

## Do E-Commerce and E-Wallets Matter for Increasing Marginalized Entrepreneurs' Income?

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### ABSTRACT

*This study investigates the impact of utilizing e-commerce and e-wallets on the income enhancement of mustahik entrepreneurs assisted by BAZNAS in South Kalimantan Province. In particular, this research tests the degree to which the use of e-commerce and e-wallets impacts those marginalized entrepreneurs' income improvement. Multiple linear regression models and classical assumption tests are used to evaluate the data gained from the close-ended questionnaire, distributed to the sample of 35 mustahiks in South Kalimantan Province, who are small entrepreneurs supported by BAZNAS. The results show that e-commerce and e-wallets significantly increase the sample's income. Practical and theoretical implications are drawn from the findings.*

Keywords: *E-commerce; E-wallet; Income; MSMEs; Mustahik*

JEL Classification: I38, D64, I31

### INTRODUCTION

The virus discovered in 2019, i.e., COVID-19, has changed people's behavior. An acceleration of changes in consumer behavior is digitalization, where online transactions have massively taken place, providing practical benefits, e.g., time-saving, and energy-saving, among others. Business owners adjust their strategies for adaptability purposes (Aini, Yuli, and Hakim 2018; Bhatti, Akram and Khan 2020; Irawati 2018; Irawati, Rimawati, and Pramesti 2020; Santoso and Dewi 2022; Siahaan and Prihandoko 2019; Sofiyawati and Halimah 2022).

Micro, Small and Medium Enterprises (MSMEs) might be the most disadvantaged by the recent pandemic. Various industrial sectors experienced disruptions, e.g., raw material supply, product demand, labor shortages, and uncertain business continuity. According to the Ministry of Cooperatives and SMEs (2022) as in Figure 1, the number of MSMEs in Indonesia recorded more than 65 million (2017-2021).

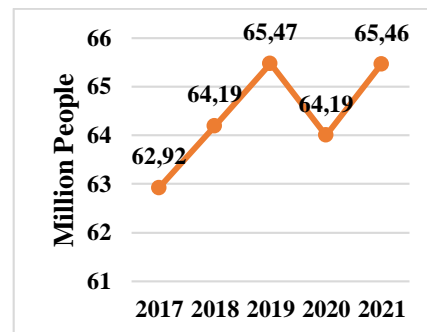


Figure. 1. Number of MSMEs in Indonesia in 2017-2021

In 2017, there were 62.92 million MSMEs in Indonesia, which continued to increase until 2018, when the number of MSMEs reached 64.19 million. In 2019, the number of MSMEs increased to 65.47 million, and in 2020, there was a decrease of 64.19 million MSMEs. The table shows that in 2020 during the start of the COVID-19 pandemic, the number of MSMEs decreased by 1.28 million MSMEs. In 2021, the number of MSMEs increased to 65.46 million, which may be associated with digital transformation due to the pandemic.

Micro mustahik businesses assisted by BAZNAS also experienced difficulties during the pandemic due to their traditional

business modes, i.e., offline strategies. Micro enterprises are part of the community-based economic movement, and zakat is a strategic instrument for empowering the economy. Thus, the vital distribution of zakat is directed to strengthen micro-enterprises, particularly in providing financial aid and business coaching.

BAZNAS of South Kalimantan Province has innovated an economic program of zakat distribution, providing capital to mustahik (Almunawar, Islam, and Pablos 2022; Cueto et al. 2022). In times of the pandemic, the use of e-commerce and e-wallets among those assisted small entrepreneurs was introduced (Alfin, 2021; Galhotra and Board 2020; Hasanah 2021). Practical assistance is provided for those marginalized entrepreneurs in using e-commerce and e-wallets to improve their income (Helmalia and Afrinawati 2018; Putra and Syafrudin 2021; Zada and Sopiana 2021).

E-commerce is technically important for MSME business operations to gain

more chances into market access, given that customers will find it easier to get the necessary information online (Permana 2017; Ancient et al. 2021). Solow Swan's theory assumes that economic growth depends on the availability of production factors (i.e., population, labor, capital accumulation) and technological progress (Febriansah and Prapanca, 2019). Solow conducted the study in the 1950s, analyzing the sources of economic growth in the United States from 1909-1949. He found only 12% of economic growth was from investment, and 88% was from technological advances (Muchtolifah 2010).

Technology is the knowledge to produce goods and services efficiently, improving and increasing labor efficiency (Battese and Rao 2002; Hartarto 2021). In the long run, it creates economic growth. E-commerce is a tangible manifestation of technological developments (Lestari et al. 2021; Putra and Syafrudin 2021). The Central Bureau of Statistics (2021) as shown in Figure 2 recorded 74.08% of MSMEs do not use e-commerce.

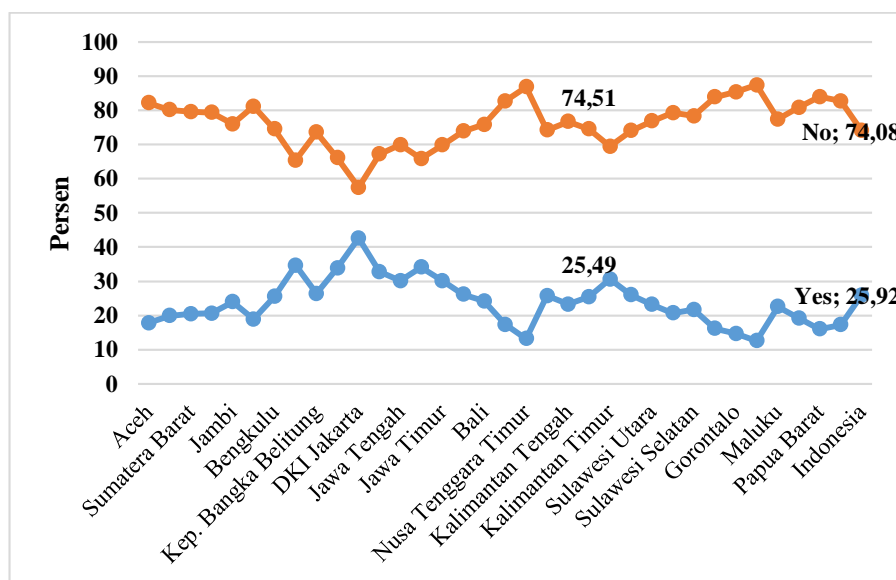


Figure. 2. Percentage of E-commerce Business by Province

In South Kalimantan Province, only 25.49% of MSMEs have e-commerce and the rest 74.51% do not own it. Thus, MSME players need to take advantage of e-commerce to increase their business scale, and contribute to economic growth (Chen

2022; Karpunina et al. 2021; Qu and Chen 2014).

E-commerce and e-wallets are connected. According to Patel (2016), e-wallet is an electronic account on a mobile phone that can store and transfer money and

replace conventional wallets. E-wallets make it easier for people to make payments anytime and anywhere (Alam, Awawdeh, and Muhamad 2021; Kee et al. 2022; Syifa and Tohang 2020; Upadhayaya 2012). Figure 3 illustrates the most commonly used e-wallets in Indonesia in 2021, i.e., OVO, GOPAY, SHOPEEPAY, DANA, and LINKAJA (Kadence International, 2021).

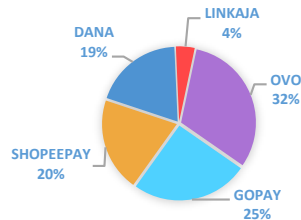


Figure. 3. Most Used E-wallets in Indonesia in 2021

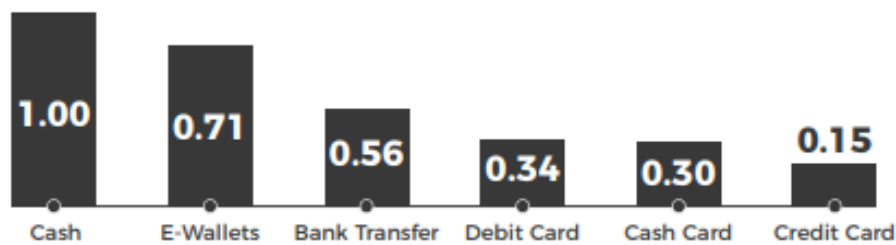


Figure. 4. Payment Method Frequency Ratio

The average transaction value using e-money reached Rp82,393 per transaction, up 9.9% from the previous year (DealStreetAsia 2022). When online-to-offline (O2O) platforms, e.g., Bukalapak, Shopee, and Tokopedia emerged, MSMEs began to use electronic payments. The recent QR barcodes for mobile phones payment and electronic data capture (EDC) machines have now been available at some respondent's stall.

That is, based on the existing phenomenon, this research aims to investigate the degree to which the use of e-commerce and e-wallets impacts income improvement among the underprivileged MSME entrepreneurs assisted by the National Amil Zakat Agency (BAZNAS) of South Kalimantan Province.

The online survey "Digital Payment and Financial Services Usage and Behavior in Indonesia" sampled 1000 respondents, examining the behavior patterns of active users on digital wallet platforms in Indonesia and focusing more on the five most popular e-wallets. The results show the most used e-wallets, i.e., OVO 32%, GOPAY 25%, SHOPEEPAY 20%, DANA 19%, and LINKAJA 4% (Kadence International 2021).

As depicted in Figure 4, DealStreetAsia (2022) surveyed that 97% of Indonesia's MSMEs have used e-wallet platforms, with the value of transactions averaged Rp56,039 per transaction, increased 26.5% from 2021.

## LITERATURE REVIEW

Electronic commerce, also known as e-commerce, is a business model that uses information technology to enhance sales, improve business efficiency, and facilitate the development of new products and services (Išoraitė and Miniotienė, 2018). Meanwhile, electronic wallets (e-wallets) are digital storage systems that contain information about payment instruments, e.g., cards and electronic money, which also function for making payments (Samuelson and Nordhaus 1993). E-wallets enable users to securely store, categorize, and access their transaction records. Numerous businesses have adopted payments through electronic wallets, which provide financial benefits, e.g., discounts, and promotions, among others (Zada and Sopiana 2021).

E-commerce and e-wallets offer convenience and enhance efficiency across multiple domains of business (Putra and Syafrudin 2021). This aligns with Solow Swan, theorizing that economic growth depends on production factors (e.g., population, labour, and capital accumulation) and the level of technological advancement (Febriansah and Prapanca, 2019).

Online businesses do not necessitate substantial financial investments or physical locations for their establishment (Elrhim and Elsayed 2020; Terzi 2011). Entrepreneurs can expand their market significantly by leveraging unlimited online access and adopting more flexible working hours, resulting in increased business revenue (Effendi and Subroto 2021; Yusoff et al. 2019). The discounts and promotions offered by e-wallets have consistently attracted consumers, ensuring they do not miss out on these offers. Given the abundance of discounts and promotions, numerous consumers will likely express interest in purchasing MSME products and making payments using e-wallets. The surge in consumer demand for MSME products has resulted in a corresponding increase in income (Aristiana, 2019; Febriansah and Prapanca, 2019).

Previous studies found a significant influence on the use of e-commerce on

MSME income variables (for example, see Alfin 2021; Darmansyah et al. 2021; Elrhim and Elsayed 2020; Helmalia and Afrinawati 2018; Nasution 2018; Ancient et al. 2021; Putra and Syafrudin 2021; Upadhayaya 2012; Yulianti 2021; Yusoff et al. 2019). Furthermore, empirical evidences have encouraged MSMEs to use e-wallets for business development purposes (see; Aji, Berakon, and Md Husin 2020; Apriani and Wuryandari 2022; Ayu Sanjaya and Akhyar 2022; Azimah et al. 2023; Chairina, Lintang, and Piniji 2022; Mautongue, Krisdiyawati, and Utami 2022; Nada, Suryaningsum, and Country 2021; Prabowo and Sabiella 2023; Tikku and Singh 2023; Tilman and Tricahyono 2023).

In particular, Nurhasanah (2020) found a significant impact of the use of productive zakat funds on the level of mustahik income (Amsari and Nasution 2019; Arwani et al. 2022; Beik and Primary 2017; Faisal and Yuliani 2018; Iqbal, Rusli, and Musyahidah 2019; Mawardi et al. 2023; Nafiah 2015; Nasution and Prayogi 2019; Nurkartikasari, Muljaningsih, and Ekawaty 2023; Wibowo and Restuningsih 2019; Widiastuti et al. 2021). Based on these previous studies, the conceptual framework of this study is developed and illustrated in Figure 5.

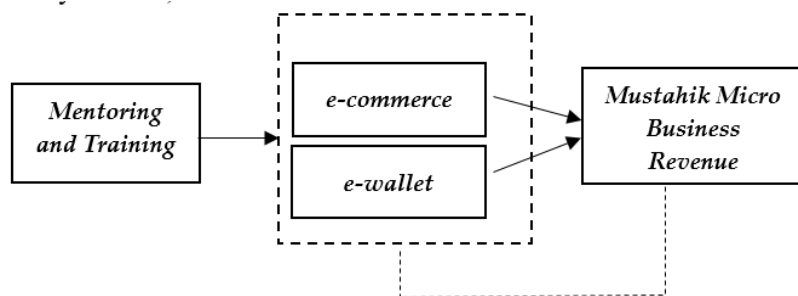


Figure 5. Conceptual framework

Source: Authors' own.

## METHODOLOGY

This is a quantitative study, using a questionnaire for data collection, generating personal information, i.e.,

respondents' identity sections (name, address, gender, occupation, age, and others), and responses to a list of close-ended questions (Rahmadi, S.Ag. 2011).

In this study, the population is all mustahiks assisted by BAZNAS of South Kalimantan. In total, there are 55 mustahik MSME entrepreneurs. The following Slovin formula is used to determine the sample size (Aedy and Mahmudin 2017):

$$n = \frac{N}{1+Ne^2} \quad (1)$$

Information:

n = sample size

N = population size

$e^2$  = desired critical value (accuracy limit) due to sampling error (Slovin 1960).

Using the above formula, the calculations to determine the number of samples used in this study:

$$n = \frac{55}{1 + (55)(0,1)^2}$$

$$n = \frac{55}{1 + (55)(0,01)}$$

$$n = \frac{55}{1 + 0,55}$$

$$n = \frac{55}{1,55} = 35,48 = 35$$

Thus, the number of samples in this study is 55 respondents. The questionnaires returned from respondents was 43, and questionnaires can be processed with 35. According to Bailey (1981) in Aedy and

Mahmudin (2017), the minimum sample size is 30.

SPSS 25 is used for statistical computation. Multiple linear regression models and classical assumption tests, i.e., normality tests, multicollinearity tests, and heteroscedasticity tests are performed. Multiple linear regression aims to examine the effect of two or more independent variables on one dependent variable (Arum Janie 2012). In this study, the formula used as follows:

$$\text{Ln}Y = \alpha + \beta_1 \text{Ln}X_1 + \beta_2 \text{Ln}X_2 + e \quad (2)$$

Information:

Y = Mustahik Micro Business Revenue

$\alpha$  = Constant

$X_1$  = e-commerce

$X_2$  = e-wallet

Ln = Logaritma natural

e = Standard error

## RESULT

### *Respondents' demographics*

The characteristics of mustahik respondents assisted by BAZNAS South Kalimantan Province sampled in this study is explained in Table 1. The number of respondents was 35 people, i.e., women (97%), with the age of >35 years (51%), and the last education of high school / MA (80%).

Table. 1. Characteristics of Respondents

Category		Total
Gender	Man	1 (3%)
	Woman	34 (97%)
Age	17-23 years	2 (6%)
	24-35 years	15 (43%)
	> 35 years old	18 (51%)
Recent Education	SD/MI	1 (3%)
	SMP/MTs	4 (11%)
	SMA/MA	28(80%)
	College	2 (6%)

Source: Authors' analysis

*Business Characteristics of Respondents*

The business characteristics of the sample have several classifications. As informed in Table 2, most of 35 respondents have the length of business > 5 years (51%), the length of using e-commerce 1-2 years (40%), the length of using e-wallets 1-2 years (34.3%), the frequency of using e-

commerce in one month 1-5 times (51%), the frequency of using *e-wallets* in one month 1–5 times (57.14%), frequency of business digitalization training in one month 1–5 times (97%), frequency of business digitalization assistance in one month 1–5 times 35 (100%), and income in one month Rp1,000,000–Rp3,000,000 (57%).

Table. 2. Business Characteristics of Respondents

Category		Total
Length of Business	1–2 years	7 (20%)
	3–4 years	10 (29%)
	> 5 years	18 (51%)
Long Use of <i>E-commerce</i>	< 1 year	3 (8,6%)
	1–2 years	14 (40%)
	3–4 years	9 (25,7%)
	> 5 years	9 (25,7%)
Long Use of <i>e-wallets</i>	< 1 year	11 (31.4%)
	1–2 years	12 (34.3%)
	3–4 years	8 (22.9%)
	> 5 years	4 (11.4%)
Frequency of <i>E-commerce</i> Use in One Month	1–5 times	18 (51%)
	6–10 times	7 (20%)
	> 10 times	10 (29%)
Frequency of <i>e-wallet</i> Use in One Month	1–5 times	20 (57,14%)
	6–10 times	6 (17,14%)
	> 10 times	9 (25,71%)
Frequency of Business Digitalization Training in One Month	1–5 times	34 (97%)
	6–10 times	0 (%)
	> 10 times	1 (3%)
Frequency of Business Digitalization Assistance in One Month	1–5 times	35 (100%)
	6–10 times	0 (0%)
	> 10 times	0 (0%)
Revenue in One Month	< Rp1.000.000	9 (26%)
	Rp1.000.000–Rp3.000.000	20 (57%)
	> Rp3.000.000	6 (17%)

Source: Authors’ analysis.

*Classical Assumption Test*

The normality test in this study used *the One-Sample Kolmogorov-Smirnov Test*, resulting in  $0.177 > 0.05$ , i.e., the data are normally distributed. The results of this test

show tolerance and VIF values in e-commerce (X1) and e-wallet (X2) variables of  $0.821 \geq 0.10$  and  $1.218 \leq 10$ . There is no multicollinearity between variables in this heteroscedasticity test using the Glejser method. The test results showed a significance e-commerce variable (X1)

value of 0.823 > 0.05. The significance value of the e-wallet variable (X2) is 0.383

> 0.05. In this heteroscedasticity test, there is no heteroscedasticity detected.

Table. 3. Classical Assumption Test

	<b>Criterion</b>	<b>Result</b>	<b>Conclusion</b>
Normality Test	Sig. > 0,05	Sig. = 0.177	Normally distributed data
Multicollinearity Test	Tolerance ≥ 0,10 VIF ≤ 10	Tolerance = 0,821 VIF = 1.218	No multicollinearity occurs
Heteroscedasticity Test	Sig. > 0.05	e-commerce (X1) Sig. = 0.823  e-wallet (X2) Sig. = 0.383	No heteroscedasticity occurs No heteroscedasticity occurs

Source: Authors' analysis via SPSS 25.

*Multiple Linear Test*

The coefficient of determination (R<sup>2</sup>) or R Square test determines the influence level of the independent variable on the dependent variable with a vulnerable value of 0-1. The following results of the coefficient of determination test are described in Table 4.

Table. 4. Test Results of Coefficient of Determination (R<sup>2</sup>)

<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>
0,729	0,531	0,502

Source: Authors' analysis via SPSS 25.

R Square (R<sup>2</sup>) is 0.531, showing that e-commerce (X1) and e-wallet (X2) have a contribution relationship to the Mustahik Micro Business Revenue (Y) fostered by BAZNAS South Kalimantan Province by 53.1%. The results showed that the magnitude of variation in independent variables influencing the regression equation model was 53.1%, and the remaining 46.9% was influenced by other variables not investigated in this study.

A simultaneous test or F test is done to find out whether the independent variable has an effect together with the dependent variable. The following

simultaneous test results are outlined in Table 5.

Table. 5. F-Test Results

<b>F</b>	<b>Result</b>
18,136	0,000

Authors' analysis via SPSS 25.

Hypothesis testing of e-commerce (X1) and e-wallet (X2) variables showed an f-count value of 18.136 with a significant value of 0.000, while the f-table value in this study was 3.29 with a significance value of 0.05. Conclusion f-count (18.136) > f-table (3.29) with a significance value of 0.000 < 0.05, then H0 is rejected, and H1 is accepted. Based on the results of these tests, it can be concluded that testing the hypothesis of e-commerce variables (X1) and e-wallets (X2) together has a significant effect on the income of micro mustahik businesses (Y).

A partial test or t-test to determine the significance of each independent variable affects the dependent variable. The following partial test results are outlined in Table 6.

Table. 6. t-Test Results

<b>Variable</b>	<b>t-count</b>	<b>Itself.</b>	<b>Information</b>
e-commerce (X1)	3,240	0,003	Significant effect

e-wallet (X2)	3,228	0,003	Significant effect
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Authors' analysis via SPSS 25

Table 6 describes each variable as follows:

1. Hypothesis Testing of e-commerce Variables (X1)

Testing of the e-commerce variable (X1) showed a t-count value of 3.240 with a significance value of 0.003, while the t-table value in this study was 1.693 with a significance value of 0.05. The conclusion of significance values is  $0.003 < 0.05$ , then  $H_0$  is rejected, and  $H_2$  is accepted. Based on the test results, it can be concluded that e-commerce (X1) significantly affects the income of micro mustahik businesses (Y).

2. Hypothesis Testing e-wallet variables (X2)

Testing of the e-wallet variable (X2) showed a t-count value of 3.228 with a significance value of 0.003, while the t-table value in this study was 1.693 with a significance value of 0.05. Conclusion t-count (3.228)  $>$  t-table (1.693) with significance values of  $0.003 < 0.05$ , then  $H_0$  is rejected, and  $H_3$  is accepted. Based on the test results, it can be concluded that e-wallet (X2) significantly affects the income of micro mustahik businesses (Y).

### Data Analysis

Based on the calculation results in the table, the results of the Multiple Linear Regression equation are obtained as follows:

$$\ln Y = 5.680 + 0.328 + 0.303 \ln X_1 \ln X_2$$

The regression equation can be interpreted as follows:

*First*, the magnitude of the constant value is 5.680 and is positive. The regression equation above shows that

micro-enterprising income must be 5,680 without the influence of independent variables.

*Second*, the e-commerce variable has a positive regression coefficient of 0.328, which can be interpreted if the e-commerce variable (X1) increases by 1%. Micro-enterprises' income must increase by 0.328%, assuming other variables remain (*ceteris paribus*).

*Third*, the e-wallet variable (X2) has a positive regression coefficient of 0.303, which can be interpreted if the e-wallet variable (X2) increases by 1%. The income of micro businesses must increase by 0.303%, assuming other variables remain (*ceteris paribus*).

### Discussion

The statistical results of this study are the significance of e-commerce and e-wallet, which shows an f-count value of  $18.136 > 3.29$  with a significance value of  $0.000 < 0.05$ . It can be concluded that e-commerce and e-wallet together significantly increase the income of micro mustahik businesses fostered by BAZNAS in South Kalimantan, thus, the tested hypothesis is accepted. The results showed that the large variation of independent variables influencing the regression equation model was 53.1%, and the remaining 46.9% was influenced by other variables not studied in this study.

The e-commerce variable (X1) shows a t-count value of  $3.240 > 1.693$  with a significance value of  $0.003 < 0.05$ . The results of this hypothesis show that e-commerce (X1) significantly increases the income of micro mustahik businesses fostered by BAZNAS in South Kalimantan. The use of e-commerce for micro mustahik businesses to carry out all buying and selling activities or transacting using electronic media facilities (Internet) can increase the income of micro mustahik businesses.

The results of this study are reinforced by Solow Swan's theory that economic growth depends on the



availability of production factors (population, labor, capital accumulation) and the level of technological progress (Febriansah and Prapanca, 2019). According to this theory, the most important factor in economic growth is not capital increase or labor increase. In this model, technological advancement, skill growth, and workforce expertise are the most important factors. This research is in line with this theory, where e-commerce and e-wallet, a tangible manifestation of technological advances, positively influences mustahiks' income.

The finding of this study is consistent with previous research (Alfin 2021; Darmansyah et al. 2021; Elrhim and Elsayed 2020; Helmalia and Afrinawati 2018; Julianda and Jamiat 2021; Nasution 2018; Ancient et al. 2021; Putra and Syafrudin 2021; Upadhayaya 2012; Yulianti 2021; Yusoff et al. 2019), i.e., e-commerce has a significant effect on income.

Furthermore, the e-wallet variable (X2) shows a t-count value of  $3.228 > 1.693$  with a significance value of  $0.003 < 0.05$ . The results of this hypothesis show that e-wallet (X2) significantly increases the income of micro mustahik businesses. E-wallets are useful for storing money digitally and saving time. This finding is in line with Solow Swan's theory and with previous research (Aji et al. 2020; Apriani and Wuryandari 2022; Ayu Sanjaya and Akhyar 2022; Azimah et al. 2023; Chairina et al. 2022; Maulidah et al. 2022; Nada et al. 2021; Prabowo and Sabiella 2023; Tikku and Singh 2023; Tilman and Tricahyono 2023; Zada and Sopiana 2021), i.e., digital wallets or e-wallets can increase revenue. However, this study is not in line with Ulfha Amelia (2019), stating that financial technology or e-wallets have not been able to increase revenue.

## CONCLUSION

Empirical evidence is offered by this study, explaining a real influence on the use of e-

commerce and e-wallets to increase the income of mustahik micro businesses. Using e-commerce and e-wallets facilitates and reaches a wide market for micro businesses and thus, they can increase revenue. BAZNAS South Kalimantan Province and other related stakeholders can benefit from this study to understand the degree to which e-commerce and e-wallet simultaneously have a significant effect on increasing the income of micro mustahik businesses.

Suggestions are advised for both zakat stakeholders and future researchers. Amil of zakat should advise their assisted mustahik to follow technological developments by reading the latest e-commerce and e-wallet news on the Internet, and articles in magazines and newspapers.

Further research is suggested to increase the number of samples for accurate generalizability of the findings. In addition, exploring other factors (other than the use of e-commerce and e-wallet) that impact on the mustahik's income is also recommended.

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