Structural Model Of The Influence Of Financial Literacy, Financial Inclusion, And Fintech Use On The Sustainability Of MSMEs With Financial Behavior As A Mediation Variable In Jepara Regency

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Abstract

This study aims to examine the effect of financial literacy and the use of fintech on the sustainability of micro businesses with financial behavior as a mediating variable. The study was conducted on MSME actors in Jepara Regency with a quantitative approach and Partial Least Square - Structural Equation Modeling (PLS-SEM) analysis techniques. The results of the study indicate that financial literacy has a significant positive effect on business sustainability, and makes a very strong contribution to the formation of financial behavior. However, financial behavior is not able to be an effective mediator because it has a negative effect on business sustainability. On the other hand, the use of fintech does not show a significant effect, either on financial behavior or business sustainability. This finding emphasizes the importance of synergy between financial understanding, applicative behavior, and technology adoption to support the sustainability of MSMEs more comprehensively.

Kevwords

financial literacy, fintech, financial behavior, business sustainability

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in the Indonesian economy, including in Jepara Regency. According to data from the Jepara Regency Cooperative and MSME Service, in 2023 there were 81,399 MSME units consisting of 77,173 micro businesses, 3,979 small businesses, and 247 medium businesses. These MSMEs are not only the backbone of the local economy but also contribute significantly to employment absorption and poverty reduction in the area. Unissula Repository

Although the number of MSMEs in Jepara Regency has reached more than 77,000 units, many of them face difficulties in maintaining the sustainability of their businesses. One of the main causes is the low financial literacy among business actors. A study on furniture MSMEs in Jepara shows that their level of sharia financial literacy is still moderate, with an average of 71.99%, which reflects limitations in understanding financial management and utilizing formal financial products (Mustagfiroh et al., 2024). Adequate financial literacy is very important because it has been proven to support the ability to make rational and strategic financial decisions (González-Prida et al., 2025), which ultimately directly affects business continuity. Previous studies have also shown that the influence of financial literacy on the sustainability of micro-enterprises can vary depending on the local context. In Sumbawa, financial literacy contributed 35.6% to the sustainability of MSMEs (Sudiyarti et al., 2024) while in Makassar the influence was not significant due to other dominant factors such as working capital (Budiandriani et al., 2024). In addition, good financial literacy can increase the effectiveness of financing use and support strategic business management if combined with accounting skills (Dewi &

Purwantini, 2023; Hapsoro & Iswara, 2019). This indicates that financial literacy, especially when integrated

with financial technology (fintech), can be an important factor in strengthening the sustainability of MSMEs through the formation of healthy and targeted financial behavior.

Fintech such as QRIS has become a potential solution for MSMEs in Jepara to facilitate transactions, increase administrative efficiency, and expand market access through digital platforms (Mustagfiroh et al., 2024). Research shows that the adoption of fintech can improve operational efficiency and business resilience, even the financial well-being of business actors acts as a mediator in strengthening the relationship between fintech use and business sustainability (Sharma et al., 2024; Sinuhaji et al., 2024). However, the use of fintech is still constrained by low digital literacy, concerns about transaction security, and inadequate infrastructure. Many MSMEs have not made fintech a core part of their business system, so the potential benefits are not optimal (Agus Widadi & Dwi Puspitasari, 2024). Therefore, strengthening financial literacy and healthy financial behavior is key to ensuring that the use of fintech truly has a positive impact on the sustainability of micro-businesses. Financial behavior has a crucial role in bridging the influence of financial literacy and fintech use on the sustainability of micro-businesses. Research shows that high financial literacy does not necessarily guarantee business sustainability if it is not accompanied by good financial behavior, such as the ability to make financial plans, prepare budgets, and get used to saving (Sesa et al., 2024). Financial behavior has also been shown to mediate the relationship between financial literacy and business performance, thus becoming a key factor in the effectiveness of micro-business management (Budiandriani et al., 2024). In addition, good working capital management and easy access to formal financial services also encourage healthy financial practices, which ultimately strengthen business resilience and sustainability (Hapsoro & Iswara, 2019; Rohila et al., 2024). Thus, positive financial behavior is an important prerequisite for financial literacy and the use of fintech to provide optimal impacts on the sustainability of MSMEs. In the context of Jepara Regency, research on the relationship between financial literacy, fintech use, financial behavior, and the sustainability of micro-businesses is still limited. Most previous studies only examine the relationship between the two variables separately. Therefore, this study aims to build a structural model that integrates these four variables, so that it can provide a more comprehensive understanding of the factors that influence the sustainability of micro-enterprises in Jepara Regency. By understanding the influence of financial literacy and the use of fintech on the sustainability of micro-enterprises, as well as the mediating role of financial behavior, it is hoped that this study can contribute to efforts to develop MSMEs in Jepara Regency. The results of this study are also expected to be a basis for local governments and financial institutions in designing strategies to improve financial literacy and fintech adoption to support the sustainability of micro-enterprises in the area.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Financial literacy

Financial literacy has become an important focus in the study of economics and financial behavior, especially in the context of individual and small business economic resilience. Financial literacy is defined as a combination of knowledge, skills, attitudes, and behaviors needed to make wise and responsible financial decisions (Amirtha, 2024; Jalal et al., 2024). The main components of financial literacy include an understanding of financial products, budgeting practices, savings, investments, and healthy debt management. This literacy is also influenced by an individual's self-efficacy and attitude towards money, which have a direct impact on daily financial behavior (Putranti & Sriariani Tabun, 2024). Awareness of the importance of financial literacy has increased since the 2008 Global Financial Crisis, which showed how low financial literacy can exacerbate economic vulnerability, both on an individual and systemic scale.

However, financial literacy is not evenly distributed across various levels of society. There are significant disparities based on demographic factors such as gender, age, education level, and family economic background. Research shows that men tend to have higher levels of financial literacy than women, and that academic achievement index also contributes to this difference in literacy levels (Jalal et al., 2024). In addition, cognitive biases such as overconfidence and a preference for short-term gratification can interfere with the effectiveness of financial decision-making (Jalal et al., 2024). However, some researchers argue that financial literacy alone is not enough to ensure healthy financial decisions, because structural economic conditions and unequal access to financial information also play a role in determining individual and business financial outcomes.

Financial Technology (Fintech)

Fintech, or financial technology, is the result of the integration of digital technology with financial services that aims to improve access, efficiency, and affordability of the modern financial system. Fintech products include a variety of innovations such as blockchain technology that supports secure transactions and decentralized financial systems (Kartal, 2024), robo-advisors that provide automated asset management services (Ece Çokmutlu, 2023), and digital wallets that enable practical and fast non-cash transactions (Kartal, 2024). The development of these products has driven a major shift towards the digital economy and created new opportunities for segments of society that were previously unreachable by formal financial services.

One of the main contributions of fintech is to increase financial inclusion, especially in remote areas and underserved communities. Fintech enables faster and cheaper access to services such as digital banking and peer-to-peer lending (Zulfa Qur'anisa et al., 2024), as well as lowering overall transaction costs (Kömürcüoğlu & Akyazı, 2024). However, this rapid progress also poses significant challenges, especially in terms of regulation. An adaptive legal framework is needed to address security risks and consumer protection (Zulfa Qur'anisa et al., 2024), while the role of central banks is becoming increasingly important in maintaining financial system stability (Kömürcüoğlu & Akyazı, 2024). Therefore, while fintech offers significant benefits in expanding financial access and efficiency, its presence must be accompanied by wise supervision and policies to ensure its impact is truly inclusive and sustainable.

Financial Behavior

Financial behavior refers to how individuals make decisions and manage their financial resources, which is influenced by financial literacy, lifestyle, and psychological factors. Financial literacy is one of the main determinants, because it equips individuals with knowledge and skills in budgeting, saving, and investing in a planned manner (Angelista et al., 2024; Febrianti & Prima, 2024; Yatiningsih et al., 2024)). Research shows that students with higher levels of financial literacy tend to have wiser financial behavior, including in managing income and expenses (Wahyuni et al., 2023). Thus, literacy not only functions as a conceptual foundation but also as a behavioral guide in daily financial practices.

In addition to literacy, financial behavior is also influenced by lifestyle and psychological aspects. Hedonistic lifestyle choices, for example, are often associated with impulsive spending and low savings tendencies (Wahyuni et al., 2023). On the other hand, positive financial attitudes can encourage healthy financial habits, including discipline in budgeting and investing (Angelista et al., 2024). Psychological factors such as risk tolerance, cognitive bias, and emotional influences also play an important role in financial decision making, especially in the context of investment (A Nayeem et al., 2024). Therefore, a comprehensive understanding of financial behavior requires a multidimensional approach that includes cognitive, emotional, and social aspects.

Business Sustainability

Business sustainability refers to an organization's strategic efforts to ensure long-term viability by balancing economic performance, social responsibility, and environmental stewardship. In the context of small and medium-sized enterprises (SMEs), sustainability is particularly vital due to limited resources and high vulnerability to external shocks. Sustainability encompasses the organization's ability to maintain essential functions while promoting resilience, ethical operations, and value creation for stakeholders over time (De Matteis et al., 2023; Pinto et al., 2022). Achieving sustainability in SMEs requires adaptive and forward-looking managerial approaches that integrate risk management with innovation and responsible governance.

To support sustainable practices, various models and frameworks have been introduced, including sustainability maturity models that help organizations assess their strategic alignment with sustainability goals (Pinto et al., 2022). Collaborative or multi-stakeholder approaches are also emphasized to enhance resource sharing, innovation, and collective resilience, especially in managing social and environmental impacts (Hassel & Cedergren, 2024). In sectors such as aviation and information technology, sustainability efforts demand special attention due to systemic risks, regulatory pressures, and technological dependencies (Rakovic, 2024). While formal sustainability frameworks are valuable, some studies caution that excessive reliance on rigid systems may limit the agility and creativity of SMEs in navigating evolving sustainability challenges.

By considering the various theories and empirical findings that have been discussed, it can be formulated that the relationship between financial literacy, the use of fintech, financial behavior, and the sustainability of micro-businesses is a system that influences each other. Financial literacy not only acts as basic knowledge that enables business actors to understand financial concepts and products, but also as a guide in forming more rational and planned financial behavior. On the other hand, the use of fintech provides the potential for increasing efficiency and expanding financial access, although its effectiveness is highly dependent on the readiness of digital and financial behavior of business actors. Financial behavior becomes a connecting node between literacy and decision implementation, and has the potential to be a strengthener or an obstacle to business sustainability depending on the extent to which financial understanding is translated into real practice.

METHODS

This study uses a quantitative approach with the Partial Least Square - Structural Equation Modeling (PLS-SEM) analysis method, which is suitable for testing causal relationships between latent variables and for modeling mediation effects. This study was conducted on micro-entrepreneurs in Jepara Regency, with a population of active MSMEs spread across various sectors, such as culinary, crafts, and services. The sampling technique was purposive sampling with the criteria of micro-entrepreneurs who have used digital financial services for at least one year and have a minimum of two years of business experience. The number of respondents analyzed in this study was 100 people. Data collection was carried out through structured questionnaires that were distributed directly and online. The questionnaire was compiled based on indicators that had been tested for validity and reliability in previous studies, with a measurement scale using a five-point Likert. The variables studied included financial literacy (X1), use of fintech (X2), additional factors (X3), financial behavior (Z), and sustainability of micro-enterprises (Y). Data processing was carried out using SmartPLS 3.0 software, with analysis stages including evaluation of the measurement model (outer model) and structural model (inner model) to test the relationship between variables and the role of mediation.

RESULTS AND DISCUSSION

Structural Model Testing Results (Inner Model)

The structural model was tested to determine the influence between latent variables, namely financial literacy (X1), use of fintech (X2), additional factors (X3), financial behavior (Z), and micro-business sustainability (Y). Estimation was carried out using the Partial Least Square

(PLS) approach through SmartPLS, producing path coefficient values that reflect the strength and direction of the relationship between variables.

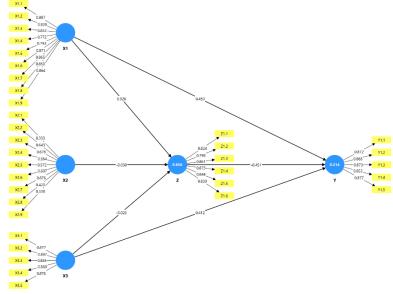


Figure 1. SmartPLS PLS Analysis Result Model

Figure 1 illustrates the results of the path analysis between variables in the structural model. It can be seen that the path from financial literacy (X1) to financial behavior (Z) shows the highest coefficient value (0.926) which means a very strong relationship. On the other hand, the path from financial behavior (Z) to business sustainability (Y) actually shows a negative direction (–0.451), indicating that although financial behavior is formed from strong literacy, its implementation in business practices has not yet had a positive impact on sustainability.

Table 1. Path Coefficients Between Variables

Relationship Between Variables	Path Coefficient	Description
$X1 \rightarrow Y$	0.450	Positive significant
$X1 \rightarrow Z$	0.926	Positive very strong
$X2 \rightarrow Z$	-0.030	Negative weak
$X3 \rightarrow Z$	-0.023	Negative weak
$X3 \rightarrow Y$	0.412	Positive moderate
$Z \rightarrow Y$	-0.451	Negative significant

Source: Processed Data

The table results support the visual interpretation that the direct influence of financial literacy on business sustainability is quite strong, but when mediated by financial behavior, the direction of the influence becomes negative. This indicates the possibility of a gap between knowledge and implementation of financial behavior in business practices.

R-Square Value

The R-square value is used to assess the predictive ability of the model.

Table 2. R-Square Value

Endogenous Variables	R-Square
Financial Behavior (Z)	0.856
Business Sustainability (Y)	0.214

Source: Processed Data

The R-square value for variable Z (financial behavior) of 0.856 indicates that the model is very strong in explaining variations in financial behavior based on X1, X2, and X3. However, the R^2 value for business sustainability (Y) is only 0.214, indicating that this model explains about 21.4% of the variation in Y, the rest is influenced by other variables outside the model.

Discussion

Based on the results of the structural model test, this study reveals a number of important findings that are relevant to the hypothesis testing. Financial literacy is proven to have a positive and significant influence on the sustainability of micro-businesses. This finding supports previous studies that emphasize the importance of financial understanding in supporting strategic and rational business decision-making (González-Prida et al., 2025; Sudiyarti et al., 2024). In addition, financial literacy also shows a very strong influence on financial behavior, strengthening the studies of Angelista et al. (2024) and Wahyuni et al. (2023), which emphasize that individuals with high literacy tend to show more planned and disciplined financial habits.

However, the relationship between financial behavior and business sustainability shows a negative and significant direction, indicating a gap between conceptual understanding and actual practice in the field. These results are inconsistent with previous studies (Budiandriani et al., 2024; Sesa et al., 2024) which state that healthy financial behavior can strengthen business resilience. On the other hand, in the context of Jepara, the implementation of immature financial behavior has the potential to become a burden for MSME actors. As a result, the mediating role of financial behavior in the relationship between financial literacy and business sustainability becomes ineffective, even contributing negatively.

Meanwhile, the use of fintech does not show a significant influence on financial behavior or business sustainability. This finding is in line with the research of Agus Widadi & Dwi Puspitasari (2024), which highlights that fintech has not become an integral part of micro-business management, but is only used as a transaction tool. Lack of digital literacy and suboptimal integration of technology into business practices are the main obstacles. Therefore, the mediation of financial behavior in the influence of fintech on business sustainability has not been formed significantly.

In general, this finding shows that financial literacy is still a key factor in strengthening the sustainability of micro-businesses, while the role of financial behavior and fintech has not provided an optimal contribution. This study indicates the need to strengthen the implementation of financial behavior and increase the digital capacity of MSME actors so that financial literacy and technology can be utilized effectively in supporting business resilience and sustainability.

CONCLUSION

This study aims to analyze the influence of financial literacy and the use of fintech on the sustainability of micro-enterprises with financial behavior as a mediating variable. Based on the results of the analysis using the PLS-SEM approach, it was concluded that financial literacy has a positive and significant effect on the sustainability of micro-enterprises, both directly and indirectly. However, the mediating role of financial behavior shows a negative influence, indicating a gap between financial understanding and practice in business operations. Meanwhile, the use of fintech has no significant effect on financial behavior or business sustainability, indicating that the integration of fintech in the financial system of MSMEs in Jepara is still low. Therefore, increasing financial literacy must be balanced with the formation of applicable financial behavior and optimal utilization of financial technology. The government and related institutions need to strengthen financial education programs while encouraging the adoption of fintech more strategically for micro-enterprises.

REFERENCES

- A Nayeem, Dr. L. V. D. C., Kadyan, D. J. S., Vidya, Dr. S., & Sagar, Prof. R. (2024). Financial Behavior in Personal Investment: Influence of Psychological Factors on Investment Decision. Journal of Informatics Education and Research, 4(1). https://doi.org/10.52783/jier.v4i1.738
- Agus Widadi, W., & Dwi Puspitasari, N. F. (2024). Challenges and Opportunities in Fintech Adoption by Micro Enterprises: A Case Study of Magelang, Indonesia. Jurnal Indonesia Sosial Teknologi, 5(12), 5863–5873. https://doi.org/10.59141/jist.v5i12.8767
- Amirtha, R. (2024). Financial Literacy for the Future: Preparing Individuals for Economic Success. Recent Research Reviews Journal, 3(2), 381–396. https://doi.org/10.36548/rrrj.2024.2.006
- Angelista, F. D., Anggraini, L. D., & Putri, A. U. (2024). Pengaruh Literasi Keuangan, Gaya Hidup dan Sikap Keuangan Terhadap Perilaku Keuangan Mahasiswa Pengguna Shopee Paylater. Journal of Trends Economics and Accounting Research, 4(3), 696–705. https://doi.org/10.47065/jtear.v4i3.1197
- Budiandriani, B., Rosyadah, R., & Nurjanamuddin, M. (2024). Pengaruh Literasi Keuangan dan Modal Kerja terhadap Keberlanjutan Usaha Mikro, Kecil dan Menengah (UMKM) di Kota Makassar. Prosiding Seminar

- Nasional Forum Manajemen Indonesia e-ISSN 3026-4499, 2, 1079–1095. https://doi.org/10.47747/snfmi.v2i1.2376
- De Matteis, J., Elia, G., & Del Vecchio, P. (2023). Business continuity management and organizational resilience: A small and medium enterprises (SMEs) perspective. Journal of Contingencies and Crisis Management, 31(4), 670–682. https://doi.org/10.1111/1468-5973.12470
- Dewi, R. K., & Purwantini, A. H. (2023). Literasi dan Inklusi Keuangan, serta Keterampilan Akuntansi untuk Keberlanjutan UMKM (Financial Literacy and Inclusion, as well as Accounting Skills for MSME Sustainability). Akuntansi Bisnis & Manajemen (ABM), 30(2). https://doi.org/10.35606/jabm.v30i2.1279
- Ece Çokmutlu, M. (2023). Dijital Dönüşüm ve Fintek Çözümleri. İn Finans Sektöründe Dijital Dönüşüm. Özgür Yayınları. https://doi.org/10.58830/ozgur.pub245.c1070
- Febrianti, D., & Prima, A. P. (2024). Pengaruh Literasi Keuangan, Financial Technology, dan Lingkungan Sosial Terhadap Perilaku Keuangan Mahasiswa di Kota Batam. ECo-Buss, 6(3), 1194–1207. https://doi.org/10.32877/eb.v6i3.1089
- González-Prida, V., Pariona-Amaya, D., Sánchez-Soto, J. M., Barzola-Inga, S. L., Aguado-Riveros, U., Moreno-Menéndez, F. M., & Villar-Aranda, M. D. (2025). Exploring the Effects of Financial Knowledge on Better Decision-Making in SMEs. Administrative Sciences, 15(1), 24. https://doi.org/10.3390/admsci15010024
- Hapsoro, D., & Iswara, A. S. (2019). Does Financial Literation Moderate The Effect of Funding on The Sustainability of Micro Enterprises. The Indonesian Journal of Accounting Research, 22(03). https://doi.org/10.33312/ijar.448
- Hassel, H., & Cedergren, A. (2024). A framework for business continuity management in a multiactor context. Journal of Contingencies and Crisis Management, 32(2). https://doi.org/10.1111/1468-5973.12573
- Jalal, A., Al Mubarak, M., & Durani, F. (2024). Financial Technology (Fintech) (pp. 525–536). https://doi.org/10.1007/978-3-031-35828-9 45
- Kartal, T. (2024). Fintek ve Temel Fintek Ürünleri. In Para ve Sermaye Piyasaları Üzerine Araştırmalar. Özgür Yayınları. https://doi.org/10.58830/ozgur.pub576.c2370
- Kömürcüoğlu, Ö. F., & Akyazı, H. (2024). FinTek Gelişmelerinin Merkez Bankacılığı ve Para Politikasına Yansımaları Üzerine Tarihsel Bir Değerlendirme. Abant Sosyal Bilimler Dergisi, 24(3), 935–954. https://doi.org/10.11616/asbi.1516322
- Mustagfiroh, L., Supriyadi, A., & Kudus, I. (2024). Efektivitas Penggunaan QRIS sebagai Media Pembayaran dalam Meningkatkan Perkembangan UMKM di Jepara. 2(2). http://jim.ac.id/index.php/JEBISKU/
- Pinto, D., Fernandes, A., da Silva, M. M., & Pereira, R. (2022). Maturity Models for Business Continuity–A Systematic Literature Review. International Journal of Safety and Security Engineering, 12(1), 123–136. https://doi.org/10.18280/ijsse.120115
- Putranti, L., & Sriariani Tabun, P. (2024). Bisman (Bisnis dan Manajemen): The Journal of Business and Management Financial Knowledge, Financial Attitude, Self-Efficacy, Mathematical Anxiety and Financial Literacy (Vol. 7, Issue 3).
- Rakovic, R. (2024). INFORMÁTION SECURITY AND BUSINESS CONTINUITY ASSURANCE PRACTICAL EXPERIENCES. 10th ANNIVERSARY INTERNATIONAL FORUM "SAFETY FOR THE FUTURE 2024." https://doi.org/10.70995/XYEJ7347
- Rohila, S., Norisanti, N., & Danial, R. D. M. (2024). Analisis Financial Literacy dan Financial Inclusion Terhadap Business Sustainability Melalui Financial Behavior Sebagai Variabel Mediasi Pada Pelaku UMKM Minuman Di Kota Sukabumi. Journal of Economic, Bussines and Accounting (COSTING), 7(4), 8579–8587. https://doi.org/10.31539/costing.v7i4.10493
- Sesa, P. V. S., Wonar, K., & Allolayuk, T. (2024). The Role of Financial Behavior in Mediating Financial Literacy, Financial Attitudes, Business Performance, and Business Sustainability in Jayapura City's MSMEs. International Journal of Tourism and Hospitality in Asia Pasific, 7(2), 15–33. https://doi.org/10.32535/ijthap.v7i2.2986
- Sharma, V., Gupta, M., & Taneja, S. (2024). Does FinTech adoption impact on sustainability of small businesses: mediating role of financial well-being. Global Knowledge, Memory and Communication. https://doi.org/10.1108/GKMC-04-2024-0225
- Sinuhaji, F. G., Sibarani, H. J., & Pakpahan, V. M. (2024). MSMEs and the Role of Technology in Achieving Business Sustainability. Journal of Artificial Intelligence and Engineering Applications (JAIEA), 4(1). https://doi.org/10.59934/jaiea.v4i1.724
- Sudiyarti, N., Rachman, R., & Rahayu, D. F. (2024). PENGARUH LITERASI KEUANGAN TERHADAP KEBERLANGSUNGAN USAHA MIKRO KECIL DAN MENENGAH (UMKM) DI KABUPATEN SUMBAWA. Jurnal Ekonomi & Bisnis, 12(1), 37–46. https://doi.org/10.58406/jeb.v12i1.1530
- Wahyuni, S. F., Radiman, R., & Kinanti, D. (2023). Pengaruh Literasi Keuangan, Lifestyle Hedonis dan Sikap Keuangan Pribadi Terhadap Perilaku Keuangan Mahasiswa. Owner, 7(1), 656–671. https://doi.org/10.33395/owner.v7i1.1304
- Yatiningsih, A., Boedi, S., Ruwanti, G., & Kadir, A. (2024). Pengaruh Pembelajaran Akuntansi, Literasi Keuangan dan Kontrol Diri terhadap Perilaku Keuangan Mahasiswa Akuntansi. Owner, 8(3), 2041–2050. https://doi.org/10.33395/owner.v8i3.2258

Zulfa Qur'anisa, Mira Herawati, Lisvi Lisvi, Melinda Helmalia Putri, & O. Feriyanto. (2024). Peran Fintech Dalam Meningkatkan Akses Keuangan Di Era Digital. GEMILANG: Jurnal Manajemen Dan Akuntansi, 4(3), 99–114. https://doi.org/10.56910/gemilang.v4i3.1573