
Status and Performance Evaluation of Industrial Productivity In Magelang Regency

Budi Sumantri¹, Irman Firmansyah², Mona Zarminiaty³, Vidya Mar'atusholikha²

¹Universitas Muhammadiyah Yogyakarta, Indonesia

²System Dynamics Center, Indonesia

³Akuntanpublik.id, Indonesia

*Correspondence: irmanf@gmail.com

Abstract

Productivity is recognized as one of the most powerful driving forces for national economic growth as well as business development at the corporate level. This study aims to evaluate the status and performance of industrial productivity in Magelang Regency using the Multiaspect Sustainability Analysis (MSA) approach. The analysis was conducted on ten companies by employing the Productivity Improvement Management System (SIMPPRO) instrument, which encompasses seven key aspects: leadership, strategic planning, human resource development and management, customer and market expansion, data and information, process management, and business outcomes. The findings reveal that the average performance of the assessed companies falls within the “developing” category, with an overall score of 66.64. Among the evaluated dimensions, leadership (70.59) and customer and market expansion (76.92) demonstrated relatively strong achievements. In contrast, strategic planning (62.96) and business outcomes (58.14) emerged as weaker aspects requiring greater attention. Scenario analysis further indicates that company performance could increase to 75.1 if leverage factors were strengthened, particularly in strategic planning, process management, and business outcomes. These results underscore the importance of enhancing adaptive strategic planning mechanisms, establishing integrated process management systems, and achieving more effective business outcomes in order to strengthen competitiveness. Furthermore, employee participation in decision-making, the development of digital-based customer services, and the utilization of transparent information systems are highlighted as essential strategies to support corporate sustainability. Overall, the study concludes that companies in Magelang Regency possess considerable potential to become more competitive and sustainable, provided that productivity enhancement strategies are consistently and systematically implemented.

Keywords: Multiaspect sustainability analysis, corporate performance, company productivity.

1. Introduction

High economic growth and the rapid expansion of business activities serve as vital drivers for job creation and, at the same time, improve the welfare of workers and their families. In the context of global competition, productivity remains a critical determinant of both national competitiveness (macro level) and corporate competitiveness (micro level). Recent studies highlight that institutional

frameworks and green policies play a significant role in supporting sustainable growth, while human capital development through higher education has been shown to contribute positively to green productivity (Sun, 2025). Productivity is also understood as a mindset that emphasizes continuous improvement over time. Economically, it is measured as the ratio between output and input, where outputs are goods or services and inputs include human resources, capital, materials, machinery, methods, and management.

From a managerial perspective, productivity represents the process of transforming inputs into effective and beneficial outputs efficiently while maintaining quality. It is grounded in three fundamental disciplines: economics (efficiency), management (effectiveness), and industrial engineering (value-added). In line with this, the concept of green productivity has received growing attention in international literature. Managerial strategies that emphasize green innovation have been proven to enhance corporate productivity (Li, 2024), while the adoption of clean energy has a significant positive impact on green total factor productivity (Bogdzinski, 2025). These findings underscore the need for governments to strengthen productivity improvement systems with a sustainability orientation.

In general, a company is an organization that processes resources (inputs) such as raw materials and labor into goods and services (outputs) for customers. The primary goal is profit, defined as the difference between revenues received from customers and costs incurred in production. Accordingly, company performance is often assessed based on profit growth over time. To remain competitive, firms must consistently produce innovative, globally standardized products. However, the challenges extend beyond profitability. To survive and grow, companies must continually improve productivity, efficiency, and effectiveness, while ensuring robust oversight to minimize waste, irregularities, and fraud. Such threats to business continuity may arise from both internal and external factors.

To address these challenges, internal audit functions and corporate governance evaluations become increasingly essential. Internal audit plays a critical role in risk management, operational effectiveness, and the realization of Good Corporate Governance (GCG). Evidence shows that internal audit effectively supports the implementation of GCG and strengthens stakeholder trust (Chalid and Rifqi, 2025). Moreover, audit culture and internal control have been found to positively influence audit quality, with governance acting as a significant mediator (Evinita and Kambey, 2021). GCG practices are widely regarded as a mechanism to improve financial performance, reduce risks, and reinforce corporate sustainability. Within this study, companies were assessed using the Technical Guidelines for Productivity Improvement Management Systems issued by the Directorate General of Vocational Training and Productivity Development, Ministry of Manpower of the Republic of Indonesia (2022). The main objective is to examine the status and performance of corporate productivity in selected business sectors in Magelang Regency.

2. Research method

This study was conducted from October 2022 to March 2023. Data collection was carried out using interviews and observations. The data set consisted of both primary and secondary data (Pratama et al., 2024). Primary data were obtained through interviews with experts and academics specializing

The database used in the multiaspect sustainability analysis was derived from desk studies and expert input, including those participating in focus group discussions (FGDs) or in-depth interviews. Desk study analysis provided scientifically based factors and indicators, which included references from academic journals, books, research theses, dissertations, and other scholarly works. Meanwhile, FGDs generated expert concepts relevant to selected variables. The combined outcomes of literature reviews and expert judgments were then used to establish the aspects, factors, and indicators employed to evaluate the sustainability status or performance of the companies.

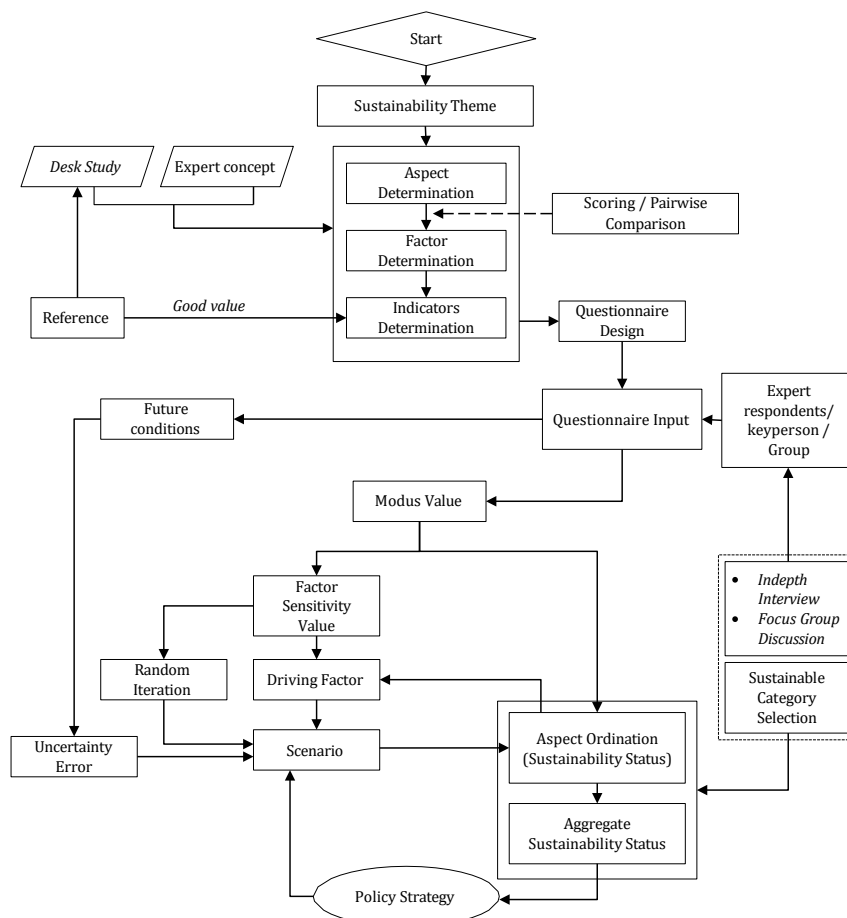


Figure 1. Conceptual Framework of the Multiaspect Sustainability Analysis (MSA) Approach

The assessment was carried out by expert respondents. The number of respondents was adjusted to the scope of the study; it did not require a large sample, but rather individuals who possessed deep knowledge or expertise in the subject matter. Since MSA is expertise-based, respondents were not treated as a statistical sample but as key stakeholders or key persons who could participate through in-depth interviews, observations, or focus group discussions (FGDs). Ideally, the number of expert respondents was odd to minimize bias and facilitate the selection of the mode value.

The assessment technique was conducted by selecting indicators that reflected the actual conditions, supported by expert judgment. In addition to evaluating the existing situation, assessments of future conditions were also carried out. These future-oriented evaluations helped identify potential scenarios required to ensure the sustainability of an organization.

The values obtained were then processed to determine the mode (the most frequently occurring score), which was subsequently analyzed to generate several outputs. The outputs of the MSA include sustainability status indices, leverage factors, random iterations, and uncertainty errors. MSA broadly encompasses factors across multiple aspects by defining two reference points—favorable and unfavorable (Sumantri et al., 2020). The leverage factors were then utilized to simulate desired scenarios, which could be further developed into policies or strategies for strengthening organizational sustainability in the future.

3. Results and Discussion

3.1. Analysis of Corporate Productivity Status and Performance

The evaluation of corporate and industrial productivity status and performance in Magelang Regency was conducted using the Multiaspect Sustainability Analysis (MSA) approach. The measurement of the Productivity Improvement Management System (SIMPPRO) was carried out through a productivity management system audit, which involved seven elements, fifty-two sub-elements, and two hundred criteria available on the SIMPPRO platform (simppro.id). This MSA-based assessment not only examined corporate sustainability and performance but also enabled scenario analysis of leverage factors that influenced the observed sustainability values. These leverage factors served as references for further evaluation and as a basis for developing corporate standard operating procedures (SOPs). The study covered ten companies: CV. Kondang Lestari, PT. KLI, PT. Tata Lestari, PT. SJA, PT. Djohar, Anugrah Metalindo Gemilang, PT. Surya Mandiri Jaya Sakti, PT. Anugrah Abadi Magelang, PT. Pandatex, and CV. Sembodo Joyo.

The assessment was carried out in aggregate to capture the overall performance condition and scores of the companies. Alongside performance analysis, these companies also underwent productivity evaluations. The results of the MSA-based analysis indicated that, on average, companies in Magelang Regency fell into the “developing” category, with an overall score of 66.64. The breakdown by aspect revealed the following: leadership (70.59), strategic planning (62.96), human resource development and management (69.7), customers and market expansion (76.92), data and information analysis (64.29), process management (58.14), and business outcomes (58.14). These values suggest that most companies in Magelang possess strong potential for continued sustainable

operations. However, particular attention is needed for business outcomes, which scored 58.14 and were categorized as “less developed.” The second-lowest score was strategic planning at 62.96. This is noteworthy, as strategic planning and business outcomes are interrelated and central to shaping corporate goals. Figure 1 presents a radar diagram of the existing status of companies in Magelang Regency.

Recent studies reinforce the importance of leadership and strategic planning in shaping organizational performance. For example, research on the Influence of Strategic Planning and Analytical Maturity found that analytical maturity and strategic planning were positively correlated with startup performance in Indonesia (Mardiani, 2023). Similarly, a study on leadership and motivation in Indonesian family businesses reported that transformational leadership styles and employee motivation play significant roles in ensuring sustainable performance (Lukito, 2025). These findings are consistent with the leadership and strategic planning aspects evaluated in the present study.

The current performance of companies in Magelang Regency is influenced by several driving factors across different aspects. In the leadership aspect, the key drivers include: (1) employees’ opinions, suggestions, and ideas being reviewed and considered for application, development, and improvement; and (2) the involvement of employees in formulating and defining the company’s mission. Leadership development programs have been shown to significantly enhance managerial effectiveness and decision-making, particularly when employees are engaged in the strategy formulation process (Puspita, 2024). Similarly, participative leadership styles have been found to positively affect workforce productivity when workload is properly managed (Amru et al., 2025).

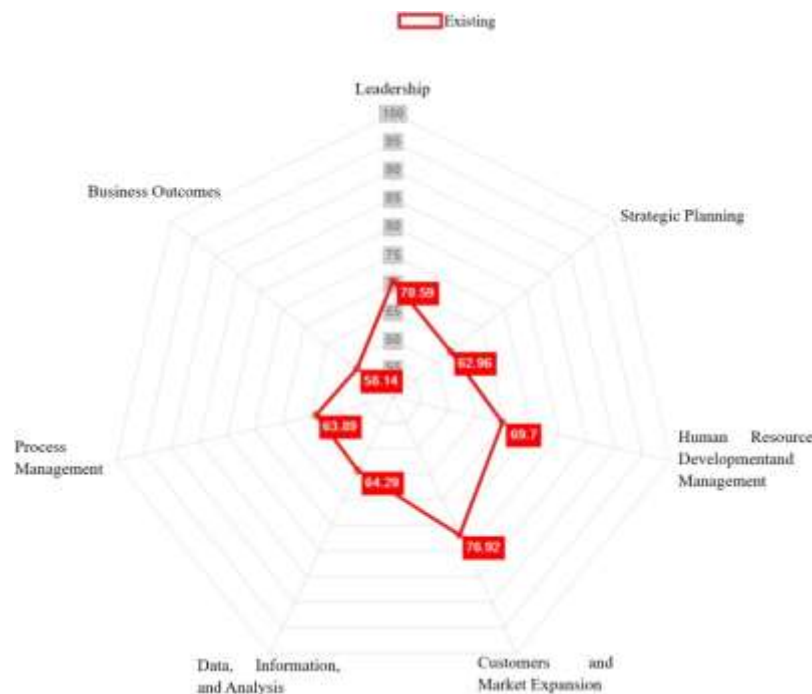


Figure 2. Radar diagram of the existing condition of companies in Magelang Regency

In the strategic planning aspect, the main drivers are: (1) mechanisms for adjusting action plans established by company leaders, and (2) the dissemination and documentation of short-term action

plans across divisions. The human resource development and management aspect is shaped by: (1) pension guarantee programs, and (2) the presence of brainstorming mechanisms or employee suggestion forums. In the customer and market expansion aspect, the main drivers are: (1) effective handling of customer complaints, and (2) the availability of customer service facilities. Previous research confirms that customer complaint management has a significant positive effect on loyalty and satisfaction (Fadilah and Wendy, 2023). Furthermore, well-structured complaint management systems enhance overall customer satisfaction and drive organizational performance (Smith and Johnson, 2022).

In the data, information, and analysis aspect, the drivers are: (1) accessible information systems, and (2) the utilization of data analysis outcomes to define corporate priorities. The process management aspect is influenced by: (1) regular reviews of disaster and emergency risk management, and (2) the dissemination of business processes to all employees, partners, and suppliers. The business outcome aspect is determined by: (1) faster production processes, and (2) effective resolution of customer complaints in line with targets. Employee engagement has been found to mediate the relationship between sustainable leadership and productivity, making inputs such as information systems and data analysis highly relevant. Moreover, inclusive leadership, transparency, and open communication foster employee engagement, which subsequently strengthens internal processes and corporate outcomes (Inclusive Leadership, 2025).

The identified driving factors in each aspect were then used as the foundation for scenario analysis. Scenario analysis was conducted to project potential improvements in company performance by enhancing the value of each driving factor. The results demonstrated significant performance improvements among companies in Magelang Regency. In the first scenario, the performance index increased to 70.87, while in the second scenario it rose further to 75.1. Both scenarios positioned the companies within the “developing” category. The radar chart of the scenario analysis results is presented in Figure 3.

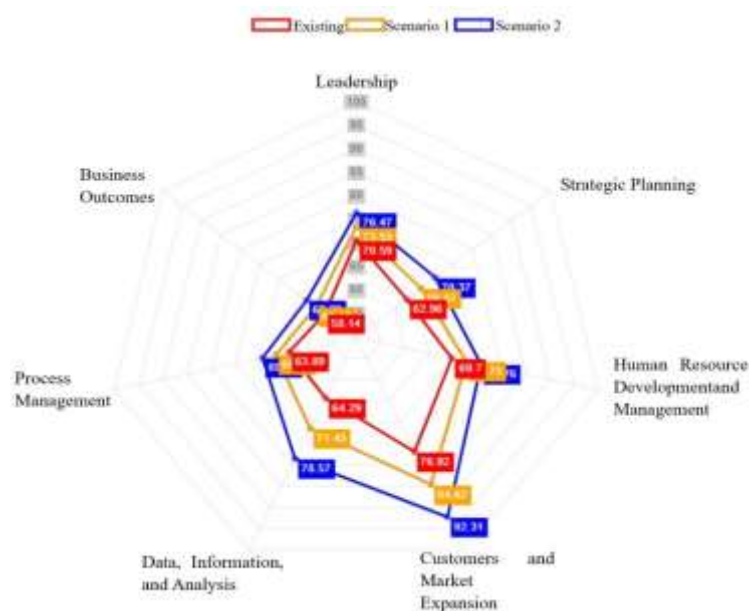


Figure 3. Scenario Analysis Graph of Companies in Magelang Regency

Figure 2 illustrates the scenario analysis graph, which shows an improvement in company performance after scenarios were applied based on identified driving factors. The performance enhancement is depicted by the yellow and blue lines, where the outward expansion of the lines indicates better overall performance. Two scenarios were tested: the first scenario resulted in a company performance score of 70.87, while the second scenario achieved a score of 75.1. Both scenarios fall within the “developing” category. A more detailed breakdown of performance improvements, both in aggregate and across individual aspects, is presented in Table 1.

Table 1. Scenario-Based Corporate Performance in Magelang Regency

Aspect	MSA	Performance Scenario	
		Scenario 1	Scenario 2
Leadership	70.59	73.53	76.47
Strategic Planning	62.96	66.67	70.37
Human Resource Development and Management	69.7	72.73	75.76
Customers and Market Expansion	76.92	84.62	92.31
Data, Information, and Analysis	64.29	71.43	78.57
Process Management	63.89	66.67	69.44
Business Outcomes	58.14	60.47	62.79
Average	66.64	70.87	75.1
Status	Developing	Developing	Developing

The table demonstrates incremental improvements in corporate performance across all aspects under the two simulated scenarios. Notably, the most substantial gains were observed in the aspects of customers and market expansion as well as data, information, and analysis. The results confirm that reinforcing driving factors in each aspect has the potential to elevate overall company performance, shifting the aggregate score from 66.64 (existing condition) to 70.87 (Scenario 1) and further to 75.10 (Scenario 2), both of which remain within the “developing” category.

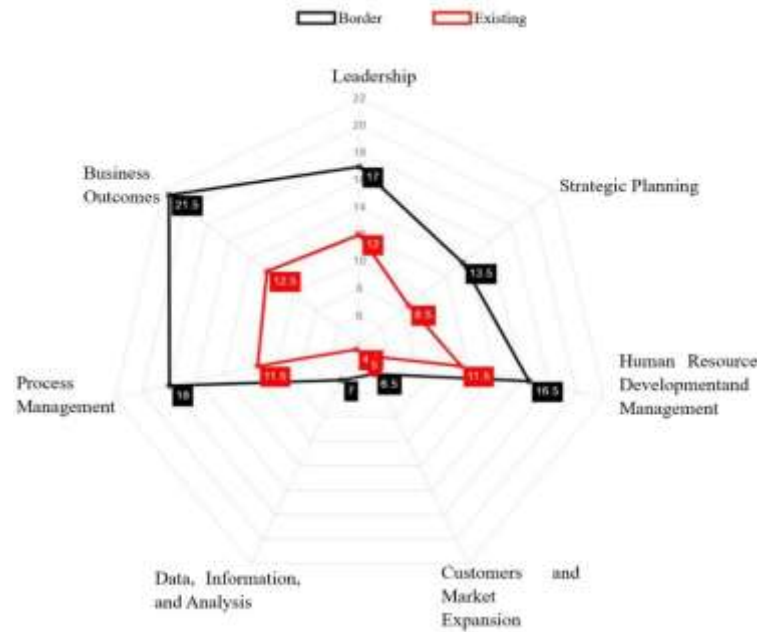


Figure 4. Corporate Sustainability Graph (SNI)

Scenario analysis was carried out to enhance productivity values in alignment with the Indonesian National Standard (SNI), applying two scenarios using the *Multiaspect Sustainability Analysis* (MSA) approach. The results indicate improvements across all assessed aspects under both scenarios. A detailed breakdown of the scenario analysis for each evaluation aspect is presented in Table 2.

Table 2. Final Scores of the Corporate Scenario Analysis

Aspect	Indonesian National Standard	Performance Scenario	
		Scenario 1	Scenario 2
Leadership	17	12,5	13
Strategic Planning	13,5	9	9,5
Human Resource Development and Management	16,5	12	12,5
Customers and Market Expansion	6,5	5,5	6
Data, Information, and Analysis	7	5	5,5
Process Management	18	12	12,5
Business Outcomes	21,5	13	13,5

3.2. Recommendations for Enhancing Corporate Productivity

Based on the results of the productivity performance evaluation, leverage factors were identified as the foundation for scenario development. These factors were then translated into policy directions and recommendations aimed at helping companies achieve more optimal performance outcomes.

3.2.1. Leadership

Employee opinions, suggestions, and ideas should be reviewed and considered for implementation, development, and improvement. A practical recommendation is to establish an open forum where employees can voice their feedback to the company. Employee involvement has been shown to enhance innovation and organizational performance (Sabuhari et al., 2025).

The formulation and establishment of the company's mission should involve employees, with a dedicated session during the annual meeting serving as a platform for evaluation and revision of the company's vision and mission. Participative leadership strengthens employee motivation and supports sustainable performance (Lukito, 2025), while more inclusive leadership styles have been found to improve organizational effectiveness in the post-pandemic era (Susita et al., 2023).

3.2.2. Strategic Planning

Adjustment mechanisms for action plans should be designed collaboratively between company leaders and division coordinators, representing employees. Adaptive strategic planning has been shown to positively influence competitiveness in the industrial sector (Mardiani, 2023).

Short-term action plans should be disseminated and documented in both printed and digital forms, ensuring accessibility for employees, whether working on-site or remotely. Digitization of strategic documents enhances cross-division coordination and minimizes risks of miscommunication (Rahman and Sutanto, 2022).

3.2.3. Human Resource Development and Management

Pension guarantee programs should be implemented through collective registration managed directly by the company. Social protection schemes of this kind have been shown to increase employee loyalty and organizational commitment (Yuniarti et al., 2021).

Mechanisms for brainstorming or group discussions should be introduced at the start of each semester to strengthen shared responsibility and employee–company engagement. Collaborative workplace culture and internal discussion forums encourage innovation and active employee participation (Choi and Kang, 2021).

3.2.4. Customers and Market Expansion

Customer complaints should be managed through the establishment of a customer care information system accessible via direct messaging or user-friendly applications based on problem-solving principles. Systematic complaint management significantly improves customer loyalty and satisfaction (Fadilah and Wendy, 2023), while the use of digital platforms in customer service enhances both productivity and satisfaction (McKinsey, 2024).

3.2.5. Data, Information, and Analysis

Companies should develop accessible information systems such as websites and social media platforms for promotional purposes and to provide corporate information to consumers. Digital transformation in information systems increases transparency and organizational productivity (Brynjolfsson et al., 2023).

Analytical data should be used for prioritization and corporate forecasting, with recommendations to establish data-driven work plans. Big data analytics supports strategic decision-making and accelerates responses to market dynamics (McKinsey, 2025).

3.2.6. Process Management

Disaster and emergency risk management should be reviewed periodically, complemented by disaster response training for employees to mitigate risks caused by natural hazards or human error. Preparedness training strengthens organizational resilience against disruptions (Nguyen and Pham, 2021).

Business processes should be communicated to all employees, partners, and suppliers through a dedicated project monitoring system accessible only to authorized stakeholders. Digital project management tools improve coordination and strengthen supply chain efficiency (Chen and Zhang, 2022).

3.2.7. Business Outcomes

Production timelines should be established and monitored through an integrated project information system, allowing for transparent reporting and tracking. Implementation of structured production timelines reduces costs and enhances productivity (Hernawati et al., 2022). Business outcome include for budget efficiency is a crucial aspect that determines both sustainability and operational effectiveness (Zarminiaty, et al., 2025).

Customer complaints should be resolved within established targets by integrating customer care systems into business processes. Such integration improves brand reputation and enhances overall business outcomes (Smith and Johnson, 2022).

4. Conclusion

The evaluation of corporate performance in Magelang Regency indicates that, overall, companies fall within the “developing” category, with an average score of 66.64. The Multiaspect Sustainability Analysis (MSA) revealed that leadership, as well as customer and market expansion, demonstrated relatively strong performance, while strategic planning and business outcomes remained comparatively weak. This condition suggests significant opportunities for continuous improvement if corrective strategies are consistently applied. Scenario analysis showed that strengthening leverage factors across each aspect could raise company performance to 70.87 under the first scenario and further to 75.1 under the second scenario. Although both scenarios remain within the “developing” category, they reflect clear progress and a positive trajectory. Critical areas requiring particular

attention include improving the effectiveness of strategic planning, enhancing information systems and data analysis, and strengthening business outcomes as key indicators of corporate success. Accordingly, companies in Magelang Regency possess substantial potential to become more competitive and sustainable. Priority efforts should focus on reinforcing participatory leadership, optimizing human resource management, adopting innovative customer service practices, and implementing process management systems that are adaptive to changing business environments.

References

- Amru FF, Maya M, and Susijawati N. (2025). The Role of Leadership Style and Workload in Improving Employee Productivity. Universitas Swadaya Gunung Jati, Cirebon, Indonesia. <https://doi.org/10.31538/ijjse.v8i1.6971>
- Bogdzinski, H. (2025). Unveiling the impact of green energy on green productivity (GTFP). *Resources Policy*. <https://doi.org/10.1016/j.eap.2025.03.044>
- Brynjolfsson E, Li D, and Raymond L. (2023). Generative AI at Work. arXiv. <https://doi.org/10.48550/arXiv.2304.11771>
- Chen Y, and Zhang L. (2022). Digital Project Management Tools and Supply Chain Efficiency. *International Journal of Production Economics*.
- Choi S, and Kang J. (2021). The Effects of Team Collaboration on Organizational Innovation. *Journal of Business Research*, 134, 324–333.
- Chalid DA, and Rifqi A. (2025). Analysis of the Role of Internal Audit in the Implementation of Corporate Governance at PT Bank Mandiri. *Eduvest – Journal of Universal Studies*. <https://doi.org/10.59188/eduvest.v5i7.51514>
- Evinita LL, and Kambey JP. (2021). Mediating Effects of Governance on Audit Culture, Internal Control and Audit Quality in Indonesia. *Studies of Applied Economics*, 39(12). <https://doi.org/10.25115/eea.v39i12.6224>
- Fadilah WNHN, and Wendy. (2023). The Effect of Complaint Handling on Customer Loyalty and its Impact on Customer Satisfaction (Study on Consumers of PT Telkom Witel of West Kalimantan). *East African Scholars Journal of Economics Business and Management*. <https://doi.org/10.36349/easjebm.2023.v06i01.002>
- Firmansyah I. (2022). Multiaspect Sustainability Analysis (Theory And Application). *Expert Simulation Program Article*. 2022. (1) : 1-14.
- Hernawati T, Kusuma R, and Darmawan I. (2022). Lean Manufacturing Practices and Productivity Performance in Indonesian SMEs. *Journal of Manufacturing Technology Management*.
- Inclusive Leadership Study. (2025). Inclusive Leadership and Employee Work Engagement as Critical Drivers of Sustainability. *Journal PPIPBR*.
- Li, J. (2024). Executive Green Perception and Green Innovation Improve Corporate Productivity. *Journal of Risk and Financial Management*, 12(4), 102. <https://doi.org/10.3390/jrfs12040102>

- Lukito, D. (2025). Determinants of Sustainable Employee Performance in Family Businesses in Indonesia: Leadership Style, Motivation, and Organizational Culture. ScienceDirect. <https://doi.org/10.1016/j.apmr.2024.12.004>
- Mardiani, E. (2023). The Influence of Strategic Planning and Analytical Maturity in Indonesian Startups. East South Institute Journal of Strategic Case Studies. <https://doi.org/10.58812/esiscs.v1i02>
- McKinsey Global Institute. (2025). Propelling Indonesia's Productivity. McKinsey Indonesia Report.
- Zarminiaty M, Firmansyah I, Ekanindya R. (2025). Comprehensive Analysis Of Financial Ratios As Indicators Of Efficiency And Profitability: A Case Study of PT Triwala Mitra Bestari. In Proceeding of International Students Conference of Economics and Business Excellence. Vol. 2, No. 1, pp. 98-105
- Mar'atusholikha V, Widiatmaka, Firmansyah I. (2019). Sustainability of garlic cultivation at Tegal Regency, Central Java Province, Indonesia. IOP Conf. Ser.: Earth Environ. Sci. 399 012027. 1-8. <https://doi.org/10.1088/1755-1315/399/1/012027>
- Nguyen T, and Pham H. (2021). Disaster Preparedness and Organizational Resilience in Southeast Asia. Safety Science.
- Paulus CA, Damianus Adar, Yahyah, Rayzcha MIH, Eddy Rusdiyanto, Firmansyah I. (2023). Multi-Aspect Sustainability Analysis Of Freshwater Fish Aquaculture In Kupang City Of East Nusa Tenggara Province, Indonesia. RJOAS: Russian Journal of Agricultural and Socio-Economic Sciences. Vol 8(140). 173-186. <https://doi.org/10.18551/rjoas.2023-08.01>
- Pratama I, Aminah M, Sembiring IR, Firmansyah I. (2024). The Financial Feasibility Analysis Of Organic Waste Processing Business At The Central Market (Case Study: Kemang Market (Tu Bogor City). Volume 04 Issue 04. 391-409. <https://doi.org/10.63922/ajmesc.v4i04.1091>
- Puspita,Y. (2024). Impact of Leadership Development Programs on Managerial Effectiveness in Indonesia. International Journal of Leadership and Governance. <https://doi.org/10.47604/ijlg.2858>
- Rahman A, and Sutanto M. (2022). Digital Documentation Systems and Strategic Planning Effectiveness. Journal of Information Systems Management.
- Sabuhari R, Soleman R, and Fahri J. (2025). Organisational Justice moderates the link between leadership, work engagement and innovation work behaviour. arXiv. <https://doi.org/10.48550/arXiv.2508.20320>
- Smith A, and Johnson B. (2022). Streamlining Complaint Management: A Comprehensive Review. PNR Journal.
- Sumantri B, Haryono S, Firmansyah I. (2020). Sustainability Status and Optimization of The Public Market Performance. Jurnal of Research and Opinion. Vol 7 Iss 4, 2692–2698.
- Sun Y. (2025). Higher education and green productivity. *PLOS ONE*.

- Susita D, Sudiarditha IKR, and Hutajulu IG. (2023). The Influence of New Leadership Styles on Employee Performance in an Automotive Industry of Indonesia. *Business Perspectives*. [https://doi.org/10.21511/ppm.21\(2\).2023.54](https://doi.org/10.21511/ppm.21(2).2023.54)
- Yuniarti N, Prabowo A, and Widodo S. (2021). Employee Benefits and Retention: Evidence from Indonesian Companies. *Asian Journal of Human Resource Management*.