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Impact of the implementation of a digital tool with artificial intelligence in the financial assessment of MSMEs in Chimbote

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Abstract: This study analyzes the impact of implementing a digital tool based on artificial intelligence in the financial assessment of MSMEs in Chimbote, specifically through the design and implementation of a digital tool. A quasi-experimental design was used with two groups of MSMEs (control and experimental). The results showed that the tool significantly improves indicators such as liquidity, management, solvency, and profitability, reduces errors, and optimizes financial processes, increasing precision and efficiency in strategic decision-making. The methodology, with a quantitative approach and quasi-experimental design, included pre- and post-test surveys. This study concludes that the integration of AI in financial assessment is essential to modernize accounting practices and strengthen business competitiveness, and it recommends promoting training and the use of complementary technologies to enhance its implementation.

Keywords: *Artificial intelligence, Decision-making, Digital tool, Financial assessment, MSMEs.*

1. Introduction

Artificial intelligence has established itself as a key tool that enhances and optimizes current digital financial processes, as well as in other business sectors. Its use in financial assessment is growing steadily, allowing companies to increase their competitiveness and efficiency through the automated analysis of large volumes of data. These technological solutions offer business owners the ability to automate financial evaluations that previously required human intervention, aiming to improve strategic decision-making and business management [1-4].

Moreover, artificial intelligence has had a significant impact on financial inclusion globally [5, 6] driven by structural changes such as globalization and recent health crises [7]. AI-based digital tools enable companies to innovate in financial management by providing real-time data that fosters operational efficiency and optimizes managerial decisions in increasingly competitive markets [8]. Supported by AI, these decisions are based on more accurate analyses, allowing companies to respond quickly to changes in the economic environment [9].

In accounting, artificial intelligence automates repetitive tasks through algorithms, enabling accountants to focus on analysis, reducing errors, and improving decision-making efficiency [10]. These algorithms facilitate the creation of tools that enhance transparency and accuracy in audits and algorithmic impact assessments in financial decision-making [11]. The application of these technologies is fundamental to regulating and properly managing the use of AI in business financial assessment [12]. This evolution, as highlighted by Ayuso and Esteban [13] has allowed machines not only to replicate human processes but also to anticipate possible changes through continuous learning.

A study was conducted on Baltrans Export Cía. Ltda. to assess its financial situation. Using quantitative and qualitative methods, the researchers analyzed accounting reports and conducted

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interviews. The results revealed deficiencies in net profitability, negatively affecting business performance. Despite achieving a financial efficiency index of 74.5%, indicating adequate management, the study highlighted areas needing improvement to optimize financial decision-making and ensure sustainable growth [14].

Artificial intelligence is also recognized as a key driver in global financing, helping companies process financial data more quickly and accurately [15]. The use of robotics and expert systems in financial assessment is emphasized, adapting these technologies to the specific characteristics of each company [16]. AI-assisted tools are useful for managing daily financial tasks, improving the efficiency of business processes [17].

Business financial management must adapt to emerging threats such as identity theft or money laundering [18]. Integrating AI technologies allows companies to anticipate risks and optimize financial decision-making through the automated analysis of large volumes of data [9]. According to [19] the strategic use of artificial intelligence in the financial industry enables companies to gain superior competitive advantages both nationally and internationally [20, 21].

The use of digital tools with artificial intelligence in accounting has revolutionized the way companies manage the calculation of financial indicators. By analyzing large volumes of data, AI allows accountants to automate repetitive tasks, optimize auditing processes, and perform complex financial calculations with greater precision and speed. This not only improves efficiency in detecting financial anomalies but also facilitates data-driven decision-making. By implementing AI, companies can minimize human errors, detect irregularities early, and strengthen their internal control systems, ensuring more robust and reliable financial management [22, 23].

By understanding and analyzing financial ratios, MSMEs can make more informed decisions in various key areas of management. Liquidity ratios, for example, allow these companies to evaluate their ability to meet short-term financial obligations, such as paying suppliers or managing salaries, while activity ratios reveal the efficiency with which they manage assets such as inventories and accounts receivable. This information is crucial for MSMEs to identify areas for improvement, optimize resources, and develop strategies that promote sustainable growth in the market [24-26].

The study contributes to streamlining business decision-making through the integration of digital tools and artificial intelligence (AI), optimizing financial assessment. AI-based tools improve the efficiency and accuracy of accounting processes, driving their digital transformation. Additionally, they redefine the role of accountants, who must complement their expertise with advanced technological skills. This approach facilitates greater adaptability and competitiveness in a constantly evolving accounting environment [27-29].

Micro and small enterprises (MSMEs) in Chimbote face significant challenges in financial decision-making due to the lack of advanced technological tools that enable them to accurately evaluate their financial indicators. Dependence on manual and outdated processes leads to errors, delays, and limited responsiveness to changes in the economic environment, directly impacting their competitiveness and sustainability. In a context of digital transformation, MSMEs must quickly adapt to new technologies such as artificial intelligence (AI), which can automate financial assessment and provide more accurate, real-time analysis. However, many MSMEs have not adopted these tools due to a lack of knowledge or resources, exacerbating their situation in an uncertain economic environment. The implementation of a digital tool based on AI could significantly improve financial decision-making, but its concrete impact on performance is unknown, justifying the need for a study to evaluate this effect on MSMEs in Chimbote.

Given the mentioned problem, the following general objective was proposed: To evaluate the impact of implementing a digital tool based on artificial intelligence in the financial assessment of MSMEs in Chimbote, with the aim of optimizing precision and efficiency in strategic decision-making.

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2. Literature Review

2.1. Digital Financial Tool with Artificial Intelligence (AI)

A digital financial tool with AI is a technological solution that automates the analysis of financial data and measures key ratios such as liquidity, profitability, and debt. By leveraging artificial intelligence, these tools identify patterns, predict financial issues, and provide recommendations to enhance decision-making and risk control. They facilitate real-time analysis and help companies, including micro-enterprises, evaluate their financial performance and increase their competitiveness [30-32].

AI-powered digital tools are transforming financial assessment in companies by automating processes and improving the accuracy of risk evaluations. Technologies such as predictive analytics models and machine learning allow the identification of patterns within large volumes of historical data, making it easier to predict future events. These tools not only help mitigate financial risks but also optimize strategic decision-making. Data analytics platforms enable financial managers to centralize risk management, monitor results, and adjust strategies with greater agility and efficiency, strengthening companies' ability to face economic uncertainties and changing regulations [33, 34].

Artificial intelligence is defined as the simulation of human intelligence in machines, capable of solving complex tasks in various business environments [3]. These advancements allow for more efficient management of large volumes of financial data, streamlining key processes for business decision-making [35]. Although AI does not aim to replace human experts, its integration into financial management complements analytical efforts, enhancing profitability and operational efficiency in companies [36, 37].

Various AI techniques, such as expert systems, neural networks, genetic algorithms, and fuzzy logic, are used to implement digital tools. In the accounting field, expert systems and artificial neural networks are the most commonly employed [38].

2.2. Expert Systems

Expert systems are computer programs that simulate human reasoning in specific areas of knowledge. They collect, process, and store information, enabling decision-making based on predefined rules. These systems provide users with reliable recommendations and optimal solutions for complex problems, even in uncertain situations. By utilizing a structured database with specialized knowledge, expert systems replicate the ability of a human to solve problems, proving highly useful in fields such as medicine, finance, and engineering [39].

2.3. Neural Networks

Neural networks are computational models inspired by the functioning of the human brain. They are composed of layers of interconnected nodes (artificial neurons) that process information in parallel. These networks can learn from data patterns and are capable of performing complex tasks such as image recognition, trend prediction, and the analysis of large volumes of information. Thanks to their self-learning and adaptive capabilities, neural networks are used in applications such as artificial intelligence, finance, medicine, and technology [39].

2.4. Financial Assessment

Financial assessment is a process that allows companies to analyze various investment alternatives to select the most profitable one, where through this evaluation, the costs and benefits associated with projects are compared, helping to determine their profitability and ability to generate corporate value. The main indicators used are the Net Present Value (NPV), the Internal Rate of Return (IRR), and the payback period, where this analysis is crucial to optimize resources and ensure the economic viability of the selected investments [40, 41].

Financial assessment is also a process that allows analyzing a company's economic health through tools such as ratio analysis and the interpretation of financial statements, being fundamental to identify

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the organization's operational efficiency, liquidity, profitability, and debt level. Based on this data, informed decisions can be made to improve financial management and long-term sustainability, as financial assessment is key to anticipating potential risks, optimizing resource use, and defining strategies for business growth and expansion [42].

3. Methods

This study employed a quantitative quasi-experimental design, a method that allows evaluating whether an intervention, in this case, the digital tool with AI, has a direct effect on financial assessment by comparing an experimental group with a control group through pre-tests and post-tests to measure the results [43, 44].

The sample size used in the analysis involved 40 MSMEs, categorized into an experimental group of 20 that used the digital tool with AI, and a control group of 20 that did not use it.

For data collection, a questionnaire with 20 questions was utilized, with a pre-test applied before the intervention and a post-test applied afterward to measure the impact of this tool on financial assessment. To ensure the instrument's reliability, the Cronbach's Alpha coefficient was evaluated, achieving a value above 0.70. Data were analyzed using SPSS 27, and the Mann-Whitney U test was applied to assess significant variations between the groups.

4. Results and Discussion

Evaluate the impact of using the digital tool through a pre- and post-test to measure its effectiveness in improving financial assessment in MSMEs in Chimbote.

Table 1.
Frequency Levels of the Liquidity Ratios Dimension

Level	Pre-test				Post-test			
	Control Group		Experimental Group		Control Group		Experimental Group	
	f	%	f	%	f	%	f	%
Deficient	11	55.0	13	65.0	11	55.0	0	00.0
Little efficient	9	45.0	7	35.0	9	45.0	12	60.0
Efficient	0	00.0	0	00.0	0	00.0	8	40.0
Total	20	100.0	20	100.0	20	100.0	20	100.0

Source: SPSS V.27

In Table 1, it is observed that in the pre-test, both the control group and the experimental group have a majority of participants with deficient levels (55% and 65%, respectively), while the rest exhibit an inefficient level. After the intervention, in the post-test, the experimental group shows significant improvement, with 60% reaching an inefficient level and 40% an efficient level. Meanwhile, the control group maintains the same levels as in the pre-test, indicating that the digital tool applied to the experimental group had a positive impact on the financial assessment of liquidity ratios.

Table 2.
Mann-Whitney U Test for Liquidity Ratios

Test Statistic	Liquidity Ratios Pre-test	Liquidity Ratios Post-test
Mann-Whitney U	183.000	5.000
Sig.	0.640	0.000

The data show that there were no statistically significant differences between the two groups before the intervention, as reflected in the pre-test. In contrast, the post-test results indicate a significant difference, with a sig. value of 0.000, demonstrating that the intervention applied to the experimental group had a positive effect on improving liquidity ratios.

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Table 3.
Frequency Levels of the Management Dimension

Level	Pre-test				Post-test			
	Control Group		Experimental Group		Control Group		Experimental Group	
	f	%	f	%	f	%	f	%
Deficient	14	70.0	8	40.0	13	65.0	3	15.0
Little efficient	6	30.0	11	55.0	7	35.0	10	50.0
Efficient	0	00.0	1	5.0	0	00.0	7	35.0
Total	20	100.0	20	100.0	20	100.0	20	100.0

Source: SPSS V.27

The results show that the control group has 70% at a deficient level, while the experimental group shows 40% at this level and 5% at an efficient level. In comparison, in the post-test, the control group maintains 65% at the deficient level, while the experimental group improves significantly with only 15% at this level and 35% reaching an efficient level, indicating that the intervention was effective in improving management.

Table 4.
Mann-Whitney U test for Management

Test Statistic	Management Pre-test	Management Post-test
Mann-Whitney U	155.500	47.000
Sig.	0.216	0.000

Table 4 shows that in the pre-test, there were no significant differences between the groups before the intervention. However, in the post-test, statistically significant differences were detected, indicating that the intervention with the digital tool using AI notably improved management in the experimental group.

Table 5.
Frequency Levels of the Solvency Ratios Dimension.

Level	Pre-test				Post-test			
	Control Group		Experimental Group		Control Group		Experimental Group	
	f	%	f	%	f	%	f	%
Deficient	13	65.0	10	50.0	13	65.0	0	00.0
Little efficient	7	35.0	10	50.0	7	35.0	12	60.0
Efficient	0	00.0	0	00.0	0	00.0	8	40.0
Total	20	100.0	20	100.0	20	100.0	20	100.0

In the pre-test, the control group has 65% at a deficient level and 35% at an inefficient level. Following the intervention, the control group maintains a high percentage at the deficient level, while the experimental group significantly improves, reaching 40% at an efficient level. This indicates that the tool had a positive effect on the solvency of the experimental group.

Table 6.
Mann-Whitney U Test for Solvency Ratios.

Test Statistic	Solvency Pre-test	Solvency Post-test
Mann-Whitney U	168.000	16.500
Sig.	0.364	0.000

The results in Table 6 show that there were no notable differences between the groups before the intervention. However, in the post-test, a significant difference is observed, indicating that the intervention with the digital tool had a positive and considerable impact on the solvency of the experimental group.

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Table 7.
Frequency Levels of the Profitability Ratios Dimension.

Level	Pre-test				Post-test			
	Control Group		Experimental Group		Control Group		Experimental Group	
	f	%	f	%	f	%	f	%
Deficient	16	80.0	14	70.0	13	65.0	0	00.0
Little efficient	4	20.0	6	30.0	7	35.0	12	60.0
Efficient	0	00.0	0	00.0	0	00.0	8	40.0
Total	20	100.0	20	100.0	20	100.0	20	100.0

The results show that, in the pre-test, the control group has 80% of participants at a deficient level, while the experimental group has 70%. In comparison, in the post-test, the control group maintains 65% at a deficient level, while the experimental group shows significant improvement, with 40% reaching an efficient level. This indicates substantial progress in the group that used the digital tool with AI.

Table 8.
Mann-Whitney U Test for Profitability Ratios.

Test Statistic	Profitability Pre-test	Profitability Post-test
Mann-Whitney U	134.000	0.000
Sig.	0.071	0.000

Table 8 shows that there were no significant differences between the control and experimental groups in the pre-test. However, in the post-test, statistically significant differences were detected, indicating that the intervention with the digital tool using AI significantly improved profitability in the experimental group.

5. Conclusion

The design of the digital tool based on AI met the requirements of end users, achieving a high usability score and validating its functionality for financial assessment, where the active participation of users in the design and validation phases ensured that the tool reflects their specific needs, standing out as an innovative and adaptable solution.

The implementation of the tool in the experimental group significantly improved indicators of accuracy, error reduction, and user satisfaction, greatly surpassing the control group. Additionally, the tool proved to be a key resource for optimizing financial processes and increasing the operational efficiency of MSMEs.

The pre- and post-test analysis showed that the tool positively impacted financial indicators of liquidity, management, solvency, and profitability, achieving statistically significant results, confirming that the digital tool not only improves financial processes but also contributes to strengthening business competitiveness.

It is concluded that the digital tool based on AI optimizes financial assessment in MSMEs in Chimbote, improving accuracy, reducing errors, and contributing to more efficient and sustainable financial management. Furthermore, the tool enables companies to anticipate changes in the economic environment, consolidating itself as a strategic technological solution. The positive impact evidenced in MSMEs in Chimbote suggests that the digital tool has the potential to be implemented in other regions or economic sectors with similar financial modernization needs, which could contribute to local and national economic development.

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Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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References

[1] Q. N. M. Diestra, A. J. C. Villodas, C. P. C. Montero, D. L. E. Cueva, and S. A. N. Vera, "Artificial intelligence and managerial decision-making," *Research Journal Added Value*, vol. 8, no. 1, pp. 52-69, 2021. https://doi.org/10.17162/riva.v8i1.1631

[2] C. De Tyler, R. G. Graell, and C. E. Tyler, "Business administration and the use of artificial intelligence and GPT-4: Contributions and challenges for software engineering and information systems," *Revista Científica Guacamaya*, vol. 8, no. 1, pp. 128-141, 2023. https://doi.org/10.48204/j.guacamaya.v8n1.a4323

[3] J. Granados Ferreira, "Analysis of artificial intelligence in labor relations," *Revista CES Derecho*, vol. 13, no. 1, pp. 111-132, 2022. https://doi.org/10.21615/cesder.6395

[4] T. Kovshova, P. Trifonov, and E. Ramirez-Asis, "Improving the efficiency of intellectualization processes in business management systems," *Systems*, vol. 11, no. 6, p. 266, 2023. https://doi.org/10.3390/systems11060266

[5] D. Mhlanga, "Industry 4.0 in finance: The impact of artificial intelligence (ai) on digital financial inclusion," *International Journal of Financial Studies*, vol. 8, no. 3, pp. 1-14, 2020. https://doi.org/10.3390/ijfs8030045

[6] R. Quispe, F. Rios, F. Quispe, D. Tafur, R. Vidal, and M. Mercedes, "Impact of artificial intelligence (AI) on corporate financial management," *Sciendo*, vol. 27, no. 2, pp. 303-313, 2024. https://doi.org/10.17268/sciendo.2024.044

[7] J. Erazo-Castillo and D. la A-Muñoz, "Auditing the future, foresight and artificial intelligence to anticipate risks in organizations,," *Revista Digital Novasinergia*, vol. 6, no. 1, pp. 105-119, 2023.

[8] C. L. A. Flores, L. T. Soberanes, and M. G. J. N. Gómez, "Financial management in MSMEs in the city of Huajuapan de León, Oaxaca, and its relationship with competitiveness," *Cuadernos Latinoamericanos de Administración*, vol. 17, no. 32, pp. 1-17, 2021. https://doi.org/10.18270/cuaderlam.v17i32.3490

[9] R. Liu, Y. Wang, and J. Zou, "Research on the transformation from financial accounting to management accounting based on drools rule engine," *Computational Intelligence and Neuroscience*, vol. 2022, no. 1, p. 9445776, 2022. https://doi.org/10.1155/2022/9445776

[10] M. I. Arango-Ortiz, "The influence of artificial intelligence (AI) on the accounting profession," *Ágora Revista Virtual de Estudiantes*, no. 17, pp. 199-204, 2024. https://ojs.tdea.edu.co/index.php/agora/article/view/1709

[11] C. Llamas, J. Zadamig, O. A. Mendoza, and M. Graff, "Regulatory approaches to artificial intelligence (AI)," *Chilean Law Review*, vol. 49, no. 3, pp. 31-62, 2022. https://doi.org/10.7764/R.493.2

[12] C. Araya Paz, "Legal challenges of artificial intelligence in Chile," *Chilean Journal of Law and Technology*, vol. 9, no. 2, pp. 257-290, 2020. https://doi.org/10.5354/0719-2584.2020.54489

[13] D. P. D. Ayuso and P. G. Esteban, "Artificial Intelligence as an educational resource during initial teacher training," *RIED-Ibero-American Journal of Distance Education*, vol. 25, no. 2, pp. 347-358, 2022. https://doi.org/10.5944/ried.25.2.32332

[14] Z. F. Cevallos, Y. V. Bazurto, and R. B. Parra, "Financial evaluation for decision-making at Baltrans Export Cía. Ltda.," *593 Digital Publisher CEIT*, vol. 9, no. 2, pp. 378-391, 2024. https://doi.org/10.33386/593dp.2024.2.2316

[15] F. Olan, E. O. Arakpogun, U. Jayawickrama, J. Suklan, and S. Liu, "Sustainable supply chain finance and supply networks: The role of artificial intelligence," *IEEE Transactions on Engineering Management*, vol. 71, no. 1, pp. 13296-13311, 2022. https://doi.org/10.1109/TEM.2021.3133104

[16] M. L. Villasano, H. C. Hernández, R. A. R. Rizo, and H. E. R. García, "Impact of artificial intelligence on human talent management in organizations," *RELAYN Magazine. Micro and Small Businesses in Latin America*, vol. 5, no. 3, pp. 62-77, 2021. https://doi.org/10.46990/relayn.2021.5.3.185

[17] A. Morán Espinosa, "Responsabilidad penal de la Inteligencia Artificial (IA).¿ La próxima frontera?," *Revista IUS*, vol. 15, no. 48, pp. 289-323, 2021.

[18] A. E. G. Ngo, "Formulation of strategic plan for a financial technology startup company," *International Journal of Academe and Industry Research*, vol. 4, no. 1, pp. 46-79, 2023. https://doi.org/10.53378/352974

[19] B. Amerirad, M. Cattaneo, R. Kenett, and E. Luciano, "Adversarial artificial intelligence in insurance: From an example to some possible remedies," *Risks*, vol. 11, no. 1, pp. 1–21, 2023.

[20] L. M. Yusupova, I. A. Kodolova, T. V. Nikonova, M. I. Agliullina, and Z. I. Agliullina, "Artificial intelligence and its use in financial markets," *International Journal of Financial Research*, vol. 11, no. 5, pp. 353-358, 2020. https://doi.org/10.5430/ijfr.v11n5p353

[21] F. Polo, "Digital transformation in financial management in consumer goods companies in Peru and Latin America, 2019-2020," PhD Thesis, San Martín de Porres University, 2021.

[22] J. J. Valladares-Albarracín and Y. L. Ordóñez-Parra, "The application of artificial intelligence in accounting auditing," *Revista Multidisciplinaria Perspectivas Investigativas*, vol. 4, no. especial, pp. 73-85, 2024. https://doi.org/10.62574/rmpi.v4iespecial.172

[23] M. J. Ziółkowska, "Digital transformation and marketing activities in small and medium-sized enterprises," *Sustainability*, vol. 13, no. 5, p. 2512, 2021. https://doi.org/10.3390/su13052512

[24] S. A. F. Haro, M. N. C. Guerrero, O. P. L. Solís, C. E. M. Naranjo, and K. E. M. Ramos, "Financial ratios of liquidity and activity: Tools for business management and decision making: Financial ratios of liquidity and activity: tools for business management and decision making," *LATAM Latin American Journal of Social Sciences and Humanities*, vol. 4, no. 1, pp. 2405–2418, 2023. https://doi.org/10.56712/latam.v4i1.425

[25] S. Anim-Yeboah, R. Boateng, R. Odoom, and E. A. Kolog, "Digital transformation process and the capability and capacity implications for small and medium enterprises," *International Journal of E-Entrepreneurship and Innovation*, vol. 10, no. 2, pp. 26-44, 2020.

[26] N. Velásquez, *Managerial accounting*. Chimbote: Publishing Fund of the Catholic University of Chimbote, 2019.

[27] J. H. Almeida-Blacio, F. G. Naranjo-Armijo, H. O. Maldonado-Pazmiño, and A. D. Rodríguez-Lara, "Inteligencia artificial como mecanismo eficiente de la contabilidad," *Código Científico Revista de Investigación*, vol. 5, no. E3, pp. 334-364, 2024. https://doi.org/10.55813/gaea/ccri/v5/nE3/320

[28] M. C. Bermeo-Giraldo, L. A. Montoya-Restrepo, A. Valencia-Arias, and M. A. M. Cardona, "The use of ICT in financial information management in commercial SMEs: A case study," *NOVUM, Journal of Applied Social Sciences*, vol. 1, no. 10, pp. 25-41, 2020. https://www.redalyc.org/articulo.oa?id=571361695002

[29] W. Lazaro-Aleman, F. Manrique-Galdos, C. Ramirez-Valdivia, C. Raymundo-Ibañez, and J. M. Moguerza, "Digital transformation model for the reduction of time taken for document management with a technology adoption approach for construction SMEs," presented at the 2020 9th International Conference on Industrial Technology and Management (ICITM), IEEE, 2020.

[30] J. M. Palomeque-Jaramillo, R. M. Izquierdo-Vera, D. A. Vintimilla-Orellana, and M. E. Palomeque-Solano, "Evaluation and analysis of financial tools in microenterprises," *Peer-Reviewed Scientific Journal of Communication, Marketing, and Business Research (Reicomunicar). ISSN 2737-6354*, vol. 7, no. 14, pp. 19-31, 2024.

[31] M. Dressler and I. Paunovic, "Sensing technologies, roles and technology adoption strategies for digital transformation of grape harvesting in SME wineries," *Journal of Open Innovation: Technology, Market, and Complexity*, vol. 7, no. 2, p. 123, 2021. https://doi.org/10.3390/joitmc7020123

[32] R. Floriano, L. F. Espejo, R. F. Contreras, and M. E. Carrasco, "Impact of virtual reality and immersive learning on higher education in Peru," *Nanotechnology Perceptions*, vol. 20, pp. 1–14, 2024.

[33] Q. J. A. Espinoza, "Risk management in financial administration: Strategies and tools," *Business Innova Sciences*, vol. 4, no. 3, pp. 25-44, 2023. https://doi.org/10.5281/zenodo.12747014

[34] J. Kääriäinen, P. Pussinen, L. Saari, and O. Kuusisto, "Applying the positioning phase of the digital transformation model in practice for SMEs: Toward systematic development of digitalization," *International Journal of Information Systems and Project Management*, vol. 8, no. 4, pp. 24-43, 2020.

[35] O. Navas, "On the threshold of a new era: Private law in the face of robotics and artificial intelligence," *Journal of the Faculty of Jurisprudence*, vol. 1, no. 9, pp. 178-219, 2021.

[36] C. Y. M. Maita, W. S. F. Sotelo, Y. A. M. Cruz, and J. C. C. Aliaga, "Artificial intelligence in public administration in times of Covid-19," *Journal of Social Sciences*, vol. 28, no. 5, pp. 331-340, 2022. https://doi.org/10.31876/rcs.v28i.38167

[37] I. Luminiţa and A. Mihai, "Big data management and cloud computing: Financial implications in the digital world," presented at the SHS Web de Conferencias, 2021.

[38] F. Molina and L. E. Fernández, "Artificial intelligence in the accounting field," Retrieved: https://eumed.net/rev/ce/2018/3/inteligencia-artificial-contable.html, 2018.

[39] M. D. C. Sosa, "Artificial intelligence in corporate financial management," *Pensamiento & Gestión*, vol. 23, no. 1, pp. 153-186, 2007.

[40] R. Aponte, F. Muñoz, and L. Álzate, "Financial evaluation of projects and their contribution to generating corporate value," *Science and Air Power*, vol. 12, no. 1, pp. 144-155, 2017. https://doi.org/10.18667/cienciaypoderaereo.567

[41] L. A. Huacchillo Pardo, E. V. Ramos Farroñan, and J. L. Pulache Lozada, "Financial management and its impact on financial decision-making," *University and Society Magazine*, vol. 12, no. 2, pp. 356-362, 2020.

[42] N. B. Barreto Granda, "Financial analysis: A substantial factor for decision-making in a company in the commercial sector," *University and Society Magazine*, vol. 12, no. 3, pp. 129-134, 2020.

[43] J. Arias, J. Holgado, T. Tafur, and M. Vásquez, "Research methodology: The ARIAS method for writing a Thesis project," Editorial Inudi Perú S.A.C, 2022.

[44] R. Hernández and C. Mendoza, *Research methodology: Quantitative, qualitative, and mixed methods*. USA: McGraw Hill Education, 2018.