

The Influence of Customer Ratings and Reviews on Online Electronic Product Purchase Decisions

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Article received on 11-07-2025 — Final revised on 07-09-2025 — Approved on 26-12-2025

Abstract

The rapid growth of e-commerce has created information asymmetry challenges, as consumers cannot physically inspect products before purchasing. Customer ratings and reviews, as forms of electronic word-of-mouth (eWOM), have emerged as critical information sources, yet their specific influence on Indonesian consumers remains underexplored. This study aims to analyze the influence of customer ratings and reviews on online purchase decisions for electronic products in Indonesia's e-commerce platforms. Using a quantitative approach, data were collected from 280 respondents through an online survey with Likert scale questionnaires. Data analysis utilized multiple linear regression with SPSS 25.0, including validity and reliability tests (Cronbach's Alpha), classical assumption tests (Kolmogorov-Smirnov, VIF, Tolerance, Glejser, linearity), partial hypothesis testing (t-test), simultaneous hypothesis testing (F-test), and coefficient of determination (R^2). The results indicate that customer ratings significantly influence purchase decisions ($t = 5.847$, $p < 0.05$), customer reviews have an even stronger influence ($t = 8.329$, $p < 0.05$), and both variables simultaneously show significant influence ($F = 64.238$, $p < 0.05$) with $R^2 = 0.315$. These findings confirm that eWOM serves as a critical component in Indonesian consumers' decision-making process for purchasing electronic products online, with important implications for e-commerce platforms and digital marketing strategies.

Keywords: Customer rating; online review; eWOM; purchase decision; electronic products

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INTRODUCTION

The growth of e-commerce in Indonesia in the past decade has shown very significant development, making the country one of the largest digital markets in Southeast Asia. Changes in people's consumption patterns are driven by increasing internet penetration and smartphone use, so that people are increasingly accustomed to making online transactions on various platforms such as Shopee, Tokopedia, Lazada, and Blibli. In the category of products most often purchased online, electronic products occupy the top position due to the high demand for digital devices such as smartphones, laptops, earphones, and smart household devices. However, the purchase of electronic products online has a higher level of risk than other categories due to the relatively high price and complexity of technical specifications. This condition makes consumers need additional

information before deciding to buy. In the digital environment, customer ratings and reviews are one of the most important sources of information in strengthening consumer confidence.

Customer ratings and reviews function as a form of electronic word-of-mouth (eWOM), which is information that consumers provide to other consumers through digital platforms (Chen & Xie, 2008; Tsao, 2014). Ratings are usually in the form of a star scale (1-5 stars), while reviews are consumer narratives that describe their experiences with the product in detail. In Indonesia's e-commerce context, recent studies show that 89% of online shoppers read product reviews before making a purchase decision, with ratings serving as the primary filter for product evaluation (Indonesian E-Commerce Association, 2024). However, a significant problem arises: the inconsistency and potential manipulation of ratings create uncertainty for consumers. Research by Kim and Kim (2021) and Li, Wu, and Mai (2019) demonstrates that while high ratings attract consumer attention, the credibility of these ratings is often questioned due to fake reviews and biased reporting. This phenomenon is particularly acute in the electronics category, where technical specifications require verification through authentic user experiences. The challenge for Indonesian consumers is distinguishing genuine ratings from manipulated ones, especially when purchasing high-value electronic products where financial risk is substantial.

The existence of customer ratings and reviews helps reduce information asymmetry between sellers and buyers (Filiari, 2016). Consumers can't see and try products in person when shopping online, so they rely heavily on information provided by previous buyers. In Indonesia, where online shopping penetration reached 68.2% in 2024, the role of reviews has become increasingly critical (Ministry of Communication and Informatics, 2024). However, a distinct problem emerges with customer reviews: information overload and varying review quality. Abdel-Qader and Abdallah (2020) found that consumers face difficulty processing hundreds of reviews per product, leading to decision fatigue. Furthermore, the phenomenon of uninformative reviews - those containing only generic praise or complaints without substantive detail - reduces the utility of the review system. In Indonesia's electronics market specifically, Ulrich and Sarup (2020) note that only 42% of reviews provide actionable technical information, while the majority offer superficial assessments. This creates a critical research gap: understanding how Indonesian consumers navigate this information abundance and determine which reviews genuinely influence their purchase decisions, particularly for complex electronic products requiring technical evaluation.

In the context of electronic products, the role of ratings and reviews becomes increasingly important because this category is a *high-impact product*, that is, a product that requires more in-depth consideration in its acquisition. Electronic products have many technical parameters such as processor specifications, battery capacity, durability, and compatibility with other devices. Ulrich and Sarup (2020) assert that information-rich reviews can help consumers simplify the complexity of choices and lead them to more rational decisions. Consumers who feel helped by reviews will have higher trust, which ultimately increases the likelihood of a purchase.

Indonesia is one of the countries with a high level of review consumption in e-commerce. A national survey shows that most Indonesian consumers read reviews before making a purchase, especially on risky electronic products. However, research in the Indonesian context that focuses on the influence of ratings and reviews on electronic product purchase decisions is still limited. The majority of research is directed at general categories or on fashion products, even though consumer behavior in the electronics category has different dynamics because it involves greater financial risks and the need for technical information.

In addition to ratings and reviews, there is also a phenomenon of fake reviews that can affect consumer decisions. Luca and Zervas (2016) found that fake reviews cause distortion of information that can harm consumer confidence and market competition. Recent research by Fan and Chen (2021) shows that approximately 15-20% of online reviews exhibit characteristics of manipulation, including overly positive language, generic descriptions, and temporal clustering patterns. In Indonesia's e-commerce ecosystem, this problem is compounded by the emergence of review-farming services and incentivized reviews, creating a trust crisis where consumers question the authenticity of all reviews (Indonesian E-Commerce Watch, 2024). For electronic products, where purchase decisions often exceed IDR 5 million, this authenticity crisis poses significant barriers to online transaction completion. Therefore, understanding how consumers evaluate review credibility and how this evaluation process influences their final purchase decisions represents a critical research need for both academic understanding and practical e-commerce platform design.

From a theoretical point of view, research on ratings and reviews can be explained through the *Stimulus-Organism-Response (SOR)* model. In this model, ratings and reviews act as a stimulus that influences the perception of consumers (organisms), which then generate purchasing decisions in response. This study adopts such a theoretical framework to understand how ratings and reviews affect psychological processes and final purchase decisions.

Seeing this phenomenon, this research is important to expand academic understanding of digital consumer behavior, especially in the context of purchasing electronic products online. This study aims to analyze the influence of customer ratings and reviews on online electronic product purchase decisions. In particular, this study focuses on three main objectives: (1) to determine the influence of ratings on purchase decisions, (2) to determine the influence of reviews on purchase decisions, and (3) to determine the influence of ratings and reviews simultaneously on purchasing decisions. The results of this study are expected to make a theoretical contribution to the e-commerce literature as well as a practical contribution for digital business people in designing marketing strategies based on consumer reviews.

RESEARCH METHOD

This study uses a quantitative approach with a survey method because the main objective is to measure the relationship between variables systematically and test the influence of ratings and customer reviews on online electronic product purchase decisions. The survey method was chosen because it is able to collect large amounts of data and allows for objective statistical analysis (Creswell, 2014). This research is explanatory, in accordance with the purpose of explaining the causal relationship between variables, as explained by Trochim and Donnelly (2008) that explanatory research is used to test cause-effect relationships based on existing theories.

The research population includes all e-commerce users in Indonesia who have purchased electronic products online in the past year, specifically through major platforms including Shopee, Tokopedia, Lazada, and Blibli, which collectively represent approximately 95% of Indonesia's e-commerce market share (E-Commerce Industry Report, 2024). The very large and heterogeneous population led this study to use non-probability sampling with a purposive sampling technique, where respondents were selected based on specific criteria: (1) being active e-commerce users, (2) having purchased electronic products (smartphones, laptops, tablets, cameras, or audio devices) online in the past 12 months, (3) having read ratings and reviews before making a purchase, and (4) being aged 18 years or above. The sample size of 280 respondents was determined using the Slovin formula with a 95% confidence level ($\alpha = 0.05$) and 5% margin of error, calculated from an estimated population of 12.5 million active electronic

product buyers in Indonesia based on 2024 Indonesian Internet Service Providers Association (APJII) data. The calculation is: $n = N / (1 + N(e^2)) = 12,500,000 / (1 + 12,500,000(0.05^2)) = 400$. However, to ensure data quality and accounting for potential incomplete responses, the target was set at 280 valid respondents, which exceeds the minimum requirement of 100 respondents for multiple regression analysis as recommended by [Hair et al. \(2019\)](#) and provides sufficient statistical power ($1-\beta > 0.80$) for detecting medium effect sizes ($f^2 = 0.15$) in multiple regression with two predictors.

The research instrument was in the form of a questionnaire compiled using a Likert scale of 1–5, ranging from "strongly disagree" to "strongly agree." The use of the Likert scale was chosen because it is appropriate to quantitatively measure respondents' perceptions, attitudes, and approval rates ([Joshi et al., 2015](#)). The questionnaire was compiled based on the indicators of each research variable. Rating variables are measured through consumer perception indicators about rating accuracy, ratings' credibility, and rating's influence on purchase confidence. This indicator refers to the research of [Baek, Ahn, and Choi \(2012\)](#), which confirms that ratings function as a *heuristic cue* in the decision-making process. Customer review variables are measured through indicators of review information completeness, clarity of user experience, authenticity of reviews, relevance of reviews to needs, and review sentiment. The compilation of this indicator is based on the findings of [Mudambi and Schuff \(2010\)](#), who explain that detailed and credible reviews increase consumer confidence.

Meanwhile, the purchase decision variable is measured through four indicators that reflect consumer confidence levels, purchase intent, product evaluation before purchase, and checkout decisions. This indicator is adapted from the research of [Kim and Kim \(2021\)](#), who found that reviews and ratings affect affective and cognitive responses before consumers make a final decision. All questionnaire items are prepared in the form of positive statements to make it easier for respondents.

The questionnaire was distributed online through Google Form and distributed through social media and e-commerce user communities. The online deployment was chosen to maximize the reach of respondents and ensure they have experience in digital electronic shopping. Before the main data collection, instrument tests were carried out on 30 respondents to ensure the clarity of the items, the consistency of the answers, and the feasibility of the instrument initially. The results of the trial are used to improve the redaction and ensure that all items can be understood uniformly by the respondents.

Data analysis is carried out through several stages. First, a validity test was performed using Pearson correlation to ensure that each item had a significant correlation with the total score of the variable. An item is declared valid if the significance value is below 0.05. Second, reliability was tested using Cronbach's Alpha, with a minimum value of 0.70 to demonstrate adequate internal consistency ([Tavakol & Dennick, 2011](#)). Third, descriptive analysis is used to describe the respondent profile and the tendencies of the answers to each variable. The analysis will be carried out with the help of SPSS type 25.

Furthermore, a classical assumption test was carried out which included normality, multicollinearity, and heteroscedasticity tests. The normality test is used to determine the distribution of data, while the multicollinearity test aims to ensure that there is no high correlation between independent variables. Heteroscedasticity tests are performed to ensure that residual variance is constant. Once all assumptions are met, hypothesis testing is performed using multiple linear regression. This technique was chosen according to the recommendation of [Field \(2018\)](#), who stated that multiple linear regression is effective for testing the influence of two or more independent variables on a single dependent variable.

The regression models used are:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

with Y as a purchase decision, X_1 as a customer rating, and X_2 as a customer review. Through this model, the study aims to determine the significance of the influence of ratings and reviews both partially and simultaneously on purchasing decisions. With a systematic approach, this research is expected to make an empirical contribution related to the role of digital information in influencing consumer purchasing behavior in e-commerce, especially for electronic products.

RESULTS AND DISCUSSION

Respondent Characteristics

This study involved 280 respondents who met the research criteria, namely active e-commerce users in Indonesia who had bought electronic products online. The majority of respondents were between 21–30 years old (48.9%), followed by 31–40 years old (28.6%), and the rest were over 40 years old (17.1%) or under 20 years old (5.4%). The gender composition showed that male respondents were 56.1% and women were 43.9%, indicating that the purchase of electronic products tends to be more made by men.

In terms of platforms used, Shopee is the most widely used marketplace for electronic purchases (41.8%), followed by Tokopedia (36.4%), Lazada (13.6%), and Blibli (8.2%). Meanwhile, the frequency of electronic purchases in a year showed that most respondents bought 1–2 times (62.1%), 3–4 times (22.5%), and more than 4 times (15.4%). This data illustrates that the electronic category is a category of purchases with a relatively low frequency but involves high considerations.

Table 1. Characteristics of Research Respondents (n = 280)

Category	Subcategories	Quantity (n)	Percentage (%)
Age	< 20 years old	15	5.4%
	21–30 years old	137	48.9%
	31–40 years	80	28.6%
	> 40 years old	48	17.1%
Gender	Man	157	56.1%
	Woman	123	43.9%
Education	High	62	22.1%
	School/Equivalent		
	Diploma	38	13.6%
	Bachelor	148	52.9%
	Postgraduate	32	11.4%
Work	Student/Student	48	17.1%
	Private Employees	122	43.6%
	Civil Servant	29	10.4%
	Entrepreneurial	41	14.6%
	Other	40	14.3%
Monthly Income	< 2 million	51	18.2%
	2–5 million	112	40.0%
	5–10 million	78	27.9%
	> 10 million	39	13.9%
Electronic Purchasing Platform	Shopee	117	41.8%
	Tokopedia	102	36.4%
	Lazada	38	13.6%
	Blibli	23	8.2%
Frequency of Electronic Purchases (1 year)	1–2 times	174	62.1%
	3–4 times	63	22.5%
	> 4 times	43	15.4%

The frequency of purchase showed that most respondents purchased electronic products 1–2 times per year (62.1%), reflecting the characteristics of electronic products as *high-involvement products* with a low purchase frequency but high consideration. This combination of demographic and behavioral characteristics provides a comprehensive overview of online electronic consumer profiles that are relevant for the analysis of the influence of ratings and customer reviews on purchasing decisions.

Descriptive Statistics of Variables

Table 2. Descriptive Statistics of Research Variables (n = 280)

Variable	Mean	Standard Deviation	Minimum	Maximum	Category
Customer Ratings (X1)	4.21	0.64	2.67	5.00	Tall
Customer Reviews (X2)	4.34	0.58	2.75	5.00	Tall
Purchase Decision (Y)	4.18	0.62	2.50	5.00	Tall

Interpretation and Analysis

Customer Ratings (X1)

The customer rating variable obtained an average value of 4.21 with a standard deviation of 0.64. A high mean value indicates that most respondents view rating as a very important factor in assessing the feasibility and credibility of an electronic product before purchasing. The variation in answers was relatively moderate (SD = 0.64), indicating that respondents' perceptions were quite consistent.

This shows that ratings function as a *quality signal* that helps consumers make quick evaluations of products, especially in the electronics category that has a higher purchase risk.

Customer Reviews (X2)

The customer review variable had a mean of 4.34, the highest among the three variables, with a standard deviation of 0.58. This indicates that respondents are very concerned about the content of the review, both in terms of completeness of information, clarity of other users' experiences, and the accuracy of product descriptions.

A mean higher than a rating indicates that respondents trust the user experience narrative more than just the rating numbers. Consumers of electronic products tend to need details related to the quality, durability, specifications, and real performance of the product.

Purchase Decision (Y)

The purchase decision variable had a mean value of **4.18** and SD **0.62**. This value is in the high category, indicating that respondents' perception of the decision to purchase electronic products online tends to be positive and is influenced by digital information such as ratings and reviews.

The minimum–maximum range of values (2.50–5.00) indicates a variation in respondents' confidence levels, but in general the majority are in the category of "agree" to "strongly agree."

Validity and Reliability Tests

Validity and reliability tests are carried out to ensure that the research instrument is able to measure the construct in question accurately and consistently. The instrument is declared valid if the item has a Corrected Item–Total Correlation value of > 0.30 with a significance of < 0.05. Meanwhile, the reliability of the instrument is declared adequate if Cronbach's Alpha value ≥ 0.70 .

Validity Test

Validity tests were carried out on all statement items from three variables: Customer Rating (X1), Customer Reviews (X2), and Purchase Decision (Y). The following are the results of the validity test summarized in one comprehensive table.

Table 3. Results of the Research Instrument Validity Test (n = 280)

Variables & Items	r Count	Sig.	Information
Customer Ratings (X1)			
X1.1	0.614	0.000	Valid
X1.2	0.587	0.000	Valid
X1.3	0.679	0.000	Valid
X1.4	0.652	0.000	Valid
X1.5	0.610	0.000	Valid
Customer Reviews (X2)			
X2.1	0.631	0.000	Valid
X2.2	0.702	0.000	Valid
X2.3	0.688	0.000	Valid
X2.4	0.654	0.000	Valid
X2.5	0.711	0.000	Valid
Purchase Decision (Y)			
Y1.1	0.647	0.000	Valid
Y1.2	0.673	0.000	Valid
Y1.3	0.703	0.000	Valid
Y1.4	0.668	0.000	Valid
Y1.5	0.629	0.000	Valid

Based on the results in Table 3, all items in each variable have:

- a. r count > 0.30
- b. Sig. (p-value) < 0.05

Therefore, all statement items are declared valid and are able to accurately measure the constructs of each variable. No items should be eliminated or revised.

Reliability Test

Reliability was tested using Cronbach's Alpha, which measures the internal consistency between statements items. The higher the alpha value, the more consistent the instrument will be.

Table 4. Results of the Reliability Test of Research Instruments

Variable	Number of Items	Cronbach's Alpha	Information
Customer Ratings (X1)	5	0.842	Reliable
Customer Reviews (X2)	5	0.876	Reliable
Purchase Decision (Y)	5	0.861	Reliable

Cronbach's Alpha values on all three variables were in the range of 0.842–0.876, well above the minimum limit of 0.70. This shows that:

- a. The instrument has a strong internal consistency
- b. All items in a variable are stably correlated with each other
- c. The instrument is suitable for use for further stages of analysis, including multiple linear regression

Overall, the survey instrument meets the requirements of validity and reliability, so that it can be used optimally in testing research hypotheses.

Classic Assumption Test

Classical assumption tests are necessary to ensure that multiple linear regression models are statistically qualified so that the test results can be legitimately interpreted. The assumptions tested included normality, multicollinearity, heteroscedasticity, and linearity. The test results show that the regression model meets all the necessary assumptions.

Normality Test

The normality test aims to see if the residual data is distributed normally. The test was carried out using the Kolmogorov–Smirnov (K–S) test.

Table 5. Kolmogorov–Smirnov Normality Test Results

Parameters	Value
Kolmogorov–Smirnov Z	0.086
Sig. (p-value)	0.083

The significance value is $0.083 > 0.05$, so that:

Residual data is normally distributed There is no violation of the assumption of normality. These results indicate that the regression model is feasible to continue to the next analysis.

Multicollinearity Test

The multicollinearity test is performed to ensure that the independent variables do not have a very high correlation. The parameters used are Variance Inflation Factor (VIF) and Tolerance.

Table 6. Multicollinearity Test Results

Variable	Tolerance	VIVID
Customer Ratings (X1)	0.617	1.621
Customer Reviews (X2)	0.617	1.621

Interpretation

- a. Tolerance value > 0.10
- b. VIF Score < 10

Thus:

Non-occurrence of multicollinearity Independent variables can be used together in regression models. This shows that customer ratings and reviews do not interfere with each other in predicting purchasing decisions.

Heteroscedasticity Test

The heteroscedasticity test aims to find out whether there is a residual variance disparity across all predicted values. Testing was carried out using **Glover Test**.

Table 7. Heteroscedasticity Test Results (Glejser)

Variable	t	Sig.
Customer Ratings (X1)	1.262	0.208
Customer Reviews (X2)	0.942	0.347

Significant values of all variables:

- a. X1: $p = 0.208 > 0.05$
- b. X2: $p = 0.347 > 0.05$

So that:

No heteroscedasticity Residual variance is homogeneous The regression model is declared stable and unbiased due to heteroscedasticity problems.

Linearity Test

The linearity test is performed to ensure that the relationship between independent and dependent variables is linear. The test was carried out using the ANOVA Test of Linearity.

Table 8. Linearity Test Results

Variable	F	Sig.
Rating → Purchase Decision	34.118	0.000
Reviews → Purchase Decisions	56.327	0.000

Interpretation

Significance value:

- a. Rating → Y: $p = 0.000 < 0.05$
- b. Reviews → Y: $p = 0.000 < 0.05$

Means:

There is a linear relationship between independent and dependent variables and the use of linear regression is appropriate

Coefficient of determination

From the results of strong linear relationships:

$$R^2 = 0.315$$

Means:

- a. **31.5%** of the variation in purchase decisions is explained by ratings and reviews.

Hypothesis Testing

Partial Hypothesis Test (t-Test)

The t-test is used to examine the partial influence of each independent variable on the dependent variable. The decision criterion is if the significance value (p-value) < 0.05 or t-count $>$ t-table, then H_0 is rejected and H_a is accepted, meaning the independent variable has a significant influence on the dependent variable.

Table 9. Partial Hypothesis Test Results (t-Test)

a. **68.5%** are explained by other factors (brand, price, needs, specifications, etc.).

Variable	t-count	t-table	Sig.	Decision
(Constant)	4.582	1.969	0.000	-
Customer Rating (X_1)	5.847	1.969	0.000	Significant
Customer Review (X_2)	8.329	1.969	0.000	Significant

Based on Table 9, the t-test results show that: (1) Customer Rating (X_1) has a t-count value of $5.847 >$ t-table 1.969 with significance $0.000 < 0.05$, indicating that customer rating has a significant positive influence on purchase decisions. This means hypothesis H_1 is accepted. (2) Customer Review (X_2) has a t-count value of $8.329 >$ t-table 1.969 with significance $0.000 < 0.05$, indicating that customer review has a significant positive influence on purchase decisions. This means hypothesis H_2 is accepted. The t-count value of customer review (8.329) is higher than customer rating (5.847), indicating that customer review has a stronger influence on purchase decisions compared to customer rating.

Simultaneous Hypothesis Test (F-Test)

The F-test is used to examine the simultaneous influence of all independent variables on the dependent variable. The decision criterion is if the significance value (p-value) < 0.05 or F-count > F-table, then H_0 is rejected and H_a is accepted, meaning all independent variables simultaneously have a significant influence on the dependent variable.

Table 10. Simultaneous Hypothesis Test Results (F-Test)

This value is completely consistent with e-commerce research in general.

Model	F-count	F-table	Sig.	Decision
Regression	64.238	3.026	0.000	Significant

Based on Table 10, the F-test results show that the F-count value is $64.238 > F\text{-table } 3.026$ with significance $0.000 < 0.05$. This indicates that customer rating (X_1) and customer review (X_2) simultaneously have a significant influence on purchase decisions (Y). Therefore, hypothesis H_3 is accepted. The high F-count value (64.238) demonstrates a strong simultaneous relationship between the independent variables and the dependent variable. Combined with the R^2 value of 0.315 (31.5%), this means that ratings and reviews together explain approximately one-third of the variation in purchase decisions, while the remaining 68.5% is explained by other factors not examined in this study, such as price, brand reputation, product specifications, promotional offers, and platform credibility.

Discussion

The Influence of Ratings on Purchase Decisions

The research findings indicate that customer ratings have a significant positive influence on online electronic product purchase decisions (t-count = 5.847, $p < 0.001$). The mean value of customer rating variable (4.21) shows that most respondents consider ratings as a very important factor in product evaluation. This result is consistent with signaling theory (Spence, 1973), which explains that ratings function as quality signals that help consumers make quick evaluations, especially for products that cannot be physically inspected before purchase. The empirical findings align with Luca (2016), who found that a one-star increase in product ratings can significantly improve sales by 5-9%. In the context of high-involvement electronic products, ratings serve as heuristic cues that reduce cognitive load in decision-making (Kahneman, 2011). However, a research gap emerges: while ratings provide quick assessment tools, the credibility of rating aggregation mechanisms in Indonesia's e-commerce platforms requires further investigation, particularly regarding the detection and filtering of manipulated ratings.

The Influence of Customer Reviews on Purchase Decisions

The research findings show that customer reviews have a significant positive influence on purchase decisions (t-count = 8.329, $p < 0.001$), with the highest mean value (4.34) among all variables studied. This indicates that respondents highly value the narrative content of reviews in their decision-making process. The result is supported by the Elaboration Likelihood Model (Petty & Cacioppo, 1986), which explains that reviews provide detailed information that enables systematic cognitive processing through the central route. Unlike ratings that offer quick numerical assessments, reviews provide granular details about product performance, user experience, and contextual usage scenarios (Smith, Menon, & Sivakumar, 2005). The higher t-count value for reviews (8.329) compared to ratings (5.847) confirms that Indonesian consumers prioritize qualitative information depth over quantitative scoring, particularly for technical products requiring detailed evaluation. This finding is consistent with recent research by

Fan and Chen (2021) and Kim and Kim (2021), who found that review informativeness and credibility significantly enhance purchase intention. However, a critical gap emerges regarding how consumers assess review credibility amid information overload, especially when facing hundreds of reviews with varying quality and potential manipulation. Future research should investigate the cognitive strategies Indonesian consumers employ to filter and evaluate review authenticity in high-stakes electronic product purchases.

The Simultaneous Influence of Ratings and Reviews on Purchase Decisions

The research findings demonstrate that customer ratings and reviews simultaneously have a significant influence on purchase decisions (F -count = 64.238, $p < 0.001$), with $R^2 = 0.315$ indicating that 31.5% of purchase decision variance is explained by these two variables. This result supports Information Integration Theory (Anderson, 1981), which posits that consumers combine multiple information sources to form comprehensive evaluations. The simultaneous influence reveals that consumers employ dual-process thinking: ratings provide quick heuristic filtering (System 1 thinking), while reviews enable detailed analytical evaluation (System 2 thinking) as described by Kahneman (2011). This finding aligns with Park and Lee (2009), who found that products with both high ratings and positive detailed reviews generate the highest purchase intention. The consistency between quantitative ratings and qualitative reviews reinforces credibility through information triangulation, strengthening trust in eWOM (Tsao, 2014). However, the R^2 value of 31.5% indicates that 68.5% of purchase decision variance is explained by factors not examined in this study, such as price competitiveness, brand reputation, product specifications, promotional incentives, and platform credibility. This significant unexplained variance represents a critical research gap, suggesting that while ratings and reviews are important, they operate within a broader ecosystem of decision-influencing factors. Future research should investigate how ratings and reviews interact with price signals, brand equity, and platform trust mechanisms to provide a more holistic understanding of online purchase behavior in Indonesia's electronics market.

Research Implications

This research makes an important contribution to the development of theories about digital consumer behavior, especially in the context of the influence of electronic word-of-mouth (eWOM) on electronic product purchase decisions. First, the findings of this study strengthen the theoretical framework of the *Elaboration Likelihood Model (ELM)* which states that consumers process information through central and peripheral pathways. Ratings serve as heuristic cues (peripheral paths), while reviews act as triggers for in-depth elaboration (central path) in the evaluation process. Thus, this study proves that the two processing routes work simultaneously and complement each other in the context of e-commerce.

Second, this study expands on the understanding in *Information Integration Theory* (Anderson, 1981) which emphasizes that consumers combine various forms of information before making a final decision. The findings that ratings and reviews exert a significant influence, both partially and simultaneously, suggest that consumers are not relying on just one type of information, but are integrating quantitative and narrative signals to form a more complete perception of quality.

Third, this study confirms the relevance of *Signaling Theory* (Spence, 1973) in the context of electronic products. Ratings as an aggregate quality signal and reviews as informative detail signals have been proven to reduce information asymmetry between

sellers and buyers. These results expand the literature on the mechanism of building trust in digital transactions, especially in the category of high-involvement *products*.

Fourth, the findings of this study contribute to the eWOM literature by showing that the combination of ratings and reviews not only increases the perception of quality, but also strengthens the trust and value perceived by consumers. Thus, this study enriches previous theoretical models that largely separated the influence of the two variables.

Overall, this research strengthens the academic understanding of how consumers process various forms of digital information in decision-making, as well as opens up opportunities for the development of new conceptual models that are more integrated in the modern e-commerce era.

The findings of this study have important implications for e-commerce players, digital marketers, and sellers of electronic products. First, the results of the study show that rating has an important role as the *first filter* in the product screening process. Therefore, sellers need to ensure that the quality of products and after-sales service is always maintained so that the rating remains stable and high. Efforts such as quick response to complaints, good packaging, and accurate product descriptions can help maintain ratings.

Second, reviews prove to be the most powerful element in influencing purchasing decisions. Therefore, sellers and e-commerce platforms need to encourage consumers to leave informative, honest, and complete reviews. Platform providers can implement incentive systems, such as loyalty points or vouchers, to increase participation in providing quality reviews. Features such as pictorial or video reviews also need to be maintained and developed to increase the credibility of the review.

Third, the findings regarding the simultaneous influence of ratings and reviews show that consumers are more confident when there is consistency between the rating numbers and the review narrative. Therefore, sellers need to ensure that the products being sold not only have high ratings but also relevant and consistent reviews in describing the product's performance. A regular review monitoring strategy is also needed to detect recurring complaint patterns and improve the quality of products and services.

Fourth, marketplace algorithms that tend to place products with positive ratings and reviews in the top position reinforce the importance of these two indicators. Sellers who are able to keep both will gain a competitive advantage and higher visibility on the e-commerce platform, thus increasing sales opportunities.

Fifth, for e-commerce platforms, the results of this study confirm the importance of providing a more transparent and quality-based filtering and recommendation system. Platforms need to ensure that fake reviews can be minimized through strict verification, so that the quality of the information consumers receive is maintained.

In terms of policy, this research provides several relevant implications for regulators, especially institutions that handle digital trade such as the Ministry of Trade, Communication and Informatics, and consumer protection institutions. First, the results of the study confirm that ratings and reviews have a significant impact on purchasing decisions, so regulators need to ensure the existence of transparency and information authenticity standards in e-commerce platforms. Regulations regarding the handling of fake reviews need to be clarified and strengthened to protect consumers from information distortion.

Second, consumer protection in the digital era needs to include education about digital literacy, especially the ability of consumers to assess the credibility of reviews and ratings. Policies that encourage digital literacy will help consumers make more rational and secure decisions in transacting online.

Third, regulators can encourage e-commerce platforms to develop independent audit mechanisms for rating and review systems, so that information integrity can be maintained. This transparency will increase public trust in the digital trade ecosystem.

Fourth, given that the electronics category has a large risk of financial loss, the government may consider additional protection policies such as minimum warranty obligations, quality control standards for imported products, and stricter return mechanisms. Thus, consumers' reliance on ratings and reviews as a risk mitigation tool can be helped by adequate policy protection.

CONCLUSION

This study analyzes the influence of customer ratings and reviews on online electronic product purchase decisions. Based on statistical analysis and hypothesis testing, three main conclusions emerge. First, customer ratings significantly influence purchase decisions ($t = 5.847, p < 0.05$). Ratings serve as heuristic cues that help consumers assess product quality quickly, reduce uncertainty, and reinforce confidence, particularly for high-involvement electronic products. Second, customer reviews demonstrate the strongest influence on purchase decisions ($t = 8.329, p < 0.05$). Reviews provide detailed information about real user experiences, enabling consumers to evaluate product suitability for their needs. Credible reviews containing technical details and long-term experience have greater persuasive impact than other information sources. Third, ratings and reviews simultaneously exert significant influence on purchase decisions ($F = 64.238, p < 0.05, R^2 = 0.315$).

This simultaneous effect reflects information integration processes consumers employ to reduce risk and increase confidence. The 31.5% variance explained indicates that while ratings and reviews are important factors, other variables like price, brand reputation, and promotions also contribute. This research confirms that eWOM is a critical component in online electronics purchasing decisions, providing theoretical contributions to digital consumer behavior literature and practical implications for e-commerce platforms to enhance rating system quality, ensure review authenticity, and develop effective digital marketing strategies.

ACKNOWLEDGEMENT

The authors would like to express their sincere appreciation to all individuals and institutions who contributed to the completion of this research entitled "The Influence of Customer Ratings and Reviews on Online Electronic Product Purchase Decisions." Special thanks are extended to the respondents who participated in this study by providing valuable insights and data. The authors also acknowledge the support, guidance, and constructive feedback from colleagues and academic peers, which significantly contributed to the improvement and successful completion of this research.

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