Leads Analysis Based on Business Intelligence on The Application of Sales Force Automation

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Abstract: This study aims to produce a computer application that is able to classify banking leads by analyzing each leads based on business intelligence on sales force automation applications. The classification is potential leads, regular leads, and dormant leads. Data obtained from Bank OCBC NISP Branch Seminyak - Bali transaction records from customer's data and their transactions. Applications are tested using blackbox testing and usability testing. Blackbox testing shows that each part of the application provides results that are in line with the expected output. Usability Testing shows a value of 79,286 which means the application is acceptable and easy to use.
Keywords : Black Box, Business Intelligence, Data Mining, Sales Force Automation, Usability

I.   Introduction

Increasingly tight business competition results in the importance of determining data analysis. Companies must be able to analyze their company data accurately and carefully in order to survive in business competition. Data analysis conducted by the company will be used in decision making. Where at present decision-making that relies on intuition is no longer usable, given the increasingly complex business environment today. The sale of a product is not only determined by the price and quality of the product, many other factors take part such as customer characteristics, geographical factors, seasons, and so on. Because the factors above companies need a tool that can be used to process data to become information that will later become knowledge that can be used by companies in making decisions. One alternative that can be used is to use business intelligence (BI).

Business intelligence systems can be built well if many things must be considered starting from the stage of developing business intelligence, the environment of business intelligence, and the tools used. Many companies in Indonesia still do not use business intelligence in helping companies in decision making. In other words, business intelligence makes a job more efficient and effective. However, BI is inseparable from the challenges where the main challenges of BI are closely related to business patterns that are unique to each organization, as well as business policies and rules imposed by the company. This causes companies not to be able to buy BI products such as finished goods in general and hope to fulfill every solution of their business needs so that BI must be developed according to the needs and business processes of the company.

Currently the Banking Industry is facing a very difficult market challenge, such as requiring a very secure transaction environment, uncertain global economic conditions, strict government regulations, and customer demands that are always high expectations. Banks need to develop strategies not only to maintain existing customers, but also need to develop strategies to get new customers.

The implementation of business intelligence in the banking industry is the key to success in streamlining and streamlining key business activities with the ability to obtain, manage and analyze customer data, products, services, operations, suppliers and colleagues in a very large number. One example of implementing business intelligence in the banking industry is customer relationship management (CRM). Almost every CRM software has a module called Sales Force Automation, or abbreviated with SFA

Leads is someone who is interested in your products, services and offers. Without targeted leads we only spend money and time in vain. Analysis of leads is the main key for bank management to generate maximum profits. By using the Pareto concept, that by designing products and services to 20%, customers can deliver 80% of the profits. Management believes that analyzing 20% of customers is an effective step in increasing profits and reducing operating costs. Leads segmentation is an effective marketing strategy, by understanding the characteristics and needs of each customer segment, management can design how to market, price, policy for each product and service so that it can provide maximum benefits.

Translating business objectives into data mining objectives in this study is that customer segmentation can be used by management to find customer segments that aim to build customer profiles related to the history of customer deposits and determine the right marketing for each segment formed. The model used for the segmentation process is RFM (Recency, Frequency and Monetary).

II. Business Intelligence

Business intelligence (BI) is an integrated design and collection of operations such as decision-making support applications and databases that provide the business community with the ability to easily access business data.

Business intelligence describes a concept and method of how to improve the quality of business decision making based on a data-based system. BI is often equated as briefings books, reports and query tools, and executive information systems. BI is a support system for decision making based on data ". Business intelligence is a way to collect, store, organize, reshape, summarize data and provide information, both in the form of data on the company's internal business activities, as well as data on the company's external business activities including competitors' business activities that are easily accessed and analyzed for various management activities. Business intelligence (BI) is a series of applications and technologies for collecting, storing, analyzing, and presenting data access to assist company officials in making decisions. Business intelligence is an analytical tool used to consolidate data, analyze, store and access a lot of data to assist in decision making, such as software for database queries and reporting, tools for multidimensional data analysis, and data mining.

In general, Business intelligence is a process for extracting company operational data and collecting it in a data warehouse. During the extraction process transformation can also be carried out by applying various formulas, aggregations, and validations so that data can be obtained in accordance with the interests of business analysis. Then the data in the data warehouse is processed using various statistical analyzes in the data mining process, so that there are various trends or patterns from the data. The results of this simplification and summarization are presented to end users who are usually business decision makers. Thus management can make decisions based on actual facts, and not just rely on intuition and quantitative experience. Because the data processed in the BI process is obtained from the operational system, generally companies that will implement BI already have an ERP that runs well. Usually the need for BI comes after the ERP implementation has been running for several years, and management has begun to feel the need to analyze various operational data daily. Thus the results of the BI process also mirror the overall performance of the company.

III. Sales Force Automation

Sales Force is a person who deals directly with customers / consumers. Usually a sales force has advantages in terms of negotiating directly with prospective customers. Besides Marketing, Sales Force is the spearhead of the company in selling products or services produced by the company.

Sales force performance needs to be managed properly so that it can support the overall distributor management. The sales force is the spearhead of the company. If the performance is bad, it will have an impact on the sustainability of a company. Therefore, good distributors will always pay attention to this section in such a way as to make a maximum contribution. In order to be able to measure the extent to which they provide contributions, one of them is to use an assessment of their work performance.

Distributor managers will look for performance indicators that are very important and included in the assessment of their performance. The main sales force indicator is sales, after that is the management of accounts receivable. Then, if the product sold is food, the performance indicator that can be added is product return. The fewer product returns from each sales force, the less losses will be borne by the distributor and the principal. There are principals who only provide a value for the product return of 50%. One way to increase sales is to set performance indicators for the sales force. It is this performance indicator that will become the assessment point of the sales force. Performance measurement in order to find out the level of success / failure in achieving the target is done by comparing between the realization and the target of each predetermined performance indicator.

IV. RFM Method

In marketing management science, it is known as an RFM concept that can be used to answer that question. By studying the recordings of customer interactions and transactions in the past, the company can assess 3 (three) dimensional aspects, namely:
1. Recency is when the last transaction was carried out.
2. Frequency, namely the number of transactions carried out.
3. Monetary Value is the amount of the value of the transaction carried out.

In this RFM concept, each dimension provides unique information about the transaction behavior of each customer that the company has:
1. Recency, based on years of research, statistics show that customers who have recently made a purchase transaction will tend to do it again in the near future.
2. Frequency, history that shows that customers regularly make purchases, will tend to do it again later on.
3. Monetary Value where customers who have allocated enough funds to make purchases will tend to continue buying habits.

If the company has a five-scale measurement system for each dimension, then the concerned person can map each of his customers based on existing historical data.

Table I: Wealth product recommendation based on RFM

Product / RFM	Recency	Frequency	Monetary
Investment	Latest transaction	Highest Frequency	Highest average AUM
Treasury / Forex	Latest transaction	Highest Frequency	Second rate average AUM
Obligation	Second rate transaction	Second rate frequency	Highest average AUM
Bancassurance	Second rate transaction	Second rate frequency	Second rate average AUM
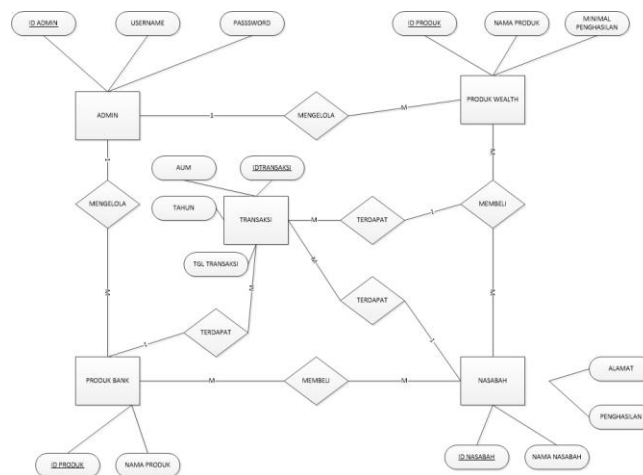
Fig. 1. Entity Relationship Diagram

ERD or entity relationship diagram from this study. From figure 1 it can be seen in this study the system will have 4 entities to support data needs. The entity is Admin for admin data needs such as username and password, Wealth Products for product needs such as name and minimum income, bank products for product needs such as product id and product name, and Customer for customer data needs such as name, address, and income from relevant customer.
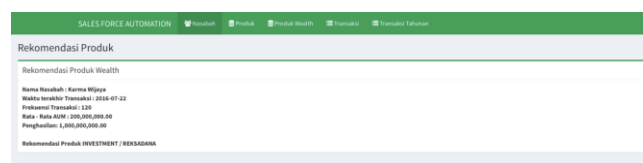
Fig. 2. Result of The Leads Analysis

Bank product recommendation page from figure 2, this page is one of the main functions of this research. On this page the user can see information from the results of the process of bank customer data. The results of the process are bank product recommendations based on the AUM average of the customer concerned.

The first stage in the usability scale (SUS) system method is to input the results obtained from the respondent. The second stage is to convert the respondent's response results. For each odd statement, the

response value given is reduced by 1 and every even number, 5 is reduced by the value of the response given. The third step is summarizing the overall results of the conversion, where the results are 222. Furthermore, the value 222 is multiplied by 2.5, the result is 555. Because the number of respondents is 7, 555 is divided by 7, resulting in 79,286. The value of 79,286 is in the score range 71 - 100 (acceptable), which means the system is acceptable and easy to use.

V.   Conclusion

The Business Intelligence process used in the recommendations of bank products and wealth products is to add the terms of the nominal amount of AUM, the frequency of transactions and when the latest transactions carried out by customers so that marketing staff are more efficient in the process of follow-up leads.

All functions of the system provide results that are in accordance with the expected output based on blackbox testing which is tested by 10 respondents of post-graduate students in electrical engineering at Udayana University.

Usability testing using the SUS (System Usability Scale) method which was tested by 7 respondents from Marketing staff of Bank OCBC NISP Bali, was obtained with a value of 79,286, which means the system is acceptable and easy to use.

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