

ADVANCED ANALYTICS MODELING FOR MODERN ORGANIZATION SALES DEPARTMENT NEEDS

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Abstract: *the article analyzes the application of existing analytical models and their modification as new analytical models for the needs of the modern sales department of commercial organizations from small and medium business to transnational corporations. In particular cases we consider the key function of business analysis and its division into modeling in two main frameworks: 1) work with customer databases and 2) in-depth analytics as work with customer indicators and their behavior, which is digitized in the form of data, collected in the organization. Examples of analytics for sales departments were shown for each type of analytics.*

Keywords: *analysis, sales, marketing, business-analysis, predictive analytics.*

ПОСТРОЕНИЕ АНАЛИТИЧЕСКИХ МОДЕЛЕЙ, СООТВЕТСТВУЮЩИХ ПОТРЕБНОСТЯМ ДЕПАРТАМЕНТА ПРОДАЖ СОВРЕМЕННОЙ ОРГАНИЗАЦИИ

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Аннотация: *в статье анализируется приложение существующих аналитических моделей и их модификация в качестве новых аналитических моделей для потребностей современного отдела продаж коммерческой организации от малого и среднего бизнеса до транснациональных корпораций. В частности, рассматривается ключевая функция бизнес-аналитики и ее разделение на моделирование в рамках работы с базами заказчиков и углубленную аналитику в рамках работы с показателями заказчиков и их поведением, которое оцифровано в виде собранных в организации данных. Приведены примеры аналитики для отделов продаж для каждого из рассматриваемых типов аналитики.*

Ключевые слова: *анализ, продажи, маркетинг, бизнес-аналитика, предиктивная аналитика.*

Modern sales department becomes a key part of each organization from small and midsize business to large corporations. Future and income of organization depends not only on the product, but also on a sales engine. Main and critical function of sales departments is a fast transformation of company's product or service to customer.

Principles of this transformation are not only based on sales managers experience, but also on a quality of analytics inside sales organization and visualizations to provide better insights [1, p. 137]. Based on international experience in this area, modern organizations use two main types of analytics [2, p. 166]. First of all, it's a customer base-oriented analytics. Goal of this analytics is to provide additional information about customer potential and potential for initial organization from working with each customer. Second one is a predictive analytics. Now it's a combination of different types predictions mainly based on comprehensive analysis from all existing knowledge or based on machine learning analysis of all available data in sales organization.

In both cases we led by common principles that organization offers to customers a set of services, products, problem-solving tools or programs based on modern information technologies directly or through partner channel (like distributors, resellers etc.). Deal between organization (or its partner) and customer is a way to provide to customer a competitive advantage on a market using modern technologies from organization. Each customer in this world is a unique team of professionals and each customer has its own goals in terms of business development. So, it's a very important task for organization team, especially sales team to provide the best solution for each customer. Business analyst is a part of this team together with: licensing specialists (to provide the form of program licensing to customer), account managers (people who work directly with customers), partner account managers (to provide the best consulting support for partners to satisfy customer needs from partner side), service providers and other professionals – it depends on business specifics. Business analyst helps to identify and to anticipate customer's needs before customer can identify this need inside. Business analyst creates a comprehensive data model to show potential for upsell and cross-sell for each customer, potential to close missing licensing and potential to build a roadmap for future work with each

customer. All of this brings to customer competitive advantage on a market, helps to accelerate business of customer against investments to product or service. And it also helps to organization to increase numbers of sales, year over year growth in terms of revenue, customers acquisition, customer satisfaction and many-many other key performance indicators up to 15-20% [3, p. 211]. That's why such recommendation models made by business analysts are so important for both businesses: customers business and organization business.

Generally, first stage of building analysis in modern sales organization is a building of data model. Typical system of data organizing into model shown on a picture 1. After the first stage both types of analysis (customer potential and predictive analysis can be implemented).

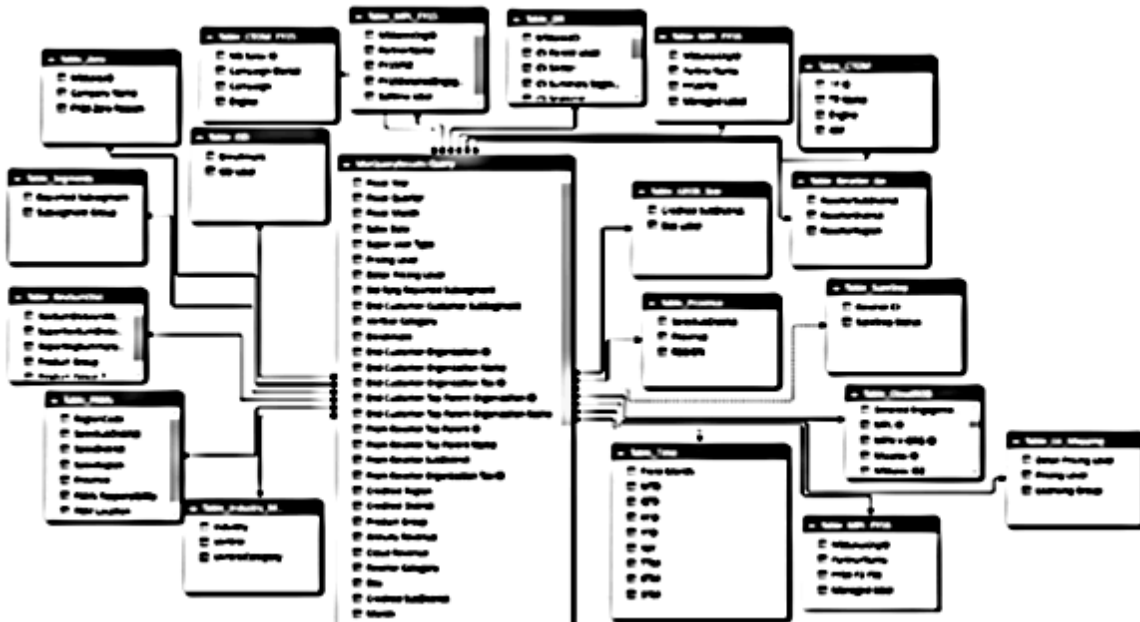


Fig. 1. Scheme of Data Model

Usually business analyst is a person who made such comprehensive models of cross-sell, upsell and customers potential. It's a very important and profitable work. This work demands high level professionalism to provide such successful business models. Mainly such business models are showing results as a percentage of targeted upsells/cross-sells versus not targeted communication with customers. As show on a picture 2, such models can bring up to 20-30% of targeted calls above not targeted base. It can give this percentage of economy through calling time, selling time of sale staff and other type of work.

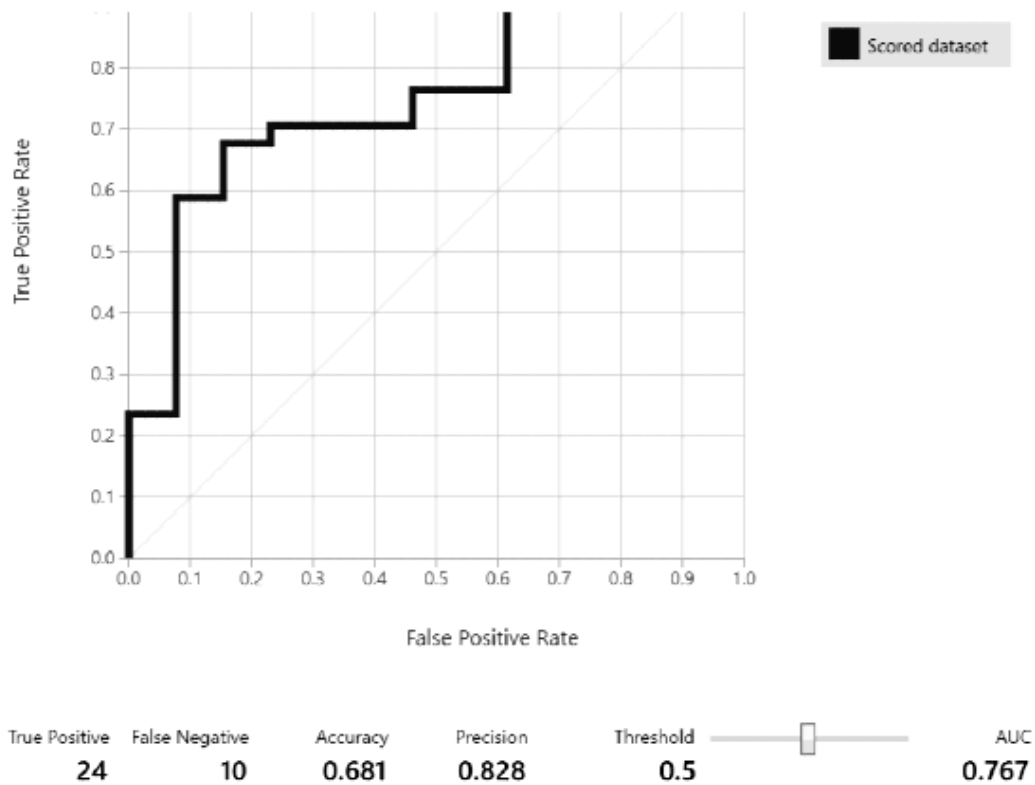


Fig. 2. Machine learning in action for customers selection

Predictive Analytics is also already being used to solve problems in sales departments using data [4, p. 372]. Some important examples below based on feedback from customers and industry trends were identified as business cases. Using applied programs like Azure Machine Learning, most common business problems can be solved by models using Clustering, Classification, Anomaly Detection or Regression [5, p. 46]. After this research, we identified the most useful and the most recommended models:

Table 1. Types of advanced analytics models

Model	Description and samples	Type
Forecasting	<ul style="list-style-type: none"> ✓ to forecast values based on past trends, ✓ profit and loss forecasting in sales, ✓ product revenue forecasting. 	Regression
Product offer	<ul style="list-style-type: none"> ✓ recommendation services of next product, ✓ optimal offer of products, ✓ optimal product placement. 	Clustering
Optimization	<ul style="list-style-type: none"> ✓ prediction of preferred customers time to make a deal, ✓ delimitation of customers into several baskets by parameters, ✓ order of interactions with different customers. 	Classification

As we described above, business analytics and mechanisms using this type of analysis are critically important for modern sales organization in terms of providing the best level of support from analytics to sales departments and the following interaction between sales engines and customers of organization.

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