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Application of SMART Method in Insurance Selection Decision Support System

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ABSTRACT

The background of making the system is that there are still many people who still think that insurance is not useful due to their lack of understanding of the need for proper insurance. The purpose of making this system is to make it easier for people who want to register as insurance policy holders or just to get information on what type of insurance is suitable for them. The making of this system is based on data obtained from the Yogyakarta branch of the Prudential company which is then used as the basis for calculating the system using the SMART (Simple Multi Attribute Rating Technique) method. the calculation of the questionnaire which reached 77.

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1. INTRODUCTION

Today, the diversification of types of insurance products is growing [1]. Therefore, there are also so many new insurance program offers for prospective customers. The insurance products offered also vary, ranging from life insurance, vehicles to property and buildings [2]. For each prospective customer of the insurance program, their needs are clearly different. However, not infrequently many people even regret after using insurance services. This is vulnerable due to their lack of understanding of the need for appropriate insurance. Unfortunately, many people think that insurance is actually useless.

So, what causes the above to happen? In fact, in everyday life, every human being is faced with various decision-making problems [3] [4]. This ranges from decisions that are easy to make, to decisions that require more careful consideration. In addition, there are also decisions whose impact only brings consequences for one party, but on the other hand there are also decisions that involve the fate of many parties. Likewise in the engineering world, decision-making support systems which are part of computer-based information systems (including knowledge-based systems/knowledge management) are used to support decision-making in an organization or company [5] [6] [7].

Now along with the development of information technology, the ability of computers to help solve problems in various fields is also increasing, including computer-based decision support

systems [8] [9] [10]. This system is designed to guide users around making decisions for solving the problems they face. As we know, in solving problems, a person is required to make decisions, in order to avoid negative impacts. So, a decision is expected to determine whether or not an option is good. For this reason, an application for a decision-making support system is also made in terms of choosing life insurance. With this system,

But the fact is, in various insurance companies, both domestic and foreign, there are still various kinds of diversification of derivative products from life insurance so that it has the potential to cause other confusion for ordinary people [11]. The confusion arises due to the lack of understanding of the community in determining the selection of the right insurance for themselves and those closest to them. Other problems also arise when people have chosen one of these types of insurance, but then they find another type of insurance which in fact feels more needed by them at this time. To overcome the problems above, it is concluded that there is a need for a decision-making support system that aims to help people in choosing the right insurance.

2. RESEARCH METHODS

2.1 Decision Support System

According to a book by Turban published in 2009, a decision support system (SPPK) is defined as a computer-based system intended to assist decision making and utilize certain models and data to solve various unstructured problems [12] [13]. Decision support system is a decision-making system based on intellectual resources derived from the ability of individuals on computers to improve their decision-making abilities [14].

DSS is the implementation of decision-making theories that have been introduced by sciences such as operations research and management science, the only difference is that in the past, to find a solution to the problem at hand, iteration calculations had to be done manually (usually to find the minimum, maximum, or maximum value). optimum), currently PC computers have offered their ability to solve the same problems in a relatively short time [15].

2.2 Use Case Diagrams

Use case diagram is a set of diagrams that describe the interaction between the system and external systems and members [16]. Use cases are behaviorally related to the sequence of steps, either automatically or manually with the aim of completing a single business, for example logging into the system, adding item data, deleting item data, and so on. An actor is anything that is needed to interact with the system to change information. Use Case diagrams consist of several components.

2.3 Databases

Database is a collection of data that contains information related to a company. Database management is carried out by a special software (system) [17]. This software is called Database Management System (DBMS). DBMS is a collection of related data and a series of programs to access that data [18] [19]. The main principle of the database is managing data/archives, while the main goal is the ease and speed of retrieving data/archives.

3. RESULTS AND DISCUSSION

This software development methodology uses the Waterfall Method. This research aims to determine the priority of logistics distribution in terms of funding proposals. Input used This step is an analysis of system requirements. Collecting data at this stage can conduct a research, interview or study of literature. The author will dig up as much information as possible from members so that a computer system will be created that can perform the tasks desired by the member. This stage will produce a member requirement document or it can be said as data related to the wishes of members in making the system.

3.1 Program Testing

The final stage is where the new system is tested for its capabilities and effectiveness so that the weaknesses and weaknesses of the system are obtained which are then reviewed and improved on

the application to be better and perfect. To build this decision support system model, the Simple Multi Attribute Rating Technique (SMART) method was used.

3.2 Model Management Subsystem Design

The insurance selection decision-making process is first carried out by selecting insurance data according to user input. There are several criteria that can assist users in selecting the insurance that suits their wishes. The wishes of users in choosing insurance vary and some of them consider the price of an insurance, and so on.

For example, the insurance price that users want is between 7-10 million. So at the point of price choice, the user will choose what he wants. Then the system will display the selected insurance data which will be an alternative choice.

From the selected insurance data, it will then be calculated using the SMART method to determine the rating of each alternative. The calculation process begins with the weight for each goal weight factor inputted by the user where the greater the weight given, the more important the factor is.

4. CONCLUSION

The credit decision support system at the fair cooperative is located at Jl. Patuk – Dlingo Km.5 Terong, Dlingo, Bantul, Yogyakarta Postal code 55783, has been built using the Delphi 7.0 programming language and database using mysql.

The system that has been built is used by 2 parties, namely: Manager and Administrator. The Manager carries out an assessment process for members who apply for loans based on the results of credit analysis. In addition, the manager also gets information about the members and the manager can also print the results of the assessment carried out on a member. For the administrator, it is responsible for managing the system. The task carried out by the admin is to update member data, criteria, plans (types of loans), loan limits and users (related to passwords).

The Insurance Selection Decision Support System has been successfully built using the Simple Multi Attribute Rating Technique (SMART) method, the Hypertext Preprocessor (PHP) programming language and the PHP MyAdmin database.

The Insurance Selection Decision Support System has succeeded in providing insurance recommendations to users based on the percentage value of each insurance product choice.

The Insurance Selection Decision Support System received an agreeable response from the user as seen from the results of the final calculation of the questionnaire, namely 77.1%..

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