E-ISSN 2985-7910

Proceeding Medan International Conference Economics and Business

Volume 1, Year 2023

"Entrepreneurship on Global Economics Development in the Era of Society 5.0"

Msme Financing and it Investment on Corporate Performance: The Role of Fintech Adoption

Dwiyanjana Santyo Nugroho[1]*, Clara Valencia[1], Ro'yal Aina[1]
[1]Universitas Media Nusantara Citra
Jl. Komp. Green Garden, Jakarta Barat
***Email:** dwiyanjana.santyo@mncu.ac.id

ABSTRACT

This study aims to test whether the adoption of fintech by banks is able to strengthen the influence of MSME financing and IT investment on company performance. This study uses the Moderating Regression Analysis method. The objects of this study are banks listed on the Indonesia Stock Exchange for the 2017 – 2021 study period. The sample selection is based on the classification of bank groupings carried out by the Financial Services Authority (OJK). The findings of this study indicate that fintech adoption can significantly strengthen the positive influence of MSME financing on company performance. On the other hand, fintech adoption can significantly amplify the negative effect of IT investment on company performance. The implications of these findings can be interesting input for investors and banking institutions that the adoption of fintech has a varied impact on company performance so that careful consideration is needed in developing fintech.

Keywords : Msme Financing, nvestment, Corporate Performance

INTRODUCTION

The presence of fintech that can enter into people's lives can threaten the existence of banking, which has always been a funding solution for the community. The development of FinTech is now able to change lifestyles and transform them into new needs, as well as encourage the development of mobile start-up payments and improve people's lives (Alimirruchi, & Kiswara, 2017).

Emerging FinTech innovations in many aspects of finance, such as investment management, retail finance, insurance, wholesale payments, raising equity capital, and providing credit, do not only promote bank innovation and transformation in traditional services (Luo et al., 2022; Murinde et al., 2022) but also compete with them (An & Rau, 2021; Panos & Wilson, 2020). FinTech offers new value-added and makes it possible to provide services at a lower cost than previously. Existing financial institutions must develop their businesses in step with the financial regulations of the country they operate in. Banks in particular tend to be conservative, and lacking in customer service (Takeda & Ito, 2021).

Indonesia is a fintech market share that has the potential to continue to grow every year. This is in line with the rapid penetration of digital finance in the country. This finding is in line with the findings of the Indonesian Fintech Association (2021) fintech funding that is realized for the people of Indonesia, which in 2021 jumped sharply by 68.8% compared to 2020. This means that people are starting to choose alternative financing to fintech compared to banking. This can have a negative impact on banking performance, because the main revenue center for banks is in lending, which is now a more promising option for fintech.

People who have difficulty obtaining funding from banks will turn to fintech companies. The portion of financing disbursement in the MSME sector has fluctuated and tends to be inconsistent, even to the point of decreasing, which has resulted in problems for MSMEs in Indonesia which are still lacking in capital financing, lack of managerial skills, operational skills in managing, and limited marketing as well as unhealthy competition as well as pressure economy (Nuraeni et al., 2022). This phenomenon forces banks to change and even collaborate with fintech companies. Fintech has the advantage of flexibility, on the other hand banking has the advantage of stronger regulation and capital.

Banks need to invest in IT to be able to collaborate with technology that has been developed by fintech. According to Houqe et al. (2019), IT investment can improve service delivery through increased production and timely service. Recently, the appropriate contribution of IT investment to company performance has become a clear tool for organizations to gain competitive advantage and survive in a dynamic business environment (Bernama, 2019; Kusuma et al., 2020). IT investments have attracted a lot of attention in academic circles because of their consequential effects on company performance (Benitez et al., 2018; Chen & Yang, 2018; Khristianto et al., 2021; Park et al., 2015; Taouab & Issor, 2019).

Our research has a novelty that enhances the academic literature. First, this study applies the Fintech Adoption Index developed by Ernst Young (2019), which to the best of the researcher's knowledge, there has been no other study that has implemented this index in Indonesia. Second, the literature discussing the impact of fintech development as well as IT investment on company performance is still very limited. Not many studies have examined the effect of IT investment on company performance in developing countries like Indonesia. It was noted that only Al-Matari et al. (2022) and (Putri et al., 2019) linked fintech

developments to company performance. Third, this study develops the literature on MSME funding by banks by examining the impact of using technology.

METHOD

This study examines the effect of MSME financing and IT investment on company performance. The object of this research is banking listed on the Indonesia Stock Exchange (IDX), because it will examine bank financing provided to MSMEs. The population of this study is all banks listed on the IDX. The sample for this study uses banking grouping conducted by the Financial Services Authority (OJK). The sample selection can be seen in Table 1, where the OJK grouping divides into banks that are already digital and banks that are in the process of going on-digital, as well as other criteria. The research period used is 2017-2021.

Table 1. Sample Criteria

Criteria	Firms
Digital's bank	Bank Jago
	Bank Jenius BTPN
	Bank Bukopin
	Bank UOB
Bank proses on-digital	Bank Neo Commerce
	Bank Capital
	Bank QNB
	KEB HanaBank
Best Bank in digital-service	CIMB Niaga
	Bank Mandiri
	BRI
	BNI
Best Bank in Financial Performance	Bank Mega
	Bank Danamon
	BCA
Total sample	**15 firms**

Source:*Author's compilation, 2023*

The test in this study used a random effect model regression analysis. This study minimizes the occurrence of heteroscedasticity problems by implementing a robust standard error using GMM. The choice of analysis method was confirmed after the Hausman Test and Breush and Pagan Lagrangian testing. The statistical analysis tool used was STATA 17. In testing the hypothesis using moderating regression analysis (MRA). The following is the regression equation of this study:

$$CP_{i,t} : \alpha + \beta_1 MSME_{i,t} + \beta_2 IT_{i,t} + \beta_3 ROA_{i,t} + \beta_4 FSIZE_{i,t} + \beta_5 ROE_{i,t} + \beta_6 LEV_{i,t} + \beta_7 FAGE_{i,t} + \beta_8 GROW_{i,t} + \beta_9 BSIZE_{i,t} + \beta_{10} BIND_{i,t} + \beta_{11} MSME_{i,t} * FINT_{i,t} + \beta_{12} IT_{i,t} * FINT_{i,t}$$

CP=corporate performance; ***MSME***=micro small medium enterprise financing; ***IT***= IT investment; ***FINT*** = fintech adoption; ***ROA***= return on asset; ***FSIZE***= firm size; ***ROE***= return on equity; ***LEV***= leverage; ***FAGE***= firm age; ***GROW***= sales growth; ***BSIZE***= board size; ***BIND***= board independent

CP is measured using Tobin-Q, and Fintech is measured using the Global Fintech Adoption Index (2019), where the two variables follow Al-Matari et al. (2022). IT

investment is measured using IT investment issued by the company, following Alghorbany et al. (2022), Moch-Noor (2017), Kauffman et al. (2015). MSME is measured using the amount of working capital financing provided by banks to MSMEs, following (Nuraeni et al. (2022). This study also uses a control variable following Alghorbany et al. (2022) and Al-Matari et al. (2022), to minimize bias due to not many variables involved in the research which can affect the accuracy of the research findings.

RESULT AND DISCUSSION

Table 2 illustrates the variable descriptive statistics used in this study. Data were collected from 15 companies consisting of 75 observation samples. The mean CP shows a value of 3.16, where CP is measured using Tobin-Q which means that the average company is successful in managing company assets, because the value is above 1 (Dzahabiyya et al., 2020). The Fintech score owned by banks based on the Fintech Adoption Index (EY, 2019) averages 3.95 points, which means that there are still many criteria that have not been implemented by banks in Indonesia, with a maximum Fintech score obtained of 11.

Table 2. Descriptive Statistics

Indicators	Min	Max	Mean	Std. Dev
CP	1.153533	4.42e+08	3.16e+07	1.09e+08
MSME	360737	2.36e+12	1.86e+11	5.42e+11
IT	0	9.79e+10	2.07e+09	1.24e+10
FINT	0	11	3.953846	3.938713
ROA	-.0923246	.0313434	.003488	.0287154
FSIZE	11.31809	30.05916	19.07141	4.056521
ROE	-.3920919	.1774798	.026989	.1310541
LEV	.0042212	14.74845	5.179245	2.954217
FAGE	19	108	49.69231	22.51175
GROW	-1.93e+11	2.73e+11	4.25e+09	4.61e+10
BSIZE	2	13	7.784615	3.314232
BIND	0	2	.2153846	.4504271

Source:*Author's compilation, 2023*

Table 3 shows the results of hypothesis testing using the GMM estimator and robustness to bind the research error standard. There are two research hypotheses, both of which seek to prove the ability to apply fintech applied by banks to strengthen the influence of the relationship between independent variables on company performance. The findings of this study accept H1 and H2, which from Table 3, indicate that the significance value of the Fintech interaction variable has a significance value below 0.05, which means that the application of fintech can strengthen the influence of MSME financing and IT investment on company performance.

Table 3. Multiple Linear Regression Results

Indicators	Coefficient	SE	Significant
MSME	.000164	.0000281	0.000***
IT	-.0080499	.0070815	0.256
ROA	2.68e+09	3.57e+08	0.000***
FSIZE	-3.22e+07	4259854	0.000***
ROE	-2.09e+08	6.96e+07	0.003**
LEV	-1.05e+07	2716954	0.000***
FAGE	-87655.56	267090.1	0.743
GROW	-.0000533	.0000929	0.566
BSIZE	5296363	2456866	0.031*
BIND	-5.42e+07	1.53e+07	0.000***
MSME*FINT	.0015695	.0007327	0.032*
IT*FINT	-.0000364	5.10e-06	0.000***

***p<0.01; **p<0.05; *p<0.1

The multicollinearity problem is solved by using the ivregress GMM estimator.

Source: Processed Data, 2023

DISCUSSION

Explanation of Hypothesis 1

Table 3 shows that the significance of the interaction of fintech moderation and MSME financing shows a value of 0.032, which is below the significance of 0.05, meaning that H1 is accepted. Fintech adoption is able to strengthen the influence of MSME financing on financial performance. MSME financing provided by banks is able to increase banking performance, because basically lending is one of the main indicators of banking performance and quality. Financing needs to be done by the Bank because financing is a source of income for the Bank so that it can still carry out its operational activities (Al-Zauqi & Setiawan, 2020). This finding is contrary to the findings of Nuraeni et al. (2022) and Rahmah et al., (2022), but is in accordance with the findings of Al-Zauqi & Setiawan (2020). These findings show that banks comply with Bank Indonesia Regulation Number 17/12/PBI/2015 which during the course of the research the regulation was changed to Bank Indonesia Regulation Number 23/13/PBI/2021. Banks are required to meet a macroprudential inclusive financing ratio of at least 20% of total financing by 2022.

These regulations cause banks to be able to balance the distribution of financing to various customer groups. To achieve a balanced financing target, especially for MSMEs, banks are required to provide easy access to capital and more innovative offers. The presence of fintech which is able to provide easy funding means that banks must collaborate with fintech if they do not want their share of the financing market to be eroded.

The massive adoption of fintech has begun to be implemented by banks in Indonesia, proving that the presence of fintech is able to attract MSMEs to obtain financing from banks that cooperate with fintech. Fintech implementation applied by banks can increase public trust. Fintech has the power to lower financial intermediation costs, expand the availability of finance, and promote financial inclusion across all industry sectors. One of the reasons for this efficiency-enhancing role is the ability to help resolve information asymmetry, which is the foundation of the banking sector (Al-Matari et al., 2022). Banks must provide value to stakeholders through new procedures and services if they want to remain competitive and achieve consistent success in the banking business. Apart from having the potential to

increase profitability for Islamic Commercial Banks, MSME financing can also help the Indonesian economy because MSMEs are a very important part of the Indonesian economy (Al-Zauqi & Setiawan, 2020).

Fintech can enhance conventional business models by lowering bank operating costs, increasing customer service efficacy, strengthening risk management skills, and developing more client-focused business models for clients, thereby increasing overall competitiveness (Momaya, 2019; Panchal & Krishnamoorthy, 2021). FinTech innovation can be a smart solution to increase their profitability (Putri et al., 2019). This finding dismisses the concerns of (Puschmann (2017) which defines fintech as an innovation that disrupts the financial ecosystem. FinTech innovations are generally aimed at changing or contributing to the existing financial system, as well as technology-based innovations that cannot be separated from the banking sector and the financial services industry (Gomber et al., 2017). With the collaboration between banks and fintech, it is also easier for the community, especially MSMEs, to obtain more affordable funding. As a result, banks have become more fluent in channeling working capital financing to MSMEs, thereby increasing banking performance.

Explanation of Hypothesis 2

Table 3 shows the interaction variable between IT investment and fintech has a significance value of 0.000, which means it has a significant effect, and H2 is accepted. What's interesting about this finding is the negative direction of the coefficient, which means that IT investments made by banks will further reduce banking performance when banks adopt fintech. Information Technology (IT) is the force that drives the world towards an innovative technology-based economy (Eze et al., 2018; Khan et al., 2020; Rastogi et al., 2021; Taouab & Issor, 2019). Eze et al. (2018) rightly noted that technology is an integral part of business operations, and it plays a significant role in helping, changing, and improving firms' performance.

The problem that is often encountered is that IT investment is a long-term investment, in which the impact of the effectiveness of IT investment cannot be felt immediately in the same year, meaning that it takes several years for the bank to feel the benefits of the IT investment that has been made. For example, Chae et al. (2018) and Kauffman et al. (2015) detailed that technology investment is negatively associated with the performance of the corporation. the agency problem is associated with the success or failure of IT investment (Chae et al., 2018; Houqe et al., 2019). Managers can choose IT investment projects that are personally profitable and do not pay attention to the benefits for the company's operations. IT investments may not contribute to company productivity or performance as expected. Although companies continue to increase IT investment, such a large investment may not improve company performance (Strassmann, 2002). So it is important for banks to have IT governance to ensure that IT investments made by companies are aligned with business needs. Excessive IT investment often causes serious financial conditions, this phenomenon is called the IT paradox (Ryu et al., 2015).

IT investments can change work processes and organizational structures but do not change cost efficiency in companies (Lapavitsas & Dos Santos, 2008). It is believed that once banking institutions have observable differences in their ability to deploy and incorporate IT resources in their operational settings, the resulting effects of these deployments will also vary. In industries where such resources are not unique, it is likely that their deployment will yield economic benefits, which will erode over time as more firms

duplicate them. This emphasizes the need for consistent IT investment, technological innovation, and capacity building (Owusu Kwateng et al., 2019). Fintech technology determines confidence in the effectiveness of commercial banks. The use of digital technology has made significant strides in the fields of insurance, loans, payment systems, and financial counselling (Al-Matari et al., 2022).

One form of IT investment made by banks is developing their own financial technology or collaborating with existing fintech. Fintech's main goal is to help businesses streamline their operations and provide more competitive goods and services. However, if the bank focuses on developing its fintech platform, it will result in its banking performance declining in that year. This finding is very interesting, considering that on the one hand the adoption of fintech can increase financing to MSMEs but on the other hand it also reduces banking performance when IT investments are focused on developing fintech platforms.

IMPLICATIONS

The research findings provide several academic and practical contributions. Academically, this study supports the findings of previous studies which state that IT investments made by banks will reduce company performance. This finding is important considering that there are still differences of opinion regarding the impact of IT investment on company performance. This research also supports the findings of previous research which states that financing to MSMEs will improve company performance, which will be stronger when MSME financing is elaborated with the application of fintech.

Practically, this finding can be of particular concern to banks because this research shows that when IT investments are made for fintech development, in that year banks must realize that the impact on banking performance cannot be seen in that year. On the other hand, the adoption of fintech is able to increase the impact of financing provided to MSMEs on banking performance so this shows that with the existence of fintech, banks can more easily reach the public and MSMEs.

CONCLUSION

This study aims to prove empirically whether the adoption of fintech can strengthen the influence of MSME financing and IT investment on company performance. This research examines banks listed on the IDX with a research period of 2017 – 2021. This research finds interesting findings which on the one hand adopting fintech can strengthen financing to MSMEs which will ultimately improve company performance. On the other hand, fintech adoption takes time and its impact cannot be felt in the year the bank invests in IT for fintech development. The limitation of this research is not considering the lag time because the impact of IT investment cannot be felt directly, which causes the research to produce these findings. Subsequent research can carry out additional tests by taking into account the time lag of the research year. Another limitation is the adoption of the Fintech Adoption Index which is being applied for the first time in the Indonesian context where there may be some indicators in the index that are not in accordance with the banking business environment in Indonesia, so further research is suggested to try to modify the Fintech Adoption Index so that it can be more in line with banking conditions in Indonesia.

REFERENCES

Alghorbany, A., Che-Ahmad, A., & Abdulmalik, S. O. (2022). IT investment and corporate performance: Evidence from Malaysia. *Cogent Business & Management*, *9*(1), 2055906. https://doi.org/10.1080/23311975.2022.2055906

Alimirruchi, W., & Kiswara, E. (2017). *Analyzing operational and financial performance on the financial technology (FinTech) firm. Case Study on Samsung Pay*.

Al-Matari, E. M., Mgammal, M. H., Alosaimi, M. H., Alruwaili, T. F., & Al-Bogami, S. (2022). Fintech, Board of Directors and Corporate Performance in Saudi Arabia Financial Sector: Empirical Study. *Sustainability*, *14*(17), 10750. https://doi.org/10.3390/su141710750

Al-Zauqi, M. N., & Setiawan, I. (2020). Kinerja Pembiayaan UMKM Terhadap Profitabilitas Bank Umum Syariah di Indonesia. *Journal of Applied Islamic Economics and Finance*, *1*(1), 152–159. https://doi.org/10.35313/jaief.v1i1.2399

An, J., & Rau, R. (2021). Finance, technology and disruption. *The European Journal of Finance*, *27*, 334–345.

Benitez, J., Chen, Y., Teo, T. S. H., & Ajamieh, A. (2018). Information & management evolution of the impact of e-business technology on operational competence and firm profitability: A panel data investigation. *Information & Management*, *55*(1), 120–130.

Bernama. (2019). *Have the courage to adopt IR4.0. The star online*. https://www.thestar.com.my/business/ smebiz/2019/12/02/have-the-courage-toadopt-ir40

Chae, H. C., Koh, C. E., & Park, K. O. (2018). Information technology capability and firm performance: Role of industry. *Information & Management*, *55*(5), 525–546.

Chen, X. Z., & Yang, L. I. U. (2018). The impact of information technology investment on firm production output in service industry. *The E-Business Studies*, *10*(2), 207–236.

Dzahabiyya, J., Jhoansyah, D., & Danial, R. D. M. (2020). Analisis Nilai Perusahaan Dengan Model Rasio Tobin's Q. *JAD : Jurnal Riset Akuntansi & Keuangan Dewantara*, *3*(1), 46–55. https://doi.org/10.26533/jad.v3i1.520

EY. (2019). *Global Fintech Adoption Index 2019*.

Eze, S. C., Chinedu-Eze, V. C., Bello, A. O., & Liu, S. (2018). Actors and emerging information, communications and technology (EICT) adoption: A study of UK small and medium services enterprises. *Cogent Business & Management*, *5*(1).

Fintech, I. (2021). *Annual Members Survey*. Fintech Indonesia.

Gomber, P., Koch, J. A., & Siering, M. (2017). Digital finance and FinTech: Current research and future research directions. *Journal of Business Economics*, *87*(5), 537–580.

Harisa Putri, W., Nurwiyanta, N., Sungkono, S., & Wahyuningsih, T. (2019). The emerging fintech and financial slack on corporate financial performance. *Investment Management and Financial Innovations*, *16*(2), 348–354. https://doi.org/10.21511/imfi.16(2).2019.29

Houqe, N., Bui, B., & Ali, M. J. (2019). corporate governance, and firm performance: An international study. *Information and Communication Technology*.

Kauffman, R. J., Liu, J., & Ma, D. (2015). Technology investment decision-making under uncertainty. *Information Technology and Management*, *16*(2), 153–172.

Khan, U., Zhang, Y., & Salik, M. (2020). The impact of information technology on organizational performance: The mediating effect of organizational learning. *The Journal of Asian Finance, Economics and Business*, *7*(11), 987–998.

Khristianto, W., Suharyono, S., Pangestuti, E., & Mawardi, M. K. (2021). The effects of market sensing capability and information technology competency on innovation and competitive advantage. *The Journal of Asian Finance, Economics and Business*, *8*(3), 1009–1019.

Kusuma, H., Muafi, M., Aji, H. M., & Pamungkas, S. (2020). Information and communication technology adoption in small-and medium-sized enterprises: Demographic characteristics. *The Journal of Asian Finance, Economics and Business*, *7*(10), 969–980.

Lapavitsas, C., & Dos Santos, P. L. (2008). Globalization and contemporary banking: On the impact of new technology. *Contributions to Political Economy*, *27*(1), 31–56.

Luo, S., Sun, Y., & Zhou, R. (2022). Can fintech innovation promote household consumption? Evidence from China family panel studies. *International Review of Financial Analysis*, *82*.

Moch-Noor, M. M. (2017). *The effect of ICT investments, ICT governance mechanisms, boards' ICT expertise and ownership structure on firm performance*. UMM.

Momaya, K. S. (2019). The Past and the Future of Competitiveness Research: A Review in an Emerging Context of Innovation and EMNEs. *Int. J. Glob. Bus. Compet*, *14*, 1–10.

Murinde, V., Rizopoulos, E., & Zachariadis, M. (2022). The impact of the FinTech revolution on the future of banking: Opportunities and risks. *International Review of Financial Analysis*, *81*.

Nuraeni, H., Tripuspitorini, F. A., & Pakpahan, R. (2022). Pengaruh Pembiayaan UMKM, CAR, dan NPF Terhadap Return on Assets Bank Umum Syariah di Indonesia. *Journal of Applied Islamic Economics and Finance*, *3*(1), 186–193. https://doi.org/10.35313/jaief.v3i1.3876

Owusu Kwateng, K., Agyei, J., & Amanor, K. (2019). Examining the efficiency of IT applications and bank performance. *Industrial Management & Data Systems*, *119*(9), 2072–2090. https://doi.org/10.1108/IMDS-03-2019-0129

Panchal, D., & Krishnamoorthy, B. (2021). Developing an Instrument for Business Model Dimensions: Exploring Linkages with Firm Competitiveness. *Int. J. Glob. Bus. Compet*, *14*, 24–44.

Panos, G. A., & Wilson, J. O. (2020). *Financial literacy and responsible finance in the FinTech era: Capabilities and challenges*. *26*.

Park, H. Y., Cho, I. H., Jung, S., Main, D., & Goh, M. (2015). Information and communication technology and user knowledge-driven innovation in services. *Cogent Business & Management*, *2*(1).

Puschmann, T. (2017). Fintech. *Business and Information Systems Engineering*, *59*(1), 69–76.

Rahmah, S. A. N., Djuwarsa, T., & Juniwati, E. H. (2022). Profitabilitas pada Bank Umum Syariah di Indonesia: Pengaruh Faktor Internal serta Pembiayaan UMKM Sebagai Variabel Intervening. *Journal of Applied Islamic Economics and Finance*, *3*(1), 23–35. https://doi.org/10.35313/jaief.v3i1.3786

Rastogi, S., Panse, C., Sharma, A., & Bhimavarapu, V. M. (2021). Unified Payment Interface (UPI): A digital innovation and its impact on financial inclusion and economic development. *Universal Journal of Accounting and Finance*, *9*(3), 518–530.

Ryu, K. S., Park, J. S., & Park, J. H. (2015). The Influence of IT Investment and IT Governance on Corporate Performance of Multibusiness Firms. *Proceedings of the 2015 International Conference on Big Data Applications and Services*, 111–120. https://doi.org/10.1145/2837060.2837077

Strassmann, P. A. (2002). The persistence of the computer paradox: A critique of effort to disprove the computer paradox. *The Information Economics Press*.

Takeda, A., & Ito, Y. (2021). A review of FinTech research. *International Journal of Technology Management*, *86*(1), 67. https://doi.org/10.1504/IJTM.2021.115761

Taouab, O., & Issor, Z. (2019). Firm performance: Definition and measurement models. *European Scientific Journal*, *15*(1), 93.