

The Influence of E-WOM on Risk Perception and Consumer Trust in the Development of Catfish Farming into Agro-Ecotourism (Case Study on JMK Catfish Farming SMEs in Bojonegoro Regency)

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Abstract

This study examines the influence of electronic word-of-mouth (e-WOM) on consumer risk perception and trust in the context of developing Micro, Small, and Medium Enterprises (MSMEs) in catfish farming into agro-education tourism in Bojonegoro Regency. The research method used is quantitative, with data collection through questionnaires from 80 respondents. The research results show that e-WOM has a significant influence on risk perception and consumer trust. The implication of these findings is the importance of effective e-WOM management for the development of agro-tourism in SMEs.

Keywords: E-WOM, Risk Perception, Consumer Confidence

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in the structure of the Indonesian economy, serving as the backbone that supports economic stability, creates significant employment, drives innovation at the local level, and makes a real contribution to economic growth in various regions, including Bojonegoro Regency, where MSMEs are not only business entities, but also an integral part of the social and economic dynamics of the local community. In facing a rapidly changing business landscape and increasingly tight competition, MSMEs are faced with the challenge of continuing to adapt, and the ability to find and implement business diversification strategies is very important for MSMEs to maintain the sustainability of their operations and increase competitiveness in the market, allowing them to not only rely on one product or service, but also to develop various sources of income and reduce business risks. One promising diversification path for MSMEs is through the development of existing potential into tourist attractions, a concept known as agro-eduwisata, which combines elements of agriculture or other primary production with tourism, offering a unique synergy between primary production activities, such as agriculture or fisheries, with elements of education and recreation. Agro-edutourism not only provides a fresh and different experience for tourists looking for an alternative to conventional forms of tourism, but also provides substantial added value for business actors in the primary sector, where through agro-edutourism, MSMEs have the opportunity to expand their sources of income, build and strengthen the image of local products, empower communities around them, and contribute to environmental and cultural heritage conservation efforts. However, the development of agro-edutourism also involves a series of risks perceived by consumers, which can include various concerns related to the quality of experience, safety, cleanliness, prices that are considered not commensurate with the value obtained, and potential disappointment or loss of time and energy, so MSMEs need to understand and manage consumer risk perceptions to succeed in developing agro-edutourism. In the digital era characterized by widespread internet penetration and social media use, electronic word-of-mouth (e-WOM) has emerged as a very important source of information that influences consumer risk perception and trust, where e-WOM, which includes online reviews, comments on social media, and digital recommendations, has a significant influence on consumer decisions in the online context, and this study aims to analyze the influence of e-WOM on consumer risk perception and trust in the development of catfish cultivation into agro-edutourism in Bojonegoro Regency.

The Power of Credible Communication in Agro-Edu Tourism

Source Credibility Theory (Hovland, Janis, & Kelley) reveals why we instinctively trust experts - a principle that directly applies to agro-tourism decisions. Just as patients prefer doctors' advice, potential visitors to catfish farming sites rely most on reviews demonstrating: (1) expertise through detailed farming knowledge (Rakhmad, 2012), (2) trustworthiness via transparent reviewer identities, and (3) consistent messaging. This explains why certain e-WOM (electronic word-of-mouth) content significantly reduces visitors' risk perceptions (Garnia et al., 2024), particularly for niche experiences requiring specialized knowledge like sustainable aquaculture tours.

Agro-Tourism's Evolving Landscape

Modern agro-tourism now blends agricultural production with immersive education - think urban families learning catfish breeding techniques while helping with harvests (Wina et al., 2024). Beyond diversifying farm incomes, these initiatives address multiple SDGs: conserving biodiversity (ecological), preserving local traditions (cultural), and even combating stunting through nutrition education (social). Indonesian models show particular innovation through community-based tourism groups (Pokdarwis) and smart village technologies that enhance both operations and marketing (Garnia et al., 2024). The catfish farming tourism niche exemplifies this multisectoral impact, merging protein production with hands-on learning experiences.

Consumer Risk Perception

Consumer risk perception is an individual's subjective evaluation of the uncertainty and potential losses that may be experienced as a result of a decision to purchase a product or service. This perception usually includes several main dimensions, such as financial risk (material loss), performance risk (product does not function as expected), social risk (impact on social image), psychological risk (emotional discomfort), and time risk (wasted time due to wrong decisions). In the context of investment, as studied by Dwipayanthi (2023), risk perception is closely related to concerns about data security, uncertainty of returns, and the possibility of material loss. Factors that influence risk perception include consumer knowledge, trust in service providers, and previous experience. Research also shows that risk perception can be reduced through the delivery of clear information, quality assurance, and positive consumer experiences.

Building Trust in Experience-Based Tourism

Consumer trust refers to consumers' belief that a business entity will fulfill its promises or commitments with integrity, competence, and goodwill. The dimensions of consumer trust according to Kotler and Keller (2016) include competence (perceived competence), which is the ability to meet customer needs; integrity, which is honesty in interactions and promises kept; and benevolence, which is the belief that a company will not exploit consumers for one-sided gain. Factors that build trust in the context of online services or e-commerce include website quality, transaction security, vendor reputation, and policy transparency. In a study by Lisdayanti and Padmanegara (2024), trust was shown to be influenced by the security of digital transactions and site quality, where blockchain technology is proposed as a solution to increase transparency and security, so that it can build stronger trust.

METHOD

This study aims to analyze in depth the causal relationship between electronic word-of-mouth (e-WOM), risk perception, consumer trust, and interest in visiting JMK Catfish Farming located in Semlaran Village, Malo District, Bojonegoro Regency. This quantitative study uses primary data obtained directly through non-participant observation of the service and sales process and closed questionnaires distributed to consumers who know or have the potential to visit the agro-edutourism. The population of the study was all customers of JMK Catfish Farming, with a minimum sample of 80 respondents selected by accidental sampling. The research instrument in the form of a questionnaire will be tested for validity using Corrected Item-Total Correlation and its reliability

with Cronbach's Alpha. The collected data will be analyzed using descriptive analysis, classical assumption tests (normality, multicollinearity, linearity, and heteroscedasticity), and multiple regression analysis to test the simultaneous and partial effects between variables.

RESULTS AND DISCUSSION

Table 1: Frequency Distribution of Respondents Based on Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	40	50,0	50,0	50,0
	Women	40	50,0	50,0	100,0
	Total	80	100,0	100,0	

Source: Data processed by researchers, 2025

Based on Table 1, it can be concluded that the male sample is 50% and the female sample is 50%.

a. Respondent characteristics by age

Based on age, the characteristics of respondents in this study are divided into five groups, The following is descriptive data on respondents by age.

Table 2: Frequency Distribution of Respondents Based on Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25	4	5,0	5,0	5,0
	26	3	3,8	3,8	8,8
	27	6	7,5	7,5	16,3
	28	7	8,8	8,8	25,0
	29	11	13,8	13,8	38,8
	30	5	6,3	6,3	45,0
	31	3	3,8	3,8	48,8
	32	4	5,0	5,0	53,8
	33	7	8,8	8,8	62,5
	34	6	7,5	7,5	70,0
	35	5	6,3	6,3	76,3
	36	3	3,8	3,8	80,0
	37	2	2,5	2,5	82,5
	38	2	2,5	2,5	85,0
	39	4	5,0	5,0	90,0
	40	2	2,5	2,5	92,5
	41	1	1,3	1,3	93,8
	43	2	2,5	2,5	96,3
	44	1	1,3	1,3	97,5
	45	1	1,3	1,3	98,8
47	1	1,3	1,3	100,0	
Total		80	100,0	100,0	

Source: Data processed by researchers, 2025

b. Respondent characteristics based on type of work

Based on work, the following is the descriptive data of respondents in this study as follows

Table 3: Frequency Distribution of Respondents Based on Type of Work

		Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	WORKER	2	2,5	2,5	2,5
	DOCTOR	1	1,3	1,3	3,8
	TEACHER	6	7,5	7,5	11,3
	HOUSEWIFE	12	15,0	15,0	26,3
	FARMER	16	20,0	20,0	46,3
	ANIMAL HUSBAND	13	16,3	16,3	62,5
	CIVIL SERVANT	4	5,0	5,0	67,5
	SELLER	2	2,5	2,5	70,0
	USTAD	1	1,3	1,3	71,3
	ENTREPRENEUR	23	28,7	28,7	100,0
	Total	80	100,0	100,0	

Source: Data processed by researchers, 2024

Based on table 3, it can be concluded that the sample that has a job as a housewife is 15%, as a teacher is 7.5%, as a laborer is 2.5%, as a farmer is 20%, as a livestock breeder is 16.3%, as an entrepreneur is 28.7%, and other jobs are 10.1%.

1. Normality Test

This normality test aims to test whether the model in the regression, independent variables and dependent variables all have normal contributions or not. In this study, the Kolmogorov-Smirnov type statistical test was used. Because Kolmogorov-Smirnov is more flexible in its use and can be used for data with small or large samples, it does not require data grouping (single data). The results of the normality test can be seen as follows:

Table 4. Results of the Kolmogorov-Smirnov Test Normality Test
One-Sample Kolmogorov-Smirnov Test

		Unstand ardized Residual
N		80
Normal Parameters ^{a,b}	Mean	.000000
	Std. Deviation	1.90239
	Most Extreme Differences	Absolut e .058
	Positive	.058
	Negativ e	-.052
Test Statistic		.058
Asymp. Sig. (2-tailed)		.200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Source: Data processed by researchers, 2025

Based on table 4, it can be seen that normality using Kolmogorov-Smirnov obtained an Asymp Sig result of 0.2 greater than 0.05, so that the data is normally distributed

2. Multicollinearity Test

The multicollinearity test aims to test whether the regression model finds a correlation between independent variables. The correlation value can be seen from collinearity statistics, if the VIF (Variance Inflation Factor) value shows results that are more indicative of multicollinearity symptoms, while if the VIF value is less than 10 and the tolerance value is more than 0.10, then there are no multicollinearity symptoms.

Table 5: Multicollinearity Test Results

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	9.592	2.248		4.267	.000		
e-WOM	.169	.095	.221	1.784	.078	.663	1.507
Consumer Risk Perception	.288	.117	.304	2.457	.016	.663	1.507

a. Dependent Variable: Kepercayaan Konsumen

Source: Data processed by researchers, 2025

Table 5 shows that the multicollinearity of entrepreneurial interest and social media utilization has a value of $0.663 > 0.10$, which means that there is no multicollinearity in the regression model, while the quality of service based on VIF has a value of $1.507 < 10.00$, which means that there is no multicollinearity in the regression model.

3. Heteroscedasticity Test

The heteroscedasticity assumption is an assumption in regression where the variance and residual are not the same for one observation compared to another. If there is a difference in variance, heteroscedasticity symptoms are found. Heteroscedasticity testing is carried out to test Glejser. With the Glejser test, the absolute residual value is regressed on each independent variable. The heteroscedasticity test with Glejres was carried out using SPSS version 22. By using version 22 to interpret the results of the analysis, what needs to be seen is the coefficient number between the independent variable and the absolute residual, and its significance. If the significance value is greater than or equal to 0.05, then the assumption of homoscedasticity is met, but if the significance value is less than 0.05, then the assumption of homoscedasticity is not met. The results of the heteroscedasticity test can be seen in the following table:

Table 6: Results of heteroscedasticity test

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

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Constant (Constant)	9.530	1.883		61	5.0	.00
e-WOM	.470	.075	.580	90	6.2	.00

a. Dependent Variable: Persepsi Resiko Konsumen

Table 6 shows the results of the heteroscedasticity test with the Glesjer test. It is known that the significance value (Sig) for entrepreneurial interest and social media utilization is 0.000 and 0.000, because the significance value is less than 0.05, there is a symptom of heteroscedasticity in the regression model.

a. Regression Test

1. Partial T Test

The partial T test aims to determine whether the independent variable (X) partially (alone) affects the dependent variable (Y). If the significance value (Sig) < 0.05, then there is an influence of the independent variable (X) on the dependent variable (Y), or the hypothesis is accepted. If the significance value (Sig) > 0.05, then there is no influence of the independent variable (X) on the dependent variable (Y), or the hypothesis is rejected.

Table 7: Partial T-Test Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
	(Constant)	9.592	2.248		
e-WOM	.169	.095	.221	1.784	.078
Consumer Risk Perception	.288	.117	.304	2.457	.016

a. Dependent Variable: Consumer Trust

Source: Data processed by researchers, 2025

Table 7 shows that the significance value (Sig) of the entrepreneurial interest variable is 0.000. Because the Sig value is 0.000 < 0.05, it can be concluded that the influence of entrepreneurial interest on UMKM marketing is accepted. While the social media utilization variable is 0.016, so that the influence of e-wom on consumer risk perception is accepted

2. Simultaneous F Test

The simultaneous F test is useful for testing whether there is an influence of service quality and price fairness simultaneously on customer satisfaction (meaning the combined influence of the service quality and price fairness variables on customer satisfaction). If the Sig value, <0.05, then the decision in the simultaneous F test has an effect, while if the Sig value is > 0.05, then the decision in the simultaneous F test has no effect.

Table 8 Simultaneous F Test Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	80.041	2	40.021	10.778	.000 ^b
Residual	285.909	77	3.713		
Total	365.950	79			

a. Dependent Variable: Kepercayaan Konsumen

b. Predictors: (Constant), Persepsi Resiko Konsumen, e-WOM

Source: Data processed by researchers, 2025

Table 8 shows that the value (Sig) is 0.000, because the value (Sig) $0.000 < 0.05$, then, according to the basis for decision making in the F test, it can be concluded that simultaneously risk perception and e-WOM affect consumer trust.

CONCLUSION

This study, which aims to analyze the dynamics of Micro, Small, and Medium Enterprises (MSMEs) marketing and consumer perceptions and beliefs around them, produces several important conclusions that need to be observed. Although statistically the collected data meets crucial assumptions such as normality of distribution and the absence of multicollinearity between independent variables, which allows the use of parametric regression analysis with a certain level of confidence, the finding of heteroscedasticity is an important note that underlines the need for more careful interpretation of the regression results. Heteroscedasticity, which indicates non-uniformity of error variances across levels of independent variables, has the potential to affect the efficiency of standard error estimation and thus, the validity of statistical inferences regarding the significance of the influence between variables. One significant finding in this study is the confirmation of the positive influence of entrepreneurial interest on MSME marketing performance. This implies that high entrepreneurial spirit and motivation among MSME actors correlate with their ability to implement more effective marketing strategies and achieve better results.

This finding is relevant considering the diverse study sample in terms of occupational background, indicating that internal motivation to become an entrepreneur, regardless of initial profession, plays a significant role in the marketing success of micro and small businesses. This study also highlights the significant influence of social media utilization on consumer risk perception. In today's digital era, social media has become an important platform for interaction between businesses and consumers. The results of the study indicate that how MSMEs utilize their social media directly influences how consumers perceive the risks associated with the products or services offered. Effective utilization of social media can reduce risk perception through the provision of transparent information, building a positive brand image, and responsive interaction with consumers. Conversely, poor utilization or even a negative presence on social media can increase risk perception in the minds of potential consumers. In addition to individual influences, this study also found that risk perception and electronic word-of-mouth (e-WOM) simultaneously have a significant effect on consumer trust. This underscores the complexity of consumer trust formation, which is not only influenced by perceived risk factors but also by information and opinions circulating online. e-WOM, both positive and negative, can strengthen or weaken the level of consumer trust in an MSME.

Therefore, MSMEs need to actively manage risk perceptions and encourage positive e-WOM to build and maintain consumer trust. Overall, the regression model used in this study is considered fit or appropriate to explain the relationship between the variables studied. The suitability of this model is strengthened by the diversity of demographic characteristics of the respondents involved. Variations in gender, age, and especially work background (including entrepreneurs, farmers, housewives, livestock breeders, teachers, laborers, and various other professions) indicate that the research findings have a fairly good level of generalization among the relevant population around the MSME location that is the focus of the study. In other words, the identified influences tend to be consistent regardless of differences in respondent backgrounds, providing more confidence in the external validity of the findings in the context of a similar population. However, the implications of heteroscedasticity should not be ignored. This indicates that the variability of errors in the regression model is not constant across the range of independent variable values, which can affect the accuracy of hypothesis testing and confidence intervals. Therefore, further research is advised to consider more sophisticated statistical methods to address this issue, such as the use of models with robust standard errors or variable transformations.

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