CHAPTER 24.

DATABASE MARKETING BASED BUSINESS DEVELOPMENT – THE CASE OF SERBIAN FINANCIAL SECTOR

Ivana DOMAZET, Jovan ZUBOVIĆ

Abstract

In this paper the authors have discussed on the importance of database marketing and analyzed the level of its development in Serbia. A need to store large amounts of data necessary for making business decisions is the main reason for introduction of information technology, and building information systems and databases in the modern enterprises. To become successful in competitive markets, companies must use databases as a starting point in formulating their marketing campaigns. Information from databases enables companies to optimally adapt all marketing mix elements, increase sales and market share, as well as to improve profitability. In accordance with those assumptions there has been conducted an empirical research in the financial sector in Serbia to determine the level of development of databases and CRM systems. Research results show that in Serbian financial sector, unlike in the rest of the economy, database marketing is very developed and it is following the global trends.

Key words: databases, marketing, financial sector, Serbia

INTRODUCTION

In contemporary market economies the databases are becoming highly important tool for achieving competitive advantage. Application of modern databases reduces risks of creating wrong business decisions. If all necessary stages have

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1 This paper is a part of research projects numbers III 47009 (European integrations and social and economic changes in Serbian economy on the way to the EU) and OI 179015 (Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements), financed by the Ministry of Science and Technological Development of the Republic of Serbia.

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been completed in the process of database creation, database marketing should help development and implementation of new marketing programs by selecting all appropriate marketing tools. These programs are aimed to provide changes in employees’ and consumers’ behavior, increase sales, retain existing and attract new customers, reduce costs and increase profits. When an organization gathers sufficient data on demographic, psychographic and purchasing habits as well as the other characteristics of clients, it will become able to create a so-called picture of the “typical current clients”. Further on the companies are trying to clone that picture in order to attract clients which have previously been reluctant in purchasing their products/services.

A database containing data on customers may also be treated as an electronically stored and easily accessible collection of information on firm’s clients. It can be created on individual or aggregate level. There are various definitions of database marketing. They begin with the list of wide range of database applications (e.g. Roberts, 1992) and continue with concise statements of technologies used to improve customer relationships (e.g. Rapp, 1989). It must be noted that none of the definitions provide practice while interpreting the tools for research purposes. The following definition comes out from the ideas given by Blankenship and Breen (1992), Shani and Chalasani (1992), Bauer and Miglautsch (1992), and DeTienne and Thompson (1996): “Database marketing is the process of systematically collecting, in electronic or optical form, data about past, current and/or potential customers, maintaining the integrity of the data by continually monitoring customer purchases and/or by inquiring changing status and using the data to formulate marketing strategy and foster personalized relationships with customers”. When observed from the wider marketing perspective, the definition overlaps with such concepts as direct marketing, relationship marketing and interactive marketing. In addition, Bauer and Miglautsch (1992) suggest that no definition of direct marketing is complete without a reference to the maintenance of a customer database.

The most important strengths of properly defined database marketing are in its focus on customer relationship development. There are three basic activities – collecting, maintaining and utilizing data. When combined, they set up a structure of the vital components used to create marketing database.

**LITERATURE REVIEW**

Database marketing serves for better understanding of the customers (potential and current), which then becomes a basis for formulating marketing campaigns in financial organizations. Specifically, these organizations have information on which it is possible to properly adjust their marketing mix elements. Financial
institutions can use database marketing for the following purposes (Domazet, Zubovic, Jeločnik, 2010, pp.29-38):

- targeting market segments,
- harmonizing business portfolio with customers’ needs,
- building long-term relationships with customers,
- identifying potential clients,
- integration of direct marketing with other communication tools,
- reporting on utilization and efficiency of media,
- measuring customer reaction and evaluating marketing activities,
- further marketing research,
- different ad-hoc studies etc.

According to Hanić (2006, pp. 556) a database concept has several advantages and it may be utilized for several times, while the costs of data storing, using and editing are minimal. Transparency of data is very high and data inconsistency is minimal. At the same time unauthorized access to data is not possible. The data is instantly available to authorized persons and the managers may generate a wide set of information without help of the system analysts.

Database marketing concept and database implementation in an organization should be carefully introduced. If database is not properly created, potential benefits of database marketing will be reduced. In that was database could become a main cause of reduced profits, due to relatively high costs of its implementation and maintaining. For that reason prior to introduction of databases it is necessary to:

- analyze what are the benefits and costs of database marketing creation,
- estimate current needs and competences,
- carefully plan each step in database marketing development,
- continuously monitor functionality, and opportunities for their further improvement

Moreover financial managers need to play important role in defining the structure of reports expected to be created from the database. Marketing database could be used as a tool for making tactical and strategic decisions in selecting different instruments of marketing mix (Table 1).
Table 1. Tactical and strategic implications of database marketing

<table>
<thead>
<tr>
<th>Tactical</th>
<th>Strategic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product</strong></td>
<td>Analysis (sales, profit rate, brand recognition)</td>
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<tr>
<td></td>
<td>Analysis of trends aiming to predict and develop new financial</td>
</tr>
<tr>
<td></td>
<td>products/services</td>
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<tr>
<td><strong>Price</strong></td>
<td>Price elasticity of products and its inputs. Price incentives</td>
</tr>
<tr>
<td></td>
<td>programs</td>
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<tr>
<td></td>
<td>Determining price relations between products with high</td>
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<tr>
<td></td>
<td>cross-elasticity</td>
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<tr>
<td><strong>Promotion</strong></td>
<td>Evaluation of media programs in different media. Promotional</td>
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<tr>
<td></td>
<td>programs planning</td>
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<tr>
<td></td>
<td>Selection of efficient promotion in different media.</td>
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<tr>
<td><strong>Place / Distribution</strong></td>
<td>Direct distribution channels, targeted promotion (corporate or</td>
</tr>
<tr>
<td></td>
<td>retail)</td>
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<tr>
<td></td>
<td>Analysis of channels and media efficiency</td>
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<tr>
<td><strong>Customer attraction</strong></td>
<td>Analysis of customer profile. Attraction of opinion makers</td>
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<tr>
<td></td>
<td>among customers</td>
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<tr>
<td></td>
<td>Analysis and growth of core profitability</td>
</tr>
<tr>
<td><strong>Customer services</strong></td>
<td><em>Online</em> data access by sales and service personnel. Flexibility</td>
</tr>
<tr>
<td></td>
<td>of product/service range.</td>
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<td></td>
<td>Contracts analysis, evaluation of satisfaction levels, Product/</td>
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<tr>
<td></td>
<td>service quality and satisfaction improvements</td>
</tr>
<tr>
<td><strong>Sales personnel</strong></td>
<td>Analysis of profitability per sales person. Enabling database</td>
</tr>
<tr>
<td></td>
<td>access to personnel with a goal of providing services and</td>
</tr>
<tr>
<td></td>
<td>planning.</td>
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<tr>
<td></td>
<td>Productivity growth program</td>
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<tr>
<td><strong>Introduction of relationship</strong></td>
<td>Special promotions through sales improvement, accustomed to</td>
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<tr>
<td><strong>marketing</strong></td>
<td>different market segments created from a database</td>
</tr>
<tr>
<td></td>
<td>Improving wider communication, not related to sales</td>
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<tr>
<td><strong>Marketing research</strong></td>
<td>Highly controlled sample: higher response rate</td>
</tr>
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<td></td>
<td>Combining reports with internal and external data bases in</td>
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<td></td>
<td>order to analyze and create appropriate models</td>
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</table>

Source: Roberts and Berger (1999, pp.3-5)

Databases have been used to their maximum in direct communication with clients. In contemporary business environment it is impossible for a company to
use direct marketing without proper marketing database. Database marketing may help in formulating company’s integrated marketing campaigns since it can facilitate the complex process of media planning, especially for direct marketing communication. Moreover, it can be used as a basis for pursuing further research, be it qualitative (ex. focus groups) or quantitative (ex. phone interviews), especially when a corrugated sample is required (age, income, purchasing habits, etc.).

**CREATING MARKETING DATABASE**

The first step in database development is identifying the business needs of the organization and its functional requirements that must be reconciled with the given requirements. In theory the business needs and functional requirements of the organization can be developed separately, gradually and in several stages. One group of employees from the advertising sector should define business needs, while the other team, made up of professionals in the field of marketing information systems, should deal with the issues of determining the functional requirements. Functional requirements plan for the establishment of a database should contain the following (Shepard, 1999, p 44):

- A list with detailed description of each business file that will be included in the creation of a database,
- Description of the data from each business file that will be included in the database,
- A detailed plan on connecting individual files,
- A plan for segmenting customers
- A plan defining time frames in which database should be updated
- A list of expected gains from the update process
- Instructions for access to database
- Timeframe for answering to questions related to managing database
- Instructions manual as a part of the business analysis process, including:
  - Response analysis
  - Selection of names for promotion needs
  - Scoring
  - Profiling
  - Reporting

Business needs and functional requirements of the company need to be consolidated, so as to enable common approach to solving the problem by two teams of marketers and engineers from the IT sector. Teamwork reduces the possibility of making errors and unexpected outcomes in the later stages of project development. It also allows the project to be developed in the shortest possible time and with the lowest cost, since marketers will define and/or adjust
their requirements on time, while the IT sector will make effort to implement the relevant requirements in the marketing database system.

The company's marketing database needs to be able to facilitate accomplishment of several basic functions, which according to Chroneos-Krasavac, Veljković (2007, pp. 28) include:

- Responding to ad hoc questions (queries) to be raised concerning the characteristics and behavior of both current and prospect consumers,
- Selection of names for future promotions, marketing events or scoring models names based on ad hoc criteria
- Monitoring results of promotion campaigns and establish the respondents and non-respondents profiles.

Aaker, Kumar and Day (2008, pp. 176) point out that company should seek to include the following elements in the database:

- Unique identifier for the customer, such as ID number or code,
- The name of an individual or the organization,
- Address (including zip code),
- Phone number,
- The order, inquiry or reference source
- Data on acquisition, and other details related to the first transaction,
- Purchases history (value, frequency, etc.)
- Credit history and rating of the customer,
- Relevant data on customer demographics (age, sex, marital status, education, income, occupation, etc.)
- Relevant information about the organization if the customer is a legal entity (standard classification, size, income, employment, etc.).

One of the main tasks in database design is to define issues on which the database need be able to give answers. The more specific group or team of marketers responsible for defining business requirements and functional requirements of the company, it is better for the company, given the importance of the issues for MIS team in the process of defining the logical and physical lifting of the system.

It has been shown in practice that determining the cause of the ad hoc questions allows efficient communication between marketers and technical staff regarding the precise choice of data to be included or not into the database as well as in terms of data selection to which there will be opportunity for immediate access. Only after a series of contacts between marketers and technical staff of the
company, it is possible to compare expected capabilities of the marketing database and its real possibilities.

In order to better understand the most frequent questions in the process of database design, we can divide them in two major groups:

- Type I: The questions that can be directly and fully responded to by the use of database;
- Type II: Complex questions whose answers require additional analysis beyond that which provides the database. In this case, the database should provide support in terms of the creation of files that can easily be transferred to other software such as SAS (statistical analysis system), or some of the spreadsheet on a personal computer.

The process of selecting participants for future promotions is one of the basic marketing functions of the databases. There are four basic methods of using database for that purpose. The first is the selection of the participants by responding to ad hoc questions. In that case, the database is the one that should indicate the number of participants that meet certain criteria and which are selected for a particular promotion. It must be assured that the database will be fully registered in all promotional activities, making it possible to analyze the responds at the end of a particular promotion.

The second way is that in the update process we identify specific marketing events that will constitute an incentive for the future promotional activities. Promotions encouraged by appropriate marketing events (called event-driven promotions) can and should be a major source for sending letters and telephone contact in the environment based on databases.

The third possibility of using a database for promotional purposes is by so called “scoring model”. One of the key requirements for the database is to enable the creation and use of statistical models. Therefore, the selection process becomes simpler for statistical analysis. For the companies that perform the statistical analysis in-house, one of the main tasks is to enable the extraction of a file that contains the desired number of names as well as specific data elements and allow creation of “output file” that will be in accordance with the requirements of statistical analysis.

Once the model is built, the database should be able to provide list of customers for specific marketing programs by analyzing appropriate responses in scoring models. Domazet Zubovic, Jeločnik (2010, pp.29-38) state that such a procedure includes:
- Translating relationships in the model to a database programming language
- Executing relationships in the scoring models determined by relevant model routes to all records in the given sample
- Storing scores obtained by appropriate application of relations in the database,
- Sorting scores in descending order,
- Sharing records in a number of groups of equal size (usually deciles),
- Assigning records to appropriate deciles according to its scores
- Storing score deciles for each individual customer along with the model name and date of the execution
- Selecting names based on the scores in decile groups or rows assigned by the scoring model.

The fourth method is to monitor the results of conducted promotional activities as well as to establish profiles of the participants (both those who responded and those who did not respond to a given promotional activity). In this case, the database must be capable to create a report that will, for one or a combination of promotional activities, provide the following information:

- The number of letters sent or made phone calls and the number of responses grouped by scoring criteria
- The profiles of respondents.

Profiling respondents should be concluded by creating the appropriate tables. They are usually classified by:

- Methods of descriptive analysis,
- Methods of analysis of one variable,
- Methods of analysis of two variables,
- Multivariate analysis methods.

The simplest form is one-dimensional table showing the response rates by gender or by any other variables contained in the database. Complex forms of tables are those which contain two variables, for example response rate from the perspective of gender and monthly income. The most complex are cross-sectional spreadsheets which are complicated to interpret. Aaker, Kumar and Day (2008, pp. 449) define multivariate analysis as “a compilation of procedures for analyzing the relationship between two or more sets of measured results from each element of one or several samples”. Profiling is important in order to accomplish the following goals:
Assigning scores to files in accordance with the requirements of scoring models,
- Sorting data files in decile or other appropriate groups,
- Profiling all groups or deciles using demographic data, lifestyle data or combination of them,
- Comparing segments with the highest and lowest response.

Profiling is important when using the database to discover an affinity for certain financial products and services. For example, if customers buying product A and having an affinity for the product B, it is possible to forward them promotion materials for product B, with the possibility of surprises for those who already own the product B, which is one way of cross-selling.

**SOURCES OF DATA AND ITS ANALYSIS**

Database marketing has three important components. It allows direct communication with customers through a wide range of media including direct mail, telemarketing and direct-response promotion. Moreover the customers need to respond to a campaign (calling, sending a brochure, or contracting sales visits) in such a way to allow company to take further actions. Finally, there must be an opportunity to attach an answer to the initial communication (Domazet, Zubović, Drašković, 2009). Database marketing provides variety of potential gains. Information technology enables storing and analyzing large amounts of data from different sources, as well delivering information in a convenient, accessible and useful format. Databases may be created by using different methods of collecting information:

- Using address books (ex. white pages),
- Filling different reporting forms (ex. for credit cards),
- Through different types of questionnaires,
- Over promotional contests (ex. using coupons),
- From internal sources (orders, complains, company register, reactions on sales promotions ….) etc.

Database marketing requires very high standards regarding quantity of data and sources necessary for the research. On the one hand, these are internally developed data on customers, and on the other hand, this data is collected externally and relates it to geo-demographic data, data on consumer attitudes, lifestyle, financial data, and the survey data. All these sources of information are necessary elements for direct marketing.
Data analysis will give life to accumulated data. Main activities in data analysis are: control, coding, entry and statistical processing and analysis. The aim of control is to detect errors in information and, if possible, to correct them prior to input in computer. Control activities include review and verification of information regarding: readability, clarity, consistency and completeness of answers. Encoding or encryption is an operation where we add numbers or letters to data. Coding is actually classification of data and its preparation for computer processing and analysis. After coding, the data are entered into the computer for further processing and analysis by using appropriate statistical software. The purpose of processing and analysis is to turn data into information and use it for the research.

Database marketing requires data to be organized according by the record (buyer's name and address, current account number, and records on transactions). Additional data requirements include demographic information (gender, age, marital status, household size, etc.) and socio-economic information (income level, education level, occupation, etc.) about customers (Hughes, 2009). After data collection, marketers are looking for similarities between customers in certain features on this basis of which they may create relatively homogeneous segments. Such segments need to be measurable, accessible and stable, so that they could be used in different processes of segmentation.

**RESEARCH SAMPLING AND METHODOLOGY**

Database marketing (DM) in Serbia is at the initial stage of development. One of the reasons for its slow implementation is underdevelopment of databases, which is the result of not understanding their role and importance in the company operations. However, intensive changes of business environment and strengthening of competition in all segments of the business enforces companies to find new ways to gain competitive advantage in the market (Zubović J, Domazet I. and Bradić Martinovic A. 2007). It is certain that intense application of database marketing will be source of future market competition, which will not be limited to exchange of lists of clients and managing telemarketing campaigns. Today's level of development of database marketing in developed market economies may serve as an indicator of what might be the case in Serbia tomorrow. In developed markets database marketing is mostly applied in trade and services sectors (primarily financial). In Serbia the trend is similar, since active databases use has been initialized by companies involved with telemarketing and phone sales. Throughout last couple of years financial institutions (banks and insurance companies) are the leaders in development of database marketing because they have understood the potential value of its application as a source of competitive advantage.
In accordance to development trends, we have undertaken an empirical study in financial institutions in Serbia, which are main centers for development of databases in order to detect the main characteristics and features of database systems and the degree of implementation of CRM/KAM (Customer Relationship Management / Key Account Management) which rely on financial organizations databases.

The research sample was made out of population of all financial organizations in Serbia with an aim to determine:

- The structure of databases in financial organizations
- Main attributes of two groups of customers
- The level of implementation of CRM/KAM in financial organizations
- Benefits from use of CRM/KAM systems

In desk research we have collected market research data about financial market and in the field research we have conducted several surveys in financial organizations in Serbia. The survey was initialized by phone interviews in order to determine person responsible for marketing in the financial institution. It was followed by the questionnaires which were sent by e-mail, and completed with in-depth interviews (conducted through nine interviews). In some financial institutions it was necessary to obtain approval from top-level management. Although the questionnaire was drawn up to ensure confidentiality, unfortunately, the practice in Serbia shows low confidence of financial institutions management towards such research.

Our survey sample is random. The questionnaires were submitted to 55 out of 75 companies belonging to financial sector in Serbia (banks, insurance companies and leasing companies) that actively operated in Serbia in 2010. Out of 55 contacted organizations, six refused to provide data because of top-management disagreements, and 23 did not submit any response, despite confirmation of the receipt of the questionnaire. Therefore the size of the sample is 26, including 17 banks, 5 insurance companies and 4 leasing companies. Positive response from 26 institutions makes our sample very representative, since the value of total assets of these companies equals to 43.57% of the value of assets of all financial organizations in Serbia (Table 2).

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4 In the research population there have not been included the investment funds and pension funds, which are not governed by the National Bank of Serbia, and which account for only 0.2% of total assets value in 2009.
### RESEARCH RESULTS AND ANALYSIS

All financial organizations operating in Serbia have got comprehensive database on their clients divided into two main groups: residents, citizens, private persons and legal entities and entrepreneurs.

General information on the “residents, citizens and private persons” group of clients is presented in the graph 1. Additional information which is not shown in the graph includes: National identification number (JMBG), name of the employer, potential relations to bank employees and compensation claims on active insurance policies.

**Graph 1. Availability of data from the „residents, citizens, private persons” segment of customers in financial organizations in Serbia**

<table>
<thead>
<tr>
<th>Customer name</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>100%</td>
</tr>
<tr>
<td>Phone</td>
<td>100%</td>
</tr>
<tr>
<td>E-mail</td>
<td>100%</td>
</tr>
<tr>
<td>Date of first purchase</td>
<td>80%</td>
</tr>
<tr>
<td>Services used</td>
<td>75%</td>
</tr>
<tr>
<td>Marital status</td>
<td>70%</td>
</tr>
<tr>
<td>Occupation</td>
<td>70%</td>
</tr>
<tr>
<td>Education</td>
<td>50%</td>
</tr>
<tr>
<td>Income level</td>
<td>50%</td>
</tr>
<tr>
<td>Household size</td>
<td>45%</td>
</tr>
<tr>
<td>Other information</td>
<td>35%</td>
</tr>
</tbody>
</table>
General information on the “legal entities and entrepreneurs” group of clients is presented in the graph 2. Additional information which is not shown in the graph include: contact person, average income, services used by clients and compensation claims on active insurance policies.

According to our research eighty six percent (86%) of financial organizations are segmenting the market in order to be able to apply different marketing strategies to different segments. In 55% of Serbian financial institutions there is a CRM/KAM (Customer Relationship Marketing / Key Account Management) system of management with key customers implemented. All financial organizations which do not have CRM/KAM implemented in their relationship management system with clients are planning to have it introduced within two years. Knowing that the average rate of utilization of CRM in Serbia, according to official statistical data is 8.5% (RZS 2010, p. 52), we may say that Financial sector is technologically very developed compared to other business sectors, and that is following the most advance world trends in development of information and communication technologies.

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**Graph 2. Availability of data from the „legal entities and entrepreneurs” segment of customers in financial organizations in Serbia**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer name</td>
<td>100%</td>
</tr>
<tr>
<td>Address</td>
<td>100%</td>
</tr>
<tr>
<td>E-mail</td>
<td>100%</td>
</tr>
<tr>
<td>Phone</td>
<td>100%</td>
</tr>
<tr>
<td>Occupation</td>
<td>100%</td>
</tr>
<tr>
<td>Number of employees</td>
<td>99%</td>
</tr>
<tr>
<td>Annual income</td>
<td>86%</td>
</tr>
<tr>
<td>Annual turnover</td>
<td>75%</td>
</tr>
<tr>
<td>Average cash balance</td>
<td>75%</td>
</tr>
<tr>
<td>Annual profit from customers</td>
<td>40%</td>
</tr>
<tr>
<td>Date of first purchase</td>
<td>35%</td>
</tr>
<tr>
<td>Other information</td>
<td>20%</td>
</tr>
</tbody>
</table>
From the group of all financial institutions which are using CRM/KAM, almost 36% are using Data Mining (DM) technique, 18% are using integrated software solution, and 27% are using combined method of the two above.

Moreover, we have also analyzed what benefits have been gained by introduction and utilization of CRM/KAM system, viewed from the perspective of the organizations. The results are presented in the graph 3.

*Graph 3. Most important gains from implementation of CRM/KAM in financial organizations in Serbia (%)*

- Efficient cross sales 21%
- Integrated information on clients 10%
- Evaluation of clients profitability 10%
- Clients analysis by relevant traits 15%
- Time sparing in data analysis 6%
- High quality sales analysis 16%
- Implementation of efficient sales strategy 17%
- Good market information 5%

The gains, viewed by the companies which have introduced CRM or KAM systems are very disperse, hence creating competitive advantage to those companies compared to the others which have still not introduced such management systems. In financial sector, where most of the companies have already introduced CRM/KAM, it has become a necessity for business operations.

**CONCLUSION**

In modern market economies in which the quality of business decisions depends on the level of accessibility, timeliness, and accuracy of the information on which they are made, databases are very important. The basic attributes of database marketing are that it provides measurable results, flexibility, selectivity, possibility of testing and the possibility of personalized communications with customers. Database marketing in direct communication with clients requires a response that will allow the company to take actions. As a result of rapid progress in IT that enables storing and analyzing large amounts of data, importance of database marketing is growing every day.
Implementation of database marketing in most companies in Serbia is very modest. The exception is financial sector in which solid databases and CRM systems have been. Application of new technologies in the financial sector in Serbia is mostly due to foreign ownership in most of financial organizations. Another reason is that financial organizations focus on direct communication with customers. This type of communication requires as much quality and timely information as possible for successful implementation of database marketing, resulting in profit growth and meeting customers’ needs. The findings from the desk research we have tested in an empirical survey in which we included over 40% of the companies in Serbian financial sector and confirmed that the application of advanced marketing techniques are at very high level in this sector, and that companies’ managers understand the importance of using CRM/KAM systems in the modern markets.

References


