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Decision Support System for Performance Assessment of the Best Salesperson with the Integration of Entropy and WASPAS

Junhai Wang[1], Setiawansyah[2,*], Auliya Rahman Isnain[2]

[1] Faculty of Digital Business, Zhejiang Technical Institute of Economics, Zhejiang, China
[2] Faculty Engineering and Computer Science, Informatics, Universitas Teknokrat Indonesia, Bandar Lampung, Indonesia
Email: [1]340017@zjtie.edu.cn, [2,*]setiawansyah@teknokrat.ac.id, [3]auliyarahman@teknokrat.ac.id
Correspondence Author Email: setiawansyah@teknokrat.ac.id

Abstract−The salesperson performance assessment is an important aspect of improving the effectiveness of a company's marketing strategy. However, this assessment process often faces the challenge of subjectivity, especially in determining the weights of the criteria used. To address this issue, this study implements a combination of the Entropy and WASPAS methods. The Entropy method is used to objectively determine the weights of the criteria based on data variation, while the WASPAS method is used to evaluate and rank alternatives. A case study was conducted on five salesperson personnel with the criteria used in selecting the best salesperson being sales target achievement, product mastery, communication skills, creativity, and work ethics. The results showed that Muhammad Iqbal (A3) ranked first with a score of 0.882, followed by Andi Saputra (A1) with a score of 0.796, Rizky Kurniawan (A5) with a score of 0.770, Budi Santoso (A2) with a score of 0.724, and Siti Rahmawati (A4) with a score of 0.655. The main contribution of this research is to present a more accurate and objective salesperson performance evaluation model through the integration of the Entropy–WASPAS method. This finding has practical implications for companies in selecting the best employees, identifying salesperson personnel with outstanding performance, and supporting strategic decision-making in human resource development in the marketing field.

Keywords: Criteria Weight; Decision-making; Entropy Method; Salesperson Performance; WASPAS Method

1. INTRODUCTION

Salesperson performance assessment plays an important role in improving company performance because through this process management can understand the effectiveness of the sales strategies implemented and the contribution of each individual in achieving targets[1]–[3]. With measurable evaluations, the company can identify the strengths and weaknesses of salesperson, provide appropriate training, and design more equitable motivation and reward strategies. Additionally, performance assessment helps create a work culture that is both competitive and collaborative, thereby encouraging increased productivity, customer satisfaction, and ultimately sustainable business growth. In addition, salesperson performance assessment also serves as a basis for strategic decision-making, such as promotions, incentive allocations, and planning for future salesperson force needs. With objective performance data, companies can adjust sales targets realistically, improve marketing strategies, and optimize resource distribution. This not only enhances the effectiveness of the sales team but also strengthens the company's competitiveness in facing a dynamic market. Thus, salesperson performance assessment is not merely an administrative process but an essential tool to drive the growth and sustainability of the company[4], [5]. The challenge in objectively and fairly assessing salesperson performance lies in the complexity of the factors influencing salesperson results, both from internal and external perspectives. Subjectivity in evaluations from superiors, limitations of the indicators used, and the tendency to focus solely on sales figures can lead to biases and overlook other important aspects such as service quality, negotiation skills, or customer loyalty. Implementing a fair salesperson performance evaluation system requires a balance between quantitative achievements and work quality, as well as support from analytical technology to minimize subjective bias, making the evaluation results more accurate, transparent, and acceptable to all parties.

Decision Support Systems (DSS) play a crucial role in assisting management by providing relevant, accurate, and structured information to support complex decision-making processes[6]–[8]. By utilizing historical data, predictive analytics, and decision models, DSS helps managers objectively and quickly evaluate various alternatives. This enables management to identify opportunities, minimize risks, and design more effective strategies in facing market dynamics. Moreover, DSS enhances the efficiency of the decision-making process by consolidating data from various sources, resulting in comprehensive, transparent, and accountable insights[7], [9], [10]. DSS also play a role in enhancing the quality of coordination and communication across management levels by providing a consistent database and information, enabling decisions that are aligned with the company's strategic objectives. The integration of the Entropy method and Weighted Aggregated Sum Product Assessment (WASPAS) is an effective approach in multi-criteria decision making, as it combines the advantages of objective weighting with a comprehensive alternative evaluation method. The Entropy method is used to determine the weight of each criterion objectively based on the variation of the existing data, thereby reducing the influence of assessor subjectivity in the decision-making process[11]. The greater the variation of a criterion, the higher the level of information it contains, and the larger the weight assigned. Thus, the resulting weights reflect the level of importance of the criteria more accurately and based on data. After the weights of the criteria are determined through Entropy, the WASPAS method is used to evaluate and rank alternatives based on a combination of two approaches, namely the Weighted Sum Model (WSM) and the Weighted Product Model (WPM). WASPAS is considered superior because it can

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combine the advantages of both methods, making the evaluation results more stable and accurate[12]. This process provides preference values for each alternative, which are then used as a basis for determining the best choice among the various available options. The integration of Entropy and WASPAS is particularly beneficial when applied to real cases such as supplier selection, employee performance evaluation, technology selection, or other strategic decision-making. Entropy ensures that the weight of the criteria is determined scientifically without bias, while WASPAS presents a more balanced and reliable ranking of alternatives. With this combination, management or decision-makers can obtain recommendations that are more objective, transparent, and aligned with the existing data conditions, thus supporting more rational and sustainable decisions.

The purpose of this research is to implement a DSS for assessing the performance of the best salesperson by integrating the Entropy method as objective weighting and WASPAS as the alternative evaluation method. This system is designed to assist management in conducting salesperson performance assessments in a more measurable, transparent, and free from subjective bias. By utilizing Entropy, criterion weights are determined based on the level of data variation, reflecting the actual level of importance, while WASPAS is used to produce a more accurate ranking of salesperson alternatives through a combination of weighted sum and weighted product models. The contribution of this research lies in providing an objective and systematic salesperson performance assessment model, which can serve as a management tool in strategic decision-making related to the evaluation and development of salesperson personnel. The integration of Entropy and WASPAS in the DSS offers added value in the form of a more fair, transparent, and consistent assessment result, thus supporting the creation of an appropriate reward and punishment system.

2. RESEARCH METHODOLOGY

2.1 Research Stages

The stages of research in general are a systematic series of processes conducted by researchers to obtain answers to the problems being studied[13], [14]. This process usually begins with problem identification and the formulation of research objectives, followed by a literature review to strengthen the theoretical framework and identify research gaps. Next, researchers design the methodology, which includes determining methods, variables, instruments, and data collection techniques. After the data is collected, the next stage is processing and analyzing the data according to the chosen approach to obtain objective results. Finally, the research concludes with drawing conclusions and recommendations, which function to answer the problem formulation and provide contributions to the development of knowledge as well as practical applications in the field. The stages of research conducted are presented in Figure 1.

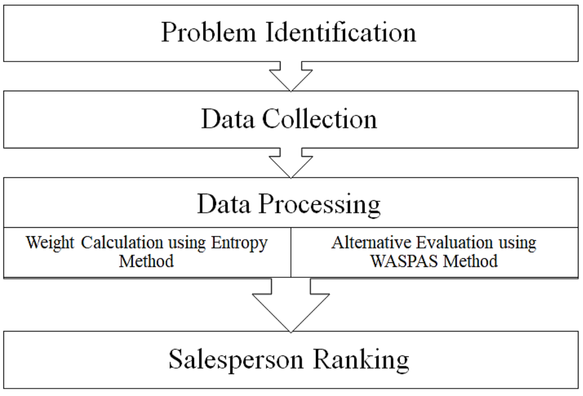

Figure 1. Research Stage

The research flowchart in Figure 1 shows the stages of developing a DSS to evaluate the best salesperson performance by integrating the Entropy method and WASPAS. The process begins with problem identification, which is the company's need to assess salesperson performance objectively and accurately. Next, data collection is carried out, involving information related to assessment criteria and the performance of each salesperson representative. The data collection in this study was conducted using five main criteria that serve as benchmarks in assessing salesperson performance, namely sales target achievement, product mastery, communication skills, creativity, and work ethics. These criteria were chosen because they can represent the core competencies required by a salesperson in supporting the achievement of the company's goals. Data were collected through a combination of methods, including assessment questionnaires filled out by direct supervisors and colleagues, as well as company performance records related to salesperson target achievement. In addition, interviews with supervisors were also used to obtain qualitative data regarding creativity and product mastery of each salesperson. With this approach, the data obtained is expected to be more objective, comprehensive, and reflective of the actual conditions in the field. After the data is collected, it moves to the data processing stage, which is divided into two main parts: calculating

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the weights of criteria using the Entropy method to obtain objective weights, and evaluating salesperson alternatives using the WASPAS method. The results of these two processes are then combined to generate preference values used in the final stage, which is ranking the salesperson representatives, resulting in a ranking of the best salesperson based on measurable and transparent performance.

2.2 Entropy Method

The Entropy method is one of the objective weighting techniques in multi-criteria decision-making used to determine the importance level of each criterion based on the variation of available data[15]–[17]. The application of this method is very beneficial in creating a more objective, transparent, and accountable assessment system, especially in cases that require scientific performance analysis or ranking of alternatives.
Decision Matrix: a table that presents the values or scores of several alternatives against some criteria. This matrix serves to assist decision-makers in determining the best alternative based on predetermined criteria.

$$X = \begin{bmatrix} x_{11} & \cdots & x_{1n} \\ \vdots & \ddots & \vdots \\ x_{m1} & \cdots & x_{mn} \end{bmatrix} \quad (1)$$

Decision Matrix Normalization: normalization is done to convert data into the same scale so that it can be compared directly. This is important so that the values of each alternative under different criteria do not affect each other.

$$k_{ij} = \frac{x_{ij}}{\sum_{j=1}^{n} x_{ij}} \quad (2)$$

Entropy Calculation for Each Criterion: Once the data is normalized, this stage calculates the entropy value for each criterion, which describes the level of uncertainty or variation in the data. The higher the entropy value, the less information the criterion can provide.

$$E_j = -\frac{1}{\ln m} \sum_{i=1}^{n} k_{ij} \ln(k_{ij}) \quad (3)$$

Calculation of Dispersion Value: The dispersion value is a measure that describes the distribution or variation of data in a dataset.

$$D_j = 1 - E_j \quad (4)$$

Criterion Weight Calculation: Once the dispersion value is calculated, this stage calculates the weights for each criterion. The weight of the criteria reflects how important the criteria are in decision-making.

$$w_j = \frac{D_j}{\sum_{j=1}^{n} D_j} \quad (5)$$

Through the stages of the entropy method, it provides a systematic and mathematical approach to calculate the weight of criteria in multi-criteria decision-making. The equations used in this process help guarantee that the results are objective and reliable.

2.3 WASPAS Method

The WASPAS method is one of the multi-criteria decision-making methods used to evaluate and rank alternatives based on a combination of two approaches, namely WSM and WPM[18]. Through the integration of these two models, WASPAS is deemed capable of providing more accurate, stable, and comprehensive results compared to the use of one method alone. The process starts with data normalization, then each criterion is assigned a weight, followed by the calculation of aggregate values by combining the results of WSM and WPM using specific parameters. With this approach, WASPAS not only considers the total achievements of each alternative but also the proportion of their contributions, resulting in a more balanced ranking outcome[19], [20].
The first process carried out in the WASPAS method is to create a decision matrix, the decision matrix is a structural representation of all criteria used in the decision-making process, along with the alternative values evaluated in that context using equation (1).

The second process carried out in the WASPAS method is the normalization of the matrix. Normalization of the matrix is the process of converting the values in the decision matrix into a uniform or relative range of values, thus facilitating the comparison between criteria or alternatives. Normalization is performed to eliminate any bias that may arise from different scales or units in each criterion. Normalization can be done using the following equation.

$$N_{ij} = \frac{x_{ij}}{x_j^{max}} \quad (6)$$

$$N_{ij} = \frac{x_j^{min}}{x_{ij}} \quad (7)$$

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The third process carried out in the WASPAS method is to calculate the final value of the alternatives. The final value of the alternatives is obtained by multiplying the normalized values by the criteria weights that have been predefined using the following equation.

$$Q_i = 0{,}5 \sum n_{ij} w_j + 0{,}5\, \Pi_{j=1}^{n} n_{ij}^{\ w_j} \quad (8)$$

The final process carried out in the WASPAS method is ranking the alternatives. The alternatives are ranked based on the highest preference value deemed the best choice in the context of decision-making.

3. RESULT AND DISCUSSION

The assessment of salesperson performance is one of the crucial aspects in supporting the success of a company, as the quality and effectiveness of salesperson personnel directly affect the achievement of business targets. However, this process often encounters obstacles in the form of subjective evaluations and the complexity of criteria that must be considered simultaneously. Therefore, a systematic approach is needed through a DSS based on MCDM methods. This study integrates Entropy as an objective weighting method that can assess the importance level of criteria based on data diversity, with WASPAS as an alternative ranking method to produce accurate and fair evaluations. This integration is expected to assist management in determining the best salesperson personnel in a more objective, transparent, and measurable manner. This integration not only enhances the objectivity and accuracy of assessments but also accelerates the process of strategic decision-making.

3.1 Problem Identification

The identification of issues in the research stems from the organization's need to assess the performance of salesperson personnel objectively, accurately, and structurally. So far, the evaluation process of salesperson has often been subjective, considering only limited aspects, which can potentially lead to bias and unfair decisions. Additionally, the existence of many assessment criteria, such as achievement of sales targets, product mastery, communication skills, creativity, and work ethics, makes the evaluation process even more complex. Another challenge is how to determine the weight of each criterion objectively so that the assessment does not solely rely on the manager's intuition. In addition, another issue identified is the company's limitations in processing multidimensional assessment data. Each salesperson has different performances on each criterion, making it difficult for managers to manually conduct a comprehensive comparison between individuals. The inability of traditional systems to handle such complex data can lead to decisions that are less accurate and do not fully reflect the real conditions in the field. The integration of the Entropy method as an objective weighting technique and the WASPAS method as an alternative ranking method is seen as capable of providing a more comprehensive solution. The main issue raised is how to develop a decision support system that can combine both methods to produce the best salesperson performance assessments fairly, transparently, and responsibly.

3.2 Data Collection

Data collection in this research was conducted through several systematic stages to ensure the validity and reliability of the information obtained. The primary data needed is the performance assessment scores of salesperson based on a number of predetermined criteria, such as sales target achievement, product mastery, communication skills, creativity, and work ethics. The data collection process involved relevant respondents, such as sales managers, supervisors, as well as documented administrative data from the company. Each criterion is assessed using a certain scale, both in quantitative form (for example, sales volume, percentage of targets achieved) and qualitative form (for example, observation of communication skills or work ethics). Table 1 is the result of data collection on salesperson.

Table 1. Data collection

Alternative (Salesperson)	Sales Target Achievement	Product Mastery	Communication Skills	Creativity	Work Ethics
S1 – Andi	85	8	9	7	9
S2 – Budi	78	9	8	8	8
S3 – Citra	92	7	9	9	8
S4 – Dwi	75	8	7	8	9
S5 – Eka	88	9	8	9	8

Data collection was conducted through a combination of official company documentation, direct observation, and structured interviews with management. To maintain objectivity, qualitative assessments involved more than one respondent so that the final score is an aggregation of several perspectives. In this way, the data used not only represents salesperson results but also reflects the relevant soft skill capabilities related to salesperson performance.

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3.3 Data Processing

Data processing is an important stage in decision support systems, because at this stage, the employee evaluation data which is still in raw numerical form is transformed into structured information that is ready to be analyzed objectively. The process begins by organizing the data based on the established evaluation criteria, followed by normalization so that all values are on a comparable scale. Furthermore, objective weighting methods such as Entropy are used to determine the importance level of each criterion based on data variation. The weights of these criteria are then integrated with the WASPAS evaluation method to calculate the performance scores of each alternative and produce final rankings. With this systematic process, data processing ensures that the decision-making results are consistent, reliable, and free from subjective bias, thus capable of supporting the determination of the best employees in the finance division.

The Entropy Method is one of the objective approaches used to determine the weights of criteria based on the diversity of evaluation data. The basic principle of this method is that the greater the variation in the values of a criterion among alternatives, the higher the importance of that criterion in decision-making. The calculation process begins with normalizing the decision matrix based on the evaluation data in Table 1 using equation (1).

$$X = \begin{bmatrix} 85 & 8 & 9 & 7 & 9 \\ 78 & 9 & 8 & 8 & 8 \\ 92 & 7 & 9 & 9 & 8 \\ 75 & 8 & 7 & 8 & 9 \\ 88 & 9 & 8 & 9 & 8 \end{bmatrix}$$

The calculation process starts by normalizing the decision matrix so that all data is on a comparable scale using (2).

$$k_{11} = \frac{x_{11}}{x_{11} + x_{12} + x_{13} + x_{14} + x_{15}} = \frac{85}{85 + 78 + 92 + 75 + 88} = \frac{85}{418} = 0.2033$$

Table 2 shows the results of the normalization values for each alternative based on the criteria established in the entropy method, which is performed and presented as follows.

Table 2. Normalization value of the entropy method

Alternative (Salesperson)	Sales Target Achievement	Product Mastery	Communication Skills	Creativity	Work Ethics
S1 – Andi	0.2033	0.1951	0.2195	0.1707	0.2143
S2 – Budi	0.1866	0.2195	0.1951	0.1951	0.1905
S3 – Citra	0.2201	0.1707	0.2195	0.2195	0.1905
S4 – Dwi	0.1794	0.1951	0.1707	0.1951	0.2143
S5 – Eka	0.2105	0.2195	0.1951	0.2195	0.1905

After that, the probability values for each element are calculated and used to determine the entropy values of each criterion, which are computed using (3).

$$E_1 = -\frac{1}{\ln 5} * [(k_{11}\ln(k_{11})) + (k_{12}\ln(k_{12})) + (k_{13}\ln(k_{13})) + (k_{14}\ln(k_{14})) + (k_{15}\ln(k_{15}))]$$

$$E_1 = -\frac{1}{\ln 5} * [(-0.3239) + (-0.3133) + (-0.3332) + (-0.3083) + (-0.3280)]$$

$$E_1 = -\frac{1}{1.6094} * [(-0.3239) + (-0.3133) + (-0.3332) + (-0.3083) + (-0.3280)]$$

$$E_1 = -0.6213 * [-1.6066]$$

$$E_1 = 0.9982$$

Table 3 presents the results of calculating the entropy values for each criterion based on the normalization values obtained from the entropy method and is displayed as follows.

Table 3. Entropy value of the entropy method

	Sales Target Achievement	Product Mastery	Communication Skills	Creativity	Work Ethics
E_j	0.9982	0.9974	0.9974	0.9974	0.9990

The entropy value is then used to calculate the degree of uncertainty (degree of diversification), where the lower the entropy value, the higher the informational contribution from the criteria, which is calculated using (4).

$$D_1 = 1 - E_1 = 1 - 0.9982 = 0.0018$$

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Table 4 is the result of calculating the dispersion values for each criterion based on the entropy values obtained from the entropy method and is displayed as follows.

Table 4. Dispersion value of the entropy method

	Sales Target Achievement	Product Mastery	Communication Skills	Creativity	Work Ethics
D_j	0.0018	0.0026	0.0026	0.0026	0.0010

The final step is to calculate the final weight of each criterion by comparing the diversification values among all criteria, which are calculated using (5).

$$w_1 = \frac{D_1}{D_1 + D_2 + D_3 + D_4 + D_5}$$

$$w_1 = \frac{0.0018}{0.0018 + 0.0026 + 0.0026 + 0.0026 + 0.0010}$$

$$w_1 = \frac{0.0018}{0.0107}$$

$$w_1 = 0.1649$$

Table 5 presents the results of the calculation of the weight values for each criterion based on the dispersion values in the entropy method and is displayed as follows.

Table 5. Dispersion value of the entropy method

	Sales Target Achievement	Product Mastery	Communication Skills	Creativity	Work Ethics
w_j	0.1649	0.2456	0.2456	0.2456	0.0983

By applying the method of entropy criterion weighting, the results are objective because they entirely depend on the data distribution pattern, not on the subjective preferences of the decision maker. The summary of the alternative assessment using the WASPAS method is that the evaluation process is carried out by combining two approaches, namely WSM and WPM, to achieve more accurate and stable results. The WASPAS method has become an effective method to support decision-making in assessing sales performance objectively, measurably, and transparently.

The first process carried out in the WASPAS method is to create a decision matrix, the decision matrix is a structural representation of all criteria used in the decision-making process, along with the alternative values evaluated in that context using equation (1).

$$X = \begin{bmatrix} 85 & 8 & 9 & 7 & 9 \\ 78 & 9 & 8 & 8 & 8 \\ 92 & 7 & 9 & 9 & 8 \\ 75 & 8 & 7 & 8 & 9 \\ 88 & 9 & 8 & 9 & 8 \end{bmatrix}$$

The second process carried out in the WASPAS method is matrix normalization. Matrix normalization is the process of converting the values in the decision matrix into a uniform or relative range of values, making it easier to compare between criteria or alternatives using (6) because all criteria are of the benefit type.

$$N_{11} = \frac{x_{11}}{x1^{max}} = \frac{85}{92} = 0.9239$$

Table 6 shows the results of the normalization values for each alternative based on the criteria established in the WASPAS method, which is performed and presented as follows.

Table 6. Normalization value of the WASPAS method

Alternative (Salesperson)	Sales Target Achievement	Product Mastery	Communication Skills	Creativity	Work Ethics
S1 – Andi	0.9239	0.8889	1.0000	0.7778	1.0000
S2 – Budi	0.8478	1.0000	0.8889	0.8889	0.8889
S3 – Citra	1.0000	0.7778	1.0000	1.0000	0.8889
S4 – Dwi	0.8152	0.8889	0.7778	0.8889	1.0000
S5 – Eka	0.9565	1.0000	0.8889	1.0000	0.8889

The third process carried out in the WASPAS method is calculating the final value of alternatives. The final value of the alternatives is obtained by multiplying the normalized values by the previously determined criterion weights using equation (8).

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$$Q_1 = \left[0.5 * \left((n_{11} * w_1) + (n_{21} * w_2) + (n_{31} * w_3) + (n_{41} * w_4) + (n_{51} * w_5)\right)\right] + \left[0.5 * \left(({n_{11}}^{w_1}) * ({n_{21}}^{w_2}) * ({n_{31}}^{w_3}) * ({n_{41}}^{w_4}) * ({n_{51}}^{w_5})\right)\right]$$

$$Q_1 = \left[0.5 * \left((0.9239 * 0.1649) + (0.8889 * 0.2456) + (1 * 0.2456) + (0.7778 * 0.2456) + (1 * 0.0983)\right)\right] + \left[0.5 * \left((0.9239^{0.1649}) * (0.8889^{0.2456}) * (1^{0.2456}) * (0.7778^{0.2456}) * (1^{0.0983})\right)\right]$$

$$Q_1 = \left[0.5 * \left((0.1524) + (0.2183) + (0.2456) + (0.1910) + (0.0983)\right)\right] + \left[0.5 * \left((0.9870) * (0.9715) * (1.0000) * (0.9401) * (1.0000)\right)\right]$$

$$Q_1 = [0.5 * (0.9056)] + [0.5 * (0.9015)]$$

$$Q_1 = [0.4528] + [0.4507]$$

$$Q_1 = 0.9035$$

Table 7 presents the results of the final value calculations for each alternative using the WASPAS method based on the combination of the WSM and WPM rankings and is displayed as follows.

Table 7. Final value of the WASPAS method

Alternative (Salesperson)	Final Value
S1 – Andi	0.9035
S2 – Budi	0.9086
S3 – Citra	0.9319
S4 – Dwi	0.8591
S5 – Eka	0.9540

The WASPAS method is an approach in multi-criteria decision making that combines two main techniques, namely weighted summation and weighted multiplication, resulting in more accurate, stable, and comprehensive evaluations. With its advantage of being able to integrate two methods at once, WASPAS has proven to be effective in supporting decision support systems, especially in cases of performance evaluation involving multiple criteria such as the assessment of the best sales.

3.4 Salesperson Ranking

In the process of evaluating the performance of Salesperson personnel, companies often face challenges in providing fair, objective, and transparent assessments. This is due to the many criteria that must be considered, ranging from sales target achievements, product mastery, communication skills, creativity, to work ethic. Each salesperson usually has strengths in certain aspects and weaknesses in others, making it difficult for management to determine who truly has the best performance based solely on subjective assessments. Therefore, a method is needed that can systematically process evaluation data and generate rankings that can serve as a basis for decision-making. In assessing salesperson performance, the use of a single method is sometimes not sufficient to provide truly objective results due to the potential bias in the weighting criteria stage. Therefore, this study uses a combination of the Entropy method and WASPAS. The Entropy method plays a role in determining criterion weights objectively based on the level of data variation available. The greater the difference in value of a criterion among alternatives, the more important that criterion is in the decision-making process. Thus, the weights produced do not solely depend on the subjective assessments of managers but genuinely reflect information from the available evaluation data.

After the weights are obtained through Entropy, the WASPAS method is used to carry out the ranking process. WASPAS combines the weighted sum approach (WSM) and the weighted product approach (WPM), making it capable of providing a more accurate and stable evaluation. The value of each salesperson representative is calculated based on the objective weights previously determined by Entropy, and then processed with WASPAS to obtain the final score. The result is a salesperson ranking that is not only transparent but also measurable and accountable. This combination provides a dual advantage: objectivity in weighting criteria and accuracy in ranking alternatives. The results of the salesperson alternative ranking are displayed in Figure 2.

Figure 2. Ranking Results of Alternatives Using a Combination of Entropy and WASPAS

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Based on the calculations using a combination of the Entropy method and WASPAS, a ranking of salesperson performance is shown in the graph. Salesperson Eka occupies the first position with the highest final score, indicating the best performance compared to other salespeople. In second place is Citra with a fairly high score, followed by Budi in third place. Meanwhile, Andi is in fourth position with a narrow score difference from Budi, and Dwi occupies the last position with the lowest score. These results demonstrate that Eka consistently excels in the various criteria used, while Dwi needs to improve performance to compete with other salesperson colleagues. Overall, this ranking confirms that the combination of Entropy and WASPAS can produce objective, transparent evaluations that can serve as a basis for decision-making regarding salesperson performance.

The ranking order formed through the WASPAS calculation is greatly influenced by the weights of the criteria determined objectively using the Entropy method. In this case, the criteria of product mastery, communication skills, and creativity have the highest weights of 0.2456 each, so these three aspects have the most dominant influence on the final results. Salesperson personnel who demonstrate exceptional performance in product mastery, communication skills, and creativity will achieve a higher position in the ranking. Conversely, although sales target achievement is also important with a weight of 0.1649, its contribution is not as significant as that of the three main criteria. The work ethics with the lowest weight of 0.0983 has a smaller influence on the ranking, making the difference in scores in this aspect not very significant in determining the final order. Therefore, the advantages in the criteria with the highest weight become a key factor explaining why the ranking among salesperson occurs.

4. CONCLUSION

The research results conducted using a combination of the Entropy and WASPAS methods conclude that this method is able to provide an objective and transparent assessment of salesperson performance. The calculation results show that Eka succeeded in becoming the best salesperson representative as she obtained the highest score across various assessment criteria, while Dwi needs to improve her performance to compete with other salesperson representatives. The combination of the Entropy and WASPAS methods has proven effective in supporting decision-making to determine the best salesperson representative, as it can reduce subjectivity in criterion weighting while also producing a more accurate and measurable ranking. The main contribution of this research lies in the application of the Entropy-WASPAS combination method, which can provide objective criterion weights through data variation analysis, as well as conduct a comprehensive evaluation using a combined multiplicative and additive model approach. With this approach, the resulting decision support system becomes more accurate, transparent, and reliable for the selection or evaluation process. Furthermore, the results of this study also provide practical contributions for companies in determining human resource development strategies, particularly in identifying salesperson personnel with the best performance to be used as role models or development priorities. Through the integration of these two methods, the company can identify the best salespeople not only based on sales target achievements, but also through other important aspects such as product mastery, communication skills, creativity, and work ethic. Therefore, this decision support system assists management in making strategic decisions related to rewards, promotions, and the capacity development of salesperson in a more effective and transparent manner.

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