PROCEEDINGS THE 5th INTERNATIONAL CONFERENCE ON ECONOMICS, BUSINESS, AND MANAGEMENT RESEARCH (ICEBMR)
"Digital Economy, Human Dignity, and Inclusive Transformation in Asia"
https://econference.usd.ac.id/index.php/ICEBMR | ISSN: 3032-596X | Vol 5, 2026

DIGITAL FINANCIAL INCLUSION AND BUSINESS INDEPENDENCE: EVIDENCE FROM MICRO AND SMALL ENTERPRISES IN MAKASSAR, INDONESIA

Henny Mariza[1], Kelvin[2], Andi Nur Azizah Fajry Azzahrah[3]
[1,2,3]Universitas Bosowa
[1]hennymariza14@gmail.com, [2]kelvin74529@gmail.com, [3]azizahfajry@universitasbosowa.ac.id
DOI: https://doi.org/10.24071/icebmr.v5i1.384

Abstract
The rapid development of digital technology has transformed financial landscapes, necessitating Micro and Small Enterprises (MSEs) to adapt to digital financial systems to remain competitive. This study aims to analyze the level of digital financial inclusion penetration and measure the level of business independence among MSEs in Makassar, Indonesia, while simultaneously examining the influence of digital financial inclusion on business independence. Employing a quantitative explanatory approach, this research utilized purposive sampling to select 140 respondents from active MSEs in Makassar. Data were collected through structured questionnaires and analyzed using simple linear regression via IBM SPSS Statistics. The findings indicate that digital financial inclusion has a positive and significant influence on business independence suggesting that while digital financial inclusion is a key driver for business autonomy, other external and internal factors account for the remaining 23,9% of the influence. These results imply that increasing the accessibility and literacy of digital financial instruments is crucial for MSEs to achieve substantive autonomy and reduce reliance on traditional, less efficient financial mechanisms. The study contributes to the literature on financial management by providing empirical evidence of the role of digital transformation in strengthening the foundations of local MSE resilience.
Keywords*: Business Independence, Digital Financial Inclusion, Micro and Small Enterprises, Makassar, Financial Technology*

1. Introduction

The existence of Micro, Small, and Medium Enterprises (MSMEs) as a vital driver of the national economy, contributing significantly to job creation, poverty alleviation, and the achievement of equitable income distribution. In this modern era, rapidly advancing digital technology has driven the emergence of various digital financial services, such as QRIS, mobile banking applications, and fintech-based lending platforms. This transformation requires MSMEs to increasingly embrace technology in order to adapt and grow, thereby creating an urgent need for digital financial inclusion. Demirgüç-Kunt et al. (2022) define digital financial inclusion as a concept describing how business entities utilize formal financial services through digital channels.

Existing literature has observed the positive impact of digital financial inclusion on improving the performance of the micro-business sector. Research by Affandi et al. (2024) indicates that the adoption of digital solutions, such as broad access to, literacy regarding, and utilization of formal financial services, significantly drives the performance and growth of MSMEs. More specifically, at the local level, a study by Adriani and Yuniar (2023) on MSMEs in Makassar City found that the use of digital payments positively influences the financial performance of business owners. The adoption of these digital payment systems is considered not only to facilitate transactions but also to serve as a driver of business advancement when combined with appropriate strategies.

While the positive impacts of financial technology adoption have been extensively studied, research specifically focusing on business independence remains very limited. Business autonomy refers to the ability of business operators to make decisions and act independently, without excessive reliance on external parties (Sen, 1999). Meanwhile, theoretical discourse regarding digital financial access remains a subject of debate; on one hand, it can enhance the efficiency of economic activities, yet on the other, it carries the potential risk of debt traps (over-indebtedness) if not balanced with adequate financial literacy.

Empirical evidence from Makassar City reveals that the business sector is dominated by

micro-enterprises; 2024 data records 31,350 micro-enterprises, 910 small enterprises, and 479 medium-sized enterprises. Amid the rapid pace of the city's economic digitalization, questions have arisen regarding the penetration level of digital financial inclusion in day to day business operations. To date, it remains unclear whether the adoption of digital finance by MSMEs in Makassar has advanced to more sophisticated services or if it is still limited to the use of basic payment transaction features.

Based on the identified research gaps and empirical context, the central question of this study is whether digital financial inclusion significantly strengthens business independence at a fundamental level, or merely represents a fleeting trend that fails to substantively alter the foundations of MSME resilience. Therefore, this study aims to objectively assess the extent of digital financial inclusion and the level of business independence among MSMEs in Makassar City, as well as to examine the effect of digital financial inclusion on business independence. These objectives are intended to provide a comprehensive understanding of the actual contribution of digitalization to strengthening the local economy.

2. Literature Review

2.1 Digital Finansial Inclusion

Digital financial inclusion refers to a concept that describes the ability of business actors to access, use, and benefit from formal financial services through digital technologies in an accessible, secure, and affordable manner (Ozili, 2022). These digital services encompass digital payment systems, savings, financing, insurance, and other financial products that can be accessed through digital platforms, including mobile banking, e-wallets, internet banking, QRIS, and other financial technologies. Demirgüç-Kunt et al. (2022) explain that digital financial inclusion extends beyond the availability of financial services to encompass ease of access, levels of usage, service quality, and users' ability to utilize such services effectively. In Indonesia, the growing adoption of QRIS and various digital payment platforms has contributed to the expansion of financial inclusion among MSMEs, particularly by broadening their access to the formal financial system (Ardasanti et al., 2025).

2.2 Business Independence

Business independence refers to the ability of business actors to manage and develop their enterprises independently through sound decision-making, effective resource management, and the capacity to reduce dependence on external assistance or parties. This concept is consistent with the Capability Approach proposed by Sen (1999), which suggests that individuals can be considered independent when they possess substantive freedom to make choices and optimally utilize available economic opportunities.

In the context of MSMEs, business independence is reflected in the ability of business owners to manage capital, formulate business strategies, control operations, manage business risks, and maintain business continuity without excessive reliance on external resources. Berger and Udell (2006) explain that ease of access to formal sources of financing and adequate financial information are important factors in enhancing the capacity of MSMEs to develop independently. Therefore, the greater the ability of business actors to effectively manage their financial resources, the higher their level of business independence.

2.3 Relationship Between Digital Financial Inclusion and Business Independence

Using the Resource-Based View (RBV) framework, Barney (1991) asserts that an organization's competitive advantage is built through the possession and optimization of resources that are valuable, rare, difficult to imitate, and non-substitutable. In the context of this study, access to digital financial services is positioned as a strategic resource capable of enhancing business owners' capacity to manage transactions, expand access to financing, and formulate more effective business decisions.

Previous research by Demirgüç-Kunt et al. (2022), drawing on the Global Findex

Database, confirms that the use of digital payments contributes to strengthening economic resilience. Similarly, Adriani et al. (2023) demonstrated that the adoption of digital payments positively impacts the financial performance of MSMEs in Makassar City, while Maharani et al. (2026) found that financial inclusion fosters improved MSME performance. However, the majority of prior studies have focused exclusively on the impact of digital financial inclusion on financial performance, profitability, and business development. Consequently, research specifically examining the influence of digital financial inclusion on business independence remains relatively limited. Therefore, this study aims to address this research gap by investigating how digital financial inclusion contributes to strengthening the business independence of micro and small enterprises in Makassar City.

3. Research Methods

This study employs an explanatory quantitative approach to examine the impact of digital financial inclusion on business independence among micro and small business owners in Makassar City. Data collection took place over a period of approximately two months in 2026. The study population comprised all active micro and small businesses operating in Makassar City. Due to the absence of a comprehensive and up-to-date sampling frame, a non-probability sampling technique was used. Respondent selection criteria included: (1) classification as a micro or small business located in Makassar City; (2) at least one year of operation; and (3) the use of at least one type of digital financial service in daily operations (Sekaran & Bougie, 2022). This method yielded a sample of 140 respondents. Data were collected using a structured questionnaire distributed via both offline and online channels. Data processing and analysis were conducted using IBM SPSS Statistics, encompassing validity and reliability tests, classical assumption tests (normality and heteroscedasticity), and simple linear regression analysis.

4. Research Findings and Discussion

4.1 Result

4.1.1 Validity and Reliability Tests

The questionnaire data were analyzed to evaluate the validity and reliability of the research instrument. The validity test was conducted to ensure that each item accurately measured the intended variable construct. The results indicated that all indicator items for both digital financial inclusion (independent variable) and business independence (dependent variable) had calculated r-values (rcalculated) greater than the critical r-value (0.166), confirming that all items were valid. Furthermore, the reliability test yielded Cronbach's alpha values exceeding 0.70 for each variable. This demonstrates that the research instrument possesses satisfactory internal consistency and is reliable for subsequent analysis.

Table 1. Results of the Validity and Reliability Tests

Indicators	Correlated Item Total	Cronbach's Alpha
X1	0,949	0,967
X2	0,949	
X3	0,948	
X4	0,917	
X5	0,936	
Y1	0,937	0,956
Y2	0,899	
Y3	0,928	
Y4	0,928	
Y5	0,932	

Source: source of the table

4.1.2 Classical Assumption Tests

Prior to performing the main statistical analysis, classical assumption tests, specifically testing for normality and heteroscedasticity, were conducted to confirm that the regression model satisfied the required prerequisites. To evaluate whether the regression residuals followed a normal distribution, the One-Sample Kolmogorov–Smirnov test was applied. The test produced a significance value of 0.109, which is greater than 0.05. Therefore, the residuals can be considered normally distributed, indicating that the normality assumption of the regression model was satisfied.

The heteroscedasticity test showed a significance value (Sig. 2-tailed) of 0.329 for the Digital Financial Inclusion (X) variable. Since the significance value is greater than 0.05, there is no evidence of heteroscedasticity in the regression model. Thus, the regression model satisfies the heteroscedasticity assumption and is suitable for further analysis.

4.1.3 Simple Linear Regression Analysis

Tabel 2. Result of the F-Test

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1950.486	1	1950.486	440.350	.000[b]
	Residual	611.257	138	4.429		
	Total	2561.743	139			
a. Dependent Variable: Business Independence						
b. Predictors: (Constant), Digital Financial Inclusion						

Source: source of the table

The ANOVA results yielded an F-value of 440.350 with a significance level of 0.000 ($p < 0.05$), indicating that the regression model is statistically significant in explaining the relationship between Digital Financial Inclusion and Business Independence. In other words, Digital Financial Inclusion represents a statistically significant predictor of Business Independence. Therefore, the regression model is considered statistically significant and provides an appropriate basis for testing the proposed research hypothesis.

Table3. Results of the Simple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.169	.810		5.146	.000
	Digital Financial Inclusion	.789	.038	.873	20.985	.000

Source: source of the table

Based on the partial test results, Digital Financial Inclusion obtained a regression coefficient (B) of 0.789, with a t-value of 20.985 and a significance level of 0.000 ($p < 0.05$). These results indicate that Digital Financial Inclusion has a positive and statistically significant effect on Business Independence, suggesting that an increase in Digital Financial Inclusion has a positive and significant effect to Business Independence. The positive regression coefficient of 0.789 indicates that a one-unit increase in Digital Financial Inclusion is associated with a 0.789-unit increase in Business Independence, assuming other factors remain constant (ceteris paribus). Furthermore, the standardized Beta coefficient of 0.873 indicates a strong positive relationship between Digital Financial Inclusion and Business Independence. These

findings confirm that better access to, use of, and utilization of digital financial services are associated with higher levels of business independence, suggesting that Digital Financial Inclusion is an important factor in strengthening Business Independence.

The regression equation obtained is as follows:

$$Y = 4{,}169 + 0{,}789X$$

Where:

- Y = Business Independence
- X = Digital Financial Inclusion

The equation indicates that when the value of Digital Financial Inclusion is zero, the estimated value of Business Independence is 7.678. Furthermore, each one-unit increase in Digital Financial Inclusion is associated with a 0.619-unit increase in Business Independence, assuming other factors remain constant (ceteris paribus).

Table 4. Regression Model Summary

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.873[a]	.761	.760	2.10461
a. Predictors: (Constant), Digital Financial Inclusion				

Source: source of the table

The analysis results show a correlation coefficient (R) of 0.873, indicating a strong positive relationship between Digital Financial Inclusion and Business Independence. This positive relationship suggests that higher levels of digital financial inclusion among business owners are associated with higher levels of business independence. The correlation coefficient of 0.873 also indicates that the relationship between the two variables is relatively strong, suggesting a substantial association between Digital Financial Inclusion and Business Independence.

Furthermore, the coefficient of determination (R^2) of 0.761 indicates that Digital Financial Inclusion explains 76.1% of the variance in Business Independence. The remaining 23.9% is attributable to other factors or variables outside the research model that were not examined in this study. These findings indicate that although Digital Financial Inclusion is an important predictor of Business Independence, other factors also contribute to determining the level of business independence among MSMEs.

4.2 Discussion

The results of hypothesis testing confirm that the involvement of business actors in the digital financial ecosystem provides a direct impetus for increasing their business independence. Conceptually, digital financial inclusion facilitates access to financing, optimizes the efficiency of payment transactions, and enables cash flow management in a structured and real-time manner.

The strong impact is reflected in a standardized Beta coefficient of 0.873. This implies that greater engagement with digital financial tools (e.g., e-wallets, mobile banking, and QRIS) enhances operational efficiency while reducing dependence on conventional, high-cost transaction channels. Consequently, entrepreneurs are better positioned to make independent business choices and manage capital autonomously.

While Digital Financial Inclusion demonstrates a statistically significant effect, its 76.1% contribution implies that the remaining 23.9% variance in Business Independence is shaped by

other unexamined internal and external factors. These unmeasured variables may include marketing strategies, human resource management, market competition, and government regulatory frameworks.

These findings align with and reinforce previous literature (Demirgüç-Kunt et al., 2022; Ozili, 2018), indicating that fintech transformation enhances the resilience and autonomy of micro and small enterprises. Seamless access to digital financial services helps mitigate capital constraints and expand market reach (Adriani et al., 2023; Bachas et al., 2018), ultimately elevating business capacity for self-sustained growth without excessive reliance on third parties.

Furthermore, this study offers a theoretical contribution to the fields of financial management and entrepreneurship by solidifying empirical evidence on how Digital Financial Inclusion impacts MSME Business Independence. The results confirm that digital financial inclusion operates not merely as a transactional facilitator, but as a crucial enabler for cultivating autonomous and competitive enterprise structures.

5. Conclusion

Based on the regression analysis, it can be concluded that Digital Financial Inclusion has a positive and statistically significant effect on Business Independence. Therefore, the research hypothesis stating that Digital Financial Inclusion has a positive effect on Business Independence is accepted. These results demonstrate that elevated levels of digital financial inclusion among business owners correlate with greater business independence. Furthermore, Digital Financial Inclusion serves as a key determinant in bolstering Business Independence, even though exogenous factors beyond the scope of this research model also contribute to shaping overall enterprise autonomy

References

Adriani, A., Yuniar, V. A. P., & Yuniar, V. A. P. (2023). Pengaruh penggunaan digital payment terhadap kinerja keuangan pada UMKM di Kota Makassar. Jurnal Ilmiah Neraca: Ekonomi Bisnis, Manajemen, Akuntansi, 6(2), 20–29. https://doi.org/10.56070/jinema.v6i2.79

Affandi, Y., Ridhwan, M. M., Trinugroho, I., & Hermawan Adiwibowo, D. (2024). Digital adoption, business performance, and financial literacy in ultra-micro, micro, and small enterprises in Indonesia. Research in International Business and Finance, 70, 102376. https://doi.org/10.1016/j.ribaf.2024.102376

Ardasanti, A., Kusumaningrum, R. A., Hikmah, H., Nurhidayanti, S., Abubakar, H., Fadel, F., & Pertiwi, I. (2025). Analisis efektivitas QRIS dalam meningkatkan inklusi keuangan UMKM Makassar. Journal of Economic, Bussines and Accounting (COSTING), 8(4), 2215–2224. https://doi.org/10.31539/tvwwwr95

Bachas, P., Gertler, P., Higgins, S., & Seira, E. (2018). Digital financial services go a long way: Transaction costs and financial inclusion. AEA Papers and Proceedings, 108, 444–448.

Badan Pusat Statistik. (2024). Booklet Sakernas Agustus 2024 (Vol. 7, No. 1). Badan Pusat Statistik.

Barney, J. B. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99–120. https://doi.org/10.1177/014920639101700108

Berger, A. N., & Udell, G. F. (2006). A more complete conceptual framework for SME finance. Journal of Banking & Finance, 30(11), 2945–2966.

Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19. World Bank Group. https://doi.org/10.1596/978-1-4648-1897-4

Dinas Koperasi, Usaha Kecil dan Menengah Kota Makassar. (2024). Jumlah usaha mikro, kecil, dan menengah Kota Makassar [Data sektoral]. Satu Data Kota Makassar. https://data.makassarkota.go.id/datasektoral/11

Izzati, S., Al Rizky, F., Putri, A. I., Audi, F. I., Nurahayu, D., Aprilila, D., Syahfitri, I., & Damanik, B. E. (2025). Pemanfaatan QRIS dalam meningkatkan pendapatan transaksi UMKM studi kasus: Cafe Barika Pematangsiantar. Gudang Jurnal Multidisiplin Ilmu, 3(5), 23–29.

Kementerian Koperasi dan Usaha Kecil dan Menengah Republik Indonesia. (2024). Statistik UMKM Indonesia 2024. Kementerian Koperasi dan UKM RI.

Maharani, D., Hikmah, Soegiastuti, J., & Nurchayati. (2026). The influence of financial literacy and financial inclusion on MSME performance in Pati Regency. International Journal of Applied Finance and Business Studies, 13(4), 722–730.

Morgan, P. J., & Long, T. Q. (2020). Financial literacy, financial inclusion, and savings behavior in Laos. Journal of Asian Economics, 68, 101197.

Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. Borsa Istanbul Review, 18(4), 329–340.

Ozili, P. K. (2022). Digital financial inclusion. In Emerald Studies in Finance, Insurance, and Risk Management. Emerald Publishing.

Sekaran, U., & Bougie, R. (2022). Research methods for business: A skill-building approach (8th ed.). Wiley

Sen, A. (1999). Development as freedom. Oxford University Press.