Universiti Teknologi MARA

Housing Loan Evaluation Using Fuzzy Expert System

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ABSTRACT

The process to evaluate a housing loan request to result in either approval or rejection may take time and the evaluation of the housing loan is based on the experiences of the bank officers. It may cost time and money if the housing loan they requested is later rejected by the bank officers because of the requirements is not met. There are many banks in Malaysia that provide a housing loan to the customers that are interested in buying or build a house. For example, Bank Islam Malaysia Berhad and Bank Simpanan Nasional. Thus, this project is developed to assist customers by providing them information regarding to housing loan. There are three objectives of this project, first, to determine the common factors that lead to housing loan approval and the loan amount. Second, to determine membership function of fuzzy variables regarding housing loans factors. Third, to develop a prototype of housing loan evaluation using Fuzzy Expert System. The user of this project are anyone that are interested to know their eligibility in applying a housing loan or bank officer can use this system to support their decision in evaluating a housing loan request from the customers. For the project results are compared with the experts evaluation, and most of the tests are similar This project provides users with the result for their eligibility in applying housing loan and the suggestion of housing scheme together with loan amount and monthly repayment.. Hence, users that are interested in applying housing loan can make a better future financial planning on applying housing loan and can manage their financing better.

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CHAPTER 1

INTRODUCTION

The chapter is devoted to discuss about the project background, problem statement, project question, project objective, project scope, and significant of the project.

1.1 Project Background

Nowadays, users are applying loan to enhance or to increase their financial status. However, users are not aware if they are eligible for applying a housing loan and total amount of housing loan that affordable to them (Silva & Analide, 2011). Housing loan is the total amount of money that borrowed from banks or other organizations. There are many banks in Malaysia that provide housing loans. For example, Bank Islam, Bank Muamalat, Maybank and many more. Furthermore, each of the banks that provide housing loans in Malaysia also provide the type of house loan that the applicant can apply for it. For example, Bank Islam provides five types of housing loan for the applicant which are Baiti Home financing, SJKP Housing Scheme, My First Home Scheme and Wahdah Home Refinancing.

In the conventional housing loan processing, there a lot of factors that need to consider for the loan officers in order to approve or reject the requested loan from the applicant. The factors are monthly income, age, qualification, work experiences, number of dependents, outgoing loans, outgoing credit, employment type and many more. Thus, the applicant that requested for the housing loan need to meet the requirement or specification by the banks for the successful housing loan approval (Wahyuningtyas & Mukhlash, 2015). Fuzzy logic is used in the loan evaluation to minimize the credit default of the applicant and help in decision making. The fuzzy expert system is a technique