DECISION SUPPORT SYSTEM FOR HEAD OF WAREHOUSE SELECTION RECOMMENDATION USING ANALYTIC HIERARCHY PROCESS (AHP) METHOD

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ABSTRACT

The background of the research this time is how to decide the selection of the head of the warehouse and give the best decision in the selection of the head of the warehouse with the best assessment from several parties, it will be able to choose the best warehouse head based on the assessment of all parties interested in the company. The method used in this research is to use literature review and trials using the AHP algorithm to produce the best decision in choosing the warehouse head by using this experiment, then you will be able to directly choose the suitable warehouse head based on interested parties in the company. In some research, the AHP algorithm is used to decide the best decision based on predetermined variables, in the presence of the determined variables, the maximum results will be obtained and the decisions taken from the AHP algorithm will produce something that is very helpful for those in need. In this study, it will produce data that can be known directly by the application of the AHP algorithm in the selection of the head of warehouse in a company and can be seen the effectiveness of the AHP algorithm in its direct application.

Keywords: Decision Support System, Head of Warehouse, Selection, AHP.

INTRODUCTION

In making a decision it is indeed very difficult because it must be based on something that can support making the right decision that is needed in a company because if the wrong decision is made, the course of the company will be very dangerous and can make the company go bankrupt, therefore making decisions must be made (Dewi & Putra, 2020). using something very important such as advice from the leader and some people who have an interest in making decisions, for example, managers, with the advice from the leader, the selection to determine the selection of the head of the warehouse will be very precise and assisted by the AHP algorithm will be even more maximal (Dewi & Putra, 2020).

The current system still uses a manual system with direct selection using a questionnaire or direct election made by the company leadership (Dewi, Mulyana, Putra, & Radita, 2020), but with the AHP algorithm that is applied to the selection of the head of the warehouse, this time it will use a structured system to be able to provide maximum decisions in selecting the head of the warehouse (Dewi, Irawan, Fitry, & Putra, 2020).

The problem raised in this research is how to choose the head of the warehouse by using the system because so far the selection of the head of the warehouse is still objective (Putra, 2020), the results of the appointment of one party with the cellphone algorithm, the assessment system for the selection of the warehouse head will not be objective and universal so all parties can become head of warehouse without anything based on personal decisions (Putra, 2020).

The method used in this research is to use literature review and conduct experiments on direct election of warehouse

chiefs carried out in a company (Putra, Efektifitas Sistem Jalan Underpass untuk Kota Pintar DKI Jakarta, 2020), using the AHP algorithm, the selection of the head of the warehouse will be carried out based on a structured system without any objective selection (Putra, 2020).

In this study, it will produce data based on direct election of the warehouse chief who has used the AHP algorithm (Putra, 2019), so that the selection of the head of the warehouse is no longer objective and universal so everyone can decide who is the best warehouse head in a company (Putra, et al., 2019).

REASERCH METHOD

In this section, we will discuss how this research took place and what methods were used in this research. From all the stages used in this study (Arman Syah Putra, 2020), it will produce conclusions from the problems raised in this research.

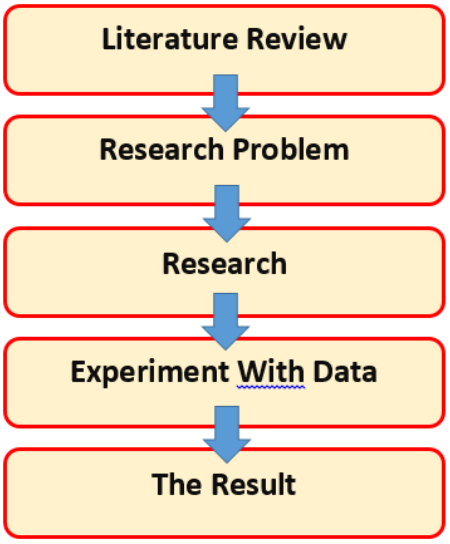

Figure 1. Research Methodology

RESEARCH METHODOLOGY

This section will explain how the methodology is described above, the methodology is divided into 5 stages, The five stages can be explained below:

LITERATURE REVIEW

The first stage in this research is to use literature reviews by reading many journals related to this current research based on literature reviews (Subani, Ramadhan, Sumarno , & Putra, 2020), so this research will be stronger because based on previous theories that discuss the same research with literature reviews, it will be able to find the latest research problems so that they can be developed continuously (Ramadhan, Kurniawan, & Putra, 2020).

RESEARCH PROBLEM

The second stage in this research is to find problems that can be raised in this research with the research problem, so this research becomes clear about the direction and objectives as well as the objectives to be achieved in this research with the research problem, so the methodology will adjust the research based on the problem. appointed in order to provide the best solution in providing research results (Putra, Harco , Ford , Benfano, & Edi , 2018).

RESEARCH

The third stage in this research is to conduct research related to the research problem raised by the reset, so the data that will be obtained will be processed to produce conclusions that can solve the research problems raised by the research so that data processing will be more focused and able, making research unbiased redundant (Putra, et al., 2018).

EXPERIMENT WITH DATA

The 4th stage in this research is how we can process the data that has been obtained based on the points that are considered as data retrieval points with data processing, it will be able to produce the best decision for selecting the head of the warehouse with the experiment this time it will be possible. it is known how the data is obtained and the chest How the data is processed so that it can take the best decision

in making a decision to elect the warehouse head in a company (Putra & Kusuma, 2015).

THE RESULT

The final stage in this research is to provide the best conclusion and how we can solve the research problems raised in this research with the conclusion that it will be able to answer the problems using the AHP algorithm method in making decisions in choosing the warehouse head in a company (Putra & Harco , 2018).

Analytic Hierarchy Process (AHP)

The AHP algorithm is an algorithm that is used to make a decision, usually decisions are taken unilaterally or objectively (Putra & Fatrilia, 2020). Therefore, with the AHP algorithm, all decisions will be taken based on the system and nothing can interfere with the decision, in a decision it will produce something that will impact the company for example the decision to take the selection and the head of the warehouse, with the selection of the right warehouse head, it will be able to help the company manage the warehouse, so that all problems in the warehouse can be resolved quickly and optimally (Putra, 2019).

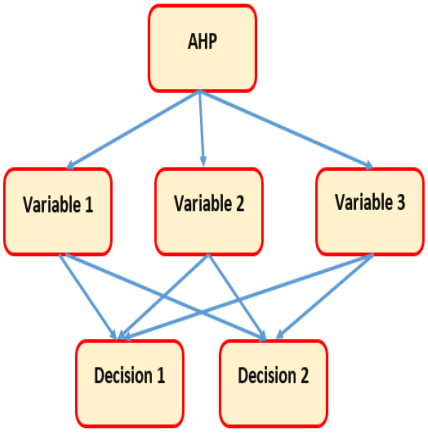

Figure 2. AHP Concept

Based on the AHP algorithm image above, it can be concluded that the AHP algorithm draws conclusions based on predetermined variables in order to produce the best decisions (Putra, 2019).

Method Selection of Warehouse Head Election

This section will explain how the method of selecting the head of the warehouse using the AHP method can maximize the decisions that will be taken.

Figure 3. AHP Concept

Based on the picture of the warehouse head selection method above, we can find out that the initial decision making comes from the HRD department because the HRD department requires people to fulfill the job as the warehouse head then the HRD provides a report to the company leadership so that the company leadership can choose who is the right candidate in the election The head of the warehouse after the candidates are met then the assessment is carried out by the company leaders using the ahp algorithm method after the data is processed using the cellphone algorithm, it will be concluded that using the AHP algorithm use system will be able to maximize the system and provide the best conclusions in making the decision to elect the warehouse head (Putra, 2020).

FINDINGS AND DISCUSSION

In this section, we will discuss how the data is obtained and how the data is processed. The images and explanations of the AHP algorithm in selecting the head of a warehouse in a company will be explained in the image and explanation below.

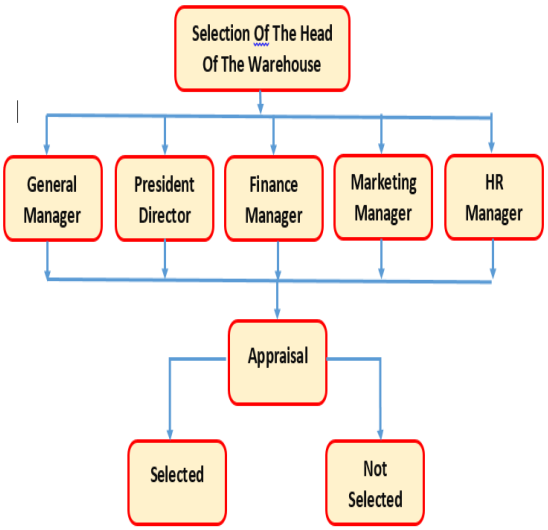

Figure 3. AHP Algoritm in Warehouse Head Election

Based on the picture above, it can be seen that in the selection of the head of warehouse in a company, the decisions are made by 5 people who are in a company, the first is General Manager, the second is the president director, the third is the Finance Manager, the fourth is the Marketing Manager, and the fifth is the HR Manager, the fifth person This leader will take an assessment that will produce a decision that will be processed by an algorithm method called AHP so that he can determine who is the right person in determining the selection of the head of the warehouse.

DATA PROCESSING

Table 1. Decision Maker Table

No	Assessor	Rating Parameter	Code
1	President director	Performance	W1
2	General Manager	Loyalty	W2
3	financial manager	Leadership	W3
4	marketing Manager	Warehouse Submission	W4
5	HR Manager	Warehouse Mastery	W5

Based on the table above we can note that there are 5 assessors, the first is the president, the second is the general manager, the third is the financial manager, the fourth is the marketing manager, and the fifth is the HR Manager, these five people are decision makers, each of which consists of performing royalty free web submission werehouse mastery which was coded W1, W2, W3, W,4 W5.

Table 2. Parameter Rating Table

No	Rating Parameter	Code	Scale
1	Performance	W1	10 - 100
2	Loyalty	W2	10 - 100
3	Leadership	W3	10 - 100
4	Warehouse Submission	W4	10 - 100
5	Warehouse Mastery	W5	10 - 100

Based on the table above, the parameter rating based on the Performance, Loyalty, Leadership, Warehouse Submission and Warehouse Mastery, were given a number between 10 to 100 with the code W1, W2, W3, W,4 W5

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Table 3. Decision Assessment Table

No	Decision Rating Scale Value	Decision Assessment Letter	Decision
1	1 - 100	E	Not Selected
2	101 -200	D	Not Selected
3	201 - 300	C	Not Selected
4	301 - 400	B	Selected
5	401 -500	A	Selected

Based on the decision making table above, an explanation will be given as follows the decision will be given a value between 1 to 500 and will be given a value of A,B,C,D and E decisions are taken based on values and numbers that meet the qualification requirements while those who are not selected have a side value and those who are selected will have a value A and B.

Table 4. Prospective Warehouse Head Table

No	Name of Warehouse Head Candidate
1	Jafar Asaludin
2	Soni Autarnah
3	Romi Silalahi
4	Santo Sriyanto
5	Amat Damuhuri

Based on the table above, the results of the selection of prospective warehouse head candidates are given by the HRD to the leadership.The five names of these candidates can be seen in the table above.

Table 5. Table of Assessment Results of Prospective Warehouse Heads

No	Name of Warehouse Head Candidate	W1	W2	W3	W4	W5	Total
1	Jafar Asaludin	30	40	20	50	20	160
2	Soni Autarnah	50	50	50	50	30	230
3	Romi Silalahi	40	45	45	50	40	230
4	Santo Sriyanto	85	89	80	85	89	428
5	Amat Damuhuri	70	40	40	30	60	240

Based on the table above, the prospective warehouse head will be rated by the appraisers and the results of the value can be seen in the table above and will be totaled so as to produce maximum points that will be able to determine whether the candidate is elected or not.

Table 6. Table of Assessment Results of Prospective Warehouse Head

No	Name of Warehouse Head Candidate	Total Value	Letter of Assessment of Prospective Warehouse Head	Decision
1	Jafar Asaludin	160	D	Not Selected
2	Soni Autarnah	230	C	Not Selected

3	Romi Silalahi	230	C	Not Selected
4	Santo Sriyanto	428	A	Selected
5	Amat Damuhuri	240	C	Not Selected

Based on the table above, it will be known the total value that has been obtained and it can be known what decisions were taken by the assessment team so based on the results of the table above number 4 Santo Sriyanto with a value of 428 with a value was chosen as the head of the warehouse based on the assessment made by the assessment team based on the part that has been designated

.

Table 7. Test Parameters Table

No	Parameters Tested	Test Result
1	Input Rating Value	OK
2	Data Verification of Prospective Head of Warehouse	OK
3	Data Processing for the Assessment of Prospective Head of Warehouse	OK
4	Verification of Warehouse Head Candidate Value	OK
5	Decision Output	OK

Based on the test table above, we can find out that the process from input to output has been tested and produces maximum results so the decision is that all parameters that have been tested are okay and can produce the best results in processing data for decision making in selecting the head of a warehouse in a warehouse company.

CONCLUSION

The use of the AHP algorithm method in decision making in selecting the head of a warehouse in a company is perfect, because by using the AHP algorithm method, decision making can be done without any objectivity and individually, therefore decisions are taken through a diplomatic system using the AHP algorithm method, selecting The head of the warehouse is very good because it is chosen based on the best decision because it uses the AHP algorithm method.

Future research is with the development of a system that has begun to be programmed by making applications so in decision making, it only remains to fill in the application by the leaders appointed by the HRD in making a decision in choosing employees who are considered important.

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