

**Supporting Human Resources Management Decisions By Using
Data Mining Tools**

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Abstract

This research aims to discuss how to support the decisions made by human resources management using data mining tools, as many contemporary organizations suffer from a lack of knowledge about the importance of employing contemporary technologies (data mining tools) in processing huge amounts of data, so that they summarize it in the form of high-value information that can be used in decision-making. Accordingly, the importance of the research is to seek to enhance knowledge in this field and then address this problem. The objectives of the research are to diagnose the reality of human resources decisions and

data mining tools within Al-Nusour Private University and then test the relationship between them. The researcher used the basics of the descriptive analytical approach when completing his research, as he studied these phenomena in their theoretical and applied aspects. As for the data, it was collected after surveying the opinions of (179) individuals working at Al-Nusour University, using a questionnaire that was designed based on the previous ideas of researchers and those interested in the field under study, after adapting it to suit the local environment. After processing the data using central tendency tools, it was confirmed that Al-Nusour University is highly interested in applying data mining tools and supporting human resources management decisions within it, in addition to the existence of a significant impact of data mining tools in supporting the decisions taken by human resources management. Accordingly, the research only recommended the necessity of updating the data mining tools available within the university by employing the updates witnessed by advanced countries in the field of information technology, and then relying on them in processing the data to provide information of high value that can be used in making human resources management decisions.

Keywords: Decisions, Human Resource Management, Data Mining.

Introduction

Contemporary technology is considered one of the most important indicators of success in management, and its use in implementing functions and activities within the organization contributes to enhancing its ability to achieve its main goals and the goals of its functions. Perhaps the most important of this function is human resources management, which makes an integrated set of decisions that affect the quality of the

performance of employees within the organization and their ability to implement their functions. Therefore, it is necessary to provide the necessary information to support these decisions (Schuler & Tarique, 2007). One of the most important tools that can be used to provide valuable information to human resources management is data mining tools, which have the ability to process huge amounts of data, quickly and with high accuracy, so that they provide information that can be relied upon to predict future events and then make decisions close to reality that are able to deal with exceptional circumstances that may affect the performance of human resources management and its role in achieving the organization's goals (Sicakyüz el at, 2024). Accordingly, the main idea of the research is to identify how to support human resources management decisions using data mining tools. To achieve this idea, this research was divided into four sections. The first section presented the methodological lines of the research, while the second section discussed the cognitive foundations of the research. The third section came to interpret and discuss the data from the field perspective. Finally, the fourth section summarized the conclusions that were drawn and the recommendations that were proposed.

The One topic : Research Methodology

First: The Research Problem

Business organizations need high-value information when making the necessary decisions to manage their various resources, of which human resources are the most important because they are the main source for

achieving excellence and distinction in business. In order to provide this information at the appropriate time and accuracy, they need a set of contemporary technologies, of which data mining tools are the most important. Accordingly, data mining tools support human resources managers in making their decisions through the information they provide to them. However, the research problem was summarized in the low knowledge about the role played by data mining tools in supporting human resources management decisions through the information provided to them within Al-Nusour University. The following sub-questions can be raised from the main question of the research:

1. What is meant by the concept of human resource management decisions and data mining tools from a cognitive perspective?
2. What is the degree of application of human resource management decisions and data mining tools within Al-Nusour University?
3. What is the role of data mining tools in supporting human resource management decisions within Al-Nusour University?
4. What is the role of data mining tools in supporting human resource management in realizing the need to make decisions within Al-Nusour University?
5. What is the role of data mining tools in supporting human resource management in generating alternatives when making decisions within Al-Nusour University?
6. What is the role of data mining tools in supporting human resource management in evaluating alternatives when making decisions within Al-Nusour University?
7. What is the role of data mining tools in supporting human resource

management in choosing the best alternative within Al-Nusour University?

Second: The Research Importance

The importance of the research from an intellectual perspective is represented by discussing a group of proposals that were addressed by specialists in the field of data mining and human resources management decisions and trying to collect them in one research. The practical importance of the research also emerges in conducting a survey study to diagnose the field problem facing the organization being studied. Accordingly, a set of conclusions were drawn that confirm the importance of data mining tools in supporting human resources management decisions within the education sector, and then recommendations were presented that help enhance knowledge related to the two variables under study.

Third: Research Objectives

The research aims to achieve the following:

1. Identify the concept of human resources management decisions and data mining tools from a cognitive perspective.
2. Diagnose the degree of application of human resources management decisions and data mining tools within Al-Nusour University.
3. Diagnose the role of data mining tools in supporting human resources management decisions within Al-Nusour University.
4. Diagnose the role of data mining tools in supporting human

resources management in realizing the need to make decisions within Al-Nusour University.

5. Diagnose the role of data mining tools in supporting human resources management in generating alternatives when making decisions within Al-Nusour University.

6. Diagnose the role of data mining tools in supporting human resources management in evaluating alternatives when making decisions within Al-Nusour University.

7. Diagnose the role of data mining tools in supporting human resources management in choosing the best alternative within Al-Nusour University.

Fourth: The Hypothetical Plan

The hypothetical research plan indicates the existence of a significant impact by the data mining tool (the independent variable) in supporting human resources management decisions (the dependent variable), which attempts to test this through simple linear regression, and Figure (1) illustrates this:

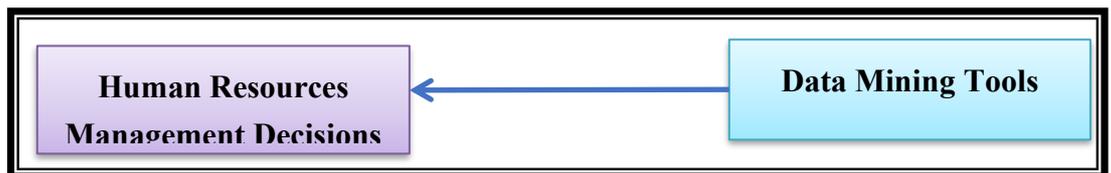


Figure (1) Hypothetical research plan

Fifth: Research Hypotheses

The research attempts to test a hypothesis that states: (Data mining tools have a significant effect in supporting human resources management decisions within Al-Nusour University), and the following sub-hypotheses branch out from it:

The first sub-hypothesis: (Data mining tools have a significant effect in supporting human resources management decisions through realizing the need within Al-Nusour University).

The second sub-hypothesis: (Data mining tools have a significant effect in supporting human resources management decisions through generating alternatives within Al-Nusour University).

The third sub-hypothesis: (Data mining tools have a significant effect in supporting human resources management decisions through evaluating alternatives within Al-Nusour University).

The fourth sub-hypothesis: (Data mining tools have a significant effect in supporting human resources management decisions through choosing the best alternative within Al-Nusour University).

Sixth: Research Methodology

The research was based on the basics of the descriptive analytical method, as it helps the researcher to identify the most important contents of the variables being researched from the theoretical and applied perspectives, in addition to assisting the researcher in converting the descriptive data obtained after surveying the opinions of the researched sample into quantitative data that can be analyzed from a statistical perspective. The researcher used the questionnaire to collect data that was prepared based on the ideas of the researchers whose ideas were discussed in the theoretical aspect of the research, after adapting them to suit the local environment. The researcher presented them to a number of referees

specialized in the field under study, and within the framework of their comments, many paragraphs of the questionnaire were modified. In general, an agreement rate between them was achieved (89%), which is a very good rate and confirms the ability of the questionnaire to study the phenomena under study. The researcher also studied the stability of the questionnaire using Cronbach's alpha coefficient, as the researcher distributed it to a sample of (31) individuals and after (28) days it was returned to them again, and after processing the data it was found that the stability value reached (91%), which confirms that the questionnaire has the ability to provide the researcher with similar data if it is distributed to the same sample more than once. The researcher also conducted a confirmatory factor analysis of the questionnaire to ensure consistency between the main and sub-variables and their subordinate paragraphs. The results exceeded the required standard value (1.96). After conducting the survey and collecting the data, the researcher subjected the data to a normal distribution test and it was found that it exceeded the standard percentage as the results were more than (0.05). Accordingly, it is capable of being analyzed using the tools of central tendency (the percentage of agreement, the arithmetic mean, the standard deviation, and the coefficient of variation) available in the program (SPSS-V23).

Seventh: Research Community And Sample

The educational sector was chosen as a field of research, while the research community represented the human resources working at Al-Nusour University. The research sample consisted of (179) individuals working at Al-Nusour University who were chosen by random sampling

method, to provide the opportunity for all members of society to participate in the researched sample. Among its characteristics is that all members of the research sample are from the first and higher university degree group, as the percentage of bachelor's degree was (32%), while the percentage of master's degree was (46%) and the percentage of doctorate was (24%), while the percentage of administrators was (38%) while the percentage of lecturers was (62%), and the percentage of females was (47%) compared to the percentage of males (53%), noting that all members of the research sample had more than (10) years of service in a way that helped them answer the questionnaire paragraphs with a more accurate degree, and the ages of the research sample ranged between (30-62) years.

The Two topic : The Theoretical Aspect

First: Data Mining

The orientations of specialists in the field of data mining and information technology have varied and diversified regarding the nature of the approach that can be relied upon in defining it. Some of them have defined it as a computerized search for information from data without having prior assumptions about the nature of this information and its special value (Roslan & Chen, 2022), This definition emphasizes the importance of data mining in databases to extract information from them and build future predictions, to help management explore the behaviors and trends that must be adopted when implementing various tasks and duties (Zhong at

el, 2022). It is also known as the process of analyzing large amounts of data to find a logical relationship that summarizes the information from it, in a new, understandable and useful way for decision makers (Hussein at el, 2023), Here it becomes clear to her that data mining allows senior management to estimate the right decisions and then take them at the right time, by helping them answer many questions in record time (Ozyurt at el, 2023). On the other hand, data mining was defined as the process of extracting valuable information from data warehouses using various methods, whether algorithms, artificial intelligence methods, or decision trees, in multiple stages (Chen el at, 2023). This definition confirms the existence of multiple stages of data mining, starting with selecting and preparing the data, then studying and reading the nature of the relationships that bring together this data, after which the necessary models are determined to process the data and extract valuable information from it (Ordoñez-Avila at el, 2023), There are several types of data mining, including descriptive mining, which focuses on reorganizing data, and predictive mining, which focuses on providing the best data to rely on in drawing a picture of the future (Nacheva at el, 2024). There are a set of tools that can be used by human resources management when dealing with data mining to obtain high-value information, the most prominent of which is the nearest neighbor algorithm, which is considered one of the data mining tools that helps human resources management predict future events, by comparing them with similar events and then estimating unknown events and their impact on human resources based on its information, and it is used more in the field of training and development (Leite at el, 2024). Decision trees are also considered one of the data

mining tools that appear in the form of a tree from which a group of branches extend, each branch containing a group of data, which is processed through the decision tree and using exploratory analysis so that redundant data is excluded and high-value information is obtained that can be relied upon in making decisions (Idlahcen et al, 2024). As for the cluster analysis tool, similar data is collected into groups, and then a high-level exploration of what is happening inside the data warehouses is conducted with the aim of placing homogeneous data into separate groups to include any information within one group so that it is easy to access when needed to make decisions (Tsiu et al, 2024). Neural networks are also one of the most important data mining tools to provide accurate results reached by using a set of algorithms and applying them to solve many problems of all types to transfer and process information, draw conclusions, and then build future predictions (Boztaş et al, 2024).

Second: Human Resources Management Decisions

Human Resources Management makes many decisions in order to implement its activities and functions, and these decisions are of particular importance within contemporary organizations, due to their direct relationship with the stability of the most important resources they possess, which are human resources that contribute to mobilizing other diverse resources and investing them in a way that is consistent with the strategic directions of the organization as a whole (Kuhn et al, 2021). Definitions of human resources management decisions have varied, as it

is known as the process through which human resources management chooses the optimal or best alternative that helps it address problems that affect the performance and stability of employees within the organization (Acquah et al, 2021), It is clear from this definition that problems are only addressed through the decision-making process. Focusing on the information and technology aspect, the process carried out by human resources management based on computers was known with the aim of using data and analytical models in dealing with exceptional situations and circumstances that it faces at work (Al Shraah et al, 2022), and here the importance of the availability of contemporary technologies to help human resources management make effective decisions within the organization becomes clear. By referring to the process of participation and interaction when making human resources management decisions, it has been defined as the process that allows direct interaction between human resources at all organizational levels, with the aim of exchanging opinions and suggestions among them, and then creating knowledge and investing it in making decisions of high value (Adler et al, 2022), and this definition emphasizes the importance of cooperation in thinking and exchanging ideas to increase their value. Considering the human resources management decision-making process as a system, it has been defined as the process that receives data from various sources, processes it to become highly valuable information, and then relies on it to make decisions related to employees within the organization (Hussein & Mahmood, 2022). It was known to focus on human resources management functions as the decisions on the basis of which the needs for human resources are determined and attracted, the best of them are selected and trained to be

able to carry out their duties, and then their performance is evaluated and rewarded to ensure that they are retained within the organization and not left in the future (Chilunjika et al, 2022). Through human resources management decisions, it is possible to follow up on the successive developments that occur in the organization's organizational climate, and its impact on the performance of the organization's employees, and then draw up the necessary policies and procedures to deal with these developments in a way that ensures maintaining their morale and their performance levels at their best (Suseno et al, 2023). Human resource management decisions are also known as a multi-step process that begins with recognizing the need to make decisions, then working to generate a set of options or alternatives necessary to deal with these needs, and working to evaluate them to identify the positives and negatives of each option, and then choosing the best of them (Vrontis et al, 2023). This definition is consistent with the current research trends, which we will try to identify in this paragraph. The stage of realizing the need: In this stage, human resources management feels that there is a deficiency or a need to develop the human resources working within the organization in a manner consistent with the circumstances surrounding the organization. The stage of generating alternatives: In this stage, human resources management begins to search for available alternatives to deal with the exceptional circumstances that suddenly appeared in the work in order to address them and maintain the stability of the human resources working within the organization (Knies et al, 2024). Alternative evaluation stage: In this

stage, human resources management studies the pros and cons of each alternative, in order to choose the best alternative capable of achieving the highest results at the lowest possible cost. Finally, comes the stage of choosing the best alternative, which is the stage that embodies the decision-making process, as human resources management makes the necessary decision to manage the matter within the organization (Zhang & Chen, 2024).

Third: The Role Of Data Mining In Supporting Human Resources Management Decisions From An Intellectual Perspective

Data mining tools help human resources management integrate the data available to it, and then extract information from it that can be relied upon in making decisions (Peng et al, 2011). In other words, data mining tools contribute to mining the quality of decisions taken by human resources management (Khademolqorani & Hamadani, 2013). Accordingly, data mining tools constitute one of the most important tools that human resources management relies on to analyze the various situations it faces at work, and then process them in a way that extracts the data in the form of highly valuable information that can be relied upon to enhance the quality of its decisions (Zain & Herawan, 2014). It is necessary to emphasize an important point, which is that these tools are chosen according to the situation or events that the human resources department deals with and the nature of the information it needs to make decisions related to them (Buenaño-Fernandez et al, 2019). Based on these ideas, the research hypotheses were formulated and its hypothetical scheme was built.

The third topic: the practical aspect

First: Descriptive Analysis

It is necessary for the researcher to ensure that Al-Nusour University is interested in applying both data mining tools and supporting human resources management decisions within it, through descriptive analysis using measures of central tendency, as shown in Table (1):

Table (1) Descriptive analysis result

Variables	Agreement rate	Arithmetic mean	Standard deviation	coefficient of variation	relative importance	Appreciation
Data mining	%92	4.2	0.57	0.14	%86	excellent
human resources management decisions	%86	3.6	0.68	0.19	%81	very good

Descriptive analysis of data mining tools: It is clear from Table (1) that the sample whose opinions were surveyed confirmed at a rate of (92%), which is an excellent rate, that Al-Nusour University relies to a high degree on data mining tools in processing the data available to it, in order to provide information of high value that can be relied upon in making many of the decisions that it takes, in order to ensure that its work is conducted in the best available ways and with high accuracy and speed. The arithmetic mean value of (4.2) confirms that Al-Nusoor University possesses statistically high data mining tools. The standard deviation value reached (0.57), which confirms the existence of excellent

consistency between the answers of the sample surveyed when answering the paragraphs related to data mining tools. These results were consistent with the value of the coefficient of variation of (0.14), which confirms the low dispersion between the surveyed answers. Finally, data mining tools achieved a relative importance of (86%) within Al-Nusoor University, which came in first place compared to human resources management decisions.

Descriptive analysis of human resources management decisions: Table (1) shows that the sample whose opinions were surveyed confirmed at a rate of (86%), which is a very good rate, that Al-Nusour University is highly concerned with supporting the decisions made by the human resources management working in it, whether these decisions are related to planning human resources needs or designing and describing jobs, and then attracting human resources and choosing the best of them, so that they can then be trained and qualified to carry out their jobs, after which they are evaluated, compensated and the best of them are retained. The arithmetic mean value of (3.6) confirms the interest of Eagles University in supporting human resources management decisions to a statistically high degree. The standard deviation value reached (0.68), which confirms the existence of very good consistency between the answers of the researched sample when answering the paragraphs related to human resources management decisions. These results were consistent with the value of the coefficient of variation of (0.19), which confirms the low dispersion between the researched answers. Finally, human resources management decisions achieved a relative importance of (81%) within Eagles University, which came in second place compared to data mining tools.

Second: Testing The Hypotheses

Table (2) summarizes the most important results of the analysis of the impact of data mining in supporting human resources management decisions at Al-Nusour University:

Table (2) Hypothesis Test Results

Table (2) Hypothesis Test Results

Variables	a	β	R ²	f	Morale	Result
The impact of data mining tools on need perception in human resource management decisions.	0.62	0.89	%42	32.45	0.01	Accept the hypothesis
The impact of data mining tools in generating alternatives in human resource management decisions.	0.67	0.84	%39	28.51	0.01	Accept the hypothesis
The impact of data mining tools in evaluating alternatives in human resource management decisions	0.64	0.87	%41	30.16	0.01	Accept the hypothesis
The impact of data mining tools in choosing the best alternative in human resource management decisions	0.70	0.81	%37	24.89	0.01	Accept the hypothesis
The impact of data mining tools in supporting human resource management decisions.	0.66	0.87	%40	29.01	0.01	Accept the hypothesis

Sub-hypothesis test (1): It is clear from Table (2) that data mining tools explain (42%) of the ability of the senior management at Al-Nusoor University to realize the need to make a set of decisions related to human resources management, and (58%) is due to other factors that are not related to data mining tools. The value (B=0.89) also confirmed that changing the data mining tools by one unit will lead to enhancing Al-

Nusoor University's ability to realize the need when making human resources management decisions by (89%). The calculated value of (f) reached (32.45), which confirms the significance of the effect exerted by data mining tools at a level of (0.01) in supporting the ability of Al-Nusour University to realize the need to make human resources management decisions with confidence limits of (99%). As for the value of (a), it confirms that the human resources management within Al-Nusour University has the ability to realize the need to make decisions by (62%) without the need to use data mining tools. Based on the interpreted results, the first sub-hypothesis of the research was accepted: (Data mining tools have a significant effect in supporting human resources management decisions through realizing the need within Al-Nusour University).

Sub-hypothesis test (2): Table (2) shows that data mining tools explain (39%) of the ability of senior management at Al-Nusoor University to generate alternatives when making a set of decisions related to human resources management, and (61%) is due to other factors unrelated to data mining tools. The value (B=0.84) also confirmed that changing data mining tools by one unit will lead to enhancing Al-Nusoor University's ability to generate alternatives when making human resources management decisions by (84%). The calculated value of (f) reached (28.51), which confirms the significance of the impact exerted by data mining tools at a level of (0.01) in supporting the ability of Eagles University to generate alternatives when making human resources management decisions, with confidence limits of (99%). As for the value of (a), it confirms the possession of the human resources management within Eagles University to generate alternatives when making decisions

by an amount of (67%) without the need to use data mining tools. Based on the interpreted results, the second sub-hypothesis of the research was accepted: (Data mining tools have a significant effect in supporting human resources management decisions by generating alternatives within Al-Nusour University).

Sub-hypothesis test (3): We note from Table (2) that data mining tools explain (41%) of the ability of senior management at Al-Nusour University to evaluate alternatives when making a set of decisions related to human resources management, and (59%) is due to other factors that are not related to data mining tools. The value ($B=0.87$) also confirmed that changing data mining tools by one unit will lead to enhancing Al-Nusour University's ability to evaluate alternatives when making human resources management decisions by (87%). The calculated value of (f) reached (30.16), which confirms the significance of the effect exerted by data mining tools at a level of (0.01) in supporting the ability of Eagles University to evaluate alternatives when making human resources management decisions with confidence limits of (99%). As for the value of (a), it confirms the possession of the human resources management within Eagles University to evaluate alternatives when making decisions by an amount of (64%) without the need to use data mining tools. Based on the interpreted results, the third sub-hypothesis of the research was accepted: (Data mining tools have a significant effect in supporting human resources management decisions through evaluating alternatives within Al-Nusour University).

Sub-hypothesis test (4): Table (2) shows that data mining tools explain (37%) of the ability of the senior management at Al-Nusoor University to choose the best alternative when making a set of decisions related to human resources management, and (63%) is due to other factors that are not related to data mining tools. The value ($B=0.81$) also confirmed that changing the data mining tools by one unit will lead to enhancing the ability of Al-Nusoor University to choose the best alternative when making human resources management decisions by (81%). The calculated value of (f) reached (24.89), which confirms the significance of the effect exerted by data mining tools at a level of (0.01) in supporting the ability of Eagles University to choose the best alternative when making human resources management decisions with a confidence limit of (99%). As for the value of (a), it confirms the possession of the human resources management within Eagles University to choose the best alternative when making decisions by an amount of (70%) without the need to use data mining tools. Based on the interpreted results, the fourth sub-hypothesis of the research was accepted: (Data mining tools have a significant effect in supporting human resources management decisions by choosing the best alternative within Al-Nusour University).

Testing the main hypothesis: Table (2) shows that data mining tools explain (40%) of the ability of senior management at Al-Nusoor University when making a set of decisions related to human resources management, and (60%) is due to other factors that are not related to data mining tools. The value ($B=0.87$) also confirmed that changing data mining tools by one unit will lead to enhancing Al-Nusoor University's ability to make human resources management decisions by (87%). The

calculated value of (f) reached (29.01), which confirms the significance of the impact exerted by data mining tools at a level of (0.01) in supporting the ability of Eagles University to make human resources management decisions with confidence limits of (99%). As for the value of (a), it confirms that the human resources management within Eagles University has the ability to make decisions by an amount of (66%) without the need to use data mining tools. Based on the interpreted results, the main hypothesis of the research was accepted: (Data mining tools have a significant effect in supporting human resources management decisions within Al-Nusour University).

The Four topic: Conclusions and Recommendations

First: Conclusions

1. The analysis results showed that Al-Nusour University cares about the decisions taken by the Human Resources Department, as it is the main source for providing it with distinguished competencies capable of carrying out their functions and activities at the best levels of performance required, which helps them achieve excellence and distinction.
2. The analysis results confirmed that Al-Nusour University cares about using contemporary technologies in dealing with the data available to it, in a way that contributes to providing information of high value to them, and it also works to benefit from various data mining tools and invest them in work.
3. The analysis results showed that Al-Nusour University cares about

helping the Human Resources Department realize its need to make many of the necessary decisions to carry out its functions, by using contemporary data mining tools that contribute to processing the available data and providing them with a high-value conclusion that can be relied upon in making decisions.

4. The analysis results showed that Al-Nusour University is interested in helping the Human Resources Department generate the necessary alternatives to make many of the necessary decisions to implement its functions, through the use of contemporary data mining tools that contribute to processing the available data and providing them with a high-value summary that can be relied upon in decision-making.

5. We note from the analysis results that Al-Nusour University is interested in helping the Human Resources Department evaluate the alternatives necessary to make many of the necessary decisions to implement its functions, through the use of contemporary data mining tools that contribute to processing the available data and providing them with a high-value summary that can be relied upon in decision-making.

6. It is clear from the analysis results that Al-Nusour University is interested in helping the Human Resources Department choose the best alternative to make many of the necessary decisions to implement its functions, through the use of contemporary data mining tools that contribute to processing the available data and providing them with a high-value summary that can be relied upon in decision-making.

7. The analysis results confirmed that data mining tools play an important and significant role in helping the human resources management within Al-Nusour University to make highly efficient

decisions based on valuable information.

Second: Recommendations

1. The researcher believes that it is necessary for Al-Nusour University to build modern and fast communication channels between employees in human resources management, to enhance communication processes and exchange information between them, and thus enhance their ability to make high-value decisions within the university.
2. The researcher recommends that Al-Nusour University should work on employing contemporary information technology applications, specifically data mining tools, in providing information to carry out its duties and its ability to improve its performance level, in addition to following up on successive developments in the environment.
3. The researcher suggests that Al-Nusour University seek the assistance of experts and specialists in the field of data mining, in order to exchange experiences and knowledge between them and the employees in the Human Resources Department, to enhance their ability to deal with data and help them realize the need to make the necessary decisions to manage the exceptions related to human resources within the university.
4. The researcher sees the necessity for Al-Nusour University to update the databases available to it in a way that enables it to provide a set of high-value alternatives, which can be relied upon in making human resources management decisions in line with the nature of developments in the university's environments.

5. The researcher suggests that Al-Nusour University allocate a financial budget to update data mining tools, to ensure its ability to provide human resources management with information that helps it evaluate the available alternatives when making decisions.
6. The researcher recommends that Al-Nusour University implement a set of educational programs and workshops to deepen the awareness of human resources management, and their understanding of the importance of choosing the best alternative for making decisions based on the information resulting from data mining tools and not making them randomly.
7. The researcher suggests that Al-Nusour University should train its human resources on how to use data mining tools techniques to enhance their knowledge and experience, and thus enhance their confidence in their ability to make the necessary decisions to achieve their goals and the strategic goals of the university.

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