be observed. This test also estimates the path coefficients that identify the strength of the relationship between the independent variable and the dependent variable. The measurement model consists of the relationship between observable variable items and the latent constructs measured by these items (Ghozali & Latan, 2015).

Evaluation of the Measurement / Measurement Model (Outer Model)

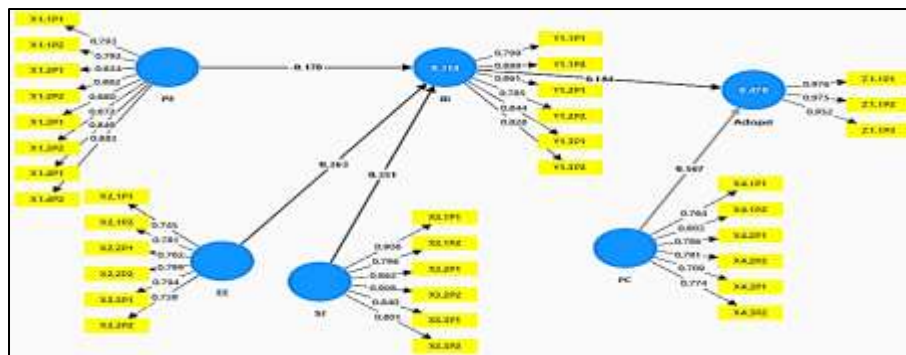


Figure 1. Structural Model (Outer Model)

Source: SmartPLS Data Processing, 2024

There are three criteria in using data analysis techniques with SmartPLS to assess the outer model, namely Convergent Validity, Discriminant Validity and Composite Reliability. Convergent validity of the measurement model with reflexive indicators is assessed based on the correlation between item score / component score estimated with PLS software. The Facilitating Condition reflexive measure is said to be high if it correlates more than 0.70 with the measured construct. for early stage research from the development of a measurement scale a loading value of 0.5 to 0.6 is considered sufficient. In this study, a loading factor limit of 0.60 will be used.

1. Convergent Validity

Convergent validity aims to determine the validity of each relationship between indicators and their latent variables. Convergent validity of the measurement model with

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reflexive indicators is assessed based on the correlation between the item score or component score and the latent variable score or construct score calculated by PLS. A loading factor value above 0.7 is said to be ideal and valid. However, a loading factor value above 0.5 is also acceptable as long as the value is not below 0.5. The following presents the results of outer loading for each indicator - indicators owned by each exogenous and endogenous latent variable in 2 research models obtained from data processing using SmartPLS:

Table 4. Convergent Validity Test Results

Variable	Item Code	Loading Factor	Description
<i>Performance Expectancy (PE)</i>	X1.1P1	0.793	Valid
	X1.1P2	0.792	Valid
	X1.2P1	0.834	Valid
	X1.2P2	0.882	Valid
	X1.3P1	0.880	Valid
	X1.3P2	0.872	Valid
	X1.4P1	0.849	Valid
	X1.4P2	0.883	Valid
<i>Effort Expectancy (EE)</i>	X2.1P1	0.745	Valid
	X2.1P2	0.781	Valid
	X2.2P1	0.762	Valid
	X2.2P2	0.799	Valid
	X2.3P1	0.794	Valid
	X2.3P2	0.738	Valid
<i>Social Influence (SI)</i>	X3.1P1	0.906	Valid
	X3.1P2	0.796	Valid
	X3.2P1	0.862	Valid
	X3.2P2	0.908	Valid
	X3.3P1	0.840	Valid
	X3.3P2	0.801	Valid
<i>Facilitating Condition (FC)</i>	X4.1P1	0.764	Valid
	X4.1P2	0.803	Valid
	X4.2P1	0.786	Valid



	X4.2P2	0.781	Valid
	X4.3P1	0.709	Valid
	X4.3P2	0.774	Valid
<i>Behavioral Intention (BI)</i>	Y1.1P1	0.799	Valid
	Y1.1P2	0.889	Valid
	Y1.2P1	0.861	Valid
	Y1.2P2	0.785	Valid
	Y1.3P1	0.844	Valid
	Y1.3P2	0.828	Valid
Adoption	Z1.1P1	0.976	Valid
	Z1.1P2	0.975	Valid
	Z1.1P3	0.952	Valid

Source: SmartPLS Data Processing, 2024

Table 4 illustrates the factor loading value (*convergent validity*) of each indicator. The loading factor value > 0.7 can be said to be valid, but the *rule of thumbs* interpretation of the loading factor value > 0.5 can be said to be valid. From this table, it is known that all factor loading values of the *Prior Experience* (X1), *Performance Expectancy* (X2), and *Behavioral Intention* (Y) and Adoption (Z) indicators are greater than 0.70. This indicates that the indicators are valid.

2. Discriminant Validity

Discriminant Validity is a method to prove that latent constructs can predict measures in their own block better than measures in other blocks. In measurement models with reflexive indicators, Discriminant Validity is assessed based on the cross loading of measurements with constructs. This evaluation is carried out after convergent validity, by looking at cross loading, square root value of average variance extracted (AVE), and composite reliability. The model is considered to have good discriminant validity if the construct correlation with each indicator is greater than the size of the other constructs, and each indicator loading value of a latent variable has the largest loading value compared to the loading value of other latent variables. In other words, if each indicator has a higher correlation with its own latent variable than with other latent



variables, then the latent construct is considered capable of predicting its indicators better than other constructs.

Table 5. Discriminant Validity Test Results

	PE	EE	SI	FC	BI	Adopsi
X1.1P1	0.793	0.315	0.322	0.122	0.128	0.184
X1.1P2	0.792	0.316	0.339	0.194	0.144	0.088
X1.2P1	0.834	0.450	0.420	0.276	0.097	0.349
X1.2P2	0.882	0.401	0.492	0.261	0.132	0.229
X1.3P1	0.880	0.363	0.495	0.262	0.172	0.349
X1.3P2	0.872	0.397	0.572	0.493	0.187	0.334
X1.4P1	0.849	0.402	0.542	0.481	0.140	0.309
X1.4P2	0.883	0.371	0.531	0.427	0.165	0.273
X2.1P1	0.518	0.745	0.429	0.417	0.263	0.430
X2.1P2	0.263	0.781	0.332	0.409	0.401	0.411
X2.2P1	0.326	0.762	0.316	0.309	0.351	0.392
X2.2P2	0.381	0.799	0.571	0.368	0.313	0.521
X2.3P1	0.177	0.794	0.324	0.275	0.295	0.539
X2.3P2	0.376	0.738	0.696	0.592	0.532	0.535
X3.1P1	0.640	0.579	0.906	0.723	0.523	0.673
X3.1P2	0.389	0.450	0.796	0.484	0.330	0.580
X3.2P1	0.478	0.579	0.862	0.640	0.372	0.594
X3.2P2	0.417	0.488	0.908	0.638	0.350	0.617
X3.3P1	0.474	0.500	0.840	0.615	0.433	0.544
X3.3P2	0.372	0.484	0.801	0.657	0.345	0.486
X4.1P1	0.135	0.300	0.538	0.764	0.362	0.429
X4.1P2	0.256	0.386	0.669	0.803	0.412	0.597
X4.2P1	0.429	0.462	0.641	0.786	0.514	0.494
X4.2P2	0.130	0.378	0.468	0.781	0.440	0.470
X4.3P1	0.457	0.378	0.489	0.709	0.434	0.517
X4.3P2	0.331	0.569	0.588	0.774	0.381	0.548
Y1.1P1	0.270	0.418	0.370	0.396	0.799	0.310
Y1.1P2	0.310	0.577	0.460	0.463	0.889	0.435
Y1.2P1	0.193	0.364	0.401	0.458	0.861	0.306
Y1.2P2	0.060	0.342	0.382	0.428	0.785	0.559
Y1.3P1	-0.032	0.434	0.284	0.460	0.844	0.390
Y1.3P2	0.098	0.335	0.450	0.544	0.828	0.429
Z1.1P1	0.303	0.638	0.674	0.626	0.531	0.976
Z1.1P2	0.323	0.572	0.646	0.647	0.443	0.975
Z1.1P3	0.286	0.586	0.673	0.667	0.466	0.952
X1.1P1	0.793	0.315	0.322	0.122	0.128	0.184
X1.1P2	0.792	0.316	0.339	0.194	0.144	0.088



Based on the cross loading value, it can be seen that all indicators that compose each variable in this study (bolded values) have met discriminant validity because they have the largest outer loading value for the variable they form and not on other variables. Thus all indicators in each variable in this study have met discriminant validity.

3. Reliability

Evaluation of the measurement model with square root of average variance extracted is to compare the root value of AVE with the correlation between constructs. If the root AVE value is higher than the correlation value between the constructs, then good discriminant validity is achieved. In addition, an AVE value greater than 0.5 is highly recommended. The next test to analyze the outer model is to look at the reliability of latent variable constructs as measured by two criteria, namely composite reliability and Cronbach alpha of the indicator block that measures the construct. The construct is declared reliable if the composite reliability value and Cronbach alpha value are above 0.70. The following are the results of the composite reliability and Cronbach alpha output:

Table 6. Composite Reability and Cronbach's Alpha Test Results

	<i>Cronbach's Alpha</i>	<i>Composite Reliability</i>	<i>Average Variance Extracted (AVE)</i>
PE	0.945	0.956	0.720
EE	0.865	0.888	0.593
SI	0.925	0.944	0.729
FC	0.863	0.867	0.593
BI	0.913	0.920	0.698
Adoption	0.966	0.966	0.937

Source: SmartPLS Data Processing, 2024

The AVE value for the four constructs is greater than 0.5 so it can be concluded that the evaluation of the measurement model has good discriminant validity. In addition to the construct validity test, the construct reliability test is also carried out which is measured by the criteria test, namely the composite reliability and Cronbach alpha of the indicator block that measures the construct. Constructs are declared reliable if the



composite reliability and Cronbach alpha values are above 0.70. So it can be concluded that the construct has good reliability.

Structural Model Evaluation (Inner Model)

Testing the inner model or structural model is carried out to see the relationship between the constructs of the significance value and R-square of the research model. The structural model is evaluated using the R-square for the dependent construct t test as well as the significance of the structural path parameter coefficients.

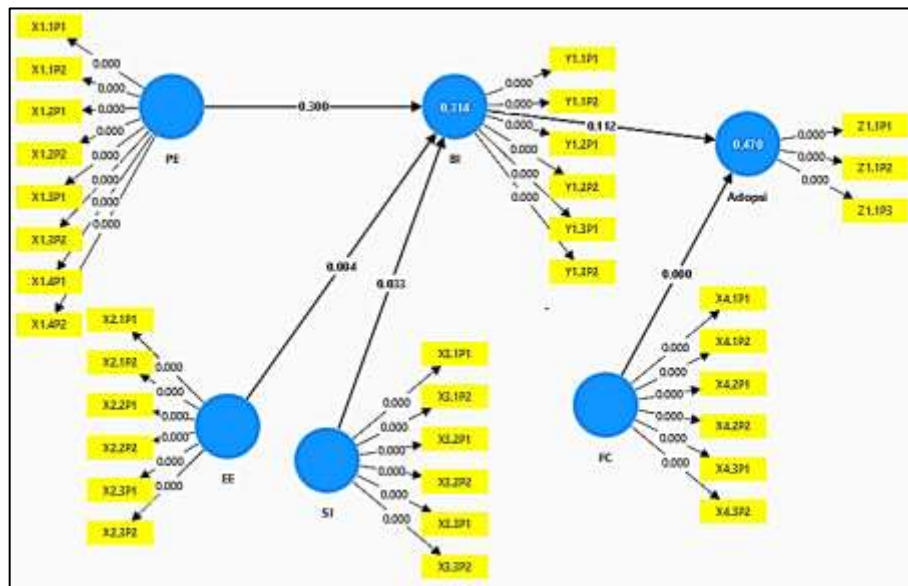


Figure 2. Structural Model (Inner Model)

Source: SmartPLS Data Processing, 2024

1. R-Square (R^2)

In principle, this study uses two exogenous variables that are influenced by other variables, namely the Behavioral Intention variable which is influenced by the Effort Expectancy variable, the Performance Expectancy variable, Social Influence,. Likewise, the Adoption variable is influenced by the Facilitating Condition and Behavioral Intention variables.

Table 7. R-Square Test Result

	<i>R-Square</i>
Y	0.314
Z	0.470

Source: SmartPLS Data Processing, 2024

Table 7 shows that the R-square value for the Behavioral Intention variable is obtained at 0.314. The R-square value shows that 31.4% of the Behavioral Intention (Y) variable can be influenced by the Performance Expectancy, Effort Expectancy, Social Influence variables. while the remaining 68.6% is influenced by other variables outside those studied. Table 7 shows the R-square value of Adoption of 0.470, indicating that the Adoption variable (Z) is influenced by the Behavioral Intention and Facilitating Condition variables by 47%, while the remaining 53% is influenced by other variables outside the study.

2. Predictive Relevance (Q^2)

Goodness of Fit Model is measured using the R-square of the dependent latent variable with the same interpretation as regression; Q-Square predictive relevance for structural models, measuring how well the conservation value is generated by the model and also the parameter estimate. The magnitude of Q^2 has a value with a range of $0 < Q^2 < 1$, where the closer to 1 means the better the model. This Q^2 magnitude is equivalent to the coefficient of total determination in path analysis. Based on Table 4.15, the predictive relevance calculation formula is as follows:

$$\text{Value } Q^2 = 1 - (1 - R^2) \times (1 - R^2)$$

Description:

Q^2 : Predictive Relevance value

R_1^2 : R-Square value of Behavioral Intention variable

R_2^2 : R-Square value of Use Behavioral variable

So, the results of the predictive relevance calculation according to the formula above are:

$$\begin{aligned} Q^2 \text{ value} &= 1 - (1 - 0.314) \times (1 - 0.470) \\ &= 0.6364 \end{aligned}$$



From the results of these calculations, it is known that the Q^2 value is 0.6364, meaning that the amount of data diversity from research that can be explained by the designed structural model is 63.64%, while the remaining 36.36% is explained by other factors outside the model. Based on these results, it can be said that the structural model in this study is quite good because it is close to the value of 1.

Hypothesis Testing

Table 8. Hypothesis Testing Result

	<i>Original Sample (O)</i>	<i>T Statistics (O/STDEV)</i>	<i>P Values</i>	Description
PE -> BI	-0.178	1.036	0.300	Not Significant
EE -> BI	0.363	2.852	0.004	Significant
SI -> BI	0.351	2.133	0.033	Significant
FC -> Adoption	0.567	4.739	0.000	Significant
BI -> Adoption	0.184	1.590	0.112	Not Significant

Source: SmartPLS Data Processing, 2024

The structural equation obtained is:

$$Y = -0.178 X_1 + 0.363 X_2 + 0.351 X_3$$

$$Z = 0.567 X_4 + 0.184 Y$$

The significance of the estimated parameters provides very useful information about the relationship between the research variables. The basis used in testing the hypothesis is the value contained in the output result for inner weight. Hypothesis testing can be done by comparing the t-statistic with the t-table. The t-table can be obtained from 50 respondents, which in the end obtained a t-table of 1.960. Table 4.16 provides estimation output for structural model testing.

This study analyzes the adoption of e-marketplace by fishery product agro-industry MSMEs in Kalanganyar Village using the UTAUT model. The results show that Performance Expectancy is not significant to Behavioral Intention, in line with the findings of (Jou et al., 2023). Effort Expectancy has a positive and significant effect, supporting the research of (Meizilya & Wijayangka, 2020; Pangestu, 2022). Social Influence also has a positive and significant effect, in accordance with (Dewanta et al., 2023; Guetz & Bidmon, 2022). Facilitating Conditions have a positive and significant effect on Adoption,

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consistent with (Senshaw & Twinomurinzi, 2021). However, Behavioral Intention is not significant to Adoption, contrary to the theory of (Venkatesh et al., 2008) but in line with (Desvira & Aransyah, 2023; Fatihanisya & Purnamasari, 2021). Factors that influence the adoption of e-marketplaces by MSMEs include perceived usefulness, ease of use, social influence, and perceived security (Piarna & Fathurohman, 2019; Sari & Sari, 2021; Zahra et al., 2023). Although perceived usefulness is important, its influence can vary (Aripnadono & Jucelyn, 2023; Purwanto & Nurahman, 2020). This study found that facilitating conditions are more influential than behavioral intention in the adoption of e-marketplace by MSMEs.

Efforts to Increase E-Marketplace Utilization in Fishery Product Agroindustry MSMEs in Kalanganyar Village

Efforts to increase the utilization of e-marketplace in fishery product agro-industry MSMEs in Kalanganyar Village are based on factors that influence its adoption: Effort Expectancy, Social Influence, and Facilitating Conditions. Effort Expectancy relates to the ease of use of technology, where MSMEs often feel overwhelmed by learning the e-marketplace due to limited knowledge and difficulty setting sales strategies. Social Influence includes the influence of online shopping trends, the success of other MSME colleagues, family encouragement, and the desire to obtain a modern business image. Facilitating Conditions include the availability of resources and support, with internal constraints for MSMEs including limited technological knowledge, funds, and low digital literacy (Wahono, 2020). Suggested efforts include: utilizing existing business groups for collaboration among MSMEs in the use of e-marketplaces (Amdany et al., 2018; Anwar et al., 2020; Hardy et al., 2003), utilizing social media platforms to connect with target audiences (Sailaja, 2024), implementing a participatory approach involving village governments, non-governmental organizations, and local communities (Pahrijal, 2024), and conducting periodic counseling and mentoring related to the use of e-marketplaces and digital marketing strategies. Through collaboration, it is expected that MSMEs can complement each other, expand market reach, and optimize resources to improve e-marketplace utilization.

CONCLUSION

The results showed that fishery product agro-industry MSMEs in Kalanganyar Village, Sidoarjo generally have e-marketplace accounts but have not consistently used

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them due to limited capabilities. Based on the UTAUT model, factors that significantly influence e-marketplace adoption through intention are Effort Expectancy and Social Influence, while Facilitating Conditions have a direct effect on adoption. MSMEs tend to intend to adopt e-marketplaces due to online shopping trends and ease of use, and will adopt them when the need for information, facilities, and assistance is met. Performance Expectancy does not significantly affect the adoption intention because MSMEs prioritize ease of use, while Behavioral Intention has no direct effect because intention alone is not enough without supporting conditions. To increase e-marketplace adoption, it is necessary to focus on increasing ease of use, social influence, and providing supporting facilities for MSMEs.

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