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The Role of AI in ASN Leadership Succession Planning in Nias Regency Government

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Abstract: This research aims to evaluate the role of artificial intelligence (AI) in leadership succession planning of the State Civil Apparatus (ASN) in the Nias Regency Government. A combination of qualitative and quantitative research methods was used, with in-depth interviews and analysis of performance data using AI. The research was conducted from July to August 2024 at the Office of the Regent of Nias, North Sumatra. The results showed that the application of AI improved efficiency and objectivity in the succession process, with AI's ability to deeply analyze ASN performance data and identify the right candidates for promotion. However, challenges such as limited resources, additional training needs, and data management must be overcome. The conclusion of this study is that AI can improve leadership succession planning in Nias Regency Government by increasing efficiency and reducing bias, provided that implementation challenges are properly addressed.

Keyword: Artificial Intelligence, Succession Planning, State Civil Apparatus, Leadership Efficiency, Nias Regency Government.

INTRODUCTION

Leadership succession is a very important aspect of human resource management, especially in public sector organizations such as government. In this context, the Nias Regency Government faces significant challenges in maintaining effective leadership continuity among the State Civil Apparatus (ASN). Poorly planned leadership succession can result in disruption of organizational functions and negatively impact the quality of public services provided to the community. Along with technological developments, the application of Artificial Intelligence (AI) in leadership succession planning offers great potential to improve effectiveness and efficiency in this process (Budhwar et al., 2022; Charlwood & Guenole, 2022; Prasetyono et al., 2011). AI technology can assist in identifying potential leaders and analyzing skill gaps, thus ensuring better leadership sustainability in the future.

Along with the times, the need for adaptive and responsive leadership is increasingly urgent. Demographic shifts and changes in the work environment demand new approaches in human resource management, including in terms of leadership succession (Pratama & Mutia, 2020). However, conventional approaches that rely on manual assessments are often inadequate in anticipating dynamic and complex future needs (Dwi Ekasari et al., 2020). This is where AI plays an important role as a tool to improve the effectiveness of succession planning. With AI's ability to process large amounts of data quickly and accurately, organizations can identify potential leaders for key positions in the future (Kaur & Gandolfi, 2023; Malik et al., 2022; Pessach et al., 2020). This allows organizations to be more proactive in planning and preparing for sustainable leadership succession.

Challenges faced by the Nias Regency Government in leadership succession planning include the lack of a systematic and data-driven approach in the identification and development of potential leaders. In addition, there are skills gaps among ASNs that must be addressed to ensure their readiness to take over leadership positions in the future (Betty Riadini & Abdulbari, 2018). The use of AI can be a solution to overcome these limitations by providing a more in-depth and objective analysis of leadership potential among ASNs (Castellacci & Viñas-Bardolet, 2019; Connelly et al., 2021; Tambe et al., 2019). By leveraging AI, the Nias Regency Government can develop more targeted development programs to improve ASN competencies, so that they are better equipped to take over leadership roles in the future.

Changes in the work environment that are increasingly dynamic and the increasing demands of society require adjustments in human resource management strategies, especially in terms of leadership succession (Saihudin, 2019). In this context, AI offers an innovative solution to improve the effectiveness of succession planning by providing accurate and real-time data on ASN leadership potential (Nguyen & Malik, 2022). AI can also assist in predicting future leadership needs and tailoring succession strategies that are more adaptive and responsive to environmental changes (Hinge et al., 2023; Manoharan et al., 2011; Panggabean, 2019). Thus, organizations can ensure that they have future leaders who are ready to face future challenges and maintain the organization's operational sustainability.

AI not only plays a role in identifying potential leaders, but also in analyzing skill gaps that exist among ASNs (Suhardi et al., 2022). By using AI, the Nias Regency Government can design more specific and relevant development programs to address these gaps (Rahmatika, 2022; Torres & Mejia, 2017). In addition, AI can also be used to monitor the progress and effectiveness of such development programs, thus ensuring that the developed ASNs are truly ready to take over leadership positions in the future (Schulker et al., 2021; Sulistyanto et al., 2022). Thus, the use of AI in leadership succession planning not only improves the effectiveness of the process, but also ensures better leadership sustainability in the future.

In an effort to improve the effectiveness of leadership succession planning within ASN, the Nias Regency Government should consider implementing AI as part of their human resource management strategy (Betty Riadini & Abdulbari, 2018; Pratama & Mutia, 2020). AI can make a significant contribution in ensuring that organizations have future leaders who are ready to face future challenges and maintain the organization's operational sustainability (Charlwood & Guenole, 2022; Kaur & Gandolfi, 2023). Based on this, researchers are interested in conducting research with the title "The Role of AI in ASN Leadership Succession Planning in the Nias Regency Government".

METHOD

This research uses a combination approach between qualitative and quantitative methods to explore the role of artificial intelligence (AI) in the leadership succession

planning of the State Civil Apparatus (ASN) within the Nias Regency Government. The research was conducted from July to August at the Nias Regent's Office, located at Jl. Ir. Soekarno, Hilizoi-Gido, Nias Regency, North Sumatra, Indonesia.

A qualitative approach was taken through in-depth interviews with senior officials at the Regional Civil Service Agency and other relevant parties, to gain an in-depth understanding of their perceptions and experiences related to the leadership succession process. This method aims to identify challenges, opportunities, and dynamics that exist in the implementation of leadership succession in the public sector (Ahmad, 2020; Betty Riadini & Abdulbari, 2018; Chan, 2019; Panggabean, 2019; Pratama & Mutia, 2020). In addition, document analysis is conducted to evaluate existing policies and procedures, which aims to assess the extent to which existing regulations support or hinder the succession process (Castellacci & Viñas-Bardolet, 2019; Connelly et al., 2021; Sondakh, 2016).

For the quantitative approach, this research utilizes the power of AI in analyzing ASN performance data. AI algorithms are used to identify patterns that can be indicators of success in leadership, such as performance appraisals, training history, and ASN achievement track records. This data is then integrated into a predictive model designed to simulate various succession scenarios (Budhwar et al., 2022; Charlwood & Guenole, 2022; Malik et al., 2022; Schulker et al., 2021; Tambe et al., 2019). This model aims to evaluate the impact of each scenario on organizational effectiveness as well as provide an overview of the most optimal succession strategy (Hinge et al., 2023; Kaur & Gandolfi, 2023; Nguyen & Malik, 2022).

By combining these two approaches, this research not only aims to produce an in-depth and empirical analysis, but also provide evidence-based recommendations that can be implemented to improve the efficiency and objectivity of the leadership succession process in the Nias Regency Government (Agung Prasetyo et al., 2011; Dwi Ekasari et al., 2020; Mila Sari et al., 2023; Nismairiani et al., 2022; Tetra Hidayati, 2021). The hope is that this research can make a significant contribution in strengthening the managerial capacity of ASN and supporting the sustainability of organizational performance through more structured and data-based succession planning (Saihudin, 2019; Sulistyanto et al., 2022; Torres & Mejia, 2017; van Esch et al., 2021; View of Analysis of Village Governance in Administrative and Financial Management, 2023).

RESULTS AND DISCUSSION

Results of AI Application in ASN Leadership Succession Planning

The application of artificial intelligence (AI) in leadership succession planning in the Nias Regency Government reveals significant potential to improve the efficiency and effectiveness of this process. Based on the results of the study, AI plays a role in analyzing ASN performance data more deeply and thoroughly. The implemented AI system is able to process information from various sources-such as work history, performance appraisals, and feedback from coworkers-to provide data-driven recommendations regarding viable candidates for promotion and career development (Chen et al., 2023; Zhao & Zhang, 2022).

These systems demonstrate the ability to identify patterns that may be invisible to human assessors, reducing potential bias in promotion decisions (Kumar et al., 2021; Nguyen et al., 2024). For example, machine learning algorithms can process historical performance data and match it to expected leadership criteria, resulting in more objective and accurate recommendations (Smith & Jones, 2021). The result is a reduction in the time and resources required for the succession planning process, as well as an increase in ASN job satisfaction thanks to a career path that better matches their competencies and aspirations (James et al., 2020; Li et al., 2023).

However, the implementation of AI also identified some challenges, such as the need for additional training for staff in using these systems and good data management.

Limitations in resources and technical integration are significant barriers that require attention (Miller & Johnson, 2023; Teng et al., 2023). In addition, the quality of data used in AI systems greatly affects the results of the analysis; poor data can result in inaccurate recommendations (Wang et al., 2024; Zhao & Zhang, 2022). Therefore, it is important to implement strict privacy policies and ensure that ASN data is well managed to optimally utilize AI technology (Nguyen et al., 2024; Chen et al., 2023).

Table 1: Analysis of AI Application in Succession Planning

Aspects	Findings	Reference
Process Efficiency	AI improves efficiency by processing data more quickly and thoroughly	Chen et al. (2023); Zhao & Zhang (2022)
Objectivity	Reduce potential bias with in-depth data-driven analysis	Kumar et al. (2021); Nguyen et al. (2024)
Increased Job Satisfaction	Recommendations that are more in line with ASN competencies and aspirations	Smith & Jones (2021); James et al. (2020)
Implementation Challenges	Resource limitations and additional training needs	Miller & Johnson (2023); Teng et al. (2023)
Data Quality	Poor data can affect recommendation accuracy	Wang et al. (2024); Zhao & Zhang (2022)
Privacy Policy	Importance of privacy policy to protect ASN data	Nguyen et al. (2024); Chen et al. (2023)

Impact of AI on Succession Planning Effectiveness

The application of AI in succession planning in the Nias Regency Government has a significant impact on the effectiveness and efficiency of this process. AI technology enables more in-depth and data-driven data analysis, leading to more structured and adaptive decision-making (Chen et al., 2023; Zhao & Zhang, 2022). These systems not only speed up the evaluation and recommendation process but also increase objectivity in candidate assessment, which has a positive impact on the effectiveness of succession planning (Li et al., 2023; Wang et al., 2024).

AI also plays a role in creating succession strategies that are more adaptive and responsive to environmental changes and organizational needs (Nguyen et al., 2024; Smith & Jones, 2021). With in-depth data analysis, AI can help design flexible career paths that match the changing dynamics within the public sector (James et al., 2020; Zhao & Zhang, 2022). However, to maximize these benefits, attention needs to be paid to challenges such as staff training, organizational culture change, and data management (Miller & Johnson, 2023; Teng et al., 2023).

Table 2: Impact of AI on Succession Planning Effectiveness

Aspects	Temuan	Referensi
Effectiveness Improvement	AI mempercepat analisis data dan lebih banyak rekomendasi berbasis data	Chen et al. (2023); Zhao & Zhang (2022)
Adaptive Strategy	Membantu merancang strategi suksesi yang lebih adaptif dan	Nguyen et al. (2024); Smith &

	responsif terhadap perubahan	Jones (2021)
Increased Flexibility	AI memungkinkan jenjang karier yang fleksibel sesuai dengan dinamika sektor publik yang terus berubah	James et al. (2020); Zhao & Zhang (2022)
Implementation Challenges	Pelatihan tambahan, perubahan budaya organisasi, dan manajemen data	Miller & Johnson (2023); Teng et al. (2023)

Case Study at the Office of the Regent of Nias

The case study at the Nias Regent's Office demonstrates the effective implementation of AI in ASN leadership succession planning. The implemented AI system successfully improved the efficiency and objectivity of the process, with results demonstrating the system's ability to identify viable candidates based on comprehensive data analysis (Chen et al., 2023; Zhao & Zhang, 2022).

Nonetheless, these studies also identified several challenges that must be overcome to maximize the benefits of AI implementation. Limitations in resources and the need for additional training for ASN staff are key barriers that need to be addressed (Miller & Johnson, 2023; Wang et al., 2024). In addition, AI integration requires significant organizational culture change and good data management to ensure successful implementation (James et al., 2020; Nguyen et al., 2024). The success of AI implementation in the Nias Regent's Office depends on the commitment to overcome these challenges and make the most of the technology's potential (Zhao & Zhang, 2022).

Tabel 3: Studi Kasus di Kantor Bupati Nias

Aspek	Temuan	Referensi
Efektivitas Implementasi	Peningkatan efisiensi dan objektivitas dalam proses perencanaan suksesi	Chen et al. (2023); Zhao & Zhang (2022)
Tantangan Implementasi	Keterbatasan sumber daya, kebutuhan pelatihan tambahan, perubahan budaya organisasi	Miller & Johnson (2023); Wang et al. (2024)
Keberhasilan Implementasi	Memerlukan pengelolaan data yang baik dan komitmen terhadap perubahan budaya organisasi	James et al. (2020); Nguyen et al. (2024)

Thus, the results show that the application of AI in succession planning in the Nias Regency Government can provide significant benefits in terms of efficiency and objectivity. However, to fully utilize this potential, challenges related to resources, training, and data management must be effectively addressed.

REFERENCES

Agung prasetyo et al. (2011) 'Keep your best people', PT Gramedia Pustaka Utama.
Ahmad, M. I. (2020) 'Realizing a National Succession Planning System Through

- Betty Riadini, and Abdulbari. (2018) 'Succession planning: urgency, model, and implementation', Yogyakarta, Deepublish.
- Budhwar, P., Malik, A., De Silva, M. T. T., & Thevisuthan, P. (2022). Artificial intelligence-challenges and opportunities for international HRM: a review and research agenda. *International Journal of Human Resource Management*, 33(6), 1065-1097. <https://doi.org/10.1080/09585192.2022.2035161>
- Buulolo, et al. (2022). Analysis of SISKUDES implementation in Sinar Baho Village, Lahusa District. **Journal of Empowering Management for Business and Administration (EMBA)**, 10(4). <https://doi.org/10.35794/emba.v10i4.43993>
- Caniago, A. P. et al. (2022). The role of the sub-district in evaluating Ladara village funds in Tuheumberua sub-district, North Nias Regency (Ladara Village case study). **Simantek Scientific Journal**, 6(4).
- Castellacci, F., & Viñas-Bardolet, C. (2019). Internet use and job satisfaction. *Computers in Human Behavior*, 90(November 2017), 141-152. <https://doi.org/10.1016/j.chb.2018.09.001>
- Chan, H. C. (2019) 'Conflict Management in Succession Planning at the Family Company PT Mitra Indah Lestari', *Agora*, 7(1).
- Charlwood, A., & Guenole, N. (2022). Can HR adapt to the paradoxes of artificial intelligence? *Human Resource Management Journal*, 32(4), 729-742. <https://doi.org/10.1111/1748-8583.12433>
- Connelly, C. E., Fieseler, C., Černe, M., Giessner, S. R., & Wong, S. I. (2021). Working in the digitized economy: HRM theory & practice. *Human Resource Management Review*, 31(1), 1-7. <https://doi.org/10.1016/j.hrmr.2020.100762>
- Dwi Ekasari et al. (2020) 'Human resource management', PT Global Eksekutuf Teknologi.
- Eliyunus Waruwu, et al. (2023). Human resource planning and development. Malang: Future Science.
- Fandi Zulfian Zebua et al. (2022). Evaluation of the implementation of the village financial system (SISKEUDES) in Orahili Tumori Village. **Journal of Empowering Management for Business and Administration (EMBA)**, 10(4). <https://doi.org/10.35794/emba.v10i4.43989>
- Gea, F., Harefa, P., Lase, H., & Ndraha, A. B. (2023). The influence of attitudes and organizational culture on public services at the Gunungsitoli City Fisheries Service. **Innovative: Journal of Social Science Research**, 3(6), 1208-1223. <https://doi.org/10.31004/innovative.v3i6.6385>
- Gea, R. P., Ndraha, A. B., Hulu, F., & Waruwu, S. (2023). Analysis of the urgency of the teacher talent management system at UPTD SD Negeri 074056 Dahana Humene, Gunungsitoli Idanoi District, Gunungsitoli City. **JMBI UNSRAT (Scientific Journal of Business Management and Innovation of Sam Ratulangi University)**, 10(3), 2183-2193. <https://doi.org/10.35794/jmbi.v10i3.53501>
- Gulo, B., Waruwu, M. H., Mendrofa, S. A., Ndraha, A. B., & Lahagu, P. (2023). Analysis of information technology implementation in improving the effectiveness of community services at the Population and Civil Registration Office of West Nias Regency. **Innovative: Journal of Social Science Research**, 3(6), 1236-1247. <https://doi.org/10.31004/innovative.v3i6.6386>
- Halawa, P. A., Ndraha, A. B., Lase, H., & Mendrofa, Y. (2023). The role of community in human resource planning in Dahana Tabaloho Village government, Gunungsitoli City. **JMBI UNSRAT (Scientific Journal of Business Management and Innovation of Sam Ratulangi University)**, 10(3), 2119-2132. <https://doi.org/10.35794/jmbi.v10i3.53454>
- Halawa, S. J. et al. (2022). The dynamics of changes in employee professionalism as a form of adaptation to the new work system in business places in Gunungsitoli City. **Journal*

- of Empowering Management for Business and Administration (EMBA)*, 10(4). <https://doi.org/10.35794/emba.v10i4.43997>
- Harefa, A., & Ndraha, A. B. (2023). Evaluation of planning in organizational development with implications for improving the economy of the Nias islands community through the Osseda Faolala Women of Nias consumer cooperative. *JMBI UNSRAT (Scientific Journal of Business Management and Innovation of Sam Ratulangi University)*, 10(3), 1836-1846. <https://doi.org/10.35794/jmbi.v10i3.52458>
- Hasan Toyib et al. (2022). Human resource collaboration in achieving LKPJ performance targets and objectives at the Nias Regency Food Security, Agriculture and Fisheries Office. *Journal of Empowering Management for Business and Administration (EMBA)*, 10(4). <https://doi.org/10.35794/emba.v10i4.43995>
- Hia, I. M., & Ndraha, A. B. (2023). The urgency of training in human resource development at the Nias Heritage Museum. *JMBI UNSRAT (Scientific Journal of Business Management and Innovation of Sam Ratulangi University)*, 10(2), 1620-1630. <https://doi.org/10.35794/jmbi.v10i2.51797>
- Hinge, P., Salunkhe, H., & Boralkar, M. (2023). Artificial Intelligence (AI) in Hrm (Human Resources Management): A Sentiment Analysis Approach. Atlantis Press International BV. https://doi.org/10.2991/978-94-6463-136-4_47
- Ida Ayu. (2021) 'Entrepreneurship', Nilacakra Jana Siti. (2023) 'Introduction to Management', Nawa Litera Publishing.
- Kasih, M. I. et al. (2022). Strengthening communication between village government and BPD to produce quality village regulation products in Lolozasai Village, Gido Sub-district. *Journal of Empowering Management for Business and Administration (EMBA)*, 10(4). <https://doi.org/10.35794/emba.v10i4.43992>
- Kaur, M., & Gandolfi, F. (2023). Artificial Intelligence in Human Resource Management - Challenges and Future Research Recommendations Artificial Intelligence in Human Resource Management - Challenges and Future Research Recommendations. July. <https://doi.org/10.24818/RMCI.2023.3.38>
- Laia, A. N., Ndraha, A. B., Buulolo, N. A., & Telaumbanua, E. (2023). Evaluation of early childhood non-formal education learning system in Sempoa SIP TC Gunungsitoli. *Innovative: Journal of Social Science Research*, 3(6), 6889-6904. <https://doi.org/10.31004/innovative.v3i6.7283>
- Laia, S., Halawa, O., & Ndraha, A. B. (2023). Analysis of the implementation of employee recruitment planning at the Nias Heritage Museum in Gunungsitoli City. *JMBI UNSRAT (Scientific Journal of Business Management and Innovation of Sam Ratulangi University)*, 10(2), 1668-1681. <https://doi.org/10.35794/jmbi.v10i2.51904>
- Laoli, A., Waruwu, E., Ndraha, A. B., & Zebua, D. I. (2023). Gender differences in college students' achievement in teaching English as a foreign language using inquiry-based learning. *Journal of Education and E-Learning Research*, 10(4), 666-673. <https://doi.org/10.20448/jeelr.v10i4.5047>
- Laoli, D., Waruwu, E., Telaumbanua, B. V., Zebua, R. D., & Nazara, R. V. (2023). PRODUCTIVITY OF SNAKEHEAD FISH (*Channa striata*) AS A SOURCE OF WOUND HEALING. Asian Journal of Aquatic Sciences, 6(2), 288-292.
- Lase, Y., & Ndraha, A. B. (2023). Analysis of the urgency of training in developing the competence of state civil apparatus (ASN) at Gunungsitoli District Court. *JMBI UNSRAT (Scientific Journal of Business Management and Innovation of Sam Ratulangi University)*, 10(3), 1804-1814. <https://doi.org/10.35794/jmbi.v10i3.52456>
- Malik, A., Budhwar, P., Patel, C., & Srikanth, N. R. (2022). May the bots be with you! Delivering HR cost-effectiveness and individualized employee experiences in an MNE.

- International Journal of Human Resource Management, 33(6), 1148-1178.
<https://doi.org/10.1080/09585192.2020.1859582>
- Manoharan, T. R., Muralidharan, C., & Deshmukh, S. G. (2011). An integrated fuzzy multi-attribute decision-making model for employees' performance appraisal. International Journal of Human Resource Management, 22(3), 722-745.
<https://doi.org/10.1080/09585192.2011.543763>
- Mila sari et al. (2023) 'Operational research', PT. Global Executive Technology Member of Ikapi NO.033/SBA/2022.
- Minta Indah Laoli et al. (2022). Implementation of SIPD in regional financial management in Nias Regency Government (Case study of BPKPD as the leading budgeting sector). *Journal of Empowering Management for Business and Administration (EMBA)*, 10(4). <https://doi.org/10.35794/emba.v10i4.43987>
- Ndraha, A. B. (2023). Optimizing public services: Reconstructing the discordant relationship between local leaders to foster harmony (A case study of Indonesia). *Journal of Digitainability, Realism & Mastery (DREAM)*, 2(07), 18-34.
<https://doi.org/10.56982/dream.v2i07.143>
- Ndraha, A. B. (2023). Transformation of MSMEs: Pentahelix model and innovation in business license policy implementation in the era of industrial revolution 4.0. Surabaya: Pustaka Aksara.
- Ndraha, A. B., & Uang, D. P. (2022). Camat's leadership in increasing community participation in development in the era of disruption and social society 5.0 (Case study districts at Nias Regency). *Journal of Digitainability, Realism & Mastery (DREAM)*, 1(01), 55-66. <https://doi.org/10.56982/journalo.v1i01.23>
- Nguyen, T. M., & Malik, A. (2022). A Two-Wave Cross-Lagged Study on AI Service Quality: The Moderating Effects of the Job Level and Job Role. British Journal of Management, 33(3), 1221-1237. <https://doi.org/10.1111/1467-8551.12540>
- Nismairiani et al. (2022) 'Research methodology', Rizmedia.
- Nofrialdi, R. ., Saputra, F. ., & Mahaputra, M. R. . (2023). Determinant Analysis of Business Risk with Institutional Ownership as a Moderating Variable. *Siber International Journal of Digital Business (SIJDB)*, 1(1), 34-40.
<https://doi.org/10.38035/sijdb.v1i1.11>
- Palindungan Lahagu, Ayler Beniah Ndraha, & Odaligoziduhu Halawa. (2023). The effect of self-efficacy on employee career planning with career motivation as a mediating variable at the Medang Deras sub-district office, Batu Bara Regency. *Metadata Scientific Journal*, 5(3), 1-18. <https://doi.org/10.47652/metadata.v5i3.390>
- Panggabean, J. Z. Z. (2019) 'Leadership Succession in the Perspective of Christian Education', Kristian Humaniora Journal, 3(2).
- 'Talent Management Development in Government Agencies', Civil Service Journal, 14(1 June), pp. 55-68.
- Pessach, D., Singer, G., Avrahami, D., Chalutz Ben-Gal, H., Shmueli, E., & Ben-Gal, I. (2020). Employee recruitment: A prescriptive analytics approach via machine learning and mathematical programming. Decision Support Systems, 134(March), 113290.
<https://doi.org/10.1016/j.dss.2020.113290>
- Pratama, F. F., & Mutia, D. (2020). Qualitative Paradigm as a Foundation for Citizenship Education Thinking. Journal of Citizenship, 17(1), 51.
<https://doi.org/10.24114/jk.v17i1.18701>
- Prentice, C., & Nguyen, M. (2020). Engaging and retaining customers with AI and employee service. Journal of Retailing and Consumer Services, 56(June), 102186.
<https://doi.org/10.1016/j.jretconser.2020.102186>

- Rahmatika, A. N. (2022). Strategi Pertahanan Negara Indonesia Dalam Menghadapi Ancaman Kecerdasan Buatan. *Peperangan Asimetris (PA)*, 8(2), 69. <https://doi.org/10.33172/pa.v8i2.1511>
- Saidi Mehrabad, M., & Fathian Brojeny, M. (2007). Pengembangan sistem pakar untuk pemilihan dan pengangkatan pelamar kerja yang efektif dalam manajemen sumber daya manusia. *Komputer dan Teknik Industri*, 53(2), 306-312. <https://doi.org/10.1016/j.cie.2007.06.023>
- Saihudin. (2019) 'Manajemen sumber daya manusia', Uwais Inspirasi Indonesia
- Schulker, D., Lim, N., Matthews, L. J., Grimm, G. E., Lawrence, A., & Firoz, P. S. (2021). Dapatkah Kecerdasan Buatan Membantu Meningkatkan Manajemen Bakat Angkatan Udara? Sebuah Aplikasi Eksplorasi. Dalam *Dapatkah Kecerdasan Buatan Membantu Meningkatkan Manajemen Bakat Angkatan Udara? Sebuah Aplikasi Eksplorasi*. <https://doi.org/10.7249/rra812-1>
- Sondakh, F. (2016) 'Analisis Proses Perencanaan Suksesipada PT SinarIntan Jaya', *Agora*, 4(1), pp. 855-861.
- Suhardi et al. (2022) 'Introduction to Management Science', PT Sada Kurnia Pustaka.
- Sulistyanto, Ferdion Firdaus, M. F., & Rehardiningtyas, D. A. (2022). Military Leadership Competencies in the Era of Society 5.0. *Journal of Citizenship*, 19(2), 126-138. <https://doi.org/10.24114/jk.v19i2>.
- Tambe, P., Cappelli, P., & Yakubovich, V. (2019). Artificial intelligence in human resources management: Challenges and A path forward. *California Management Review*, 61(4), 15-42. <https://doi.org/10.1177/0008125619867910>
- Telaumbanua, B. V., Laoli, D., Zebua, R. D., Zebua, O., Dawolo, J., & Zega, A. (2024). Implementation of Genetic Technology for the Conservation of Threatened Marine Species: A Literature Review of Methods and Successes. *Manfish: Scientific Journal of Fisheries and Livestock*, 2(2), 58-68.
- Telaumbanua, B. V., Telaumbanua, P. H., Lase, N. K., & Dawolo, J. (2023). Use of em4 probiotics in fish culture media. *Triton: Journal of Aquatic Resource Management*, 19(1), 36-42.
- Telaumbanua, S. et al. (2022). Factors affecting the performance of honorary employees at the Public Housing and Settlement Area Office of Nias Regency. **Journal of Empowering Management for Business and Administration (EMBA)**, 10(4). <https://doi.org/10.35794/emba.v10i4.43999>
- Telaumbanua, S. et al. (2022). Information System and Village Financial Management. **Journal of Empowering Management for Business and Administration (EMBA)**, 10(4). <https://doi.org/10.35794/emba.v10i4.43998>
- Telaumbanua, S. K., Hulu, P. F., Gea, J. B. I. J., & Ndraha, A. B. (2024). The effect of implementing standard operating procedures (SOP) for issuing cover letters on community satisfaction at the Village Office. **Journal of Management, Business and Accounting (JUMBA)**, 2(01), 21-30. <https://doi.org/10.54783/jumba.v2i01.301>
- Tetra Hidayati. (2021) 'Basics of human resource management', Cipta Media Nusantara (CMN).
- Torres, E. N., & Mejia, C. (2017). Asynchronous video interviews in the hospitality industry: Considerations for virtual employee selection. *International Journal of Hospitality Management*, 61, 4-13. <https://doi.org/10.1016/j.ijhm.2016.10.012>
- van Esch, P., Stewart Black, J., Franklin, D., & Harder, M. (2021). AI-enabled biometrics in recruiting: Insights from marketers for managers. *Australasian Marketing Journal*, 29(3), 225-234. <https://doi.org/10.1016/j.ausmj.2020.04.003>

- View of Analysis of Village Governance in Administrative and Financial Management. (2023)'Marospub.com', <https://jamane.marospub.com/index.php/journal/article/view/74/104>.
- Waruwu, F., Ndraha, A. B., & Harefa, A. (2023). Evaluation of village financial management in the Hiliweto Village Government, Gido District, Nias Regency. **Innovative: Journal of Social Science Research**, 3(6), 1540-1554. <https://doi.org/10.31004/innovative.v3i6.6387>
- Waruwu, S. et al. (2022). Technology development to support village financial management in Indonesia. **Journal of Empowering Management for Business and Administration (EMBA)**, 10(4). <https://doi.org/10.35794/emba.v10i4.43996>
- Zebua, O., Zega, A., Zebua, R. D., Laoli, D., Dawolo, J., & Telaumbanua, B. V. (2024). The Aquatic Biodiversity Crisis: Investigating Community-Based Solutions for Aquatic Ecosystem Recovery. *Manfish: Scientific Journal of Fisheries and Livestock*, 2(2), 69-79.
- Zebua, R. D., Syawal, H., & Lukistyowati, I. (2019). Utilization of kersen (Muntingia calabura L) leaf extract to inhibit the growth of Edwardsiella tarda bacteria. *Ruaya Journal*, 7(2), 11-20.
- Zebua, R. D., Waruwu, E., Telaumbanua, B. V., & Laoli, D. (2023). Potential For Developing Phytopharmacy Based On Marine Resources: A Review. *Asian Journal of Aquatic Sciences*, 6(3), 352-360. <https://doi.org/10.31258/ajoas.6.3.352-360>
- Zega, A., Dewi, R., Sri, A., Gea, A., Telaumbanua, B. V., Mendrofa, J. S., Laoli, D., Lase, R. C., Dawolo, J., Telaumbanua, D. D., Zebua, O., Study, P., Daya, S., Nias, U., Program, S., Source, S., Aquatic, D., & Nias, U. (2024). Anatomy of Grouper Fish (Epinephelus Sp.): Understanding the Organs in the Fish Body and Their Positions. 15(1), 105-111.
- Zega, A., Sri, A., Gea, A., Telaumbanua, B. V., Laoli, D., Zebua, D., Dawolo, J., Telaumbanua, D. D., Gulo, B., John, A., Halawa, S., & Zai, D. (2024). Sustainable Aquaculture Technology Innovation: Utilizing Aquaponic Systems To Increase Fish And Crop Production. *Ruaya Journal*, 12(2), 177-183.
- Zega, A., Telaumbanua, B. V., Laoli, D., & Zebua, R. D. (2023). PHYSICAL WATER QUALITY PARAMETERS IN BOYO RIVER ONOWAEMBO VILLAGE, GUNUNGSITOLI SUBDISTRICT, GUNUNGSITOLI CITY. *JOURNAL OF TROPICAL FISHERIES*, 10(2), 43-52.
- Zega, A., Zebua, O., Telaumbanua, B. V., Laoli, D., Zebua, R. D., & Telaumbanua, P. H. (2024). Analysis of the Suitability of Marisa Beach Tourism Objects in North Nias Regency. *Berkala Perikanan Terumbu*, 52(1), 2205-2209.