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Evaluation of opposed mobile consumers for refines effectiveness using data mining techniques

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ABSTRACT- The data mining technology was adopted by telecommunication industry for the first time, probably, because these companies generate and store huge amount of data routinely. These telecommunication companies have a vast customer database, which they operate in continuously changing and competitive environmental conditions. Data mining is utilized by large telecommunication companies to perk up their marketing efforts, to identify fraud and for better management of their networks. However, a number of challenges are being face by these companies because of vast size of their data sets such as; the sequential and temporal aspects of their data, customer fraud and network failures in real-time practices. The data mining is so popular in telecommunications industry because it is viewed as an extension against use of highly expert systems. Revenue maximization used for finding revenue of Premium and Non-Premium networks. Premium and Non-Premium was done individually for each network provider with the help of cluster methodology.

KEY WORDS *:* Data Mining, Premium and Non-Premium

INTRODUCTION

Traditional markets describe that; customer clustering is one of the most significant methods used in studies of marketing in recent days. This study classifies existing customer cluster methods into methodology-oriented and application-oriented approaches. Most methodology driven studies used mathematical methodologies; e.g. statistics, neural net, generic algorithm (GA) and Fuzzy set to identify the Optimized segmented homogenous group. Modern daytime, it has been recognized that the partitioned clustering technique is well suited for clustering a large dataset due to their relatively low computational requirements. Behavioral Clustering and segmentation help derive strategic marketing initiatives by using the variables that determine customer shareholder value. Conducting analysis clustering and segmentation within the behavioral segments, we can define tactical marketing campaigns and select the appropriate marketing channel and advertising for the tactical campaign. It is then possible to Target those customers most likely to exhibit the desired behavior by creating predictive models. Previously, demographic clustering algorithm is used to identify the customer clustering. The Customer data is cleansed and developed patterns using various parameters and subsequently, Data is profiled, clusters are developed.

DATA MINING

Data mining considered to be exploratory rather than confirmatory. Data mining is used to extract important information from the bulk of data and save it and summarize it in effective manner. Data mining used to extract hidden information from large set of the data. Table 1 explains different types of data mining techniques.

Table 1- data mining techniques

Direction	Use of Direction	Related Examples
Unsupervised	Used to get new information	Association rules, clustering
Supervised	Used for hypothetical testing	Classification, estimation and prediction

DATA SEGMENTATION

Our overall customer database, which ones have something in common? We need to find the groups of people understand them and make some commercial value from the different groups. The three types of segmentation:

Attitudinal – You won't know if customers are happy or unhappy until they complete a survey online but that isn't going to be helpful initially

Demographic – You can segment visitors by demographic but when we are looking at websites, this information is not great as we can't make great use of it

Observable – Online world, segmenting visitors by behavior is key. We can optimize a website experience a lot faster with this type of segmentation.

Thus, the rationale will be to separate clients into teams, and then concentrate on the marketing and advertising work to the almost all attractive segment. In this case charm indicates profits plus sustainability. The main target of segmentation was to separate the objects that are homogeneous and heterogeneous with the external market (the consumers).On the other hand irrespective of which procedure is often used, the decision is hardly ever computerized or perhaps totally data driven. The outcome of segmentation depends mainly on the knowledge variables,

which can be gathered from market, psychographic, regional, life-style, etc. The customer segmentation is of two types i.e. clustering and subgroup discovery. Target was to divide the external market. The final choice is very rare to be automatic or fully data driven. Many important decisions have to be identified like the segment selection or which segment to choose then to identify the segment and then decide their relative size. Segmentation depends on input variable. The input variables are further subdivided in demographic, psychographic, geographic and life style.

CLUSTERING

Clustering is a set of data (or objects) into a set of meaningful sub-classes, called clusters. Help users understand the natural grouping or structure in a data set. Cluster used either as a stand-alone tool to get insight into data distribution or as a preprocessing step for other algorithms.

Clustering

- Clustering means grouping the objects based on the information found in the data describing the objects or their relationships.
- The goal is that the objects in a group will be similar (or related) to one other and different from (or unrelated to) the objects in other groups.
- grouped according to logical relationships or consumer preferences.
- unsupervised learning no target field,
- bottom-up approach.
- originated in anthropology by Driver and Kroeber in 1932 and introduced to psychology by Zubin in 1938 and Robert tryon in 1939 and famously used by Cattell beginning in 1943 for trait theory classification in personality psychology.

PROFILING OF CUSTOMERS

This method involves the mining of data from mobile devices to get information about individuals Customers that used different network provider. In spite of having several challenges in this type such as complexity, privacy, cost, effectiveness etc. This method has a lot of opportunities to be enormous in various industries especially in studying human-computer interactions to implement better results.

Cluster Diagram

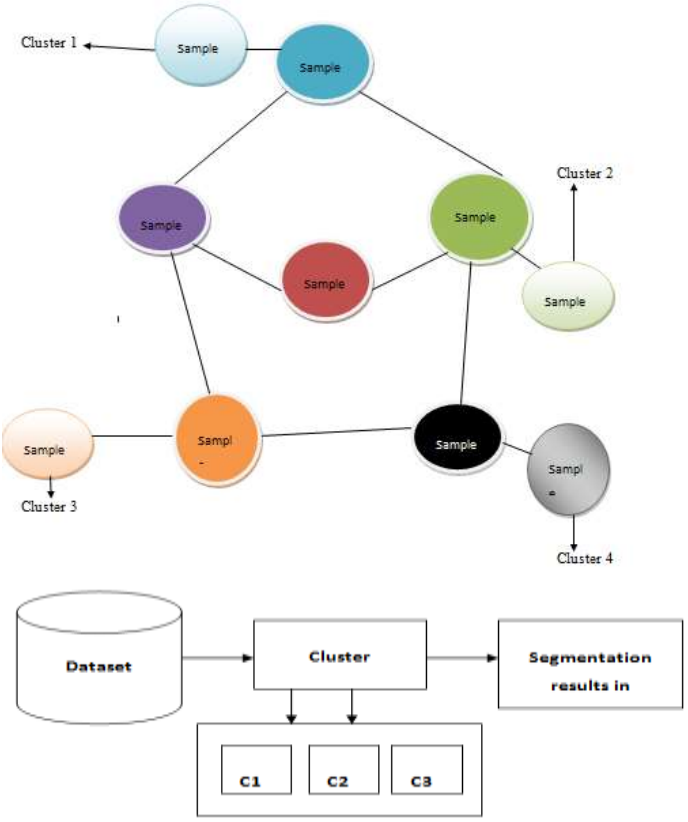

Fig. Consumers Segmentation

CALCULATION OF FRAMEWORK-

Calculation of scoring is the initial problem of my work. For this I was using database. Calculation of score was done using different types of packages.

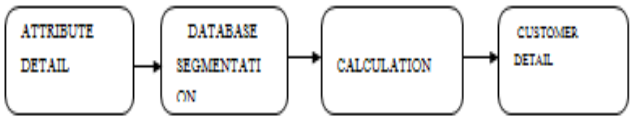

Fig- Framework to solve the problem.

Once you get to one stage, you will almost certainly find that you need to go back a step and refine some more before you finally get the data into a format that you can use.

Business Understanding > Data Understanding > Data Preparation > Analysis and Modeling > Evaluation > Deployment

RESULTS AND DISCUSSION

There are different types of types of clusters- cluster1, cluster2, Cluster 3, Cluster 4.

Cluster 1 -> NETWORK X

Cluster 2-> NETWORK Y

Cluster 3 -> NETWORK Z

Cluster 4 -> NETWORK M

And so on.

1.1 CLUSTER 1 –

Total Entries = 60 (25%)

1.2 CLUSTER 2 –

Total Entries = 65 (20%)

1.3 CLUSTER 3–

Total Entries = 50 (21%)

1.4 CLUSTER 4–

Total Entries = 54 (29%)

And so on.

X, Y, Z & W and so on are different –different type of network provider that is used in this paper. Customers are classified in different network. Like cluster 1 uses 25%.

FUTURE SCOPE OF DATA MINING CLUSTERING METHOD-

Data mining is the most generally used methods to extract data from different sources and organize them for better usage. Disparate merchant systems for data mining, a lot of challenges come up when they are actually implemented. With the help rapid evolution in the field of data mining, companies are expected to stay abreast with all the new developments. With the help of data mining method we can classified different network provider to work out on premium and non premium customer detail.

Different type of Complex algorithms can perform on the basis for data mining as they allow for data segmentation to identify various trends and patterns, detect variations, and predict the probabilities of various events happening. Data may come from different format, and is inherently based on the source of the given data. Companies need to keep tracking of the given latest data mining trends and stay updated to do well in the industry and overcome challenging competition.

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