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Analysis of the impact artificial intelligence (ai) technology on digital financial knowledge to improve business sustainability for msmes in bekasi regency

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ABSTRACT

MSMEs are one of the most important sectors in a country's economy. However, MSMEs often face various challenges in maintaining business continuity, such as the low quality of human resources, capital and understanding of the use and development of technology (Kusumaastuti & Asih, 2015). AI helps develop sales and marketing strategies that significantly improve business performance thereby maintaining business continuity (Palanivelu & Vasanthi, 2020). Digital financial knowledge is a knowledge concept that includes financial knowledge and digital knowledge (Normawati et al., 2021) (Safitri et al., 2022). By having financial knowledge and skills, business actors can support the continuity of their business with products produced by financial institutions to facilitate capital development for business actors and ensure financial security in business management (Jayanti & Karnowati, 2023). This research aims to (1) determine the effect of implementing AI-based technology on sustainable business for MSMEs, (2) determine the influence of digital financial knowledge on sustainable business for MSMEs. The population in this research are MSMEs in Bekasi Regency. The sample collection technique used was the Accidental Sampling technique. The method used is a quantitative method using SEM Smart PLS software as an analysis tool.

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1. INTRODUCTION

MSMEs are one of the businesses that play an important role in efforts to reduce poverty and unemployment in Indonesia (Angeline et al., 2022). Based on the results of the MSME business activity survey in the MSME Business Index (IB) for the second quarter of 2022, it shows an increase in business growth from 104.6 in the first quarter of 2022 to 109.4 in the second quarter of 2022 with a business index above 100, indicating that the current MSME growth conditions are at an optimistic level in maintaining business sustainability. Business continuity is part of the national economy and contributes significantly to

employment. Therefore, it is important to take various steps to ensure business continuity (Afdal et al., 2021). However, the problem that often hinders MSME players today is their limited ability and knowledge in using technology and digital platforms. Meanwhile, the digitalization of MSMEs is a must and is also a solution for MSMEs to expand their business to reach a wider marketing scope (Jayanti & Karnowati, 2023). By expanding the business, it will be able to increase sales and maintain business continuity.

Artificial Intelligence (AI) is one of the technologies in the Industrial Revolution 4.0 era that is very useful to implement. Artificial Intelligence (AI) or artificial intelligence in the industrial era 4.0 has been widely used in the world of industry / manufacturing, business, education, services, finance, marketing, etc. (Siregar et al., 2020). Artificial Intelligence (AI) is artificial intelligence which is a modeling of human intelligence applied in a machine for making intelligent machines. Due to the use of Artificial Intelligence in business itself, it is very helpful in the development of the business itself in terms of financing, it may cost a little more, but from its own long-term efforts it is more profitable because its own maintenance does not require expensive costs. Even Artificial Intelligence raises concerns about humans themselves because the role and function of humans in various aspects of work can be replaced, because Artificial Intelligence has been proven to increase productivity, efficiency and accuracy in almost all aspects (Rizal & Yulianto, 2022). According to some studies, AI can help SMEs win a competitive advantage or provide a means of survival in manufacturing, e-commerce, accounting, human resources, marketing, and customer relations (Lu et al., 2022). The main benefits according to marketing professionals, the impact of AI on business are increasing efficiency, saving time in marketing functions, increasing conversion rates, better understanding of customer information, making decisions more feasible, increasing ROI, insights, service improvement, and customer satisfaction (Palanivelu & Vasanthi, 2020). The utilization of artificial intelligence (AI) can increase operational productivity for Micro, Small, and Medium Enterprises (MSMEs) more efficiently.

In addition to the use of technology in increasing productivity to maintain business continuity, financial literacy needs to be owned by business actors. With financial literacy we can increase knowledge, confidence and skills in managing finances better (Jayanti & Karnowati, 2023). There are several components in financial literacy, one of which is financial knowledge where the ability of individuals about the benefits and risks of applying financial products and services. Digital financial knowledge is needed so that users can take advantage of existing technology and avoid the risks that will arise such as misuse of data and information, fraud, hacking, to financial behavior problems regarding one's behavior in managing their finances so that there is no excessive borrowing or other consumptive behavior (Lu et al., 2022). Digital financial knowledge has become a concern for both the government or financial services entrepreneurs and the public since the emergence of Financial Technology. Which is where all financial operations use digital technology. There are four dimensions of digital financial literacy, namely digital products and services, digital financial risk, digital financial risk control, and consumer rights and redress procedures. Financial Technology itself is an innovation that utilizes technology as a practical means to improve banking and financial services (Palanivelu & Vasanthi, 2020). Having financial literacy is a must that individuals must have in order to avoid financial problems, applying the right financial management methods, then individuals are expected to get the maximum benefit from the money they have (Permadi et al., 2022). Financial literacy makes people choose the best financial products available in the market, individuals need to have financial knowledge, these financial decisions can be optimized by being aware of taxation, interest rates, exchange rates, stocks, bonds, etc (Rachmawati, 2021). Understanding financial literacy, especially digital finance will improve sustainability efforts, which in turn will improve financial well-being for businesses (Safitri et al., 2022). When SMEs have sufficient financial literacy, decisions related to business or business and finance have an impact on increasing business development and continuity

in the midst of unstable conditions, so that this business is always sustainable in the long term (Jayanti & Karnowati, 2023).

2. RESEARCH METHOD

The research to be carried out uses quantitative research which is finally carried out to test the hypothesis, the study conducted by the researcher is to measure the positive influence of several indicators on each variable in it using statistical test tools. The variables to be analyzed are Business Sustainable (Y) and Artificial Intelligence (X1) and Digital Finance Knowledge (X2). The type of data to be taken is primary data and data collection techniques with questionnaires and using Likert scale measurements and a tool for analyzing data is PLS (Partial Least Square) with software called SmartPLS 3.0. The population in this study are Bekasi Regency MSME actors, in determining the sample size, we will use the accidental sampling method, which is a sampling technique that involves choosing who is found randomly. Thus, random sampling is based on the spontaneity factor, meaning that anyone who happens to meet the researcher based on their characteristics can be used as a sample or respondent (Fauzy, n.d.). The potential respondents of this study were determined as many as 100 MSMEs domiciled in the Bekasi Regency area. Data can be obtained using a questionnaire instrument in the form of closed questions. The questionnaire was designed using a Likert scale. The research to be carried out uses quantitative research which is ultimately carried out to test hypotheses, the study conducted by researchers is to measure the positive influence of several indicators on each variable in it using statistical test tools. The variables to be analyzed are Business Sustainable (Y) and Artificial Intelligence (X1) and Digital Finance Knowledge (X2). The type of data to be taken is primary data and data collection techniques with questionnaires and using Likert scale measurements and a tool for analyzing data is PLS (Partial Least Square) with software called SmartPLS 3.0. The population in this study are Bekasi Regency MSME actors, in determining the sample size, we will use the accidental sampling method, which is a sampling technique that involves choosing who is found randomly. Thus, random sampling is based on the spontaneity factor, meaning that anyone who happens to meet the researcher based on their characteristics can be used as a sample or respondent (Fauzy, 2019). The potential respondents of this study were determined as many as 100 MSMEs domiciled in the Bekasi Regency area. Data can be obtained using a questionnaire instrument in the form of closed questions. The questionnaire was designed using a Likert scale.

3. RESULTS AND DISCUSSIONS

Results

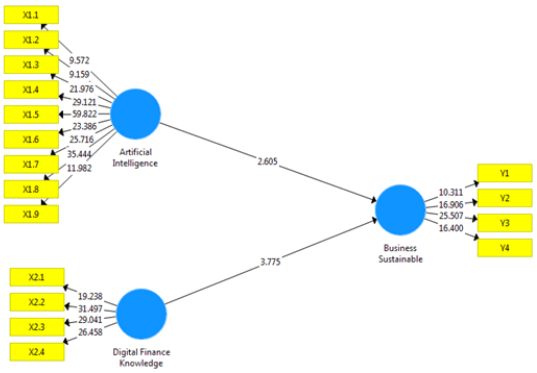

Figure 1. Measurement Model Testing

Validity and Reliability Test

Convergent Validity

The precision and accuracy of the instrument is checked using a validity test to determine whether the instrument is suitable for measurement. If the instrument correlation coefficient (r) is greater than or equal to 0.4 (Agus et al., 2014).

Table 1. Outer Loadings Value

	Artificial Intelligence	Digital Finance Knowledge	Business Sustainable
X1.1	0.728		
X1.2	0.711		
X1.3	0.860		
X1.4	0.890		
X1.5	0.944		
X1.6	0.855		
X1.7	0.831		
X1.8	0.903		
X1.9	0.788		
X2.1		0.880	
X2.2		0.902	
X2.3		0.884	
X2.4		0.876	
Y1			0.767
Y2			0.829
Y3			0.855
Y4			0.791

Displays the factor loading value for each variable tested. The table shows that all factor loading values are> 0.4, meaning that all manifest variables have met the measurement model requirements and can proceed to further testing.

Composite Reliability

In addition to looking at the construct factor loading value as a validity test, the measurement model is also tested for reliability. The reliability test is carried out to show the accuracy, reliability, and precision of the instrument in measuring a construct. There are two ways to assess construct reliability in SEM-PL using SmartPLS: Cronbach's Alpha and Composite Reliability (Anugerah & Sutarmin, 2015).

Table 2. Construct Reliability and Validity

Variabel	Cronbach Alpha's	rho_A	Composite Reliability	AVE
Artificial Intelligence	0.946	0.947	0.955	0.702
Digital Finance Knowledge	0.827	0.837	0.885	0.658
Business Sustainable	0.908	0.912	0.936	0.784

It can be seen that the value of all variables in the reliability test with Cronbach's Alpha or Composite Reliability has a value of 0.7. Thus it can be concluded that the variables studied are also valid and reliable, so that structural model testing can be continued.

Structural Model Evaluation (Inner Model)

Structural model or internal model evaluation aims to predict the relationship between latent variables. The structural model is evaluated by looking at the size of the percentage of variance explained by looking at the R-squared value for endogenous latent constructs and AVE for predictors using resampling methods such as jackknifing and bootstrap to get the robustness of the estimate.

R-Square (R2)

Table 3. R-Square

Variabel	R Square	R Square Adjusted
Business Sustainable	0.783	0.779

It can be concluded that the effect of artificial intelligence and digital finance knowledge on business sustainability provides a value of 0.783 and can be interpreted that the variability of innovation constructs that can be explained by the variability of knowledge management constructs and the quality of human resources is 78.3%, while the rest is explained by variables outside the study.

Hypothesis test

To determine whether or not a hypothesis is accepted, it can be done by paying attention to the significance value between constructs, t-statistics, and p-values. In this way, measurement estimates and standard errors are no longer calculated with statistical assumptions, but based on empirical observations. In research using the bootstrapping method, the hypothesis is accepted if the average t-values> 1.985 or p-value <0.05.

Table 4. Path Coefficients

Variabel	Original Sample (O)	Sample Mean (M)	Standart Deviation (STDEV)	T Statistics	P Values
Artificial Intelligence -> Business Sustainable	0.383	0.411	0.146	2,631	0.009
Digital Finance Knowledge -> Business Sustainable	0.557	0.538	0.148	3,769	0.000

It can be seen that the Artificial Intelligence construct affects the Business Sustainable construct. Based on the t-statistic value of this construct ratio 2.631>1.980 and p-values 0.009 <0.05, the first hypothesis which states that there is an influence between Artificial Intelligence (X1) and Business Sustainable (Y) is accepted. Then, for the construction of Digital Finance Knowledge affects the Business Sustainable construct. Based on the t-statistic value of this construct ratio 3.769> 1.980 and p-values 0.000 <0.05, the second hypothesis stating that there is an influence between Digital Finance Knowledge (X2) and Business Sustainable (Y) is accepted.

Discussion

Effect of Artificial Intelligence on Business Sustainable

The results of this study indicate that artificial intelligence has an influence on business sustainability. In research (Martaseli, 2023) states that artificial intelligence can be used in a variety of new products and services that benefit the accounting industry. These include: operations, sales, marketing, customer service, research and development, and information analysis. Advances in AI technology allow companies to improve business decision-making by using more sophisticated predictions and analysis. By utilizing AI's ability to forecast market trends, evaluate risks, and provide a more in-depth view, companies can make smarter decisions, reduce potential losses, and achieve an edge over the competition so as to maintain and develop business continuity (Fidiyanti et al., 2023).

The Effect of Digital Finance Knowledge on Business Sustainable

The results of this study indicate that digital finance knowledge has an influence on business sustainability. By increasing the ability in the field of financial knowledge, it is expected that MSMEs will have a better ability to manage their business activities and manage finances more appropriately to support business growth and sustainability. In research conducted (Maulana & Suyono, 2023) stated that financial literacy and digital literacy have an influence on the sustainability of MSME businesses.

4. CONCLUSION

Business owners are required to have competence and skills in the field of technology by improving both hard skills and soft skills based on artificial intelligence. This is in order to be able to optimize the use of artificial intelligence in business processes. The utilization of artificial intelligence technology allows companies to conduct thorough data analysis and processing, find patterns, trends, and important information that can be used to make more accurate business decisions, as well as support in marketing strategies and corporate financial management. Stable finances depend on how we manage our money and the income earned from our investments. Therefore, skills in managing assets are necessary to improve overall financial condition. Understanding financial literacy, especially in the digital context, can improve business continuity which in turn will improve financial well-being for business people. Financial wellbeing, and an understanding of financial literacy, can improve financial wellbeing and therefore business continuity.

REFERENCES

Afdal, Z., Siwi, M. K., Kurniawati, T., & Marwan. (2021). Msmes Business Sustainability: A Literature Review. Proceedings Of The Seventh Padang International Conference On Economics Education, Economics, Business And Management, Accounting And Entrepreneurship, 192(Piceeba), 317–322.

Agus, P., Rismawan, E., Supartha, W. G., Nyoman, N., & Yasa, K. (2014). Peran Mediasi Komitmen Organisasional Pada Pengaruh Stress Kerja Dan Kepuasan

Afdal, Z., Siwi, M. K., Kurniawati, T., & Marwan. (2021). Msmes Business Sustainability: A Literature Review. Proceedings Of The Seventh Padang International Conference On Economics Education, Economics, Business And Management, Accounting And Entrepreneurship, 192(Piceeba), 317–322. Https://Www.Atlantis-Press.Com/P

Agus, P., Rismawan, E., Supartha, W. G., Nyoman, N., & Yasa, K. (2014). Peran Mediasi Komitmen Organisasional Pada Pengaruh Stress Kerja Dan Kepuasan Kerja Terhadap Intensi Keluar Karyawan. E-Jurnal Ekonomi Dan Bisnis Universitas Udayana, 8, 424–441.

Angeline, Allister, D., Gunawan, L. L., & Prianto, Y. (2022). Pengembangan Umkm Digital Sebagai Upaya Ketahanan Bisnis Pasca Pandemi Covid-19 Transformasi Digital . Perubahan-Perubahan Itu Terjadi Untuk Penyesuaian Proses Bisnis Seperti. Serina IV UNTAR, 1, 85–92.

Anugerah, Y. R., & Sutarmin. (2015). Pengaruh Kompetensi Kerja Dan Remunerasi Terhadap Kinerja

Anggota Kepolisian Melalui Promosi Jabatan Pada Polsek Sukomanunggal Surabaya. Fakultas Ekonomi Universitas Dr Soetomo, 25, 281–299.

APRIALINDA, Y. F. (2022). Pengaruh Digital Financial Literacy Terhadap Saving Dan Spending Behavior Mahasiswa Akuntansi Universitas Hayam Wuruk Perbanas Surabaya. In Universitas Hayam Wuruk Perbanas (Issue 8.5.2017).

Chen, D., & Esperança, J. P. (2022). The Impact Of Artificial Intelligence On Firm Performance : An Application Of The Resource-Based View To E-Commerce Firms. 13(April). Https://Doi.Org/10.3389/Fpsyg.2022.884830

Fauzy, A. (2019). Metode Sampling (2nd Ed.). Universitas Terbuka.

Fidiyanti, F., Subagja, A. R., Wachyu, R. P., & Madiistriyatno, H. (2023). Analisis Strategi Pengembangan Bisnis Menggunakan Teknologi Artificial Intelegence. Journal Of Comprehensive Science (JCS), 2(7), 1994–2001.

Hanafi, M., Rio, M., Pratama, A., & Sidik, R. (2023). Pengaruh Artificial Intelligence : Analisis Terhadap Keuangan , Loyalitas Pelanggan , Pengalaman Konsumen , Dan. Jurnal Riset Informatika Dan Inovasi, 01(01), 4.

Hanifa, D., & Aprirachman, R. (2022). Analisis Keberlangsungan Usaha Umkm Dimasa Pandemic Covid-19 Sebagai Dasar Dari Ekonomi Kerakyatan Di Kecamatan Sumbawa. Nusantara Journal Of Economics, 04(02), 76–82.

Jayanti, E., & Karnowati, N. B. (2023). Digitalisasi Umkm Dan Literasi Keuangan Untuk Keberlanjutan Umkm Di Kabupaten Cilacap. Kajian Bisnis Sekolah Tinggi Ilmu Ekonomi Widya Wiwaha, 31(1), 51–64. Https://Doi.Org/10.32477/Jkb.V31i1.504

Khin, S., & Ho, T. C. F. (2019). Digital Technology, Digital Capability And Organizational Performance: A Mediating Role Of Digital Innovation. International Journal Of Innovation Science, 11(2), 177–195. Https://Doi.Org/10.1108/IJIS-08-2018-0083

Lu, X., Wijayaratna, K., Huang, Y., & Qiu, A. (2022). AI-Enabled Opportunities And Transformation Challenges For Smes In The Post-Pandemic Era: A Review And Research Agenda. Frontiers In Public Health, 10(April), 1–11. Https://Doi.Org/10.3389/Fpubh.2022.885067

Martaseli, E. (2023). The Impact Of Artificial Intelligence On The Accounting Profession In The Era Of Industry 4.0 And Society 5.0. Journal Of Accounting For Sustainable Society (JASS, 05, 1–9.

Maulana, M. I., & Suyono, E. (2023). Pengaruh Litersi Keuangan Dan Literasi Digital Terhadap Keberlanjutan Bisnis Pelaku UMKM Berbasis Syariah. Jurnal Ilmiah Ekonomi Islam, 9(03), 4256–4271.

Normawati, R. A., & Santoso, E. E. (2023). Digital Financial Literacy Pada Milenial: Pendekatan Knowledge, Attitude Dan Behavior (KAB Model). Jurnal Ilmiah Mahasiswa Manajemen, 5(1), 2023. Http://Journal.Stieputrabangsa.Ac.Id/Index.Php/Jimmba/Index

Normawati, R., Rahayu, S., & Worokinasih, S. (2021). Financial Knowledge, Digital Financial Knowledge, Financial Attitude, Financial Behaviour And Financial Satisfaction On Millennials. Https://Doi.Org/10.4108/Eai.6-3-2021.2305967

Palanivelu, V. R., & Vasanthi, B. (2020). Role Of Artificial Intelligence In Business Transformation. International Journal Of Advanced Science And Technology, 29(4 Special Issue), 392–400.

Permadi, I., Safitri, N., & Fhatusyaadah, E. (2022). Digital Financial Literacy And Its Impact On The Financial Well-Being Of Small And Medium-Sized Industries. Kne Social Sciences, 2022(March 2021), 350–361. Https://Doi.Org/10.18502/Kss.V7i19.12455

Pongtambing, Y. S., Pitrianti, S., Sadno, M., Admawati, H., M, E. A., & Sampetoding. (2023). Peran Dan Peluang Kecerdasan Buatan Dalam Proses Bisnis UMKM. ININNAWA: Jurnal Pengabdian Masyarakat, 01(02), 201–206.

Rachmawati, I. (2021). Analisis Strategi Sustainability Pelaku Usaha Mikro Kecil Dan Menengah (Umkm) Dalam Meningkatkan Pendapatan Di Masa Pandemi Covid-19(Studi Pada Pasar Kangkung Kecamatan Teluk Betung Selatan Kota Bandar Lampung). Jurnal Skripsi, 19, 20–40.

Ramadhan, H. A., & Putri, D. A. (2018). Big Data, Kecerdasan Buatan, Blockchain, Dan Teknologi Finansial Di Indonesia. Direktorat Jenderal Aplikasi Informatika Kementerian Komunikasi Dan Informatika, 1–66. Https://Aptika.Kominfo.Go.Id/Wp-Content/Uploads/2018/12/Kajian-Kominfo-CIPG-Compressed.Pdf

Rizal, M., & Yulianto, D. (2022). Pemanfaatan Kecerdasan Buatan Di Dalam Bisnis Use Of Artificial Intelligence In Business. Http://Idea.Warta17Agustus.Com/.

Safitri, N., Permadi, I., Fathussyaadah, E., & Tinggi Ilmu Ekonomi PGRI Sukabumi, S. (2022). Literasi Keuangan Digital, Keberlanjutan Usaha Industri Kecil Dan Menengah Serta

Dampaknya Terhadap Kesejahteraan Keuangan. Jurnal Ilmiah MEA (Manajemen, Ekonomi, & Akuntansi), 6(3), 1203–1214. Http://Www.Journal.Stiemb.Ac.Id/Index.Php/Mea/Article/View/2478

Siregar, H., Setiawan, W., & Dirgantari, P. D. (2020). Isu Proses Bisnis Berbasis Artificial Intelligence Untuk Menyosong Era Industri 4.0. Jurnal Bisnis Strategi, 29(2), 89–100. Https://Doi.Org/10.14710/Jbs.29.2.89-100

Tellmann, N. H. (2020). Examining The Dimensions And Development Of An Artificial Intelligence Capability With Effect On Competitive Performance. July.