Chapter 11
Modeling Customer Behavior with Analytical Profiles

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ABSTRACT

Contemporary companies try to build customer relationship management systems based on the customer social relations and behavioral patterns. This is in correspondence with the current trend in marketing that is to move from broadcast marketing operation to a one-to-one marketing. The key issue in this activity is predicting to which products or services a particular customer was likely to respond to. In order to build customer relationship management systems, companies have to learn to understand their customer in the broader social context. The key hypothesis in this approach is that the predictors of behavior in the future are customers behavior patterns in the past. This is a form of human behavioral modeling. The individual customer behavior patterns can be used to build an analytical customer profile. This will be described in section "Introduction" and "Customer profiling". Based on this profile a company might target a specific customer with a personalized message. In section "Critical examples" the authors will focus in particular on the importance of the customer social relations, that reflects referrals influence on the marketing response. In the end in section "Market of analytical profiles" they will discuss the potential business models related to market exchange of analytical profiles.

INTRODUCTION

As we live in contemporary world, we leave thousands of digital footprints behind us through usage of mobile phones, credit cards, electronic mail, browsing in social networks etc. Each footprint shows our real actions that we take in given time and place. The analysis of thousands of such footprints on large groups of people allow us to analyze human behavior on an unimaginable before scale in scientific studies concerning psychology and sociology (Lazer et al. 2009). The results of those analysis will have a significant influence on many disciplines such as medical prophylaxis, political elections or contemporary marketing in personalized customer relationship management. In this context it is interesting to look at the summary of

Figure 1. Classical marketing based on the customer segmentation: „I have a product, give me a client"
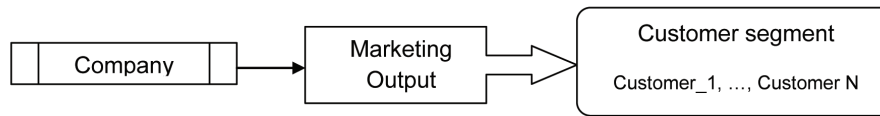
historical development of customer management by Kumar (2008). It begins with direct relations with individual customers, then entire-market customers, segmented customers and finally the return to the initial idea of personalized service usage of interactive marketing (Deighton et al. 1996). According to Kumar, interactive marketing can be described as follows (Kumar 2008):

1. The range of decisions: identification of interested customers and assuring on-going relations or relations at proper time.
2. The range of analysis: elaborating the complete characteristics of the customer.
3. Value building factor: personalization and adapting proper service at a proper time.

The usage of customer behavior in marketing has a relatively long history. Analytical customer relationship management systems have been used in telecommunications and banking sector since the 90s of the previous century (Shankar, Winer 2006). In this perspective, new type of data about diversified customer behaviors introduces new opportunities in contemporary marketing. This new potential, related to the development of Business Intelligence systems (Surma 2011), has contributed to the development of personalized marketing concept based on profound analysis of history of contacts with customer[1].
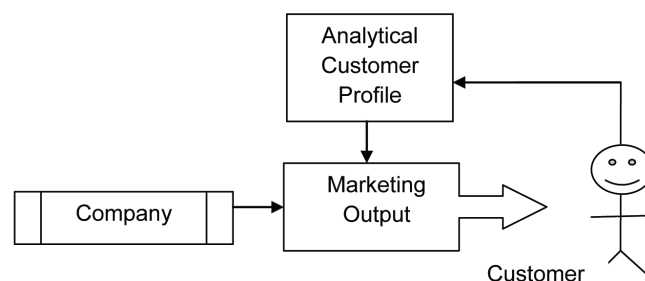
CUSTOMER PROFILING

From Segmentation to Personalization

In order to understand properly new analytical opportunities in marketing, it is crucial to differentiate correctly the classic approach based on customer segmentation (see Figure 1) in comparison to personalized approach related to interactive marketing (see Figure 2). In case of segmentation, the division of customers is done usually on the basis of social-demographic characteristics (e.g., sex, age, education, place of residence) and the analysis of the purchase history, using the RFM[2] analysis. In this approach,

Figure 2. Interactive marketing based on the personalization: „I have a client, give me a product"

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