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Enhancing Human Resource Performance: An Evaluation Study Using the Human Resources Scorecard Method at PT. WNI

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ABSTRACT
This study evaluates the performance of human resources at PT. Wanxiang Nickel Indonesia (WNI), is influenced by a lack of responsibility, low awareness of work risks, and insufficient employee skills. The research method employed is the Human Resources Scorecard (HRS), involving a Likert scale for Key Performance Indicators (KPI) and Pairwise Comparison in the Analytical Hierarchy Process (AHP). The results of the study indicate the highest weight is found in the perspective of employees' intellectual competence (1.079) and work competence (0.981), followed by emotional competence (0.303) and personality competence (0.246). This research aims to improve human resource (HR) performance and productivity within the company. The intellectual and work perspectives play a significant role in the evaluation, while emotional and personality perspectives also contribute meaningfully. Recommendations: the company needs to develop these perspectives in a balanced manner to enhance overall human resource performance and productivity at PT. WNI.
Keyword: Performance Evaluation, Human Resources, HRS, KPI, AHP.

ABSTRAK
Penelitian ini mengevaluasi kinerja sumber daya manusia di PT. Wanxiang Nickel Indonesia (WNI) yang terpengaruh oleh kurangnya tanggung jawab, kesadaran risiko kerja yang rendah, dan kekurangan keterampilan karyawan. Metode penelitian yang digunakan adalah *Human Resources Scorecard* (HRS), melibatkan skala Likert untuk *Key Performance Indicator* (KPI) dan Perbandingan Berpasangan dalam *Analitycal Hierarchy Process* (AHP). Hasil penelitian menunjukkan bobot tertinggi pada perspektif kompetensi intelektual karyawan (1,079) dan perspektif kompetensi kerja (0,981), diikuti oleh perspektif kompetensi emosional karyawan (0,303) dan perspektif kompetensi kepribadian (0,246). Penelitian ini meningkatkan kinerja dan produktivitas sumber daya manusia(SDM) di perusahaan. perspektif intelektual dan perspektif kerja memegang peran penting dalam evaluasi, sementara perspektif emosional dan perspektif kepribadian juga memberikan kontribusi penting. Rekomendasi: perusahaan perlu mengembangkan perspektif-perspektif tersebut secara seimbang untuk meningkatkan kinerja dan produktivitas sumber daya manusia secara menyeluruh di PT. WNI.
Keyword: Evaluasi Kinerja, Sumber daya Manusia, HRS, KPI, AHP

1. Introduction

The nickel industry plays a crucial role in the global economy as it is a vital raw material for various industrial products [1]. Nickel, a corrosion-resistant transition metal with good conductivity, is a key component in the production of stainless steel and lithium-ion batteries [2]. The nickel production process involves extracting nickel ore, which is then processed into various nickel products to meet industrial demands [3]. Countries like Indonesia, the Philippines, Russia, and Canada are major nickel producers globally [4].

The nickel industry faces various challenges, including commodity price fluctuations, environmental sustainability issues, and intense competition [5]. However, with the increasing demand for nickel-utilizing products such as electric vehicles and sustainable infrastructure, the prospects for the nickel industry remain promising. Innovation in extraction and processing technologies, enhanced operational efficiency, and a commitment to sustainable practices will be key to companies' success in the nickel industry to stay relevant and sustainable in the future [6].

A common shortfall experienced by companies in human resources is a lack of understanding of the specific needs of the industry in which they operate [7]. In the nickel industry, technical skills and an understanding of nickel mining and processing processes are highly essential [8]. This lack of knowledge can hinder operational efficiency because inadequately trained employees in the technical aspects of nickel may struggle in their tasks, ultimately impacting overall company productivity [9]. Furthermore, nickel industry companies often struggle to attract and retain talented employees due to a lack of competitive incentives, limited career development opportunities, and an unsupportive work environment that lacks work-life balance [10], [11]. This can have a negative impact on workforce stability and the company's ability to compete effectively in the competitive nickel industry. Therefore, it is crucial for companies to identify the specific human resource needs in the nickel industry and address these deficiencies through suitable strategies to retain and develop key talents within the organization [12], [13].

The suboptimal performance of employees at PT. WNI is attributed to several key factors. One of these is the lack of responsibility in completing tasks, as evidenced by 45% of work reports failing to meet the target deadlines. Additionally, low awareness of workplace risks is reflected in a 30% increase in workplace incidents over the past six months. Furthermore, inadequate employee skills in performing tasks remain a challenge, with 60% of employees reported to require additional training to meet the company’s operational standards. These factors significantly hinder efficiency and productivity, negatively impacting employee safety, well-being, and the overall sustainability of company operations.

Therefore, PT. WNI needs to introduce an effective human resource performance measurement system. This system can help evaluate employee performance objectively, identify areas where employees need skill development, and provide constructive feedback to enhance overall performance. With a good performance measurement system in place, the company can motivate employees to take responsibility for their tasks, increase awareness of job risks, and provide necessary training to enhance job skills. This will help PT. WNI achieve optimal performance and overcome obstacles that may arise due to employee underperformance.

Previous research highlights the role of the Human Resource Scorecard (HRS) as an effective tool for measuring human resource performance in an organization. Research shows that HRS can help companies align business strategies with HR performance [14], [15]. By applying the Analytical Hierarchy Process (AHP) to determine the weight of each perspective in the HRS, research emphasizes the importance of alignment between performance measurement and strategy implementation to achieve optimal HR performance. Other studies also support the benefits of using HRS to measure HR performance [16]. The use of AHP and the Traffic Light System (TLS) in evaluating employee performance has helped identify KPIs that need improvement, provide recommendations for future performance enhancements, and underscore the importance of HRS in improving HR efficiency and effectiveness in challenging business contexts [17].

The use of HRS offers significant advantages in measuring HR performance in an organization. HRS enables companies to align business strategies with HR performance in a more measurable and structured way, identify relevant KPIs, and provide guidance for sustainable HR performance improvement [18]. With this approach, companies can gain a deeper understanding of HR's contribution to strategic goals, facilitate more informed decision-making, and enhance overall organizational efficiency and effectiveness [19].

The research aims to evaluate and measure HR performance at PT. WNI using the HRS method. Therefore, this research aims to help the company align business strategies with HR performance in a measurable and structured manner and to identify KPIs that need improvement to achieve optimal HR performance. The benefits of this research will assist PT. WNI in improving HR efficiency and effectiveness, and provides the necessary guidance for more informed decision-making in better managing the company's human resources.

2. Research Method

In this study, a quantitative descriptive method was used, involving the resolution by evaluating research results numerically. The research was conducted at PT. WNI located on Trans Sulawesi Street, Bahomotefe Village, East Bungku, Morowali, Central Sulawesi, for one month. The data presentation in this research is divided into two categories: secondary data and primary data. Secondary data is obtained from company reports, performance structures, company management, and literature studies that support the research. Meanwhile, primary data is collected through interviews, observations, and questionnaire distribution. The interviews and observations involve parties responsible for improving human resource management, such as managers, supervisors, department heads, and staff. An initial questionnaire distribution is conducted to determine the checklist for Key Performance Indicators (KPI) that align with the company's conditions, followed by the distribution of Pairwise Comparison questionnaires to determine the KPI weighting using the Analytical Hierarchy Process (AHP) method. Finally, the percentage of performance for each selected perspective is calculated.

In analyzing the data obtained from the data collection, statistical tests were conducted on the Likert scale questionnaire collection results, performance testing of human resources based on the HRS method by weighting using the AHP method for each perspective and all performances. Recommendations for the company were then determined based on the analysis results.

3. Result and Discussion

3.1. Determination of KPI from the Perspective of Human Resource Performance with the HRS Method.

In determining the results of KPI from the perspective of Human Resource Performance using the HRS method, it can be divided into four perspectives: the Perspective of Employee Intellectual Competence (EIC), the Perspective of Personality Competence (PC), the Perspective of Employee Emotional Competence (EEC), and the Perspective of Job Competence. The distribution of indicators for each perspective is as follows:

Table 1. KPI Perspective of Employee Intellectual Competence

Proposed Indicators	Statements
EIC1	Employee Training Program
EIC2	Employee Learning Index
EIC3	Intelligence in using communication media
EIC4	Level of Education and expertise competence
EIC5	Level of knowledge, talent, and skills
EIC6	Ability in national and international languages
EIC7	Achievements for employees

In Table 1 above, it can be seen that the results of determining the KPI for the perspective of employee intellectual competence, designated with codes (EIC), yielded 7 indicators that are suitable for the needs at PT WNI.

Table 2. KPI Perspective of Personality Competence

Proposed Indicators	Statements
PC1	Employee Training Program
PC2	Level of commitment and loyalty
PC3	Employee honesty
PC4	Employee consistency
PC5	Sense of responsibility
PC6	Generosity and positive thinking
PC7	Having leadership qualities
PC8	Having awareness

In Table 2 above, it can be seen that the results of determining the KPI for the perspective of personality competence, designated with codes (PC), yielded 8 indicators that are suitable for the needs at PT. WNI.

Table 3. KPI Perspective of Employee Emotional Competence

Proposed Indicators	Statements
EEC1	Sensitivity towards employees
EEC2	Empathy
EEC3	Self-control
EEC4	Self-confidence
EEC5	Adaptability
EEC6	Commitment to the organization
EEC7	Building work relationships

In Table 3 above, it can be seen that the results of determining the KPI for the perspective of employee emotional competence, designated with codes (EEC), yielded 7 indicators that are suitable for the needs at PT. WNI.

Table 4. KPI Perspective of Job Competence

Proposed Indicators	Statements
JC1	Employee Absenteeism
JC2	Employee Productivity
JC3	Level of work motivation
JC4	Employee discipline
JC5	Work ethic
JC6	Teamwork
JC7	Job satisfaction
JC8	Job certainty

In Table 4 above, it can be seen that the results of determining the KPI for the perspective of job competence, designated with codes (JC), yielded 8 indicators that are suitable for the needs at PT. WNI.

3.2. Statistical Testing Results Based on 4 Perspectives of Human Resource Performance with the HRS Method.

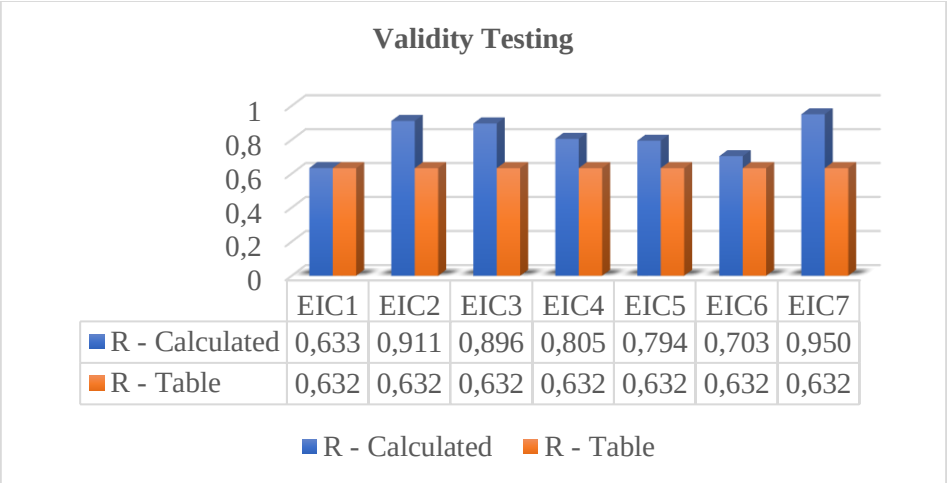

Figure 1. Validity Testing Results for EIC Perspective

In the above Figure 1, the statistical testing results for the validity test of the KIK perspective can be seen, with the t-table result being 0.632, and the calculated r-value showing a value above the r-table value. Therefore, all indicators in the KIK perspective are considered valid.

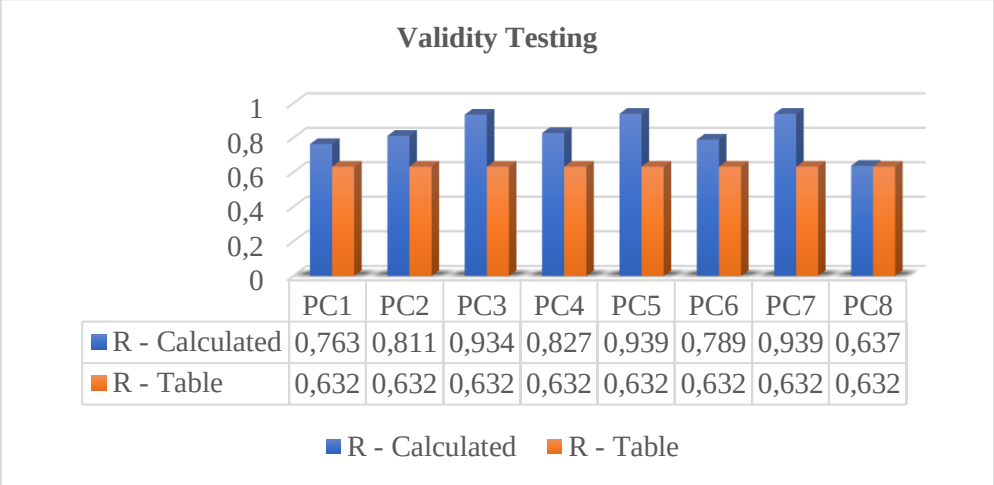

Figure 2. Validity Testing Results for PC Perspective

In the above Figure 2, the results of the statistical testing on the validity test of the PC perspective can be seen, with a t-table result of 0.632. The calculated r-value indicates a value above the r-table value, hence all indicators in the PC perspective are considered valid.

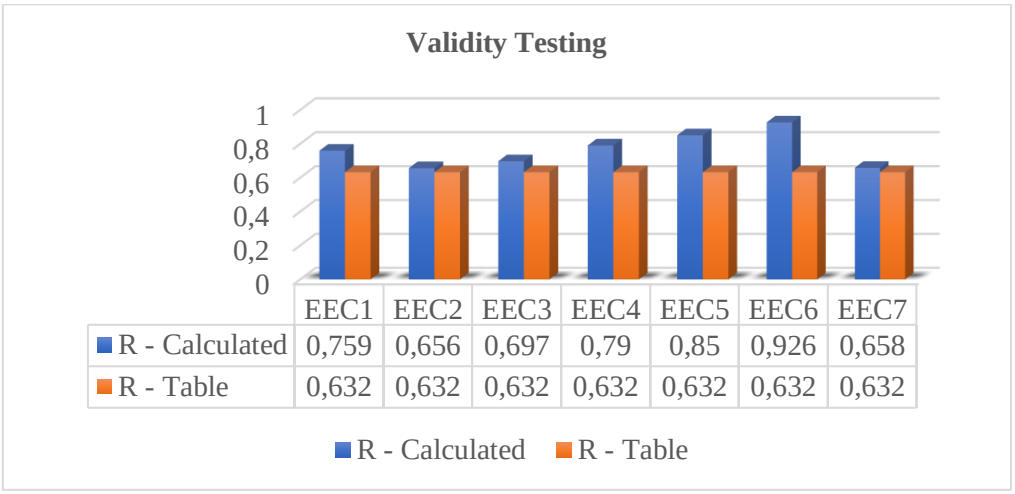

Figure 3. Validity Testing Results for EEC Perspective

In the above Figure 3, the results of the statistical testing on the validity test of the EEC perspective can be seen, with a t-table result of 0.632. The calculated r-value indicates a value above the r-table value, therefore all indicators in the EEC perspective are considered valid.

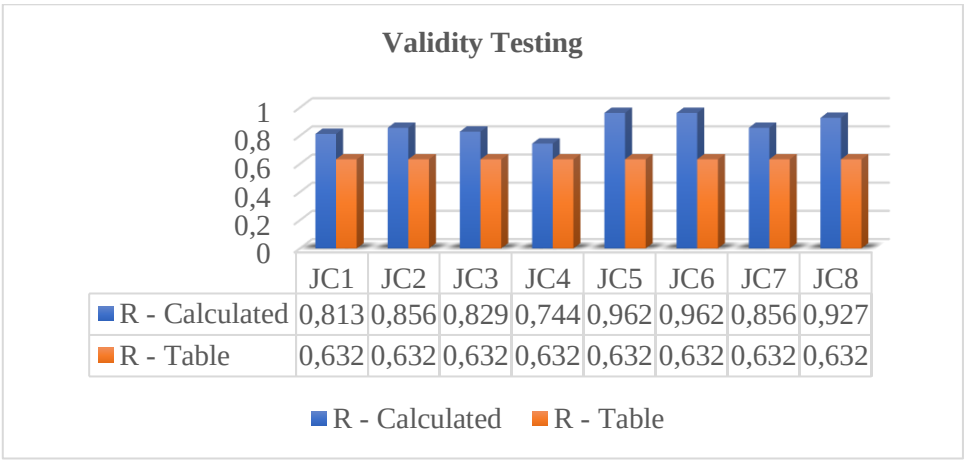

Figure 4. Validity Testing Results for JC Perspective

In the above Figure 4, the results of the statistical testing on the validity test of the JC perspective can be seen, with a t-table result of 0.632. The calculated r-value indicates a value above the r-table value, thus all indicators in the JC perspective are considered valid.

Table 5. Reliability Testing Results

Perspective	Initial Score	Cronbach's Alpha	N of Items
EIC	0,700	0,915	8
PC	0,700	0,935	8
EEC	0,700	0,881	8
JC	0,700	0,951	8

In Table 5 above, it can be seen that the reliability testing results for the 4 perspectives of Human Resource performance with the HRS method show an initial score value for reliability testing of 0.700. Upon calculation, values for all 4 perspectives are found to be above the initial score, thus all perspectives are categorized as reliable and can be used for further calculations.

3.3. Results of Human Resource Performance Weighting Based on the HRS Method

In determining the weighting of human resource performance based on the HRS method using the AHP method from the results of collecting data through Pairwise Comparison questionnaires, the following results were obtained.

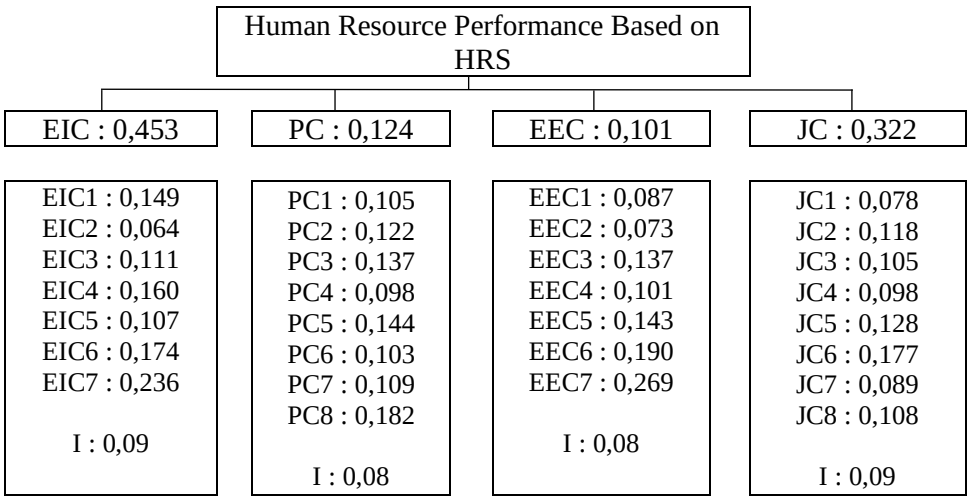

Figure 5. Performance Weighting Results Based on the AHP Method

In the above Figure 5, it can be seen that the weighting results of human resource performance based on the HRS method using the AHP method yielded the following weightings for each perspective: EIC: 0.453, PC: 0.124, EEC: 0.101, and JC: 0.322. Based on the weightings of the 4 perspectives above, the perspective with the highest weighting is EIC. The inconsistency values for each indicator, such as EIC, PC, EEC, and JC, play a significant role in determining the consistency of weight calculations within a method like AHP. An inconsistency value of 0.08, for the PC and EEC indicators indicates a minimal level of deviation in element comparisons, which can be considered negligible. With values well below the tolerance threshold of 0.10, this level of consistency reflects accurate and stable calculation results. Meanwhile, an inconsistency value of 0.09, for the EIC and JC indicators is still deemed valid and acceptable, as it remains just under the maximum allowable threshold. Calculations with inconsistency values below 0.10, signify that the weighting evaluation process has been conducted properly, ensuring reliable outcomes that support consistent decision-making.

Overall, all analyzed indicators (EIC, PC, EEC, JC) demonstrate inconsistency values that meet the criteria for consistency. This indicates that the comparisons among elements within each indicator have been carried out systematically and carefully. An inconsistency value of 0.08 reflects a higher level of consistency quality compared to 0.09. However, both 0.08, and 0.09, fall within the valid and acceptable range. Thus, the

calculated weights for each indicator can be effectively utilized in analysis or decision-making processes. This reliability provides a solid foundation for further evaluations, ensuring that final results are more accurate and not influenced by calculation inconsistencies.

3.4. Performance Measurement Results in the 4 Perspectives of the HRS Method

The performance measurement results are obtained by calculating the weight for each perspective and the weight value of each KPI, resulting in the following outcomes:

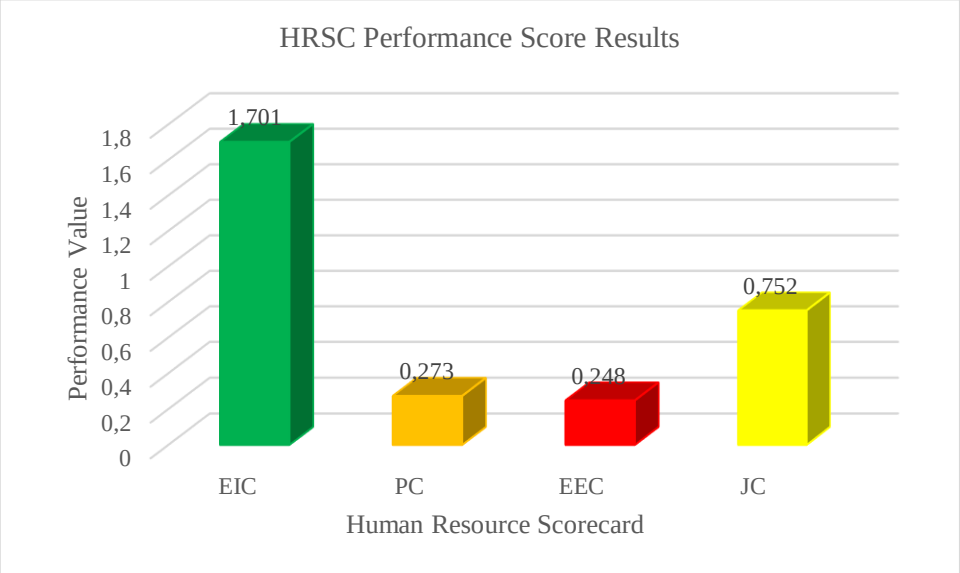

Figure 6. Performance Measurement Results in the 4 Perspectives of the HRS Method

In the above Figure 6, it can be observed that the performance measurement results in the 4 perspectives of the HRSC method show that the most influential aspect of human resource performance is the intellectual competence of employees (EIC) at 1.701, followed by the job competence perspective (JC) at 0.752, the emotional competence of employees perspective (EEC) at 0.273, and the personality competence perspective (PC) at 0.248. Therefore, when considering the overall combined performance, the human resource performance at PT. WNI is 2.974, indicating that the company's performance is aligned with goals, targets, and evaluations that guide it toward success. This conclusion is drawn based on an analysis that considers the relative contribution of each perspective in the HRSC method to the overall performance of the company, showing that focusing on the development of employees' intellectual competence is key to improving the performance of PT. WNI.

3.5. Discussion

In determining KPIs across the four performance perspectives of human resource management using the HRSC method, the chosen indicators demonstrate comprehensiveness in capturing the critical aspects of employee performance. The Employee Interaction and Communication (EIC) perspective utilizes indicators such as communication skills and teamwork, which are valuable in influencing productivity and job satisfaction [20], [21]. The Performance and Capability (PC) perspective employs eight indicators to evaluate both technical and non-technical capabilities of employees, reflecting a deeper focus on individual and collective capabilities within the organization [22]. The Employee Engagement and Culture (EEC) perspective, with seven indicators, measures employee commitment, attitudes, and satisfaction towards the organizational culture, which is crucial for maintaining employee loyalty and emotional ties [23], [24]. Meanwhile, the Job Competency (JC) perspective with eight indicators identifies the necessary skills, knowledge, and competencies required by employees to perform their tasks effectively [25].

Statistical tests show that all perspectives have validity values exceeding the t-table, confirming that these indicators are effective in measuring the expected performance. Reliability tests also indicate that Cronbach's alpha for all perspectives is above the initial standard value, confirming the consistency and reliability of the measurements in this study [26].

The use of the AHP to evaluate the weights of each perspective in decision-making demonstrates significant consistency, with a low Inconsistency Ratio (IR) of less than 0.1. For example, in the Economic and Investment Criteria (EIC) perspective, the weight obtained is 0.453, and the IR is 0.09, indicating acceptable inconsistency. According to [27], an inconsistency below 0.1, suggests that the results of the analysis remain consistent and valid. A study by [28] in "Practical Decision Making Using the Analytic Hierarchy Process" supports this view, stating that low inconsistency strengthens the analysis, enabling more precise decisions in economic and investment contexts. This ensures that decisions made based on AHP in the EIC perspective are reliable and valid for supporting effective investment management.

In another perspective, such as the Process Criteria (PC), the weight for indicators is 0.124, with an Inconsistency Ratio of 0.08, also showing high consistency. Studies by [29] indicate that an IR below 0.1, provides confidence in the consistency of AHP results, meaning that decisions made are not unduly influenced by significant inconsistency. This is crucial in decisions involving process factors, such as workflow and procedure implementation, which require not only optimal but also consistent decisions. Recent research, such as that published by [30] in their book, strengthens this approach by providing empirical evidence that low inconsistency in AHP can enhance decision quality across various sectors.

Based on the human resource performance measurement results using the HRS method, the EIC performance has the most significant impact, while EEC has the least impact. Therefore, the recommended improvement steps for the company would involve enhancing the perspectives of EEC and PC. Continuous enhancement or control can be carried out for the JC and EIC perspectives to achieve the company's objectives by improving human resource performance at PT. WNI.

4. Conclusion

The objective of this research is to evaluate and measure HR performance at PT. WNI using the Human Resources Scorecard (HRS) method. This aim is to help the company align its business strategies with structured and measurable HR performance, and identify KPIs that need improvement to achieve optimal HR performance. Through this research, PT. Wanxiang Nickel Indonesia can enhance HR efficiency and effectiveness and obtain the necessary guidance for more informed decision-making in human resource management. Based on the findings and discussions in this research, it is clear that aligning the company's business strategy with structured and measurable HR performance is crucial. Identifying KPIs that require improvement provides significant benefits to the company in enhancing HR efficiency and effectiveness and offers the necessary guidance for more informed decision-making in HR management. Through perspective weighting using the AHP, it is recommended that improvements should focus on the EIC and EEC perspectives, while continuous improvement is needed for the JC and PC perspectives. Therefore, ongoing enhancement and control of HR performance at PT. WNI are expected to support the holistic and optimal achievement of the company's goals. For the advancement of knowledge, this research can serve as a basis for developing a more comprehensive and adaptive model for evaluating HR performance responsive to changes in the business environment. Further research is suggested to explore the use of other methods such as the Balanced Scorecard (BSC) or Six Sigma in measuring HR performance, as well as to study the impact of HRS implementation on the company's long-term performance. These steps are expected to provide more informed and strategic guidance in managing the company's human resources.

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