Evaluation of the Effect of Financial Technology Through Business Sustainability Practices on the Performance of MSMEs in Karawang Regency

Rianita Puspa Sari, Fatimah Khilaliyah Azzahrha, Aviska Nuravianti, & Fina Fadhila Achka
Department of Industrial Engineering
Universitas Singaperbangsa Karawang
Karawang, Indonesia
rianita.puspasari@ft.unsika.ac.id, 1810631140009@student.unsika.ac.id, aviska.nuravianti18197@student.unsika.ac.id, 1910631140186@student.unsika.ac.id

Deri Teguh Santoso
Department of Mechanical Engineering
Universitas Singaperbangsa Karawang
Karawang, Indonesia
deri.teguh@ft.unsika.ac.id

Abstract

Digitalization is vital in today's industries, yet it brings the risk of unemployment due to decreased jobs. Indonesia counters this via the Indonesia 4.0 roadmap, boosting micro-enterprises, and encouraging tech-related investments. MSMEs are still faced a problem about financing which results in them not being able to develop innovations to increase production due to the very limited use of technology. On the other hand, financial technology (fintech) was growing rapidly in the 2017-2021 period. However, 74% of MSMEs did not yet have access to finance, indicating a discrepancy between the use of fintech in Indonesia and the understanding of society, especially MSMEs, regarding financial inclusion. In fact, financial inclusion has a direct and significant positive effect on business sustainability practices on MSME performance. Business continuity practices are carried out by identifying and supporting the factors that motivate MSMEs in economic growth. This study aims to evaluate the effect of financial technology innovation through business continuity practices on the performance of MSMEs in Karawang Regency using the non-probability sampling method with convenience sampling technique on 100 MSME respondents using the SEM-PLS method. The results showed that environment affects business continuity and perceived industry pressure but does not affect the use of fintech and perceived government; organization affects business sustainability but does not affect the use of fintech; technology affects perceived direct and perceived indirect but does not affect the use of fintech; and MSME performance is only influenced by the use of fintech and is not affected by business sustainability.

Keywords
Fintech, Performance, Sustainability Practices, MSMEs, SEM-PLS

1. Introduction
Industry 4.0 is a concept of smart manufacturing where rapid advances in manufacturing technology and applications help increase productivity (Vaidya, Ambad and Bhosle 2018). Digitalization, besides having great potential, also has negative impacts, namely disruption, such as unemployment due to reduced employment, resulting in an increasingly complex level of competition (Prasetyo and Sutopo 2018; Prasetyo and Trisyanti 2018). This has prompted the Indonesian government to formulate a strategy to deal with threats through the launch of the Indonesia 4.0 roadmap (Satya, 2018). The initial steps in the roadmap for Indonesia 4.0 include (1) empowering micro, small, and medium enterprises (MSMEs) and (2) giving incentives for technology investment in the use of technology that is relevant to the focus of this research (Indonesia, 2019). Research Wibowo (2019) supported this concept.

MSMEs as critical economic agents experienced greater growth from 2017 to 2018, reaching 2.06% ((BPS), 2017). They contributed to the country's gross domestic product (GDP) by 57% (Delloite Access Economics, 2010). However, such great figures did not reflect their best performance to be competitive in domestic and foreign markets for various problems within their environment (Wardi et al. 2017). Research (Rizal, Maulina and Kostini 2018) revealed that MSMEs faced a financing-related problem, causing them unable to develop innovations to increase their production. This statement was supported by Yuspita, Pebruary and Kamala (2019) and Lubis and Junaidi (2016), which stated that the use of technology in MSMEs was still very limited.

On the other hand, financial technology (fintech) grew significantly Miswan (2019), especially in the 2017-2021 period (Karnadi, 2021). Such growth can be used as momentum to fulfill the potential for using fintech as a solution for MSMEs (AFTECH) (2019). In terms of fintech distribution, according to bisnis.tempo.com (2019), personal finance had the lowest distribution, namely 2%. The Bhima Yudhistira Institute for Development of Economics and Finance (Indef) also stated in (Fitriyadi, 2019) that 49 million MSMEs did not use banks to manage their finances (unbankable). According to research Yuspita, Pebruary and Kamala (2019), 74% of MSMEs did not yet have access to finance, indicating a discrepancy between fintech and the understanding of society, especially MSMEs, regarding financial inclusion, even though financial inclusion is closely related to the performance of the MSME business. According to research Sanistasya, Raharjo and Iqbal (2019), financial inclusion has a direct and significant positive effect on MSME business performance.

Business sustainability practices are the factors that motivate MSMEs in economic growth which can ultimately affect MSME business performance. Organizations can achieve sustainability goals when aligning their goals with the progress in the internal and external business environment by achieving a dynamic balance (Al-Shaikh and Hanaysha, 2023). Sustainability not only meets the needs of the community but also allows for the creation of increased values beyond the needs of stakeholders (Martins et al. 2022). A sustainable business model can lead the company to develop, reduce costs, and get competitive advantages. It can be the key to business success (Zioło *et al.* 2020). Sustainability is important, not only for large organizations but also for MSMEs. MSMEs are at risk of facing a lot of complexity compared to large companies due to today's competitive environment (Alrawad *et al.* 2023). MSMEs are more prone to fail in a competitive knowledge-based business context (Muslim, Studies and Delhi, 2021). MSMEs show very low survival rates in the first five years of business which can adversely affect employment rates and national income (Hossain 2020). Small-scale companies can create and reduce job opportunities faster than large companies can. Therefore, MSMEs must succeed in maintaining the sustainability of economic development and national productivity (Muslim et al. 2021). Several empirical studies showed that sustainability practices and performance are very important and should be part of a company's operational strategy (Skouloudis *et al.* 2018).

1.1 Objectives

Based on the problems above, this study aimed to evaluate the impact of financial technology innovation through business sustainability practices on the performance of MSMEs in Karawang Regency using the PLS method. This study was expected to contribute to science by knowing the impact of fintech and business sustainability practices on MSMEs' performance. Sustainability practices can establish a key capability for innovation. Innovation is a characteristic of MSMEs that plays an important role in implementing sustainability practices. So, financial technology innovation plays a role in sustainability practices. The output target to be achieved in this study was improving the performance of MSMEs with fintech innovation and business sustainability practices on the performance of MSMEs in Karawang Regency to increase MSMEs' knowledge, technology, and managerial capabilities. So, this study aimed to evaluate financial technology through practical business sustainability on MSMEs' performance. The novelty of this study was the measurement of the performance of MSMEs and practical business sustainability. Previous research only measured the performance of MSMEs and technology.

2. Literature Review

2.1 Industry 4.0

According to Prasetyo and Sutopo (2018), industry 4.0 is defined as an industrial era in which all entities can communicate with each other at any time based on the use of internet technology and cyber-physical systems (CPS) to create values and optimize existing values from every process in the industry. The impact of technological changes has driven the industrial revolution in Indonesia to immediately implement and respond to the challenges of the Industry 4.0 sector. The revitalization carried out by the government is expected to catch up with existing technology. The application of Industry 4.0 has made the Minister of Industry target to achieve the big national vision: readiness to face technological changes. One industry that the government has not paid attention to is the financial industry,

which is an important part of changing the business environment in Indonesia. It can be an opportunity as well as a challenge in the future. The industrial revolution 4.0 requires humans to be able to take full advantage of digital and information technology with network and computer technology. Technological developments through the industrial revolution also encourage changes in the business world, one of which is financial technology (Marsudi and Widjaja, 2019).

2.2 Financial Technology

According to Setiobudi and Wiradinata (2018), the concept of financial technology is to combine technological developments with the financial sector in banking institutions, thus facilitating a more practical, safe, and modern financial transaction process. Therefore, financial technology can be interpreted as a technological innovation in the financial sector that utilizes information technology to manage finances (Sari and Septyarini 2018).

Technological innovation is seen as an approach that provides a competitive advantage for companies (Chege and Wang, 2020). Innovation is defined as the acceptance of new ideas and behaviors in an organization. The TOE framework is an organizational theory that describes three distinct elements of the enterprise context that influence adoption. They are the technological context, organizational context, and environmental context, all of which influence technological innovation (Dwivedi et al. 2012). The technological context includes all technologies that are suitable for the company, both technologies that have been used and those that are available but unused. The organizational context is based on the characteristics and resources of the company, namely linking the structure between employees, communication processes between companies, company size, and a low number of resources (Mochama Bosire and Franklin Ntale 2018). Meanwhile, the environmental context itself functions as a barrier or catalyst for acceptance of innovation (Hsu, Ray and Li-Hsieh 2014).

MSMEs need information solutions and implementation that are in accordance with their size and needs in improving their performance to have high competitiveness (Issa, Lucke and Bauernhansl, 2017). According to Varma (2019), adopting financial technology is a financial solution carried out by technology such as the use of digital payments, mobile banking, internet banking, and others. Research conducted by Varma (2019) stated significant relevance for understanding the adoption of financial technology in MSMEs, especially in developing countries like India. Research conducted by Varma (2019) found that aspects of technology-organization-environment (TOE) are related to the adoption of financial technology. The results of the study revealed that perceived direct benefits have a positive and significant impact on the adoption of MSME financial technology in India. Business performance is one measure of business achievement that is obtained through the overall production and marketing activities originating from business organizations (Mayang Fauni and Wahyudin, 2017). Research by Chege and Wang (2020) stated that technological innovation influences the decisions of business owners that have an impact on business performance.

3. Methods

This study was quantitative research. The data source used was primary data sourced directly from the questionnaires filled out by the respondents, namely MSMEs in Karawang Regency. The Partial Least Squares Structural Equation Modeling (PLS-SEM) method was used to analyze the research data for its resistance to collinearity and the type of data distribution. PLS-SEM supports various constructs, can explain complex relationship models, and eliminates unacceptable solutions (Varma 2019).

The population in this study was 41,809 MSMEs in Karawang Regency, Jawa Barat (Sari and Santoso, 2021). The sampling technique used in this study is a non-probability sampling with a convenience sampling technique by selecting subjects who were the easiest to find or to ask for their availability to become research subjects (Sugiyono, 2013). The number of samples needed for this research referred to the theory of Barclay, Higgins, and Thompson (1995) in Garson (2016), namely by multiplying 10 times the total of the largest arrows that hit an endogenous latent variable or the number of causal arrows that entered the highest for each latent variable in the model. In this study, the highest number of arrows regarding latent variables in the model, namely the business sustainability variable, was 3. Referring to the determination of the sample, the minimum number of samples required in this study was 30.

The data collection started from July 2022 to November 2022. The distribution of the research questionnaires was carried out via Google form (online) and directly visiting respondents (offline). The online data collection could reach more respondents. The data in this study were collected from 100 respondents. The research model used was obtained from the results of a synthesis of the models of Varma (2019) and Chege and Wang (2020) to evaluate the effect of financial technology innovation through business continuity practices on the performance of MSMEs in Karawang Regency.

4. Results and Discussion

The data processing was done using PLS-SEM through 2 stages of measurement, namely the outer model and the inner model. The inner model served to determine the relationship between the constructs in the research model, while the outer one functioned to measure the relationship between manifest constructs or indicators and their latent constructs. The PLS-SEM model framework is shown in Figure 1.

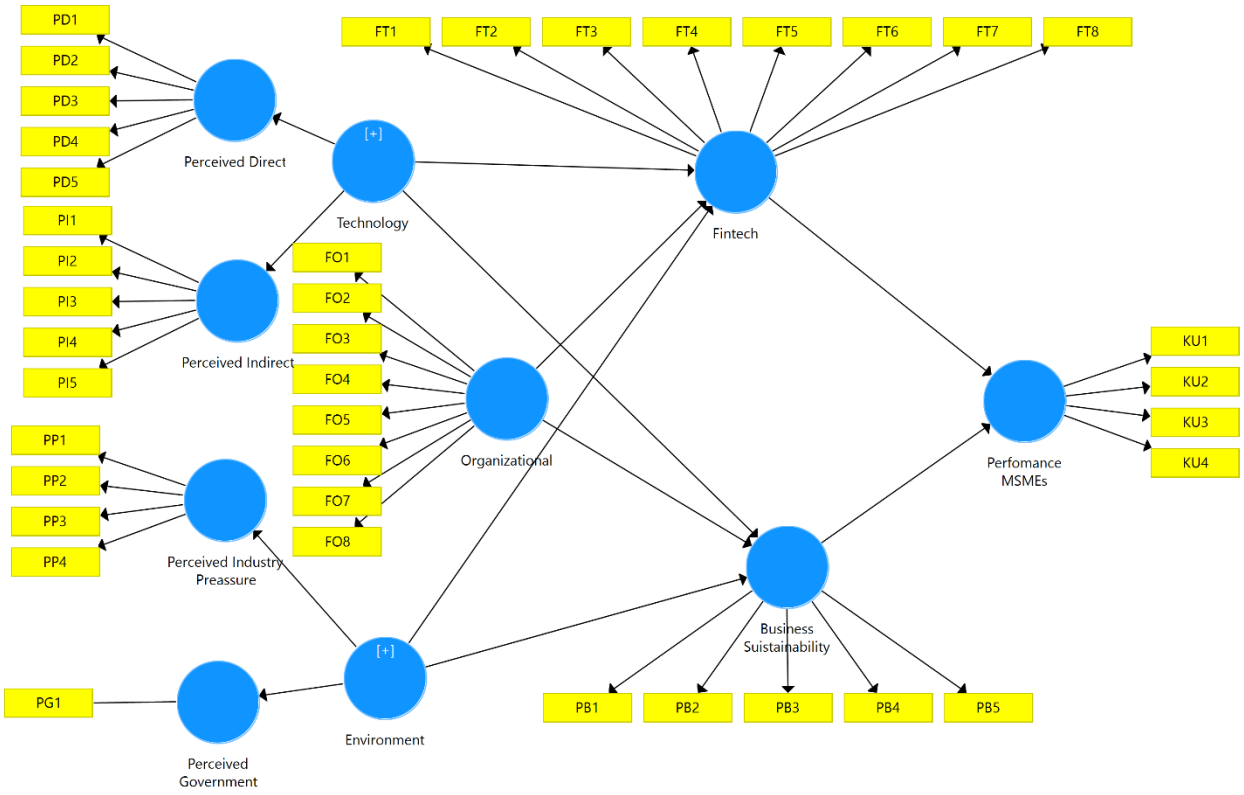

Figure 1. Research Model

The approach used in the research model was a repeated indicator approach. In this approach, the manifest indicator from the first-order construct was reused for the second-order construct.

4.1 Outer Model

The outer model is commonly referred to as a measurement model that represents the relationship between constructs and their indicators. Convergent validity is a measurement of validity related to the significance of the relationship or correlation between indicators and their latent constructs. In the validity test, reflective model indicators can be seen through the factor loading and average variance extracted (AVE) values. If the loading factor > 0.7 and AVE ≥ 0.5, it can be said to be valid. The results on this field study using software SmartPLS 3 showed that 55 indicators and 10 constructs had a factor loading value above the threshold (> 0.7) and AVE was also above the threshold (≥ 0.5), thus considered valid. Discriminant validity is seen from the cross loading value. A cross loading value is said to be good if the indicator value in the construct is greater than those in the other constructs. xcThe results of the analysis showed that in the research model each indicator in the construct was greater than those in the other constructs, meaning that the research indicators were valid and able to measure and explain the construct. The reliability test was carried out to see the consistency and accuracy of the research instruments. The measurement of reflective indicator constructs is carried out in two ways, namely determining composite reliability and Cronbach's alpha, which can be accepted if the respective values are > 0.7.

Table 1. Composite Reliability and Cronbach's Alpha

Latent Variable	Cronbach's Alpha	Composite Reliability	Explanation
Environment	0.873	0.902	Reliable
Fintech	0.977	0.980	Reliable
Business Sustainability	0.901	0.927	Reliable
MSME performane	0.965	0.974	Reliable
Organization	0.949	0.958	Reliable
Perceived Direct	0.963	0.971	Reliable
Perceived Government	1.000	1.000	Reliable
Perceived Indirect	0.979	0.984	Reliable
Percaived Industry Pressure	0.959	0.971	Reliable
Technology	0.978	0.980	Reliable

Based on Table 1, each composite reliability and cronbach's alpha value for each variable was > 0.7. That is, the research instrument had good reliability.

4.2 Inner Model

The structural model measurement, called the inner model, can describe or explain the relationship between constructs or latent variables. It is measured based on the value of the path coefficient and the determinant coefficient (R^2). In this study, in measuring the inner model, the bootstrapping method was used with a significance value of 0.05 (2-tailed).

The path coefficients test is a path that connects two latent variables. Parameters for assessing path coefficients are the original sample value with a threshold > 0.1 and a significant *p*-value with a threshold < 0.05. Path coefficients can show the influence of one variable on another one. This study used a significance level of 5% or 0.05 and *T*-statistics of > 1.96. The results of the path coefficients test can be seen in Table 2.

Table 2. Path Coefficients

Variable	Original Sample	P-Value	T-Statistics	Sig Value
Environment -> Fintech	0.329	0.152	1.434	Not Sig
Environment -> Business Sustainability	0.421	0.011	2.566	Sig
Environment -> Perceived Government	0.231	0.349	0.937	Not Sig
Environment -> Perceived Industry Pressure	0.988	0.000	26.626	Sig
Fintech -> MSME Performance	0.649	0.003	2.935	Sig
Business Sustainability -> MSME Performance	0.318	0.120	1.558	Not Sig
Organizational -> Fintech	0.129	0.611	0.508	Not Sig
Organizational -> Business Sustainability	0.514	0.000	3.622	Sig
Technology -> Fintech	0.395	0.112	1.592	Not Sig
Technology -> Business Sustainability	0.005	0.976	0.031	Not Sig
Technology -> Perceived Direct	0.958	0.000	51.805	Sig
Technology -> Perceived Indirect	0.969	0.000	98.274	Sig

The coefficient of determination test (R-Square) aims to estimate the ability of the squared correlation between latent constructs [41]. R-Square values of 0.75, 0.50, and 0.25 describe strong, medium, and weak prediction accuracy, respectively. The R-Square values in this study can be seen in Table 3.

Table 3. R-Square

Latent Variable	R-Square	Explanation
Fintech	0.475	Weak
Business Sustainability	0.681	Medium
MSME Performance	0.826	Strong
Perceived Direct	0.918	Strong
Perceived Government	0.054	Weak
Perceived Indirect	0.939	Strong
Perceived Industry Pressure	0.997	Strong

The R-Square values in Table 3 show that the constructs of MSME performance, perceived direct, perceived indirect, and perceived industry pressure had strong prediction accuracy; fintech and business sustanability had moderate prediction accuracy; and perceived government had weak predictive accuracy. The final research model from the measurement results can be seen in Figure 2.

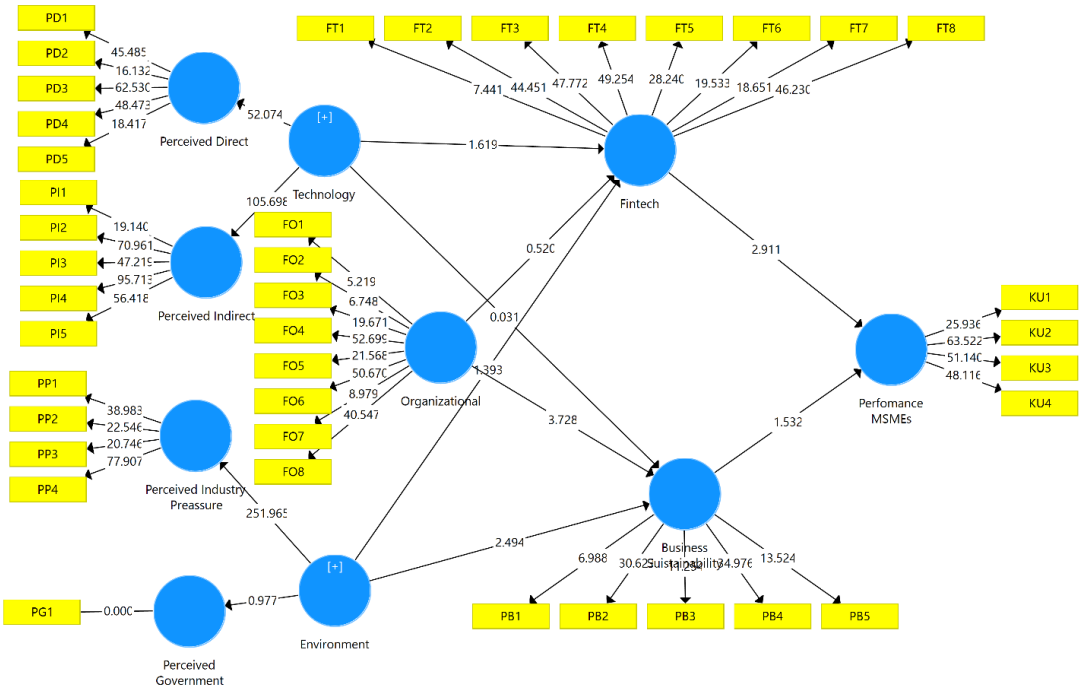

Figure 2. Final Research Model

5. Conclusion

MSMEs are still faced a problem about financing which results in them not being able to develop innovations to increase production due to the very limited use of technology. On the other hand, financial technology (fintech) was growing rapidly in the 2017-2021 period. However, 74% of MSMEs did not yet have access to finance, indicating a discrepancy between the use of fintech in Indonesia and the understanding of society, especially MSMEs, regarding financial inclusion. In fact, financial inclusion has a direct and significant positive effect on business sustainability practices on MSME performance. Business continuity practices are carried out by identifying and supporting the factors that motivate MSMEs in economic growth. Based on the research results, environment affects business sustainability and perceived industry pressure with a p-value of 0.011 and 0.000, but does not affect the use of fintech and perceived government with a p-value of 0.152 and 0.349. Organization affects business sustainability with a p-value of 0.000, but does not affect the use of fintech with a p-value of 0.611. Technology affects perceived direct and perceived indirect with a p-value of 0.000 and 0.000, but does not affect the use of fintech and business sustainability with a p-value of 0.112 and 0.976. MSME performance is only influenced by the use of fintech and is not affected by business sustainability.

Based on the results of this research, it is expected to be able to develop research models and variables regarding the influence of TOE aspects in the adoption of financial technology and business sustainability in improving business performance in MSMEs. In addition, it is expected to be able to examine the relationship between variables in the TOE aspect with the adoption of financial technology and more complex business sustainability. It is hoped that the research sample will be evenly distributed between small, micro and medium enterprises, because the research sample is not too evenly distributed in this study. In future research will be added social media adoption variable in measuring MSME performance to find out the factors that can be caused by social media adoption and the impact on MSME performance in this industry 4.0 era.

6. Acknowledge

The team of authors would like to thank the Community Service Institute (LPPM) at Singaperbangsa University Karawang for the UNSIKA Strategic Priority Grant (HIPSTER) with contract number 369/SP2H/UN64.10/LL/2022, MSME Partners, and other parties who support in carrying out research activities to become a publication.

References

(AFTECH), A. F. I., *Fintech untuk Keuangan Pribadi Tentang Asosiasi Fintech Indonesia,2019*.

(BPS), B. P. S., *Perkembangan Data Usaha Mikro, Kecil, Menengah (UMKM) dan Usaha Besar (UB) Tahun 2016 - 2017,2017*. Available at: http://www.depkop.go.id/data-umkm.

Al-Shaikh, M. E. and Hanaysha, J. R., 'A conceptual review on entrepreneurial marketing and business sustainability in small and medium enterprises', *World Development Sustainability*, 2(May 2022), p. 100039,2023. doi: 10.1016/j.wds.2022.100039.

Alrawad, M. *et al.*, 'Journal of Retailing and Consumer Services Assessing customers perception of online shopping risks : A structural equation modeling – based multigroup analysis', *Journal of Retailing and Consumer Services*, 71(November 2022), p. 103188,2023. doi: 10.1016/j.jretconser.2022.103188.

Chege, S. M. and Wang, D., 'The influence of technology innovation on SME performance through environmental sustainability practices in Kenya', *Technology in Society*, 60(September 2019), p. 101210,2020. doi: 10.1016/j.techsoc.2019.101210.

Delloite Access Economics (2010) *Meningkatnya Keterlibatan UMKM Secara Digital Dapat Mengangkat Pertumbuhan Ekonomi Indonesia Sebesar 2%.*

Dwivedi, Y. K., Wade, M. R. and Schneberger, S. L., *Informations Systems Theory*, *Springer*. doi: 10.1007/978-1-4419-6108-2, 2012.

Fitriyadi, G. M., 'Analisis Mitigasi Resiko Financial Technology Peer To Peer (P2P) Lending dalam Penyaluran Pembiayaan Terhadap UMKM di Indonesia (Studi Kasus PT. Ammana Fintek Syariah)', *Jurnal Ekonomi dan Bisnis*, 7(2), pp. 2–13,2019.

Garson, G. D. (2016) *Partial Least Squares Regression & Structural Equation Models*, *Statistical Associates Blue Book Series*. doi: 10.1201/b16017-6.

Hossain, M., 'Financial resources , financial literacy and small firm growth : Does private organizations support matter ?', 30, pp. 35–58, 2020.

Hsu, P. F., Ray, S. and Li-Hsieh, Y. Y. (2014) 'Examining cloud computing adoption intention, pricing mechanism, and deployment model', *International Journal of Information Management*, 34(4), pp. 474–488. doi: 10.1016/j.ijinfomgt.2014.04.006.

Indonesia, K. P. R. (2019) *Making Indonesia*, *Making Indonesia*. doi: 10.7591/9781501719370.

Issa, A., Lucke, D. and Bauernhansl, T. (2017) 'Mobilizing SMEs Towards Industrie 4.0-enabled Smart Products', in *Procedia CIRP*. Elsevier B.V., pp. 670–674. doi: 10.1016/j.procir.2017.03.346.

Karnadi, A. (2021) *Jumlah Fintech di Indonesia Terus Meningkat hingga 2021*. Available at: https://dataindonesia.id/digital/detail/jumlah-fintech-di-indonesia-terus-meningkat-hingga-2021 (Accessed: 10 November 2022).

Lubis, T. A. and Junaidi, J. (2016) 'Pemanfaatan Teknologi Informasi pada Usaha Mikro Kecil dan Menengah di Kota Jambi', *Jurnal Perspektif Pembiayaan dan Pembangunan Daerah*, 3(3), pp. 163–174. doi: 10.22437/ppd.v3i3.3535.

Marsudi, A. S. and Widjaja, Y., 'Industri 4.0 dan Dampaknya Terhadap Financial Technology serta Kesiapan Tenaga Kerja Di Indonesia', *Ikraith Ekonomika*, 2(2), pp. 1–10, 2019.

Martins, A., Branco, M. C. and Melo, P. N., 'Sustainability in Small and Medium-Sized Enterprises : A Systematic Literature Review and Future Research Agenda', pp. 1–26,2022.

Mayang Fauni, A. and Wahyudin, A., 'Factors Influencing The Business Performance of SMES Convections in Kudus', *Jee*, 6(2), pp. 124–133, 2017. Available at: http://journal.unnes.ac.id/sju/index.php/jeec.

Miswan, A., 'Perkembangan dan Dampak Financial Technology (Fintech) terhadap Industri Keuangan Syariah di Jawa Tengah', *Wahana Islamika: Jurnal Studi keislaman*, 5(1), p. 38, 2019.

Mochama Bosire, J. and Franklin Ntale, J., 'Effect of Mobile Money Transfer Services on the Growth of Small and Medium Enterprises in Informal Sector of Nairobi County, Kenya', *International Journal of Information Research and Review*, 5(3), pp. 5326–5333, 2018.

Muslim, A., Studies, M. and Delhi, N., 'TECHNOLOGY ADOPTION : A SOLUTION FOR SMES TO OVERCOME PROBLEMS DURING COVID-', 25(1), pp. 1–16, 2021.

Prasetyo, B. and Trisyanti, U., 'Revolusi Industri 4.0 Dan Tantangan Perubahan Sosial', *IPTEK Journal of*

Proceedings Series, 0(5), pp. 22–27, 2018. doi: 10.12962/j23546026.y2018i5.4417.
Prasetyo, H. and Sutopo, W. (2018) 'Industri 4.0: Telaah Klasifikasi Aspek Dan Arah Perkembangan Riset', *J@ti Undip : Jurnal Teknik Industri*, 13(1), p. 17. doi: 10.14710/jati.13.1.17-26.
Rizal, M., Maulina, E. and Kostini, N., 'FINTECH AS ONE OF THE FINANCING SOLUTIONS FOR SMEs', 3(2), pp. 89–100, 2018.
Sanistasya, P. A., Raharjo, K. and Iqbal, M., 'The Effect of Financial Literacy and Financial Inclusion on Small Enterprises Performance in East Kalimantan', *Jurnal Economia*, 15(1), pp. 48–59, 2019. doi: 10.21831/economia.v15i1.23192.
Sari, P. P. and Septyarini, E. (2018) 'Pengaruh Financial Technology Terhadap Kepuasan Keuangan (Studi Kasus Pada Pedagang Di Pasar Beringharjo Yogyakarta)', *Jurnal UMKM Dewantara*, 1(1), pp. 20–28.
Sari, R. P. and Santoso, D. T., 'Readiness Factor Identification on Kabupaten Karawang SMEs towards Industry 4.0 Era', *Jurnal Teknik Industri*, 22(1), pp. 65–74, 2021. doi: 10.9744/jti.22.1.65-74.
Satya, V. . (2018) *Kajian Singkat Terhadap Isu Aktual Dan Strategis Indonesia Menghadapi Industri 4.0*.
Setiobudi, A. and Wiradinata, T., 'Intensi Ukm Dalam Adopsi Financial Technology Di Jawa Timur', *National Conference of Creative Industry*, (2622), pp. 5–6, 2018. doi: 10.30813/ncci.v0i0.1233.
Skouloudis, A. *et al.*, 'Impact of small - and medium - sized enterprises sustainability practices and performance on economic growth from a managerial perspective : Modeling considerations and empirical analysis results', (May 2017), pp. 1–13, 2018. doi: 10.1002/bse.2045.
Sugiyono, D. (2013) 'Metode penelitian pendidikan pendekatan kuantitatif, kualitatif dan R&D'.
Vaidya, S., Ambad, P. and Bhosle, S., 'Industry 4.0 - A Glimpse', *Procedia Manufacturing*, 20, pp. 233–238, 2018. doi: 10.1016/j.promfg.2018.02.034.
Varma, A., 'Fintech Adoption Choices of Small Businesses: A Technology Organization Environment (TOE) Framework study', *Accounting and Finance Research*, 8(2), p. 86, 2019. doi: 10.5430/afr.v8n2p86.
Wardi, Y., Susanto, P. and Abdullah, N. L., 'Orientasi Kewirausahaan Pada Kinerja Usaha Kecil Dan Menengah (UKM) Sumatera Barat: Analisis Peran Moderasi Dari Intensitas Persaingan, Turbulensi Pasar Dan Teknologi', *Journal of Technology Management*, 16(1), pp. 46–61, 2017.
Wibowo, T. J. (2019) 'Lingkungan Usaha yang Mendukung Transformasi Usaha Mikro, Kecil dan Menengah di Era Revolusi Industri 4.0', *Operations Excellence: Journal of Applied Industrial Engineering*, 11(1), p. 23. doi: 10.22441/oe.v10.3.2019.013.
Yuspita, R., Pebruary, S. and Kamala, A. Z. H., 'The society's perceptions on the use of fintech services in sharia financial institutions', *Jurnal Ekonomi & Keuangan Islam*, 5(2), pp. 87–92,2019. doi: 10.20885/jeki.vol5.iss2.art6.
Zioło, M. *et al.*, 'ScienceDirect ScienceDirect Sustainable business models of enterprises - actual and declared activities for ensuring corporate sustainability Sustainable business a models of b enterprises - actual and declared activities for ensuring corporate sustainabi', *Procedia Computer Science*, 176, pp. 1497–1506, 2020. doi: 10.1016/j.procs.2020.09.160.

Biographies

Rianita Puspa Sari is a lecturer of Industrial Engineering Study Program at the Universitas Singaperbangsa Karawang, Indonesia. She earned Master of Engineering in Industrial Engineering from Institut Teknologi Bandung, Indonesia. She is active in writing scientific articles in the form of research and service and have been published in several accredited journals. Her research field includes customer relationship management, operational research, multivariat analysis, strategic management, and marketing. She is also active in various student entrepreneurship programs and activities.

Deri Teguh Santoso is a lecturer of Mechanical Engineering Study Program at the Universitas Singaperbangsa Karawang, Indonesia. He earned Master of Engineering in Mechanical Engineering from Institut Teknologi Bandung, Indonesia. He is active in writing scientific articles in the form of research and service and have been published in several SINTA accredited journals. His research field includes mechanical engineering, production engineering, rapid prototyping metaheuristic, and small and medium enterprises (SME).

Aviska Nuravianti is a fresh graduate with a Bachelor of Engineering degree in Industrial Engineering from Universitas Singaperbangsa Karawang, Indonesia. Her research results have been published in several conference papers as well as in accredited journals. Her research field includes engineering management, product innovation,

business, marketing, and ergonomics. She is also active in various student entrepreneurship programs and activities.

Fatimah Khilaliyah Azzahrha is a fresh graduate with Bachelor of Engineering degree in Industrial Engineering from Universitas Singaperbangsa Karawang, Indonesia. Her research results have been published in several conference papers as well as in accredited journals. Her research field includes industrial engineering, engineering management, purchasing, and procurement. She is also active in various student entrepreneurship programs and activities.

Fina Fadhila Achka is a under graduate student in Industrial Engineering from Universitas Singaperbangsa Karawang, Indonesia. Her research results have been published in several conference papers as well as in accredited journals. Her research field includes engineering management and quality control.