International Journal of Management Analytics (IJMA)
Vol. 4, No. 4 October 2026: 1391-1400

Determinants of Village Digitalization on the Quality of Life of the Community in Botteng Village, Simboro District, Mamuju Regency

Rasna[1*], Jeffriansyah[2], Muh Ridwan Hayadin[3], Rhena J[4], Hamzar[5]
Development Economics Study Program, Faculty of Economics and Business, Universitas Muhammadiyah Mamuju, West Sulawesi, Indonesia.
Corresponding Author: Rasna ; rasnasaharuddin093@ gmail.com

ARTICLE INFO

Keywords: Digitalization, Quality of Life, Community, Botteng Village

Received : 10, August
Revised : 15, September
Accepted: 20, October

©2026 Rasna, Jeffriansyah, Hayadin, Rhena J, Hamzar (s): This is an open-access article distributed under the termsof the Creative Commons Atribusi 4.0 Internasional.

ABSTRACT

This study aims to identify the factors influencing the impact of village digitalization on the quality of life of the community in Botteng Village, Simboro District, Mamuju Regency. This study utilized a descriptive quantitative research approach. The research population comprised 280 individuals, from which 74 respondents were selected as the sample using the Slovin formula with a 10 percent margin of error. Data were obtained through questionnaires, complemented by observation and documentation. The collected data were subsequently analyzed using both descriptive and inferential statistical techniques. The simultaneous test produced a significance value of 0.000, which is lower than 0.05. This finding indicates that digital infrastructure and access, digital literacy, and the utilization of village digital services collectively have a significant effect on the quality of life of the community.

DOI: https://doi.org/10.59890/ijma.v4i4.72

URL: https://journalijma.my.id/index.php/ijma

INTRODUCTION

Botteng Village possesses significant potential to support the development of village digitalization. In addition to its location relatively close to the center of Mamuju City, the village holds tourism, agricultural, and plantation potential that can be developed through the use of digital technology. The village government has also implemented a village website based on the Village Information System (DIGIDES) as a means of providing services and disseminating information to the community.

Nevertheless, the digitalization process in Botteng Village still faces various challenges. One of the obstacles is related to infrastructure and digital access. The village's mountainous terrain results in uneven internet network quality across the area; some parts still experience weak signals, preventing optimal access to information and internet-based services.

In addition to the availability of infrastructure and digital access, the level of digital literacy within the community is a crucial determinant of successful digital transformation in rural areas. Digital literacy refers to an individual's ability to access, understand, critically evaluate, and utilize digital technologies effectively, appropriately, and responsibly. Furthermore, the effective adoption and use of digital-based village services also contribute significantly to the overall success of village digitalization.

This situation is considered to have an impact on the community's quality of life. Quality of life encompasses an individual's overall well-being, covering various aspects such as physical and mental health, social interactions, and environmental circumstances. According to the World Health Organization (WHO), as measured through the WHOQOL-BREF instrument, quality of life is defined as an individual's subjective assessment of their position in life within the context of their culture and value systems, as well as in relation to their personal objectives, expectations, and surrounding environmental conditions..

Within the scope of this study, the use of digital technology can be considered an effort to enhance community well-being by providing greater access to information, public services, educational resources, and economic opportunities. Based on this consideration, the researcher intends to examine the factors associated with village digitalization and community quality of life in Botteng Village, Simboro District, Mamuju Regency.

LITERATUR REVIEW

Improving the quality of life is a primary goal of village development, as it is directly linked to the community's long-term well-being. According to the United Nations (2015), sustainable development encompasses three key dimensions: economic, social, and environmental.

Digital infrastructure serves as the fundamental basis enabling society to access information and communication technologies. According to Van Dijk (2020), digital access encompasses not only the availability of internet networks and technological devices but also the public's ability to access and effectively utilize such technology.

Gilster (1997) Digital literacy is described as an individual's capacity to understand and effectively utilize information obtained from a variety of digital sources. Individuals with strong digital literacy skills adapt more easily to technological advancements and are able to leverage technology to support productive activities.

The utilization of village digital services refers to the extent to which technology-based services provided by the village government are used to support public service delivery and community empowerment. Davis (1989). suggests that an individual is more likely to adopt and use a technology when it is perceived as useful and easy to operate. Similarly, Venkatesh et al, (2003). emphasizes factors that influence an individual's acceptance and actual use of technology , explain that technology usage is also influenced by social factors and available facilitating conditions.

The digital divide refers to the unequal access to, skills regarding, and utilization of information technology among different segments of society. Van Dijk (2020) explains that the digital divide arises from disparities in motivational, material, skill-based, and usage-related access.



Figure 1. Research model framework (Source: Primary data, 2026)

RESEARCH METHOD

This study adopts a descriptive quantitative research approach. The population comprises 280 individuals, with 74 respondents selected as the sample using Slovin's formula with a 10% margin of error. Data were collected through questionnaires and analyzed using descriptive and inferential statistical techniques. Descriptive statistics were applied to present the characteristics of the respondents and the distribution of their responses, while inferential statistics were used to examine the proposed research hypotheses.

RESULT AND DISCUSSION

Based on the findings of the study conducted in "Botteng Village, Simboro District, Mamuju Regency, West Sulawesi Province", concerning the factors influencing village, digitalization and its relationship with the quality of life of the Botteng Village community, the following results were obtained.:

1. Respondent's gender.

Table 1. Distribution of respondents by gender.

Table 1. Gender.

Respondent's gender		
Gender	Frekuensi (n)	Persentase (%)
Male.	45	60,8%
Female.	29	39,2%
Total:	74	100.0%

Source : Primary data. 2026.

Based on the table above, of the 74 respondents, 45 respondents (60.8%) were male, while 29 respondents (39.2%) were female.

2. Respondent's Age

Tabel 2. Distribution of respondents by age.

Table. 2. Age

Respondent's Age		
Age	**Frekuensi (n)**	**Persentase (%)**
20 - 30 Years.	20	27.0
31 - 40 Years.	23	31.1
41 - 50 Years.	15	20.3
51 - 60 Years.	10	13.5
>60 Years.	6	8.1
Total:	**74**	**100.0**

Source : Primary data. 2026.

According to the table above, among the 74 respondents, 20 individuals (27.0%) were between 20 and 30 years old, 23 (31.1%) were aged 31–40 years, 15 (20.3%) were aged 41–50 years, 10 (13.5%) were aged 51–60 years, and 6 respondents (8.1%) were over 60 years old.

3. Level of education.

Tabel 3. Distribution of respondents by education level.

Table 3. Level of education

Level of education.		
Education.	**Frekuensi (n)**	**Persentase (%)**
Elementary School.	10	13.5
Junior High School.	15	20.3
Senior High/Vocational High School.	32	43.2
Associate Degree.	3	4.1
Bachelor's Degree.	14	18.9
Total:	**74**	**100.0**

Source : Primary data. 2026.

Based on the table presented above, the study involved a total of 74 respondents, 10 (13.5%) were elementary school graduates, 15 (20.3%) were junior high school graduates, 32 (43.2%) were senior/vocational high school graduates, 3 (4.1%) held a diploma, and 14 (18.9%) held a bachelor's degree.

4. Multicollinearity Test

Tabel 4 Coefficients from the Multicollinearity Test.

Table 4. Multicollinearity Test.

Coefficients[a.]			
Model.		Collinearity Statistics.	
		Tolerance.	VIF.
1	(Constant).		
	Digital Infrastructure and Access	0.446	2.240
	Digital Literacy	0.425	2.354
	Utilization of Village Digital Services	0.581	1.722
a. Dependent Variable: Quality of Life (WHOQOL-BREF Adaptation)			

Source : Primary data. 2026.

The multicollinearity test aims to determine whether significant correlations exist among the independent variables in a regression model. The evaluation is performed by examining the Tolerance and Variance Inflation Factor (VIF) values. A regression model is considered free from multicollinearity if the Tolerance value is greater than 0.10 and the VIF value is less than 10.

The test results indicate that all independent variables have Tolerance values above 0.10 and VIF values below 10.00. Thus, the regression model meets the multicollinearity assumption, indicating that no multicollinearity is present among the independent variables.

5. Normality Test.

Tabel 5 Test result coefficients for the Normality Test.

Table. 5. Normality Test.

One-Sample Kolmogorov-Smirnov Test.			
			Unstandardized Residual.
N.			74
Normal Parameters[a,b]	Mean.		0.0000000
	Std. Deviation.		6.20806775
Most Extreme Differences	Absolute.		0.097
	Positive.		0.070
	Negative.		-0.097
Test Statistic.			0.097
Asymp. Sig. (2-tailed)[c.]			0.081
Monte Carlo Sig, (2-tailed)[d.]	Sig.		**0.080**
	99% Confidence Interval	Lower Bound.	0.073
		Upper Bound.	0.087
a. Test distribution is Normal			
b. Calculated from data			
c. Lilliefors Significance Correction			
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed, 2000000			

Source : Primary data. 2026.

The normality test is performed to assess whether the residuals produced by the regression model follow a normal distribution. The Kolmogorov-Smirnov test is used for this purpose, with a significance value above 0.05 indicating that the data are normally distributed. The results are also supported by an examination of the P-P plot and residual histogram to further assess the normality of the data.

The data analysis yielded an Asymp. Sig. (2-tailed) value of 0.080, which exceeds the significance level of 0.05. Therefore, the data can be considered normally distributed, as the significance value satisfies the required criterion of being greater than 0.05.

6. Heteroskedasticity test

Tabel 6 Coefficients from the heteroskedasticity test

Table 6. Heteroskedasticity test.

Coefficients[a.]						
Model.		Unstandardized Coefficients.		Standardized Coefficients.	T.	Sig
		B.	Std. Error.	Beta.		
1.	(Constant).	2.579	3.602		0.716	0.476
	Digital Infrastructure and Access	-0.060	0.215	-0.050	-0.281	0.780
	Digital Literacy	0.013	0.230	0.010	0.054	0.957
	Utilization of Village Digital Services	0.160	0.168	0.148	0.950	0.345
a. Dependent Variable: ABS_RES.						

Source : Primary data. 2026.

The heteroscedasticity test is conducted to assess whether the variance of residuals remains consistent across observations in the regression model. This testing can be conducted using the Glejser test by examining significance values and can be further supported by a scatterplot illustrating the relationship between residuals and predicted values.

The results of the data analysis show that the business capital variable has a significance value of 0.780, the land scale variable has a value of 0.957, and the labor variable has a value of 0.345. Since all significance values are greater than 0.05, it can be concluded that the three independent variables do not indicate the presence of heteroskedasticity.

Based on the data analysis results, the business capital variable obtained a significance value of 0.780, the land scale variable 0.957, and the labor variable 0.345. All these significance values exceed 0.05; therefore, it can be concluded that none of the three independent variables exhibit symptoms of heteroskedasticity.

7. Simultaneous test (F-test).

Table. 7. ANOVA results for the simultaneous test in the regression analysis.

Table 8. Simultaneous test.

ANOVA[a]

Model.		Sum of Squares.	df.	Mean Square.	F.	**Sig**
1.	Regression.	4896.734	3	1632.245	40.611	**0.000[b]**
	Residual	2813.428	70	40.192		
	Total	7710.162	73			

a. Dependent Variable : Y.

b. Predictors: (Constant), X3, X1, X2.

Source : Primary data. 2026.

As presented in the table above, the analysis produced a significance value of 0.000, which is below the 0.05 threshold. This indicates that Infrastructure and Digital Access, Digital Literacy, and the Utilization of Village Digital Services collectively have a significant effect on the quality of life of the Botteng Village community in Simboro District, Mamuju Regency.

8. Partial Test (T-Test).

Table. 8. Coefficients of test results for simultaneous tests in regression analysis

Table 8. Partial Test.

Coefficients[a]

Model.		Unstandardized Coefficients.		Standardized Coefficients.	T.	**Sig**
		B.	Std. Error.	Beta.		
1	(Constant).	1.214	6.006		0.202	**0.840**
	Digital Infrastructure and Access	1.126	0.358	0.340	3.150	**0.002**
	Digital Literacy	0.870	0.384	0.251	2.265	**0.027**
	Utilization of Village Digital Services	0.955	0.280	0.323	3.412	**0.001**

a. Dependent Variable: Quality of Life (WHOQOL-BREF Adaptation)

Source : Primary data. 2026.

Based on the table above, the significance value for Infrastructure and Digital Access is 0.002, Digital Literacy is 0.027, and the Utilization of Village Digital Services is 0.001. Since all three values are below the 0.05 significance level, it can be concluded that Infrastructure and Digital Access, Digital Literacy, and the Utilization of Village Digital Services each have a significant partial effect on the quality of life of the Botteng Village community in Simboro District, Mamuju Regency.

CONCLUSION.

Based on the findings of the research conducted in Botteng Village, Simboro District, Mamuju Regency, West Sulawesi Province, the following conclusions can be formulated:

1. Infrastructure and digital access have a positive and significant effect on the quality of life of the Botteng Village community in Simboro District, Mamuju Regency, as indicated by a significance value of 0.002, which is below the 0.05 threshold.
2. Digital literacy has a positive and significant effect on the quality of life of the Botteng Village community in Simboro District, Mamuju Regency. This finding is supported by a significance value of 0.027, which is lower than the 0.05 significance level.
3. The utilization of village digital services has a positive and significant effect on the quality of life of the Botteng Village community in Simboro District, Mamuju Regency. This is demonstrated by a significance value of 0.001, which is below the 0.05 threshold.
4. Digital infrastructure and access, digital literacy, and the utilization of village digital services collectively have a positive and significant effect on the quality of life of the Botteng Village community in Simboro District, Mamuju Regency. This is evidenced by a significance value of 0.000, which is lower than the 0.05 threshold.

REFERENCES

APJII. (2025). Survei Profil Internet Indonesia 2025. Asosiasi Penyelenggara Jasa Internet Indonesia.

Agustian. (2021). Metode Slovin: Pengertian, Rumus, dan Contoh Soal.https://rumuspintar.com/rumus-slovin/

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly, 13(3), 319–340.

Ghozali, I. (2018). Aplikasi Analisis Multivariate dengan Program IBM SPSS 25 (Edisi ke-9). Badan Penerbit Universitas Diponegoro.

Gilster, P. (1997). Digital Literacy. Wiley Computer Publishing. https://archive.org/details/digitalliteracy0000gils/page/n3/mode/2up.

Hartono, & Saputri, Y. (2022). Analisis Pengaruh Sistem Informasi Desa terhadap Kepuasan Pelayanan Publik: Studi Kasus di Kabupaten Sleman. Jurnal Ilmu Pemerintahan, 14(2), 102–125.

Hidayat, R., Suryanto, & Kusuma, H. (2021). Transformasi Digital Desa: Analisis Implementasi DIGIDES di Indonesia Timur. Jurnal Pembangunan Pedesaan, 12(3), 198–216.

Komdigi. (2024). Indeks Masyarakat Digital Indonesia (IMDI) 2024. Kementerian Komunikasi dan Digital Republik Indonesia.

Permatasari, D., & Yulianto. (2023). Kualitas Hidup Masyarakat di Desa Urban Fringe: Studi Menggunakan Kerangka WHOQOL-BREF dan Analisis Infrastruktur serta Literasi Digital. Jurnal Pembangunan Berkelanjutan, 9(2), 156–179.

Pratiwi, S., & Lestari, B. (2022). Pengaruh Infrastruktur Digital terhadap Tingkat Partisipasi Masyarakat dalam Keputusan Publik: Studi Kasus Desa Wisata di Yogyakarta. Jurnal Ekonomi Pembangunan, 13(4), 287–305.

Rahman, M. A., & Wulandari, I. (2021). Literasi Digital sebagai Strategi Pemberdayaan Ekonomi Masyarakat Pedesaan: Analisis Kasus Pelatihan Digital Marketing di Jawa Barat. Jurnal Pemberdayaan Masyarakat, 11(2), 123–145.

Saputra, R. H., & Hermawan, A. (2023). Kualitas Hidup dan Kesejahteraan Masyarakat Desa: Perspektif Multidimensional dan Implikasi Kebijakan. Jurnal Analisis Kebijakan Publik, 10(2), 89–108.

Siregar, M. (2023). Adopsi Layanan E-Government Desa di Wilayah Indonesia Timur: Analisis Hambatan dan Strategi Percepatan. Jurnal Pemerintahan dan Politik Lokal, 16(1), 43–67.

Sugiyono. (2019). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Alfabeta.

UNESCO. (2018). Digital Literacy Framework. United Nations Educational, Scientific and Cultural Organization.

United Nation. World population ageing 2015. New York: Department of Economic and Social Affairs Population Division; 2015

Van Dijk, J. A. G. M. (2020). The Digital Divide. John Wiley & Sons. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). Venkatesh et al (2003) User acceptance of information technology. MIS Quarterly, 27(3), 425–478

Acceptance of Information Technology: Toward a Unified View. MIS Quarterly, 27(3), 425–478.

WHO. (1996). WHOQOL-BREF: Introduction, Administration, Scoring and Generic Version of the Assessment. World Health Organization.