

THE INFLUENCE OF ELECTRONIC WORD OF MOUTH, PERCEIVED EASE OF USE, AND DIGITAL MARKETING ON THE USAGE DECISION OF DUOLINGO APPLICATION AMONG GENERATION Z IN SURABAYA CITY



Bimo Dwi Pasa¹

Universitas Pembangunan Nasional “Veteran” Jawa Timur, Surabaya, Indonesia
bimodwipasa03@gmail.com

Budi Prabowo²

Universitas Pembangunan Nasional “Veteran” Jawa Timur, Surabaya, Indonesia
bprabowo621@gmail.com

Abstract

This study aims to identify and analyze the influence of Electronic Word of Mouth, Perceived Ease of Use, and Digital Marketing on the Decision to use the Duolingo application among Generation Z in Surabaya City. The study is grounded in the urgency of technological development, particularly in educational-based applications, which must align with user behavior. The sampling technique employed was non-probability sampling with a purposive sampling method, involving a total of 160 respondents. This research applied a quantitative approach using multiple linear regression analysis, with data processed through SPSS version 25. The results indicate that Electronic Word of Mouth, Perceived Ease of Use, and Digital Marketing simultaneously have a positive and significant effect on Usage Decision. Partially, each independent variable also shows a significant influence on the dependent variable. The coefficient of determination (R^2) value of 0.650 indicates that 65% of the variation in Usage Decision is explained by the three independent variables in this study, while the remaining 35% is influenced by other factors outside the model.

Keywords: Electronic Word of Mouth, Perceived Ease of Use, Digital Marketing, Usage Decision, Duolingo

INTRODUCTION

Global competition demands an improvement in the quality of human resources that are adaptive to the development of science and technology. One of the main competencies that determine an individual's competitiveness in the era of globalization is foreign language proficiency, especially English as a lingua franca in education, economics, and international industry (Klimova, 2021). In the context of Indonesia, this condition is becoming increasingly relevant in line with the demographic bonus being experienced, where the majority of the population is in the productive age group, including the dominance of Generation Z as the age group that will support the vision of Indonesia Gold 2045.

However, the EF English Proficiency Index data shows that the English proficiency level of the Indonesian population is still relatively low compared to other countries. This condition reflects a gap between global demands and the language competencies possessed by the productive generation. The development of digital technology then presents an alternative to application-based learning that is more flexible and accessible, one of which is thru language learning platforms like Duolingo. This application utilizes a gamification approach and technology-based self-directed learning that aligns with the characteristics of Generation Z as digital natives.

The decision to use digital learning applications is an important aspect of the successful adoption of educational technology. This decision not only reflects the initial interest of users but also their willingness to continuously utilize the application's features. In the context of digital consumer behavior, usage decisions are influenced by various external and internal factors, including electronic word of mouth (e-WOM), perceived ease of use, and digital marketing. E-WOM serves as a source of non-commercial information that shapes the perceptions and trust of potential users thru online reviews and recommendations. Meanwhile, perceived ease of use reflects how easy users perceive a technology to be learned and used, which directly affects the adoption rate. On the other hand, digital marketing serves as an external stimulus that enhances awareness, interest, and perceived benefits of an application.

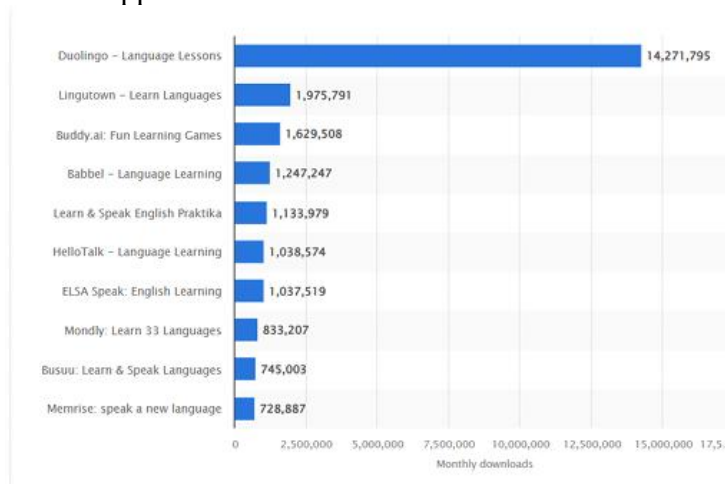


Figure 1
Number of Downloads for Language Learning Apps
Source: Statista.com

Although Duolingo records a very high number of downloads globally, the daily and monthly active user rates are relatively lower compared to the total downloads. This phenomenon indicates that the success of marketing and initial adoption has not been fully followed by sustainable usage decisions. These conditions indicate the need for a deeper understanding of the factors influencing the decision to use language learning applications, particularly among the Generation Z group.

REVIEW OF LITERATURE

Marketing

Marketing is a fundamental activity that needs to be strengthened based on the company itself to maintain and ensure the sustainability of the company's existence and operations. According to Tjiptono and Diana in (Seran et al., 2023), marketing is a stage of creating, distributing, introducing, and pricing products, services, and ideas in order to bridge exchange relationships built as a response to customers with the aim of creating and maintaining non-negative interactions with various stakeholders in a dynamic business environment.

Technology Acceptance Model 2 (TAM 2)

The theory developed by Davis & Venkatesh in (Wicaksono, 2022) states that perceived usefulness and ease of use are the two main factors influencing technology adoption, and combines the attitude of subjective norms into one, namely social influence. Perceived usefulness is related to the level of trust of potential users or users that the use of technology can provide benefits in achieving personal goals. Meanwhile, perceived ease of use is related to how easy it is for users to learn and utilize the technology available in an application.

Electronic Word of Mouth

According to Kotler & Keller in (Sualang et al., 2023), Electronic Word of Mouth is a type of marketing that utilizes digital space to create the impact of issues from one mouth to another as a supporter of business efforts and marketing objectives, whether in the form of audio, video, or text to others in the form of storytelling about certain products and services. The indicators of electronic word of mouth are: frequency of use, frequency of interaction, number of reviews, constructive opinions, recommendations from other users, variation information, quality information, and price information.

Perceived Ease of Use

According to Jogiyanto in (Robaniyah et al., 2021), perceived ease of use refers to an individual's classification related to the belief that using a particular information system will minimize the effort expended. The indicators of perceived ease of use are: easy to learn, easy to understand, effortless, and easy to use.

Digital Marketing

According to Kotler & Armstrong in (Cahyani, 2022), digital marketing is an effort by producers or companies to provide information, communicate, and introduce their goods and services thru various internet platforms such as email, websites, and social media. According to (Julito & Ramadani, 2024), digital marketing is a marketing activity or service introduction process using technology from digital services supported by the quality of internet connection to increase consumer or potential consumer interest. The indicators of

digital marketing are: accesibility, interactivity, entertainment, credibility, irritation, informativeness

Usage Decision

According to Alma in (Daeng et al., 2023), finance, technology, politics, culture, product type, location, and promotion are some of the variables that can influence customers' decisions to use a product. These factors can also affect how customers process information and determine which services they will use. Furthermore, according to Kotler in (Ahmad, 2021), the decision to use is a response that arises due to the influence or correlation from external parties thru various stages such as problem identification, data search, alternative assessment, and then the decision to use. The indicators of usage decision are: the need and desire for a product, the desire to try, the confidence in product quality, and the decision for continued use.

RESEARCH METHOD

The type of research used in this study is associative research with a quantitative approach. The type and approach were chosen because this research aims to understand and analyze the influence relationship between the independent variable and the dependent variable. The purpose of data collection in this research is to gather information that will contribute to the success of the study. Therefore, the author of this research uses a questionnaire as the data collection method. The data that has been collected is then converted into numerical data that is analyzed to test the hypothesis using statistical methods thru SPSS 25 software.

In this research, using purposive sampling with the sample used consists of individuals from Generation Z residing in Surabaya who have ever used or are currently using the Duolingo app. The size of the population was taken based on the number of residents in Surabaya City aged around 13-28 years. Based on data from the BPS Surabaya City, the number of residents aged 13-28 years is approximately 761,490 people as of June 2024. Thus, the total number of Generation Z in the city of Surabaya in 2024 is approximately 759,100. Thus, in calculating the sample size, statistical calculations can be used with the Slovin formula with margin of error 8% and found the results of the calculations for a sample of 156 respondents, to ensure the data, the researchers decided to take 160 respondents. Primary data is measured using a 1-5 Likert scale. In addition to primary data using questionnaires, secondary data in this study is obtained thru literature from books, journals, websites, and other supporting data. several tests used in this study include validity test, reliability test, classical assumption test, multiple linear regression analysis, F test, t test, and coefficient of determination test (R^2). The tests were conducted to ensure the data's suitability so that it can proceed to the next stage of this research process.

Research Hypothesis

This study aims to analyze the influence of electronic word of mouth, perceived ease of use, and digital marketing on usage decision of Duolingo Application. Based on the review of the literature and previous research, the hypothesis proposed in this study is as follows:

- H1:Electronic word of mouth, perceived ease of use, and digital marketing simultaneously influence the usage decision.
- H2:Electronic word of mouth partially influences the usage decision.

- H3: Perceived ease of use partially influences the usage decision.
- H4: Digital marketing partially influences the usage decision.

Research Model

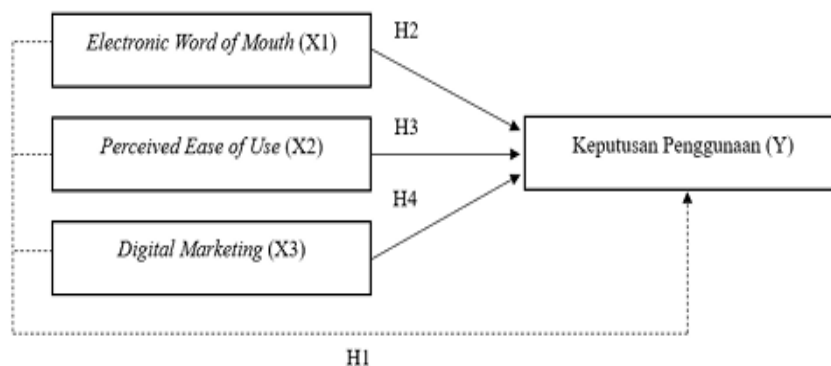


Figure 2

Research Model

Source: Data processed (2026)

RESULTS AND DISCUSSION

Validity Test

Table 1
Validity Test Results

Variabel	Pernyataan	Koefisien Korelasi (r _{hitung})	Sig.	r _{tabel} 5% (160)	Keterangan
Electronic Word of Mouth (X1)	X1.1	0,770	0,000	0,1552	Valid
	X1.2	0,741	0,000	0,1552	Valid
	X1.3	0,739	0,000	0,1552	Valid
	X1.4	0,776	0,000	0,1552	Valid
	X1.5	0,798	0,000	0,1552	Valid
	X1.6	0,766	0,000	0,1552	Valid
	X1.7	0,760	0,000	0,1552	Valid
	X1.8	0,821	0,000	0,1552	Valid
Perceived Ease of Use (X2)	X2.1	0,867	0,000	0,1552	Valid
	X2.2	0,847	0,000	0,1552	Valid
	X2.3	0,853	0,000	0,1552	Valid
	X2.4	0,822	0,000	0,1552	Valid
Digital Marketing (X3)	X1.1	0,878	0,000	0,1552	Valid
	X1.2	0,850	0,000	0,1552	Valid
	X1.3	0,828	0,000	0,1552	Valid
	X1.4	0,811	0,000	0,1552	Valid
	X1.5	0,841	0,000	0,1552	Valid
	X1.6	0,836	0,000	0,1552	Valid
Usage Decision (Y)	Y.1	0,892	0,000	0,1552	Valid
	Y.2	0,878	0,000	0,1552	Valid
	Y.3	0,879	0,000	0,1552	Valid
	Y.4	0,899	0,000	0,1552	Valid

Source: Data processed (2026)

To ensure the feasibility of each instrument, a significance standard of 0.05 is required with validity standards determined according to the r_{table} . Based on the existing provisions, an instrument can be considered valid if it has an value $r_{count} > r_{table}$. Based on Table 1, it can be observed that the variables electronic word of mouth, perceived ease of use, digital marketing, and usage decision have values $r_{count} > r_{table}$, thus concluding that each instrument in the study is valid for this research.

Reliability Test

Table 2
Reliability Test Results

Variabel	Cronbach's Alpha Hitung	Cronbach's Alpha Minimum	Keterangan
<i>Electronic Word of Mouth (X1)</i>	0,899	0,60	Reliabel
<i>Perceived Ease of Use (X2)</i>	0,868	0,60	Reliabel
<i>Digital Marketing (X3)</i>	0,917	0,60	Reliabel
<i>Usage Decision (Y)</i>	0,910	0,60	Reliabel

Source: Data processed (2026)

The reliability of the data can be measured using the Cronbach's alpha method. Research instruments in each variable can be considered reliable when they exceed the minimum standard value of 0.60. Based on Table 2, it can be stated that each instrument can be considered reliable based on the calculations with the Cronbach's alpha standard, thus it can be concluded that the instruments have accurate precision and can be continued to the next stage of data testing.

Classical Assumption Test

Normality Test

Normality test is utilized to test and obtain information regarding the distribution of data values on a variable, whether it is normally distributed or not. In this study, the normality test is conducted using the Kolmogorov Smirnov method. The Kolmogorov-Smirnov test value that must be met is at least 0.05 for the data to be considered normally distributed. In addition, the data can be determined to be normally distributed by observing the normal probability plot graph to see the data distribution.

Table 3
Normality Test Result
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		160
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	1.50161069
Most Extreme Differences	Absolute	.055
	Positive	.052
	Negative	-.055
Test Statistic		.055
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 (2026)

Based on Table 3, it can be seen that the significance value is $0.200 > 0.05$. Therefore, it can be concluded that the data in the study is normally distributed. The following is a normal probability plot to see the normal distribution of the data.

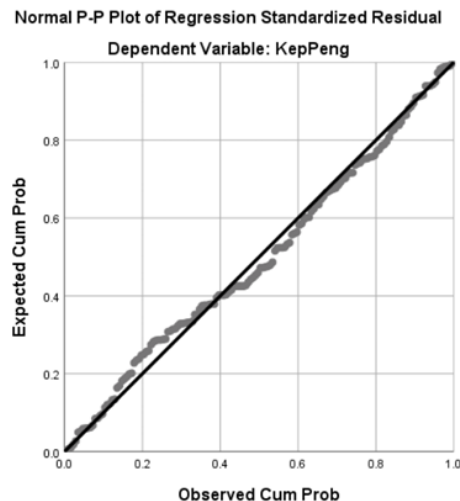


Figure 3
Normal Probability Plot Graph
Source: Data processed (2026)

Multicollinearity Test

Table 4
Multicollinearity Test Result
Coefficients^a

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
<i>Electronic Word of Mouth (X1)</i>	.799	1.251
<i>Perceived Ease of Use (X2)</i>	.893	1.120
<i>Digital Marketing (X3)</i>	.771	1.297

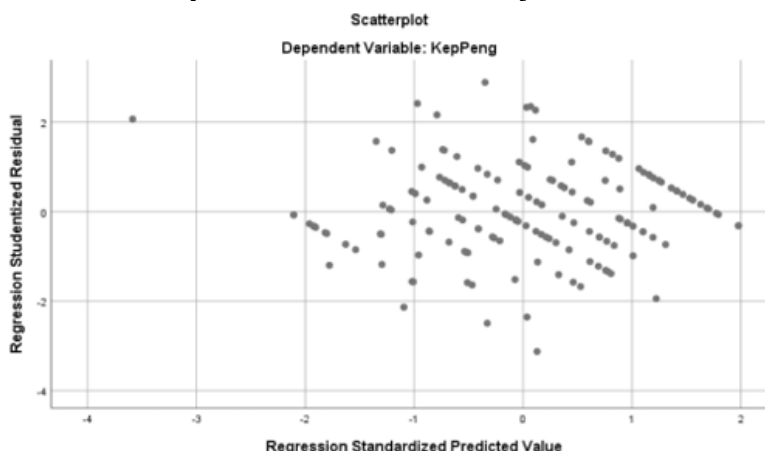
a. Dependent Variable: Keputusan Penggunaan (Y)

Source: Data Processed (2026)

In this research, the multicollinearity test is used to obtain information regarding the indication of correlation among independent variables. To determine this, a multicollinearity test on the regression model is required to find the Variance Inflation Factor (VIF) value, with the specified standard being that if the VIF value < 10 and the tolerance value > 0.10 , then there is no multicollinearity. In Table 4, it shows that the VIF values for each variable are < 10 and the tolerance values for each variable are > 0.10 . Thus, it can be concluded that there are no symptoms of multicollinearity among the independent variables in this study.

Heteroscedasticity Test

Figure 4
Scatterplot of Heteroscedasticity Test Results



Source: Data Processed (2026)

In the figure 4, it can be seen that the obtained data is randomly scattered around the 0 point on the Y-axis and there is no clear specific pattern. To support these results, this study also uses the Glejser Test, which has the provision that if the significance value of the independent variable > 0.05 , then there is no indication of heteroscedasticity; conversely, if the significance value < 0.05 , then there is an indication of heteroscedasticity. Next are the Glejser test results in this research:

Table 5
Glejser Test Heteroscedasticity Result

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.959	.637		3.073	.003
Electronic Word of Mouth	-.001	.018	-.004	-.050	.960
Perceived Ease of Use	-.018	.027	-.056	-.667	.506
Digital Marketing	-.020	.023	-.081	-.899	.370

a. Dependent Variable: ABS_RES1

Source: Data processed (2026)

From Table 5, it can be seen that the significance value of each independent variable in the study is > 0.05 , which indicates the absence of heteroscedasticity symptoms in the variables of this study.

Autocorrelation Test

Table 6
Durbin Watson Test Autocorrelation Result
Model Summary^b

Model	Durbin-Watson
1	1.842

a. Predictors: (Constant), *Electronic Word of Mouth*, *Perceived Ease of Use*,
Digital Marketing

b. Dependent Variable: Keputusan Penggunaan

Source: Data Processed (2026)

Based on the table above, the Durbin-Watson value in this study is 1.842. With a total of 160 respondent observations ($N=160$) and 3 independent variables ($K=3$), the DU or Upper Bound value is 1.7798, which is then applied to the formula $dU < d < 4 - dU$, resulting in: $1.7798 < 1.842 < 2.2202$. It can be concluded that there is no autocorrelation, either positive or negative, in this research.

Multiple Linear Regression Analysis

Table 7
Multiple Linear Regression Analysis Test Result
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.436	1.010		-.431	.667
	<i>Electronic Word of Mouth</i>	.207	.028	.391	7.378	.000
	<i>Perceived Ease of Use</i>	.187	.043	.217	4.321	.000
	<i>Digital Marketing</i>	.296	.036	.447	8.289	.000

a. Dependent Variable: Keputusan Penggunaan

Source: Data processed (2026)

The constant value (α) of -0,436 is a constant or condition when the usage decision variable has not been influenced by other variables, namely the electronic word of mouth variables (X_1), perceived ease of use (X_2), and digital marketing (X_3). The electronic word of mouth regression coefficient value (X_1) is 0.207, indicating that every 1 unit increase in the electronic word of mouth variable will increase usage decision by 0.207. The perceived ease of use regression coefficient (X_2) value is 0.187, indicating that every 1 unit increase in the perceived ease of use variable will increase usage decision by 0.187. The digital marketing regression coefficient value (X_3) is 0.296, indicating that every 1 unit increase in the digital marketing variable will increase usage decision by 0.296.

Hypotesis Testing F Test

Table 8
F Test Result
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	666.425	3	222.142	96.659	.000 ^b
	Residual	358.519	156	2.298		
	Total	1024.944	159			

a. Dependent Variable: Keputusan Penggunaan

b. Predictors: (Constant), Digital Marketing, Perceived Ease of Use, Electronic Word of Mouth

Source: Data processed (2026)

Based on the table 8, it can be observed that the calculated F value is 96.659 and the table F value in this study is obtained based on the standard $Df = n - k - 1 = 160 - 3 - 1 = 156$, which means that the table F value corresponding to these criteria is 2.66. Based on this value, it can be concluded that the calculated $F_{\text{count}} > F_{\text{table}}$ value, which is $96.659 > 2.66$. In addition to the calculated F value, the simultaneous effect can also be measured based on the significance value in the F test table of $0.000 < 0.05$, concluding that the variables electronic word of mouth, perceived ease of use, and digital Marketing simultaneously influence the usage decision variable.

t Test

Table 9
t Test Result
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.436	1.010		-.431	.667
	Electronic Word of Mouth	.207	.028	.391	7.378	.000
	Perceived Ease of Use	.187	.043	.217	4.321	.000
	Digital Marketing	.296	.036	.447	8.289	.000

a. Dependent Variable: Keputusan Penggunaan

Source: Data processed (2026)

Based on the table above, the t-statistic value and the significance value of each independent variable can be determined. To determine the t-table value, the following equation can be used: $Df = n - k - 1 = 160 - 3 - 1 = 156$. For a value with Df 156 and a significance level of 5%, the t-table value is 1.975. For the explanation of the influence of each variable as follows:

- The results of the partial test show that the significance value of electronic word of mouth (X1) is 0.000, which is less than 0.05, and t-count $7.378 > t\text{-table } 1.975$, so the hypothesis is accepted and it is concluded that Electronic Word of Mouth (X1) has a significant partial effect on Usage Decision (Y).
- The results of the partial test show that the significance value of perceived ease of use (X2) is 0.000, which is less than 0.05, and t-count $4.321 > t\text{-table } 1.975$, so the hypothesis is

accepted and it is concluded that Perceived Ease of Use (X2) has a significant partial effect on Usage Decision (Y).

c. The results of the partial test show that the significance value of digital marketing (X3) is 0.000, which is less than 0.05, and t-count 8.289 > t-table 1.975, so the hypothesis is accepted and it is concluded that Digital Marketing (X3) has a significant partial effect on Usage Decision (Y).

Coefficient of Determination Test (R^2)

Table 10
Coefficient of Determination Test Result

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.806 ^a	.650	.643	1.516

a. Predictors: (Constant), Digital Marketing, Perceived Ease of Use, Electronic Word of Mouth

Source: Data processed (2026)

Based on Table 10, it can be observed that the R Square value is 0.650, which can be concluded that the variable usage decision can be explained by the independent variables in the study, namely electronic word of mouth, perceived ease of use, and digital marketing, by 65%, and the remaining 35% will be explained by other variables outside the study.

CONCLUSION

Based on the results of the analysis obtained through primary and secondary data collection regarding the study entitled “The Influence of Electronic Word of Mouth, Perceived Ease of Use, and Digital Marketing on the Decision to Use the Duolingo Application among Generation Z in Surabaya City,” it can be concluded that Electronic Word of Mouth, Perceived Ease of Use, and Digital Marketing simultaneously have a positive and significant effect on users’ decisions to adopt the application.

Furthermore, each independent variable also demonstrates a positive and significant partial influence on usage decisions. Electronic Word of Mouth plays a crucial role in shaping users’ trust and perceptions through online reviews and recommendations, which in turn strengthens their intention to use the application. Perceived Ease of Use significantly contributes to the adoption process by enhancing users’ comfort and efficiency in interacting with the application. In addition, Digital Marketing positively affects users’ awareness and interest, encouraging them to make informed decisions to use Duolingo. Collectively, these findings confirm that both internal perceptions and external digital stimuli are essential determinants of technology usage decisions among Generation Z.

REFERENCES

- Ahmad, M. (2021). The Influence of Social Class, Economic Conditions, and Reference Groups on the Purchase Decision of Honda Beat Motorcycles in Sungai Penuh City. *E-Journal Al-Dzahab*, Vol 2 (2), 59–65.
- Badan Pusat Statistik. (2025). Population by Age Group and Gender -Statistical Table- Badan Pusat Statistik Kota Surabaya. <https://surabayakota.bps.go.id/id/statisticstable/3/WVc0MGEyMXBkVFUxY25KeE9HdDZkbTQzWkVkb1p6MDkjMw==/jumlahpendudu>

- k-menurutkelompokumur-dan-jenis-kelamin--ribu-jiwa--di-kota-surabaya2024.html?year=2024.
- Daeng, C. R. N., Rogahang, J., & Walangitan, O. (2023). The Influence of Price on the Decision to Use Maxim Bike Online Transportation Services among Fispol Unsrat Students. 2(5), 306–312.
- Julito, K. A., & Ramadani, I. (2024). The Influence of Value Added Tax Increase and Digital Marketing on Purchase Decisions in Generation Z in E-Commerce Transactions as a Moderator. *Media Akuntansi Perpajakan*, 9(1), 28–40.
<https://doi.org/10.52447/map.v9i1.7466>
- Klimova, B. (2021). An Insight into Online Foreign Language Learning and Teaching in the Era of COVID-19 Pandemic. 192(January), 1787–1794.
- Robaniyah, L., Kurnianingsih, H., Studi Manajemen, P., Tinggi Ilmu Ekonomi Surakarta, S., & Tengah, J. (2021). The influence of perceptions of benefits, ease of use and security on interest in using the ovo application. *Journal IMAGE*, 10(1), 53–62.
- Seran, R. B., Sundari, E., & Fadhila, M. (2023). Unique Marketing Strategies: Optimizing Creativity to Capture Consumer Attention. *Jurnal MiraiManagement*, 8(1), 206–211.
<https://journal.stieamkop.ac.id/index.php/mirai/article/download/4054/2644>
- Sualang, G. M. C., Mandey, S. L., & Ogi, I. W. J. (2023). The influence Electronic Word Of Mouth (E-Wom), price, and product quality on purchase intention of Pt. Mandala Finance Tbk, Cabang Ratahan. 11(2), 335–344.
- Sugiyono, P.D. (2023). Quantitative research methods. Bandung: ALFABETA, cv
- Wicaksono, S. R. (2022). Basic Theory Technology Acceptance Model (Issue March).
<https://doi.org/10.5281/zenodo.7754254>