

CRM and Data Mining: A Strategic Imperative in the Business

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Abstract: During economic recession several companies face a dangerous period and also during this period some companies are growing by shoplifting share from others. Companies are finding their way to re-power & re-energize their strategies. In the competitive dynamic market, maintaining and building strong relationship with customers is essential for long term business endurance. Businesses are now being anxious to place their clients at the heart of all of their activities and to rethink their entire sales and marketing strategies. Many companies have invested heavily in technologies enabling a customer-focused relationship marketing strategy. Currently, firms are applying Customer Relationship Management (CRM) to facilitate the maintenance of this relationship. CRM tool provides a method of maximizing existing customer resource as well as adding value from the customers' perception. This paper provides a holistic view of CRM from both a business and a technology perspective.

Keywords: CRM, Data mining; Time-series, Constraint based, Phenomenal

I. INTRODUCTION

Rosenberg & Czepiel (1984) estimate that the cost of winning a new customer is five times higher than that of maintaining an existing customer, while Reichheld & Sasser (1990) estimate that the retention of an additional 5% of customers, can increase profit by nearly 100%. In competitive consumer markets, customer choice decisions are at the root of business survival, focusing attention on the attraction and retention of customers through personalized service. Maintenance of the customer relationship is therefore cost-effective marketing, and has become a key aspect of most firm's business strategy, prompting extensive deployment of Customer Relationship Management (CRM) systems (Morgan & Hunt, 1994; Kim et al., 2003). The nature of CRM aims to maximize customer value in the long term, by focusing business processes, marketing and customer service on client relationship maintenance, through the coordinating agency of an information

technology (IT) system. Implementation of such a system is not a panacea, and is not, of itself, sufficient to transform a production oriented organization into a customer-oriented one (Kanji, 2002; Chang, 2005), which will require a wide-ranging overhaul of organizational structures, employee training and reward system, as well as appropriate IT support (Chen & Popovich, 2003). Since the CRM provides a means to acquire and distribute personalized customer information, its usefulness will depend on the organization's ability to exploit that information in innovative new products and services (Chen & Ching, 2004), which in turn will be dependent on the speed of employee and organizational learning, a key to survival in innovative consumer markets (Stata, 1989; Fulmer, 1994; Chang, 2006). Customer Relationship Management (CRM) is a business strategy to select and manage customers to optimize long-term value. CRM requires a customer-centric business philosophy and culture to support effective marketing, sales, and service processes.

According to one industry view, CRM consists of:

- Assisting the organization to improve telesales, account, and sales management by optimizing information shared by multiple employees, and streamlining existing processes.
- Helping an enterprise to enable its marketing departments to identify and target their best customers, manage marketing campaigns with clear goals and objectives, and generate quality leads for the sales team.
- Providing employees with the information and processes necessary to know their customers, understand their needs, and effectively build relationships between the company, its customer base, and distribution partners.
- Allowing the formation of individualized relationships with customers, with the aim of improving customer satisfaction and maximizing profits; identifying the most profitable customers and providing them the highest level of service.

II. CRM AND RELATIONSHIP MARKETING

Relationship marketing describes activities, behaviors and strategies geared towards knowing and understanding the customer. Communications with the customer is primarily one-sided, and initiated when the customer's name appears on a specific customer list. Relationship marketing integrates these two definitions by describing relationship marketing as an integrated effort to identify, maintain and build up a network i.e. with customers and to continuously strengthen the network for the mutual benefit of both sides, through interactive, individualized and value-added contacts over a long period of time. Attracting new customers is only an intermediate step in the marketing process, which also includes developing closer relationships with customers, with the ultimate goal of turning them into loyal, long-term customers. Consequently, relationship marketing and CRM are closely related.

III. TECHNOLOGIES AND METHODS IN DATA MINING

Companies are able to take information from their own company's database and augment it with enhancement information provided by a data compiler and then apply a predictive model to the augmented data set using sophisticated data mining techniques. The marketer can tailor demographic data and response data to get close to one-on-one marketing. Data mining techniques will enable service oriented companies to provide engineered experiences for a consumer's leisure time.

➤ *HYPertext AND HYPERMEDIA DATA MINING*

Hypertext and hypermedia data mining can be characterized as mining data which includes text, hyperlinks, text markups, and various other forms of hypermedia information. Techniques which have been used for unsupervised learning include k-means clustering, agglomerative clustering, random projections, and latent semantic indexing.

➤ *MULTIMEDIA DATA MINING*

Multimedia Data Mining is the mining and analysis of various types of data, including images, video, audio, and animation. As multimedia data mining incorporates the areas of text mining, as well as hypertext/hypermedia mining, these fields are closely related

➤ *TIME SERIES/SEQUENCE DATA MINING*

Another important area in data mining centers on the mining of time series and sequence-based data. Simply put, this involves the mining of a sequence of data, which can either be referenced by time (time-series, such as stock market and production process data), or is simply a sequence of data which is ordered in a sequence.

➤ *CONSTRAINT- BASED DATA MINING*

Many of the data mining techniques which currently exist are very useful but lack the benefit of any guidance or user control. One method of implementing some form of human involvement into data mining is in the form of constraint-based data mining. This form of data mining incorporates the use of constraints which guides the process.

➤ *PHENOMENAL DATA MINING*

Phenomenal data mining is not a term for a data mining project that went extremely well. Instead, it focuses on the relationships between data and the phenomena which are inferred from the data (McCarthy, 2000). One aspect of phenomenal data mining, and in particular the goal to infer phenomena from data, is the need to have access to some facts about the relations between these data and their related phenomena.

➤ *UBIQUITOUS DATA MINING (UDM)*

Advanced analysis of data for extracting useful knowledge is the next natural step in the world of ubiquitous computing. Accessing and analyzing data from a ubiquitous computing device offer many challenges. Visualizing patterns like classifiers, clusters, associations and others, in portable devices are usually difficult. The small display areas offer serious challenges to interactive data mining environments.

➤ *SPATIAL AND GEOGRAPHIC DATA MINING*

A definition of spatial data mining is as follows: "the extraction of implicit knowledge, spatial relationships, or other patterns not explicitly stored in spatial databases." Some of the components of spatial data which differentiate it from other kinds include distance and topological information, which can be indexed using multidimensional structures, and required special spatial data access methods, together with spatial knowledge representation and data access methods, along with the ability to handle geometric calculations.

IV. CONCLUSION

CRM success in organization will create the competency to explore the existing opportunities. Companies will gain the customer loyalty which in turn will give profitability in long run. Both costs and technology factor has to be taken into consideration for successful implementation of CRM in Organization. Further relationship marketing will be enhanced through the implementation of CRM. Companies are exploiting the different CRM tools for the mining of customer data thus leading the organization ahead than the competitors.

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