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THE APPLICATION OF RFM-ANALYSIS

The subject of the study is RFM-analysis as a means of customers segmentation in sales analysis by loyalty in order to identify their benefits to the company [1].

The actuality of this report lies in the fact that it is a natural tendency to divide clients into similar groups. Companies want to know which of their customers are the most or least valuable, which are promising, which are new, and so on. The marketing and sales departments do this regularly and often to achieve maximum sales volumes.

The result of the study was as follows. First of all, RFM-analysis can be done using MS Excel, IBM SPSS Statistics, Python, R. Some modern CRM-systems may also have a built-in automated RFM-analysis and many others types. Data will be update daily depending on customer behavior.

If companies do not have yet sales data for several years or months and just started business, then the boundaries differ very much every day and it makes no sense to use the result of such analysis. Seasonality, promotions, the natural time of re-purchase, the type of products, and holidays also greatly affect the overall result of analysis.

The metrics of RFM-analysis are recency, frequency and monetary value [2]:

1) Recency –How recently did the customer purchase? It can be the time elapsed since the customer placed the last order. The use of this indicator is explained by the fact that in many cases customers who have not bought anything for a long time are less likely to order something again than those who made purchases recently.

2) Frequency – How often do they purchase? It can be the number of orders placed by the customer throughout his life. The use of this indicator is explained by the fact that customers who make one purchase are much less likely to place an order

again in comparison with those who have bought some goods more than once. For example, it can be used the number of orders per year.

3) Monetary value – How much do they spend? It is the monetary expression of all customer purchases. For example, either total revenue, or net profit, or amount of net profit per order.

There is a more extended version of this type of analysis, which contains an additional parameter such as duration [1]. For example, some companies can analyze the behavior of the audience, the time spent on the site of the online store by the client.

It is worth noting that RFM-analysis is used only to segment existing customers who have made at least one purchase. Therefore, from this point of view, it is somewhat limited in application.

Each indicator is divided into intervals at the discretion of the analyst [2]. In classical RFM-analysis the division is made into three subcategories, where «3» is the highest, «2» is middle, «1» is the lowest. It is need to form a table. The first column is the customer list, the second, third and fourth columns are the parameter columns (recency, frequency, monetary value), but instead of the real values they are rating estimated. After that each category has owns categories defined, segments are created from intersections. If there were three categories for each attribute then the resulting matrix would have twenty-seven possible combinations. Distinguished segments can be ordered in such way to identify the most important ones (the highest rates of all parameters) to the least valuable. The database sorted by the selected criterion can be divided into segments with an equal number of elements, but analysis experts advise dividing intervals of indicators into ranges. Also, there is the third segmentation approach, it is called «manual», when analyst studies the database and selects the correct proportion. The fourth approach for realizing RFM-analysis is to resort to Machine Learning algorithms [3]. Using clustering method, an analyst can automatically determine how many actually consumers segments are in the database. With the help of a decision tree we can present these segments in a form comfortable for perception of report users.

The best effect of applying such analysis can be obtained if you not only segment customers but also develop appropriate strategies for working with selected segments, track the dynamics and migration of customers by segments. The dynamics of the client base can be called positive if the «recent», «frequent», and «profitable» segments are steadily increasing, while the «old», «rare», and «unprofitable» ones are decreasing.

As a result of segmentation, the following types of segments can be distinguished [4]:

- Beginners; share useful content (reviews, articles, manuals).
- Once-only buyers; discount, coupon for the purchase, giving sale information.
- Growing; offer related products, and find out through a survey whether a client is satisfied, what are his wishes.
- Lost customers; it should not spend resources on keeping such.
- VIP; they need a loyalty program, events, personal product selection, discounts are not advisable to use.

As a result, this thesis considered the essence of RFM-analysis and its obligatory components and conditions for realizing. It is intended to be the instrument of increasing sales efficiency.

References

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