

Identifying and ranking factors affecting financing of small and medium-sized businesses in East and West Azerbaijan provinces

Ali Mohamad Salahi¹ , Reza Ranjpour² *, Sajad Naghdi³ , Zahra Karimi Tekanloo⁴ 

1 .PhD student in Economic Sciences, Aras international campus, University of Tabriz, Tabriz, Iran

2 .Professor, Development and Planning Department, Faculty of Economics and Management, University of Tabriz, Tabriz, Iran

3. Associate Professor, Department of Accounting, Faculty of Economics and Management, University of Tabriz, Tabriz, Iran

4. Professor, Department of Economics, Faculty of Economics and Management, University of Tabriz, Tabriz, Iran

Received Date: 17 June 2025 Accepted Date: 27 September 2025

Abstract

Background and Objective: Financing is a critical pillar for the growth and sustainability of small and medium enterprises (SMEs), which play a key role in job creation, GDP growth, and innovation. In East and West Azerbaijan provinces, despite potentials such as border locations and free trade zones, SMEs face challenges like complex loan acquisition processes, heavy collateral requirements, and high interest rates. This study aims to identify, analyze, and rank factors affecting SME financing in these provinces to provide practical guidance for policymakers.

Methodology: This study employed a mixed-method (qualitative-quantitative) approach. In the qualitative phase, semi-structured interviews with 18 experts (purposively selected) and thematic analysis using Jupyter Notebook identified initial factors. In the quantitative phase, data from 100 SME managers were analyzed using DEMATEL and DANP techniques. Calculations were performed in Python, with reliability (Cronbach's alpha: 0.918) and validity (factor analysis explaining 69.9% of variance) confirmed.

Results and Findings: Key factors include access to loans (weight: 0.076602), government support (weight: 0.077008), and financial credit (weight: 0.076977). Critical components identified include a detailed business plan and managerial experience. It is recommended to enhance SME access through flexible financing and targeted support. The study's innovation lies in using DEMATEL and DANP to analyze complex relationships in the specific context of these provinces, offering a practical framework for policymaking that can serve as a model for other regions.

Keywords: Financing, Small and Medium Enterprises, DEMATEL, DANP, East and West Azerbaijan.

* Corresponding Author: reza.ranjpour@gmail.com

How to Cite: Mahamad Salahi, A. , Ranjpour, R. , Naghdi, S. and Karimi Tekanloo, Z. (2026). Identifying and ranking factors affecting financing of small and medium-sized businesses in East and West Azerbaijan provinces. *Journal of Sustainable Urban & Regional Development Studies (JSURDS)*, 7(1), 290-317.

Extended abstract

Introduction

Financing serves as a fundamental driver for the growth and sustainability of small and medium-sized enterprises (SMEs), which are pivotal in fostering employment, enhancing gross domestic product (GDP), and promoting innovation across economies. In the provinces of East and West Azerbaijan, Iran, SMEs benefit from strategic advantages such as border locations, free trade zones, and transit routes, yet they encounter significant barriers including complex loan acquisition processes, stringent collateral requirements, and elevated interest rates. These challenges hinder optimal utilization of regional potentials, where SMEs constitute a substantial portion of industrial units—41% in East Azerbaijan and 52% in West Azerbaijan, according to data from the Small Industries and Industrial Towns Organization. Globally and domestically, prior studies underscore the pervasive nature of these issues; for instance, Rocha et al. (2011) highlighted restricted access to bank facilities in the Middle East and North Africa, while Karimi and Bozarjomehri (2013) identified financing shortages as the primary obstacle to SME growth in Iran. Despite recognition of these problems, a notable research gap exists in systematically identifying, analyzing interrelations, and ranking financing factors within the unique geographic and economic context of these provinces, particularly amid economic shifts up to September 2025. Traditional approaches often overlook complex interactions among criteria, prompting the need for advanced multi-criteria decision-making (MCDM) methods. This study addresses this gap by aiming to identify, analyze, and rank factors influencing SME financing in East and West Azerbaijan, offering actionable insights for policymakers, managers, banks, and investors. The research questions are: (1) What are the factors affecting SME financing in these provinces? (2) What are the required components for SME financing? (3) How are these components ranked? By employing a mixed-methods approach, the study innovates through the integration of DEMATEL (Decision-Making Trial and Evaluation Laboratory) for mapping causal relationships and DANP (DEMATEL-based Analytic Network Process) for weighted ranking, providing a robust framework that accounts for interdependencies. This methodology surpasses conventional techniques, enabling a nuanced understanding of systemic dynamics. The findings are expected to inform targeted interventions, such as flexible financing schemes and enhanced government support, ultimately contributing to sustainable economic development and job creation in these border regions.

Methods and Material

This applied research adopted a mixed-methods (qualitative-quantitative) paradigm, conducted sequentially in two phases to ensure comprehensive data collection and analysis. In the qualitative phase, semi-structured interviews were conducted with 18 experts—university academics and senior SME managers with over 15 years of experience—selected via purposive sampling until theoretical saturation was achieved. Thematic analysis was performed using Jupyter Notebook to extract initial factors influencing SME financing. This phase focused on exploring contextual nuances, such as regional economic structures and barriers like bureaucratic hurdles. The quantitative phase involved surveying 100 SME managers from East and West Azerbaijan, representing diverse sectors (e.g., services at 60%, industry, and trade). Data were collected through a structured questionnaire assessing factors and components on a 5-point Likert scale (1: completely ineffective/unnecessary to 5: completely effective/essential). Reliability was confirmed with Cronbach's alpha (overall: 0.918; factors: 0.787; components: 0.906), exceeding the 0.7 threshold. Validity was established via exploratory factor analysis

(EFA), explaining 69.9% of variance, alongside convergent and divergent validity through correlation matrices. Normality tests (Kolmogorov-Smirnov and Shapiro-Wilk) indicated non-normal distribution ($p < 0.05$), necessitating non-parametric analyses. DEMATEL was applied to delineate cause-effect networks among factors, computing prominence ($D + R$) and relation ($D - R$) values to classify factors as influencers or influenced. DANP extended this by forming unweighted and weighted super matrices, normalizing them, and limiting to derive global weights for ranking. Calculations were executed in Python, incorporating correlation matrices and network weighting. Demographic data revealed a sample dominated by males (80%), aged 30-40 (45%), with master's degrees (40%), and varying business sizes and experiences, ensuring representativeness. Ethical considerations included informed consent and data anonymity. This hybrid MCDM approach, inspired by studies like Si et al. (2018) and Büyüközkan and Gülerüz (2016), facilitates a realistic prioritization by capturing interdependencies, making it suitable for complex, region-specific financing ecosystems.

Results and Discussion

The qualitative phase identified key factors such as access to loans, government support, financial credit, interest rates, macroeconomic conditions, financial transparency, and modern financing tools (e.g., crowd funding). Required components included detailed business plans, managerial experience, regulatory knowledge, repayment flexibility, banking roles, and microcredit access. Quantitative analysis revealed descriptive statistics: interest rates on bank facilities ranked highest as a deterrent (mean: 4.7, SD: 1.2), followed by macroeconomic conditions (mean: 4.5, SD: 1.4), while modern tools scored lowest (mean: 2.9, SD: 1.6), indicating limited awareness or accessibility. For components, detailed business plans topped the list (mean: 4.6, SD: 1.1), with managerial expertise second (mean: 4.4, SD: 1.3), and microcredit least essential (mean: 3.5, SD: 1.5). DEMATEL results classified all 12 factors as "influenced" (negative relation values), with low prominence (e.g., managerial expertise: 3.43), suggesting dominance by external elements like banking policies and economic instability. This aligns with Beck and Demirguc-Kunt (2006), who noted SMEs' vulnerability in centralized banking systems. DANP ranking, accounting for interdependencies, prioritized: (1) access to loans (weight: 0.076602), (2) government support (weight: 0.077008), (3) financial credit (weight: 0.076977), (4) interest rates (weight: 0.076), and (5) macroeconomic conditions (weight: 0.075). Lower ranks included repayment flexibility (weight: 0.072) and microcredit (weight: 0.071). These differ from simple means, as DANP incorporates network effects, providing a more operational hierarchy—e.g., resolving access barriers before internal enhancements. Discussion integrates findings with literature: High weights for access and support echo Rocha et al. (2011) and Karimi and Bozarjomehri (2013), emphasizing institutional reforms in Iran. Modern tools' low priority contrasts with Zaihua (2023), highlighting fintech's untapped potential amid regional underdevelopment. Word cloud analysis from qualitative responses reinforced themes like "facilities," "economy," and "guarantees," validating quantitative priorities. The study's innovation—DEMATEL-DANP integration—offers a replicable model, differing from descriptive studies (e.g., Osunsan et al., 2024) by quantifying causal links. Regional focus reveals border-specific challenges, such as sanctions' impact, not fully addressed in global works like Gupta (2023). Overall, results underscore a system reliant on external interventions, with internal factors (e.g., business plans) as secondary enablers.

Conclusion

This study elucidates critical factors and components for SME financing in East and West Azerbaijan, ranking them via DEMATEL-DANP to guide policy. Key influencers—access to loans, government support, and financial credit—demand priority reforms, while components like business plans and managerial expertise are essential but secondary. These insights align with prior research but innovate through contextual MCDM application, serving as a blueprint for other regions. Limitations include limited qualitative data depth, potential obsolescence due to rapid economic changes (e.g., inflation), and regional specificity reducing generalizability. Future research could expand qualitative inputs, compare inter-provincially, and incorporate fintech dynamics. Recommendations encompass tailored training on modern tools, flexible bank facilities, and government incentives. Enhanced institutional support, like credit guarantees and regulatory awareness, could mitigate barriers, fostering SME resilience and regional growth. Ultimately, this framework empowers stakeholders to design targeted strategies, advancing sustainable development in Iran's border provinces.

Declarations

Funding

There is no funding support for this study.

Authors' Contribution

Authors contributed equally to the conceptualization and writing of the article. All of the authors approved the content of the manuscript and agreed on all aspects of the work declaration of competing interest none.

Conflict of Interest

The authors declare no conflict of interest.

Acknowledgments

We are grateful to all the scientific consultants of this paper.

References

- Abdulsaleh, A. M. , & Worthington, A. C. (2013). Small and medium-sized enterprises financing: A review of literature. *International Journal of Business and Management*, 8(14), 36.
- Abe, M. , Troilo, M. , & Batsaikhan, O. (2015). Financing small and medium enterprises in Asia and the Pacific. *Journal of Entrepreneurship and Public Policy*, 4(1), 2-32.
- Abedini, M. , Aly, S. , Azimi, M. H. , & Maleki, M. (2024). Designing an agile marketing model for small and medium-sized enterprises in Iran (Case study: SMEs in the northwest regions of Iran). *Dynamic Management in Business Analysis*, 3(2). <https://doi.org/10.61838/dmbaj.3.2.10>
- Alavi, S. A. S., Qadamyari, M., & Harabi, T. (2025). A framework for successful crowdfunding campaigns: Insights from social media (A systematic review). *Asset Management and Financing*, 13(2), 55-76. <https://doi.org/10.22108/amf.2024.142336.1906> (In Persian)

- Alexy, O. T. , Block, J. H. , Sandner, P. & TerWal, A. L. (2012). Social capital of venture capitalists and start-up funding. *Small Business Economics*, 39, 835–851.
- Ali, S. T. M. (2023). Exploring the influence of profitability analysis on SME financing: A conceptual view.
- Altman, E. I. , Sabato, G. , & Wilson, N. (2010). The value of non-financial information in small and medium-sized enterprise risk management. *Journal of Credit Risk*, 6, 95–127.
- Bao, W. , Xiao, J. , Deng, T. , Bi, S. , & Wang, J. (2024). The challenges and opportunities of financial technology innovation to bank financing business and risk management. *Financial Engineering and Risk Management*, 7(2), 82-88.
- Barth, J. R. , Caprio, G. , & Levine, R. (2006). Rethinking bank regulation. Till angels govern. Cambridge: Cambridge University Press.
- Beck, T. , & Demirguc-Kunt, A. (2006). Small and medium-size enterprises: Access to finance as a growth constraint. *Journal of Banking & Finance*, 30(11), 2931–2943.
- Boehe, D. (2013). Collaborate at home to win abroad: How does access to local network resources influence export behavior? *Journal of Small Business Management*, 51, 167–182.
- Brandouy, O. , Kerstens, K. , & Van deWoestyne, I. (2015). Frontier-based vs. traditional mutual fund ratings: A first backtesting analysis. *European Journal of Operational Research*, 242, 332–342.
- Brustbauer, J. (2014). Enterprise risk management in SMEs: Towards a structural model. *International Small Business Journal*, 34, 70–85.
- Burgstaller, J. , & Wagner, E. (2015). How do family ownership and founder management affect capital structure decisions and adjustment of SMEs? Evidence from a bank-based economy. *The Journal of Risk Finance*, 16, 73–101.
- Büyüközkan, Gülçin & Güleriyüz, Sezin, 2016. "An integrated DEMATEL-ANP approach for renewable energy resources selection in Turkey," *International Journal of Production Economics*, Elsevier, vol. 182(C), pages 435-448.
- Casey, E. & O'Toole, C. (2014). Bank-lending Constraints, Trade Credit and Alternative Financing During the Financial Crisis: Evidence from European SMEs. *Journal of Corporate Finance*, Volume 27, August 2014, pp. 173–193.
- Chiu, W. Y. , Tzeng, G. H. & Li, H. L. (2013). A new hybrid MCDM model combining DANP with VIKOR to improve e-store business. *Knowledge-Based Systems*, 37, 48–
- Crawford, J. , Cui, Z. Y. A. , & Kewley, D. (2024). Government finance, loans, and guarantees for small and medium enterprises (SMEs)(2000–2021): A systematic review. *Journal of Small Business Management*, 62(5), 2607-2637.
- Djidjik, S. (2024). A review of constraint factors affecting the growth of Small and Medium Enterprises (SMEs): The case of Algeria. *AYBU Business Journal*. <https://doi.org/10.61725/abj.1414992>
- European Central Bank (ECB). (2015). Survey on the Access to Finance of Enterprises (SAFE) - Analytical Report 2015. ECB. https://www.ecb.europa.eu/stats/ecb_surveys/safe/html/index.en.html
- Farhang, A. (2022). The Effects of Financial Structure on Life Expectancy (Cup-FM Approach). *Journal of Development and Capital*, 7(1), 121-134. doi: 10.22103/jdc.2022.19233.1221(In Persian)

- Farhang, A. A. (2022). The effects of fossil fuels consumption, CO2 emissions and crude oil prices on economic growth. *Economic Growth and Development Research*, 12(48), 97-110. (In Persian)
- Fatoki, O. , & Odeyemi, A. (2010). Which new small and medium enterprises in South Africa have access to bank credit. *International Journal of Business and Management*, 5, 128–136.
- Gan, J. , Chen, Y. , Zhou, P. , & Du, L. (2024). Clustering ensemble algorithm with high-order consistency learning. ArXiv. <https://doi.org/10.11772/j.issn.1001-9081.2022091406>
- Gupta, R. , & Singh, B. P. (2023). Financial constraints, investment climate and firm productivity of small and medium enterprises (SMEs) in India. *Vision: The Journal of Business Perspective*. <https://doi.org/10.1177/09722629231203934>
- Haiss, P. , & Kichler, E. (2009). Leasing, credit and economic growth: Evidence for Central and South Eastern Europe. *EI Working Papers*, NO. 80.
- Halunko, V. , Halunko, V. , & Savyuk, M. (2018). Foreign experience for financing small and medium business. *Baltic Journal of Economic Studies*, 4(5), 40-45.
- Hasanova, J. , & Najafova, K. (2025). Digitization, automation problems and solutions in small business on the example of Azerbaijan. *WSEAS Transactions on Business and Economics*, 22, 110. <https://doi.org/10.37394/23207.2025.22.110>
- Hauswald, R. B. H. & Bruno, V. (2009). The real effect of foreign banks. *Paolo Baffi Centre Research Paper*, No. 2009–50.
- Hollman, K. W. , & Mohammad-Zadeh, S. (1984). Risk management in small business. *Journal of Small Business Management*, 22, 7–55.
- Hosseini, A. H., & Kazemi, F. (2015). Investigating barriers to financing in entrepreneurship of small and medium-sized enterprises. In *National Conference on Entrepreneurship and Sustainable Development*, Babolsar. (In Persian)
- Inegbedion, H. E. , Thikan, P. R. , David, J. O. , Ajani, J. O. , & Peter, F. O. (2024). Small and medium enterprise (SME) competitiveness and employment creation: the mediating role of SME growth. *Humanities and Social Sciences Communications*, 11(1), 1-10.
- Jimenez, G. , Salas, V. , & Saurina, J. (2009). Organizational distance and use of collateral for business loans. *Journal of Banking & Finance*, 33(2), 234–243.
- Jin, L. , & Liu, M. (2025). Unlocking financial opportunities: The substantial alleviation of financing constraints on small and micro enterprises through digital inclusive finance. *Journal of the Knowledge Economy*, 16(1), 2283-2309.
- Karimi, A., & Bozarjomehri, S. (2013). Analysis of financing barriers for small and medium-sized enterprises. *Scientific-Research Quarterly of Entrepreneurship Development*, 6(1), 125-144. (In Persian)
- Khan, K. S. (2011). Determinants of firm growth: An empirical examination of SMEs in Gujranwala, Gujarat and Sialkot districts [Master's thesis, University of the Punjab]. [Semantic Scholar](https://www.semanticscholar.org/).
- Kianpour, S., & Hajian, M. (2024). Evaluation and ranking of digital economy infrastructure indicators in Iran's provinces. *Quarterly Journal of Innovation Ecosystem Studies*, 4(1), 105-124. <https://doi.org/10.22111/innoeco.2024.49481.1108> (In Persian)
- Kraemer-Eis, H. & Lang, F. (2014). The Importance of Leasing for SME Financing. *World Leasing Yearbook 2014*, Euromoney, January 2014, pp. 18-23.
- Kraemer-Eis, H. , Battazzi, F. , Charrier, R. , Natoli, M. , Squilloni, M. (2014). Institutional Non-bank Lending and the Role of Debt Funds. *EIF*

- Kuteesa, K. N. , Akpuokwe, C. U. , & Udeh, C. A. (2024). Exploring global practices in providing small and medium enterprises access to sustainable finance solutions. *World Journal of Advanced Science and Technology*, 5(2). <https://doi.org/10.53346/wjast.2024.5.2.0034>
- Kutesa, K. N., Akpuokwe, C. U., & Udeh, C. A. (2024). Exploring global practices in providing small and medium enterprises access to sustainable finance solutions. *World Journal of Advanced Science and Technology*, 5(2), 1-15. <https://doi.org/10.53346/wjast.2024.5.2.0034>
- Mahdiraji, H. A. , Hajiagha, S. H. R. , Jafari-Sadeghi, V. , Busso, D. , & Devalle, A. (2023). Towards financing the entrepreneurial SMEs: Exploring the innovation drivers of successful crowdfunding via a multi-layer decision-making approach. *European Journal of Innovation Management*. <https://doi.org/10.1108/ejim-12-2021-0618>
- Maulida, J. , Mubarak, A. A. , Luchiansyah, A. , Ramalia, D. , Sukma, R. M. , & Fadhli, H. (2025). Faktor yang mempengaruhi pembiayaan usaha kecil dan menengah di sektor perbankan. *Journal of Economics and Business*, 3(1). <https://doi.org/10.61994/econis.v3i1.511>
- Maurer, M. C. R. (2008). Foreign bank entry, institutional development and credit access: Firm-level evidence from 22 transition countries. *Swiss National Bank Working Papers Series*, No. 2008–4.
- Mostafazadeh, A. (2015). Financing model for small and medium-sized enterprises: An analysis of the concept and importance of SME financing. *Economic Studies Office, Center for Parliamentary Research*. (In Persian)
- Motameni, A., & Tabaghian, N. (2015). Identification and prioritization of financing methods for small and medium-sized enterprises based on the business life cycle. *Financial Management Perspective*, 5(11), 79-90. (In Persian)
- Navarathne, K. A. S. (2023). An exploratory case study of the factors hindering the success of small and medium enterprises. *Journal of Small Business Strategy*, 33. <https://doi.org/10.53703/001c.77456>
- Noori, M., Hosseini-Shakib, M., & Khamseh, A. (2024). Proposing a model for analyzing financing barriers in production for small and medium-sized enterprises. *Asset Management and Financing*, 12(1), 37-58. <https://doi.org/10.22108/amf.2024.137563.1798> (In Persian)
- Nor, A. I. (2024). Small and medium-sized enterprises: A tool for socioeconomic development. *International Journal of Advanced and Applied Sciences*, 11(12). <https://doi.org/10.21833/ijaas.2024.12.014>
- OECD. (2015). *Financing SMEs and Entrepreneurs 2015: An OECD Scoreboard*. OECD Publishing. https://www.oecd.org/en/publications/financing-smes-and-entrepreneurs-2015_fin_sme_ent-2015-en.html
- Ogunsanmi, O. O. (2022). SME Financing: Understanding the Barriers and Potentials for Entrepreneurs - Developing and Under-Developed World Perspectives. In *Handbook of Research on Entrepreneurship Development and Opportunities in Circular Economy*. IGI Global. <https://www.irma-international.org/chapter/sme-financing/293800/>
- Ortíz MA, Felizzola HA, Nieto Isaza S. A contrast between DEMATEL-ANP and ANP methods for six sigma project selection: a case study in healthcare industry. *BMC Med Inform Decis Mak*. 2015;15 Suppl 3(Suppl 3): S3. doi: 10.1186/1472-6947-15-S3-S3. Epub 2015 Sep 4. PMID: 26391445; PMCID: PMC4705502.

- Osunsan, O. K. , Joshua, A. , Sylvia, N. , Joseline, T. , Isabella, N. , & Henry, M. (2024). Financing decisions of small and medium-sized enterprises. *International Journal of Management Studies and Social Science Research*, 6(5). <https://doi.org/10.56293/ijmssr.2024.5320>
- Oxford Economics. (2011). The Use of Leasing Amongst European SMEs. Prepared for Leaseurope. <https://finansbolagen.se/system/files/LeaseuropeSMEReportKeyFindings.pdf>
- Pelly, R. & Kraemer-Eis, H. (2012). Improving the Funding Landscape for Entrepreneurs. SME Centre Policy Brief – SMEs in the Single Market, Lisbon Council Policy Brief Vol. VI, No. 3, 2012
- Presbitero, A. F. , & Zazzaro, A. (2009). Competition and relationship lending: Friends or foes? MoFiR Working Paper, No. 13.
- Ramezani, F., Keshtidar, M., & Moodi, D. (2021). Analysis of financing barriers for sports entrepreneurs using the Q methodology. *Journal of Sport Management*, 13(1), 237-255. <https://doi.org/10.22059/jsm.2019.280621.2264> (In Persian)
- Repullo, R. , & Suarez, J. (2004). Loan pricing under basel capital requirements. *Journal of Financial Intermediation*, 13(4), 496–521.
- Robb, A. & Robinson, D. (2010). The Capital Structure Decisions of New Firms. National Bureau of Economic Research, 2010, Working Paper 16272, <http://www.nber.org/papers/w16272>
- Rocha, R. , Farazi, S. , Khouri, R. , & Pearce, D. (2011). *The status of bank lending to SMEs in the Middle East and North Africa region: The results of a joint survey of the Union of Arab Banks and the World Bank* (Policy Research Working Paper No. 5607). World Bank. <https://doi.org/10.1596/1813-9450-5607>
- Rocha, R., Farazi, S., Khouri, R., & Pearce, D. (2011). The Status of Bank Lending to SMEs in the Middle East and North Africa Region: Results of a Joint Survey of the Union of Arab Banks and the World Bank. World Bank Policy Research Working Paper No. 5607. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1794912
- Sadri-Nia, M., Mirasedi, S., & Varvani, M. (2009). Various financing methods for small and medium-sized enterprises at different stages of the life cycle. *Technology Growth*, 5(19), 13-21. (In Persian)
- Sajoodi, S., & Jalili, A. (2022). Islamic financing for small and medium-sized enterprises: Challenges and solutions. *Economics and Islamic Banking*, 11(39), 123-145. <https://mieaoi.ir/article-1-1274-fa.html> (In Persian)
- Si, S. L., You, X. Y., Liu, H. C., & Zhang, P. (2018). DEMATEL Technique: A Systematic Review of the State-of-the-Art Literature on Methodologies and Applications. *Mathematical Problems in Engineering*, 2018, 1-33. <https://www.hindawi.com/journals/mpe/2018/3696457/>
- Syzdykova, A. , & Azretbergenova, G. (2025). Analysis of the Impact of SMEs' Production Output on Kazakhstan's Economic Growth Using the ARDL Method. *Economies*, 13(2), 38.
- Tabee-Motaghi, F. (2022). The role of venture capital and loans in small and medium-sized enterprises (SMEs). In *13th National Conference on Management and Humanities Research in Iran*, Tehran. <https://civilica.com/doc/1673356> (In Persian)

- Tambunan, B. A. Y. , Silaban, E. , & Harahap, I. (2023). The role of banking in UMKM financing. *Indonesian Journal of Advanced Research*, 2(5). <https://doi.org/10.55927/ijar.v2i5.4262>
- Wati, K. L. , Sianturi, M. , & Liswatin, L. (2025). The impact of financial literacy on SMEs performance: The role of access to financial resources as a mediator. *RIGGS: Journal of Artificial Intelligence and Digital Business*, 4(2). <https://doi.org/10.31004/riggs.v4i2.1540>
- Wati, K. L. , Sianturi, M. , & Liswatin, L. (2025). The impact of financial literacy on SMEs performance: The role of access to financial resources as a mediator. *RIGGS: Journal of Artificial Intelligence and Digital Business*, 4(2). <https://doi.org/10.31004/riggs.v4i2.1540>
- Wattanapruttipaisan, T. (2023). Four proposals for improved financing of SME development in ASEAN. *Asian Development Review*, 20(2), 66-104.
- Wijst, D. van der. (1989). *Financial Structure in Small Business: Theory, Tests and Applications*. Berlin: Springer-Verlag, Chapter 5. Determinants from the practice of small business finance, pp. 83-93.
- Zaihua, H. (2023). Practical path of SME financing problems from the perspective of fintech. *Academic Journal of Business & Management*, 5(4), 98-102.
- Zhang, W. W. (2023). Research on SME Financing Strategy Based on Enterprise Life Cycle. *Open Journal of Business and Management*, 11(3), 1125-1129.