

Research Article

Analysis of The Effect of Qris Usage, E-Commerce, and Capital on MSMEs Income in Tabanan Regency

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Abstract: The rapid growth of Micro, Small, and Medium Enterprises (MSMEs) in Tabanan Regency has been driven by economic development, digitalization, and changes in consumer behavior following the COVID-19 pandemic. Despite the continuous increase in the number of MSMEs each year, business owners face significant challenges, such as limited adoption of digital technologies, increasing market competition, and restricted access to working capital. This study aims to analyze the effect of QRIS usage, e-commerce, and capital on MSME income both simultaneously and partially in Tabanan Regency. A quantitative method was employed using multiple linear regression analysis. The sample was determined using a non-probability sampling method with an accidental sampling approach. The results show that QRIS, e-commerce, and capital simultaneously have a significant effect on MSME income in Tabanan Regency. Partially, QRIS usage and capital have a positive and significant effect on income, while e-commerce does not have a significant partial effect. This indicates that although e-commerce can expand market reach, intense competition and limited technological literacy among the local population hinder its impact on MSME income in the region.

Keywords: Capital, E-commerce, Income, QRIS

1. Introduction

Indonesia's economic sector is broad and diverse, with each sector contributing in various ways to national economic growth. One of the key sectors that plays an important role in advancing the country's economy is the Micro, Small, and Medium Enterprises (MSMEs) sector (Magdalena & Andhaniwati, 2024). MSMEs are established by individuals or groups, operate independently, and are not subsidiaries or branches of larger companies. MSMEs hold a crucial position in Indonesia's economy, with the majority of micro-enterprises operating within the informal sector (Apip, 2020).

When the global economic crisis hit, it significantly worsened Indonesia's economic condition. During the crisis period of 1997–1998, only the MSME sector remained resilient (Rahman & Oktavianto, 2017). MSMEs also managed to survive economic shocks during the 2008 global crisis and the COVID-19 pandemic, which forced many large companies into bankruptcy and led to mass layoffs (Magdalena & Adhaniwati, 2024). MSMEs are widely regarded as a cornerstone of national economies. This sector plays a significant role in

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developing economic infrastructure by generating employment, fostering innovation, and creating wealth (Keristina & Widanta, 2025).

The critical role of MSMEs in Indonesia's economy is evident through their substantial contribution to economic growth (Lisawati, 2023). According to the Ministry of Cooperatives and Small and Medium Enterprises, in 2019 there were 65.5 million MSMEs in Indonesia, accounting for 99 percent of all business entities. By 2023, the number had increased to 66 million, employing around 117 million workers, or 97 percent of the national workforce. MSMEs contribute approximately 61 percent to the national Gross Domestic Product (GDP), equivalent to IDR 9,580 trillion (Kurniawan et al., 2024). MSMEs in Indonesia have become a central focus of national economic development and are instrumental in reducing social inequality, particularly in terms of income distribution (Titasari, 2023).

Economic development in Indonesia is fairly evenly distributed across its provinces, including Bali, which is one of the key economic drivers through its tourism industry (Wulandari, 2022). The rapid growth of tourism in Bali has brought significant economic benefits to a large portion of its population (Setyorini & Yuniarso, 2021). Bali, which spans an area of 5,636.66 km² or 0.29% of Indonesia's total land area, plays an essential role in fostering tourism and supporting small enterprises such as MSMEs (Artini, 2019).

However, in the third quarter of 2020, Bali's economy suffered greatly due to the COVID-19 pandemic, particularly affecting the tourism sector as international travel was heavily restricted (Wulandari, 2022). Despite this, MSMEs have remained a vital contributor to Bali's economic growth and are considered a leading sector. MSMEs have demonstrated their capacity to absorb a significant portion of the workforce across the province's nine regencies and municipalities (Artini, 2019). The following section presents the development of MSMEs in Bali Province from 2018 to 2022.

Table 1. Total Development of Bali Province MSMEs

No.	Regency/City	2018	2019	2020	2021	2022
1	Badung	19,688	19,261	22,647	40,989	21,699
2	Bangli	44,068	44,068	44,123	44,175	44,251
3	Buleleng	34,552	34,374	54,489	57,216	66,368
4	Denpasar	31,826	32,026	32,224	32,226	29,749
5	Gianyar	75,412	75,482	75,542	75,620	75,666
6	Jembrana	27,654	24,346	46,277	66,537	67,183
7	Karangasem	39,589	40,468	57,456	40,614	50,717
8	Klungkung	11,761	14,584	35,792	36,072	35,792
9	Tabanan	41,459	42,744	43,715	47,160	47,957
	Total	326,009	327,353	412,265	440,609	439,382

Source: Bali Provincial Cooperatives and SMEs Service 2023

Based on these data, it can be seen that the total number of MSMEs in Bali Province continues to increase significantly from 2018 to 2022. As reported by Bisnis.com, the MSME sector in Bali grew amid the COVID-19 pandemic. The number of MSMEs in all regencies in Bali increased (Dewi, 2022). Tabanan Regency, as based on data on the performance of MSMEs in Bali Province, shows its development from year to year (Karta et al., 2021). Apart from being farmers, most of the Balinese people also have their own businesses in modern times. Tabanan Regency, which is indeed famous as a rice barn, but along with the

development of the times, some of the rice fields they own were sold and even shophouses were built for business premises. MSMEs have now also developed in Tabanan Regency (Artini, 2019). The growth of micro, small and medium enterprises makes it a source of increased employment opportunities and income (Wahyuni et al., 2024). With the increase in the number of MSMEs, this will certainly have a positive impact and further encourage people to be able to maximize their businesses in order to be able to compete with MSMEs both at national and international levels (Titasari, 2023).

One of the regencies that experienced an increase in the number of MSMEs was Tabanan Regency (Dewi, 2022). Reported from detikBali (2023), the rapid growth of MSMEs in Tabanan was also triggered by the COVID-19 pandemic situation which has ended. Thus, some people are competing to open small businesses. The following is data on the development of the number of MSMEs in Tabanan Regency, it can be seen that Tabanan MSMEs are increasing every year (Kusumasari, 2021).

Table 2. Total Development of MSMEs in Tabanan Regency

No	Subdistrict	2017	2018	2019	2020	2021
1	Selemadeg	1,774	1,858	1,938	2.155	1,368
2	Selemadeg Timur	1,948	2,041	2.121	2.197	1,745
3	Selemadeg Barat	1,750	1,833	1,938	2.003	1,328
4	Kerambitan	3.484	3,651	3,741	3,842	2,977
5	Tabanan	6,657	6.975	7,200	7.236	9.615
6	Kediri	8.309	8,704	8,952	9,027	7,897
7	Marga	3,751	3.930	4.015	4.139	9,603
8	Baturiti	4.351	4,558	4.683	4.900	5,034
9	Penebel	4.019	4.211	4.332	2.272	5,748
10	Pupuan	3,530	3.698	3,824	3.944	1,845
	Amount	39,574	41,459	42,744	43,715	47,160

Source: Tabanan Regency Cooperatives and UMKM Service 2022

Based on the available data, the number of MSMEs (Micro, Small, and Medium Enterprises) in Tabanan Regency has shown a significant annual increase. However, MSMEs experienced a decline in 2020 and 2021, which marked the first two years of the COVID-19 pandemic. A survey conducted by the United Nations Development Programme (UNDP) and the Institute for Economic and Social Research, University of Indonesia (LPEM UI), revealed that over 77 percent of MSMEs faced revenue losses during that period (Parliamentary Analysis Center, Secretariat General of the House of Representatives of the Republic of Indonesia, 2023). Lisnawati (2023) identified that one of the main challenges faced by MSMEs in the digital market is the limited ability of business actors to adopt digital technologies, highlighting the importance of shifting mindsets toward technological usage. According to Melati (2022), MSMEs that adopted online selling methods demonstrated better resilience during the pandemic. The increasing competition among MSMEs also demands that economic actors compete not only in terms of technology but also product quality and service delivery (Riantika & Ayuningsasi, 2024).

The development of digital technology has grown rapidly, particularly since the outbreak of COVID-19 in Indonesia. This trend was driven by people spending more time at

home and engaging in online transactions, including those through marketplaces, social media platforms, and electronic payment systems (Alfira & Susilo, 2023). Nowadays, electronic payments are widely accepted across various transactions, including ticket purchases, toll payments, and shopping malls. In fact, many small eateries and retail stores now offer electronic payment options (Alifia et al., 2024).

The era of digitalization has influenced various aspects of life, including the world of business and commerce. The transformation from traditional to digital transactions is now largely dominated by millennials, particularly generations X, Y, and Z (Houston, 2020). The advancement of information technology supports the growth of the digital economy and accelerates financial inclusion. One of the key implementations linking information technology with digital economic growth is cashless transactions (Sihaloho et al., 2020). Perry Warjiyo, Governor of Bank Indonesia, stated that the highest growth in payment systems occurred in the use of QRIS (Quick Response Code Indonesian Standard), which grew by 209.6 percent year-on-year, with 53.3 million users and 34.23 million merchants, the majority of whom are MSMEs (Aji, 2024). The rise of digital payments—particularly QRIS—is increasingly popular among Gen Z in Indonesia. Furthermore, QRIS facilitates the digitalization of MSMEs, and many of them have adopted QRIS as a payment method (Novaliana, 2024).

Research conducted by Sihaloho (2020) found that QRIS plays a significant role in supporting merchant transaction processes. This aligns with the findings of Fahrudin and Isnaini (2023), who concluded that the use of QRIS positively influences MSME income in Kraksaan District. Despite the increase in QRIS users, many MSMEs still have not adopted this digital payment method. According to Puriati et al. (2023), the main reason for this is the lack of outreach and education regarding the importance of QRIS adoption. Mahyuni and Setiawan (2021) identified several barriers, such as administrative fees, transaction limits, limited technology usage, and unstable internet connections, which discourage MSMEs from adopting QRIS.

One of the key issues faced by Indonesian MSMEs is technological advancement, particularly in the context of the Fourth Industrial Revolution (Industry 4.0). E-commerce is a significant product of this revolution (Magdalena & Andhaniwati, 2024). According to Tabun (2020), e-commerce refers to marketing and purchasing tools using electronic media such as television, computers, blogs, websites, and the internet. E-commerce helps MSMEs increase their sales contribution on a global scale (Agnesia & Joni, 2022). This global reach is considered highly effective in improving MSME sales, which positively affects their income (Magdalena, 2024).

The Ministry of Communication and Information Technology reported that e-commerce transactions significantly boosted income, increasing by 33 percent from IDR 253 trillion in 2020 to IDR 337 trillion in 2021 (Dharma et al., 2022). Aprilyan et al. (2022) found that the better the utilization of e-commerce, the greater the revenue for MSMEs. Without the presence of modern technologies, such growth would not contribute positively to national economic development (Wulandari, 2022). However, despite the benefits of e-commerce, many MSMEs in Indonesia still struggle to adapt to this technology (Avriyanti, 2020).

According to BaliNesia.id, Trisno Nugroho, Head of the Bali Representative Office of Bank Indonesia, stated that COVID-19 was not entirely detrimental—it actually spurred the

development of digital transactions in Bali. Restrictions on restaurant dining and physical gatherings prompted the rise of digital payments and marketplace transactions. For instance, in April 2021, e-commerce transactions in Bali reached IDR 389 billion, with 2.38 million transactions, a 14.9 percent increase from March 2021 (IDR 380 billion with 2.07 million transactions). This growth also includes transactions using QRIS, a digital payment instrument initiated by Bank Indonesia and the Indonesian Payment System Association, alongside the adoption of e-commerce platforms (Embun, 2021).

Digital technologies such as e-commerce can significantly impact MSME income (Lisnawati, 2023). Novita (2022) found that e-commerce has a positive influence on MSME income in Padang City. Similarly, Magdalena (2024) showed that e-commerce significantly increases income. However, Wahyuni (2024) reported that e-commerce does not significantly affect MSME income. Likewise, Habiba and Prasetya (2022) concluded that e-commerce use has no influence on MSME income. On the contrary, Anggriani (2024) argued that online e-commerce use negatively affected clothing vendor income at Pasar Lama Penyabungan.

MSME income is not only influenced by QRIS and e-commerce; capital also plays a vital role in business operations. Capital is crucial for business sustainability, as businesses cannot operate smoothly without it (Dewi, 2022). For MSME actors, capital is the backbone of business and operational activities (Syahputra et al., 2022). Although MSMEs significantly impact both regional and national economies, they often face barriers, such as limited access to business capital (Jalaliah et al., 2022). For all business scales—small, medium, or large—capital is one of the most critical factors influencing income (Oktaviana et al., 2021).

Proper management of working capital is vital to ensure business continuity and prevent bankruptcy (Habriyanto et al., 2021). Capital is the foundation of any enterprise, and greater capital tends to positively influence business development (Lestari, 2020). Research by Aji & Listyaningrum (2021) revealed that capital has a strong influence on MSME income. This is supported by Laili & Setiawan (2020), who found that capital has a positive and significant effect on the income of MSMEs in the Batik Center of Pekalongan City. However, a contrasting result was found by Jalaliah et al. (2022), who concluded that working capital has a negative and insignificant effect on MSME income in Banjarharjo District.

Based on the above background, it is evident that previous research findings regarding the effects of QRIS, e-commerce, and capital on MSME income are inconsistent. Therefore, this study is crucial in analyzing the influence of QRIS usage, e-commerce, and capital on the income of MSMEs in Tabanan Regency.

2. METHODS

This study employs a quantitative associative approach to analyze the influence of QRIS usage, e-commerce, and capital on the income of MSMEs in Tabanan Regency. The study uses quantitative methods to collect and statistically analyze the data. The population of this research comprises 47,160 MSMEs in Tabanan Regency, with a sample size of 100 MSMEs, determined using the Slovin formula.

The variables in this study consist of a dependent variable (MSME income) and independent variables (QRIS usage, e-commerce, and capital). The operational definitions of the research variables are as follows:

- a. Income refers to the monetary earnings received over a specific period,
- b. QRIS is a standardized payment method using a QR Code system,
- c. E-commerce refers to the application of digital technology in business transactions and processes,
- d. Capital is the amount of funds spent by business actors to finance production expenses or operational activities.

This research uses non-participant observation and structured interviews as data collection methods, with a questionnaire serving as the main research instrument. The questionnaire used is a close-ended questionnaire, which has been tested to ensure its reliability.

Data analysis in this study is conducted with the assistance of SPSS (Statistical Program for Social Science) software to test the hypotheses and examine the influence of the independent variables on the dependent variable.

3. RESEARCH RESULTS AND DISCUSSION

Research Instrument Test Results

a) Validity Test

Table 3. Validity Test Results

Variables	Correlation Coefficient	Sig. (2-tailed)	Information
QRIS	0.351	0,000	Valid
E-Commerce	0.328	0.001	Valid
Capital	0.502	0,000	Valid
Income	0.885	0,000	Valid

Source: Processed Primary Data, (2025)

The results of the validity test in Table 3 above show that all variables have a correlation coefficient value with a total score of all question items of more than 0.30. This shows that each question in the questionnaire is valid.

Reliability Test

Table 4. Reliability Test Results

Cronbach's Alpha	N of Items	Information
,688	4	Reliable

Source: Processed Primary Data, (2025)

Based on the results in Table 4, the Cronbach's Alpha value in the study is 0.68. From these results, it can be concluded that the questions in this questionnaire are reliable because the Cronbach's Alpha value is greater than the significance value of 0.60.

Descriptive Statistical Analysis

Table 5. Results of Descriptive Statistical Analysis Test

	N	Minimum	Maximum	Mean	Std. Deviation
QRIS	100	1	2	1.47	,502
E-Commerce	100	1	2	1.52	,502
Capital	100	1019732	9999824	5871887.49	2542832,768
Income	100	31085320	34449831	32388619.69	632707,612
Valid N (listwise)	100				

Source: Processed Primary Data, (2025)

The data shows that QRIS usage has a minimum value of 1 and a maximum of 2, with an average of 1.47 and a standard deviation of 0.502, indicating that most respondents have used QRIS, although some have not. Likewise, the e-commerce variable, with an average of 1.52 and the same standard deviation of 0.502, shows a slightly higher level of usage than QRIS, but the distribution is similar. For the Capital variable, the minimum value was recorded at IDR 1,019,732 to a maximum of IDR 99,999,824, with an average of IDR 5,871,887.49 and a standard deviation of IDR 2,542,832.768. This shows that the capital owned by MSME actors varies greatly, with most being in the small to medium capital range. Meanwhile, the Income variable has a range between IDR 31,085,320 to IDR 34,449,832, with an average of IDR 32,388,619.69 and a standard deviation of IDR 632,707.612, this average income shows that most respondents earn relatively high business income, although there is still quite a large variation between business actors.

Multiple Linear Regression Test

Table 6. Results of Multiple Linear Regression Analysis Test

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig
	B	Std. Error	Beta			
1 (Constant)	30921965.66	251062,891			123,164	,000
QRIS (X1)	760613,008	98523,789	,603		7,720	,000
E-Commerce (X2)	3412,444	97845,059	,003		,035	,972
Capital (X3)	,058	,019	,235		3,083	,003

a. Dependent Variable: Income

Source: Processed Primary Data, (2025)

Based on the results of the regression analysis, the following multiple linear regression equation was obtained:

$$\hat{Y} = 30921965.66 + 760613.008 X_1 + 3412.444 X_2 + 0.058 X_3$$

t = (123,164) (7,720) (0.035) (3,083)

Sig.t = (0.000) (0,000) (0.972) (0.003)

F = 26,067

Sig.f = 0.000

R² = 0.901

1. If the constant is 30921965.66, it means that if QRIS (X₁), e-commerce (X₂) and capital (X₃) the value is 0, then the income of MSMEs (Y) is Rp. 30,921,965.66.

2. The QRIS variable has a regression coefficient of 760,613.008 with a significance value of 0.000 (<0.05). This shows that every increase in QRIS usage is estimated to increase income by Rp760,613.008.
3. The e-commerce variable has a regression coefficient of 3,412.444 and a significance value of 0.972 (> 0.05). This means that every increase in the use of e-commerce is estimated to increase income by Rp3,412,444.
4. The capital variable has a regression coefficient of 0.058 and a significance value of 0.003 (<0.05), which means it has a significant effect on income. Every increase in capital of Rp1 is predicted to increase income by Rp 0.058.

Classical Assumption Test

Normality Test

Table 7. Normality Test Results

		Unstandardized Residual
N		100
Normal Parameters^{a,b}	Mean	,0000000
	Std. Deviation	469691,9112
Most Extreme Differences	Absolute	,059
	Positive	,053
	Negative	-,059
Test Statistics		,059
Asymp. Sig. (2-tailed)		,200^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Liliefors Significance Correction.

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

Source: Processed Primary Data, (2025)

The normality test was performed on the unstandardized residuals of 100 data. The results showed that the Kolmogorov-Smirnov statistical value was 0.059 with a significance (Asymp. Sig. 2-tailed) of 0.200. Since the significance value is greater than 0.05, it can be concluded that the residual data is normally distributed. In addition, the absolute value of the largest extreme difference (0.059) is relatively small, which further strengthens the assumption of residual normality. Thus, the assumption of normality in linear regression is met, which is an important basis for the validity of the regression model used.

Multicollinearity Test

Table 8. Multicollinearity Test Results

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
QRIS	,941	1,063
E-Commerce	,952	1,050
Capital	,988	1,012

a. Dependent Variable: Income

Source: Processed Primary Data, (2025)

The results of the multicollinearity test show that all independent variables in the regression model, namely QRIS, e-commerce, and capital, have a Tolerance value above 0.1 and a VIF value below 10, which means that there are no symptoms of multicollinearity in the model. In detail, QRIS has a Tolerance of 0.941 and a VIF of 1.031; e-commerce has a Tolerance of 0.952 and a VIF of 1.050; and capital has a Tolerance of 0.988 and a VIF of 1.012. These values are very close to the number 1, which indicates that the independent variables are mutually independent and do not have a high linear relationship with each other. Thus, the regression model meets the assumption of being free from multicollinearity, so that the interpretation of the regression coefficient can be done validly and reliably.

Autocorrelation Test

Table 9. Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,949^a	,901	,897	143092,317	1,934

a. Predictors: (Constant), Capital, E-Commerce, QRIS

b. Dependent Variable: Income

Source: Processed Primary Data, (2025)

The Durbin-Watson (DW) statistic value of 2.210 is used to detect the presence of autocorrelation (correlation between residuals) in the regression model. Based on the Durbin-Watson table with $n = 100$ and $k = 3$, and a significance level of 5 percent, the lower limit (dL) is around 1.62 and the upper limit (dU) is around 1.72 (the dL and dU values can vary slightly depending on the source of the table, but are generally within this range).

Since the value of $DW = 1.934$ is in the range of $dU < DW < 4 - dU$, it can be concluded that there is no autocorrelation in the model. This means that the residuals in the regression model are spread randomly and independently of each other, so that the assumption of error independence has been met.

Heteroscedasticity Test

Table 10. Heteroscedasticity Test Results

Model	Sig
1 (Constant)	,000
QRIS	,442
E-Commerce	,997
Capital	,759

a. Dependent Variable: Income

Source: Processed Primary Data, (2025)

The results of the heteroscedasticity test show that the three independent variables in the model, namely QRIS, e-commerce, and capital, have a significance value (Sig.) above 0.05. Each variable shows a significance value of 0.442 for QRIS, 0.997 for e-commerce, and 0.759 for Capital. These values indicate that there is no significant relationship between the three independent variables and the absolute residual value. Therefore, it can be concluded that the

regression model does not experience symptoms of heteroscedasticity, or in other words, the residuals are spread homogeneously (homoscedastic). This shows that one of the important assumptions in linear regression, namely constant error variance, has been met in the model.

Simultaneous Regression Coefficient Significance Test (F-test)

Table 11. Results of Simultaneous Regression Coefficient Significance Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.779E+13	3	5,930E+12	26,067	,000^a
	Residual	2.184E+13	96	2.275E+11		
	Total	3.963E+13	99			

a. Dependent Variable: Income

b. Predictors: (Constant), Capital, E-Commerce, QRIS

The first hypothesis is that QRIS, e-commerce, and capital have a simultaneous effect on income in MSMEs in Tabanan Regency. Based on the results F_{hitung} of 26.067 with a significance value of 0.000, it can be concluded that H_0 is rejected which means that QRIS (X_1), e-commerce (X_2), and capital (X_3), have a simultaneous effect on income (Y) in MSMEs in Tabanan Regency. This result means that QRIS, e-commerce, and capital can affect income in MSMEs in Tabanan Regency.

In line with Adam Smith's income theory which emphasizes the importance of efficiency, innovation, and market expansion in driving economic growth and community income. Adam Smith argued that the division of labor and specialization increase productivity, while the natural market mechanism (natural price) will regulate the balance between wages, profits, and land rents so that a fair and sustainable income is created.

In this context, QRIS is a technological innovation that increases efficiency, in accordance with Smith's principles on how innovation can increase revenue. This study is in line with the research of Magdalena and Andhaniwati (2024) that the simultaneous use of QRIS has a significant effect on MSME income. Hana and Kusumawati's research (2024) also obtained similar results that QRIS has a positive effect on MSME income in Kediri City. Alifiyah and Purwanti's research (2024) stated that the simultaneous use of QRIS has a positive and significant effect on increasing MSME business income.

Apart from QRIS, e-commerce is also a technological innovation that expands the market, in accordance with Smith's principle of how market expansion can increase income. This research is in line with research conducted by Titasari (2023) and Widodo et al., (2024) which found that e-commerce has a simultaneous effect on increasing income in MSMEs.

Capital that is able to support business actors' ability to produce more optimally, in line with Smith's concept that capital accumulation is an important factor in economic growth and increasing per capita income. This research is in line with research conducted by Jalaliah et al., (2022), Arniyasa and Karmini (2023) who found that capital has a simultaneous effect on increasing income in MSMEs.

Partial Regression Coefficient Significance Test (t-test)

The t-test is used to determine the influence of independent variables, namely QRIS (X₁), e-commerce (X₂), and capital (X₃) has a partial effect on the dependent variable income (Y) in MSMEs in Tabanan Regency.

The test results can be seen in Table 6. If $t_{hitung} \leq t_{tabel}$ or significance $> (0.05)$, then the independent variable partially has no significant effect on the dependent variable. On the other hand, if obtained $t_{hitung} > t_{tabel}$ or significance $\leq (0.05)$, then the independent variable partially has a positive effect on the dependent variable.

- a. Based on the results of the t-test analysis, it shows that the QRIS variable has a positive and significant effect on income. The test results obtained a calculated t value (7.720) $> t$ table (1.984) with a significance value (0.000) $< (0.05)$. This means that when QRIS is used, income will also increase. This is in line with the income theory put forward by Adam Smith. The use of QRIS increases transaction efficiency and smooth trade. QRIS speeds up and simplifies the payment process, thereby reducing customer waiting time and queues. This can increase the number of customers served and increase MSME income.
- b. Based on the results of the t-test analysis, it shows that the e-commerce variable does not have a partial effect on income. The test results obtained a calculated t value (0.035) $< t$ table (1.984) with a significance value (0.972) $> (0.05)$. This means that the better the use of e-commerce cannot increase MSME income. So these results are not empirically in line with the expectations or potential implied by Adam Smith's income theory. Because e-commerce should significantly expand the reach of the MSME market, allowing them to sell more goods to more buyers. Based on the results of observations, researchers believe that MSME actors consider that the use of e-commerce as marketing and sales does not fully impact MSME income.
- c. Based on the results of the t-test analysis, it shows that the capital variable has a positive and significant effect on income. The test results obtained a calculated t value (3.083) $> t$ table (1.984) with a significance value (0.003) $< (0.05)$. So it can be concluded that capital partially has a significant positive effect on increasing MSME income. So these results provide evidence that the higher the capital used, the higher the MSME income. This finding is in line with Adam Smith's income theory which is the importance of capital accumulation in the process of economic growth and increasing income.

R Squared Test

Table 13. R Squared Test Results

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	,949^a	,901	,897		143092,317

a. Predictors: (Constant), Capital, E-Commerce, QRIS

Source: Processed Primary Data, (2025)

The correlation coefficient (R) value of 0.949 indicates a sufficient relationship between the independent variables (QRIS, e-commerce, and capital) with the dependent variable of income. The R Square value of 0.901 means that 90.1 percent of the variation in income can be explained by the three independent variables in the model, while the remaining 9.9 percent

is influenced by other factors outside the model. The Adjusted R Square value of 0.897 (adjusted for the number of variables and samples) indicates that the actual contribution of the model to income prediction is only around 89.7 percent. Meanwhile, the Standard Error of the Estimate of 143,092.317 indicates the magnitude of the model's prediction error against the actual value of income. Thus, this model has limited predictive power and still needs to be improved to get better results.

4. CONCLUSION

The conclusions that can be drawn by researchers based on the research results are as follows:

- a. QRIS, e-commerce and capital have a significant simultaneous influence on income of MSMEs in Tabanan Regency
- b. QRIS and capital partially have a positive and significant effect on income of MSMEs in Tabanan Regency. However, e-commerce partially has no effect and is not significant on income of MSMEs in Tabanan Regency.

SUGGESTION

Based on the results of the research analysis, discussion and conclusions that have been presented, the suggestions that can be given to the parties who need them are as follows:

- a. The government can help MSMEs to make it easier to use QRIS by providing smooth internet access in villages and remote areas, so that MSMEs can sell online well. In addition, the government also needs to conduct socialization about the importance of MSME digitalization through e-commerce. The government must also make it easier for MSMEs to get capital through the KUR program so that their businesses can grow. With support from providers, digitalization, and financing, MSMEs can grow faster and increase their income.
- b. MSMEs should take training from the government to learn how to use QRIS and sell online. They should also utilize the internet and technology to promote and sell products digitally. In addition, MSMEs can register for QRIS to make transactions easier. If they need capital, they can apply for a loan through the KUR program to develop their business.

5. IMPLICATIONS OF RESEARCH RESULTS

QRIS is a technological innovation that increases efficiency and smoothness of trade, in accordance with Adam Smith's view. MSMEs use more new technology to help their businesses. Capital strengthens the importance of capital accumulation and production capacity. There are various deductions imposed by the platform such as admin fees, commission fees and promotion fees, causing e-commerce to have no effect on MSME income. This causes the profits obtained by MSMEs to become smaller and the increase in costs or additional taxes that must be paid by MSMEs also burdens MSMEs.

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