DECISION SUPPORT SYSTEM FOR FOREMAN APPOINTMENT USING AHP METHOD AT PT. ARISTA AUTO LESTARI

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Abstract: This research aims to develop a web-based decision support system using the Analytical Hierarchy Process (AHP) method for the selection process of foremen at PT. Arista Auto Lestari. The assessment of prospective foremen is based on the criteria of education, psychometric test results, age, and experience. The criteria data is obtained through literature study, interviews, and observations. This system allows prospective foremen to apply online, improving the efficiency and accuracy of the selection process. The use of the AHP method helps in comparing and selecting the most suitable candidates based on the established criteria. The development of this web-based system provides accessibility and ease for the admin to access and operate the system. This research contributes to enhancing transparency and the effectiveness of the foreman selection process at PT. Arista Auto Lestari.

INTRODUCTION

PT. Arista Auto Lestari is an automotive company with branches in various regions across Indonesia. The company's rapid growth demands a workforce that is diligent and capable of working efficiently in the automotive field. Among the many mechanics employed by the company, there are several levels or positions. These levels or positions affect the salary or wages received each month. The foreman or head mechanic is the highest position within the mechanic job hierarchy, responsible for supervising other mechanics. This position is crucial for the company as it ensures oversight within the workshop, with full responsibility for the daily tasks performed

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The foreman or head mechanic is the highest position in the mechanic hierarchy, responsible for overseeing other mechanics. This position is crucial for the company as it ensures proper supervision within the workshop and holds full responsibility for the daily tasks performed in the workshop. Given the existing challenges, the company recognizes the need to conduct a selection process for promoting mechanics who are considered experts—those with sufficient experience and the ability to resolve issues or troubleshoot vehicles that come into the workshop for repairs at PT. Arista Auto Lestari. Mechanics who are deemed to have extensive hands-on experience will be appointed or promoted to the position of head mechanic, also known as the foreman.

This research helps address the existing problems by designing a decision support system that can assist the company in selecting the right mechanic for promotion to the position of head mechanic, also known as foreman. The decision support system is considered capable of solving the problem because it is a computer-based information system that can be used for effective decision-making, with an emphasis on a management system based on perception. The method used to solve the problem is the Analytic Hierarchy Process (AHP).

RESEARCH METHODS

In conducting research, there is a series of steps that must be carried out effectively to produce an optimal system. The research conducted at PT. Arista Auto Lestari aims to determine the foreman using the AHP (Analytic Hierarchy Process) method. The ranking process results in the names of candidates selected to become foremen. Below are the steps in the research:

1. **Problem Formulation**: Identifying the problem to be solved, which is how to effectively select a foreman in the appointment process at PT. Arista Auto Lestari. Consider relevant aspects such as the criteria that need to be taken into account in the foreman appointment process.
2. **Objective Setting**: Establishing the research objectives, such as developing a decision support system based on the AHP method to assist in the foreman appointment process. Define the success parameters to be measured.

3. **Literature Review**: Conducting a literature review on the AHP method, decision support systems, and the foreman appointment process. Identifying similar case studies and the approaches used.
4. **System Analysis**: analyzing the foreman appointment process at PT. Arista Auto Lestari. Identifying relevant and important criteria in the decision-making process for appointing the foreman.
5. **System Design**: Designing the decision support system using the AHP method. Defining the system structure, workflow, and the user interface that will be used.
6. **Program Development**: Implementing the system design in the form of software or an application. Developing the AHP algorithm and functionalities that support the foreman appointment decision-making process.
7. **Testing**: Conducting functionality and accuracy testing of the system. Testing the system with different foreman appointment scenarios and evaluating the results.
8. **Implementation**: Implementing the decision support system in a real-world environment at PT. Arista Auto Lestari. Involving actual users in the foreman appointment decision-making process with the support of the developed system.

RESULTS AND DISCUSSION

The AHP DSS menu page is an interface used to perform calculations in the framework of a decision support system by implementing the AHP method. On this page, the output is the result of the selection of foreman candidates who successfully become foreman at PT. Arista Auto Lestari. The illustration in Figure 1 depicts the visual appearance of the AHP DSS menu page.

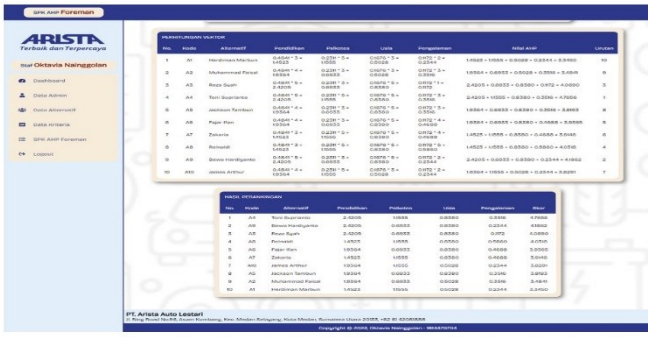

Figure 1. Menu AHP DSS

The following is the overall calculation of the AHP decision support system method in finding the best value in the foreman search. The results show that there are ten assessments based on the previous calculations.

Table 1. Results of prospective employee graduation

Alternatif	Pendidikan	Psikotes	Usia	Pengalaman	Skor
Toni Suprianto	2,4205	1,1555	0,838	0,3516	4,7656
Bowo Hardiyanto	2,4205	0,6933	0,8380	0,2344	4,1862
Reza Syah	2,4205	0,6933	0,8380	0,1172	4,0690
Reinaldi	1,4523	1,1555	0,8380	0,5860	4,0318
Fajar Ifan	1,9364	0,6933	0,8380	0,4688	3,9365
Zakaria	1,4523	1,1555	0,8380	0,4688	3,9146
James Arthur	1,9364	1,1555	0,5028	0,2344	3,8291
Jackson Tambun	1,9364	0,6933	0,8380	0,3516	3,8193
Muhammad Faisal	1,9364	0,6933	0,5028	0,3516	3,4841
Herdiman Marbun	1,4523	1,1555	0,5028	0,2344	3,3450

Table 1. shows that there are four people who have the highest scores, namely 4.7656, 4.1862, 4.0690 and 4.0318. The score below 4.0 is a very low score in the acceptance of foreman at PT. Arista Auto Lestari.

CONCLUSION

The research results provide several conclusions based on the discussion and testing, including: The Analytic Hierarchy Process (AHP) method has proven successful in assessing the suitability of prospective foreman for positions at PT. Arista Auto Lestari. There are four employees who have the highest scores, namely Toni Suprianto with a score of 4.7656, Bowo Hardiyanto with a score of 4.1862, Reza Syah with a score of 4.0690 and Reinaldi with scores of 4.0690 and 4.0318.

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