

## IMPLEMENTATION OF ADVANCED ANALYTICS IN CONSUMER-FACING COMPANIES

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**Abstract:** *Companies that are actually run by the market recognize the need to constantly be informed about what is happening in the market. Customer needs are ever-changing, often in ways not easily comprehended. The goal of advanced analytics is to benefit the companies and their customers. The company acquires knowledge about the needs and behavior of customers in order to better meet their needs. In this way, companies can build a profile of the needs of the customer. Companies that are related to consumers are required to collect and manage data, to apply analytics that brings both insight and translation of those insights into effective combat operations.*

**Keywords:** *management, marketing, companies, analytics, consumers.*

### 1. INTRODUCTION

Market conditions for companies with trade as main activity are daily becoming more complex. Since there are numerous changes in the market, from day to day, it is necessary to find such a business approach that will adequately respond to new changes.

The increased complexity of operations occurs as a result of globalization, increased competition, rapid technological development, the constant market changes, geographic and demographic change, rapid product development, reduced product life cycle, increasing the amount of information, a higher level of quality products and services, more stringent environmental conditions, daily variation impact on sales, etc. There is no general and ready-made solution, and finding the right solution to changing conditions is a major challenge and a unique way for management of companies to show their creativity and the correct orientation when collecting real data and finding appropriate models for best possible way of implementation.

One of the main features brought by new technological opportunities is the growing presence of 'on-line' purchase.

In a time where the job we do, whether we are top managers in some companies, workers who perform physical work or simply administrative workers engaged in the practices or

paperwork, takes much too much time and energy, we are on the other hand being offered many opportunities for 'purchase from chair' that relieve us of many grueling rounds of retail chains and where we get to your home what you choose; many people do choose 'on line' purchase, or even sightseeing and selection via the web site trading companies. Visiting certain websites, leaving comments and criticism, sharing experiences with other consumers, and generally all the activities that consumers make during the visit of a certain web pages constitute endless source of data, which can, with innovative approaches and finding adequate processing model, lead to invaluable information about where and how to invest in order for sellers to improve their sales.

Consumer-oriented companies must be able to capture and manage specific data, apply analysis that generate insights into the matter and translate the same analysis in an effective action plan. Retailers and companies that sell products in bulk (CPG), at relatively low cost, have long had access to large amounts of transaction data of your target market. Every day, companies collect pieces of information about each product which has been marketed, sold or withdrawn from sale at any reseller site, as part of the reseller network of related companies. Further, companies are using sophisticated techniques of market research in order to respond to a series of questions such as: Which products should be developed? Which products should have their prices reduced, and when? Which marketing channels will allow easier access to consumers?

In addition to highly valuable information about consumer society and the results of the market analysis, consumer-oriented companies now have access to the information from social networks and other large amounts of data known as 'macro information.' This article discusses the potential of macro information and advanced analysis of the retail and consumer-oriented companies, and examines the conditions that must be achieved for potential of macro information to be converted into actual market value.

## 2. POSSIBILITIES FOR ADVANCED ANALYTICS

Retailers need to respond quickly to market changes, to have the capacity for efficient production, to use supply chain that is ready for a quick response to the latest fashion items could supply the mass market. Stores like H & M, Zara, Mango and Benetton show a remarkable ability to respond to market needs in relation to fashion. These retailers are able to, within short few weeks, offer fashion designs for which there is great demand, which is a step forward compared to the previous practice where the fashion industry used to wait from six months to one year to mass produce these items.<sup>1</sup>

The company operates in conditions where they have to monitor and respond to competitive promotions, price changes and still be able to launch innovative products and expand product lines. Due to the simultaneous production and consumption of services personnel has a major impact on customer perception of service quality.<sup>2</sup> In order for employees to be able to assess the needs of customers, it is necessary to establish standards that will improve the quality of services. Managers hold an important role in standard making. The winner is the manager who achieves the highest number of services and the highest profit.

<sup>1</sup> Jobber D., Fahy J., 2006., *Osnovi marketinga*, Beograd, Data status, 332.

<sup>2</sup> Rafiq M., Ahmed P., 1992., *The Marketing Mix Reconsidered*, Salforg, Proceeding of the Annual Conference of the Marketing Education Group, 51.

The real challenge comes when investing and making business network in order to 'kill' competition.<sup>3</sup>

The combination of macro information and advanced analysis makes a number of significant opportunities for consumer-oriented companies throughout the consumer chain. Taking, for example, the process of developing a new product, companies can now get a detailed analysis of user needs and can easily identify different consumer segments. Return on this investment can be easily measured in a variety of marketing campaigns, from the traditional to the newer ones (social media). This approach makes it easier to transfer investment funds from less successful into highly effective marketing channels. Through detailed analysis on an hourly and daily basis, retail trade can very effectively increase sales, provide better experience during your purchase to your customers and bring in more revenue, both for themselves and their wholesale partners.

Macro information and advanced analysis enable companies to make faster and better decisions in their daily operations. European wholesale companies had revolutionized their retail offer and plans through the implementation of advanced analysis on the basis of the information about the target market and the average consumer. This approach had provided the sales growth of 10% in categories of small growth. The potential is not exclusively in sales growth. A recently conducted study by McKinsey and the Massachusetts Institute of Technology shows that companies that use macro information and analysis as part of the operation, surpass their competition by 5% in productivity and 6% in profitability.<sup>4</sup>

### 3. HOW TO REACH THE GOAL: THREE STEPS

Fully usable information and analysis must fulfill three conditions.<sup>5</sup> First, companies need to choose the right information and be able to manage information from various sources. Second, companies must be able to build complex models that will transform the data into models. The third and most important step is: management must undertake transformational change program that will result in a translation model of feasible actions.

1. As they prepare to take part in the collection and analysis of data, companies need to answer one question: which decisions should be improved, upgraded and strengthened. To begin with, retailers should implement better decisions in the sphere of promotion spending. Range of decisions that need to be perfected can be very broad: do we want to refine the design (number of pages, number of products on one page) leaflets and brochures? Do we want to perfect distribution of promotional material – what printing press to use, to which address should they be provided, etc.? Maybe we should do a new list of products to be found in the brochures? Each decision in connection with some of the questions above requires a separate set of information and analysis of the same.

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<sup>3</sup> Radosavljević Ž., Tomić R. 2007., *Menadžment u modernom biznisu*, Privredna Akademija, Novi Sad, 268.

<sup>4</sup> Brynjolfsson Eric, McAfee Andrew 2012., Big data: The management revolution, Boston, *Harvard Business Review*, October 2012., Vol. 90, no.10, 61-67.

<sup>5</sup> Breuer Peter, Moulton Jessica, and Turtle Robert 2013., Applying advanced analytics in consumer companies, *McKinsey Quarterly*, May 2013., [http://www.mckinsey.com/insights/consumer\\_and\\_retail/applying\\_advanced\\_analytics\\_in\\_consumer\\_companies](http://www.mckinsey.com/insights/consumer_and_retail/applying_advanced_analytics_in_consumer_companies).

When decisions that need to be improved had been reached, companies must collect and process the information needed in order to conduct a detailed and comprehensive analysis. Experience teaches us that such a process entails three complex actions: integrate information sources, define data management and establishment of IT infrastructure.

*Aggregation of information sources.* We often encounter cases where a company has all the information needed for further progress and development of the business, but different important blocks of information are in the possession of different operating centers, i.e. departments within the company. These organizational tanks 'hide' information from analysts who want to use them. Take for example a specialist who is trying to do a redesign of promotional email that is sent to a list of 5 million members who took part in a loyalty-card program. While the program itself is extremely successful, revenue and profit are absent. The expert recognized that combining data of different functional groups we can obtain smaller, more targeted segments of members, and understand what types of direct mails result in the highest profit.

Once you understand what data are needed, it is necessary to develop a process for extracting and filtering data, and then re-assemble those for the purpose of exploitation, now fully adapted to the situation.

*Defining data management.* Given the huge amount of data that companies collect and dispose of, the accuracy and reliability of information is a constant challenge. Product information – such as packet size or even a description of the category of the product – are not always accurate and fully actualized within the company database. In case of imprecise obsolete data analysis result will always be unsatisfying and unusable. Instead of collecting readily available information and storing them in the condition in which they had been collected, it is necessary to establish rigorous standards of data management that dictate continuous collection of data to be stored in the ready stage to perform the analysis.

*Establishing IT infrastructure.* Company needs IT infrastructure in order to store, access, combine and analyze large amounts of information. Establishment of IT infrastructure requires close cooperation between managers, analysts and IT staff in order for data storage to meet the needs of all three of the aforementioned departments.

2. Companies must be prepared for a huge influx of data in a short period of time – a task that often requires sophisticated and sometimes very complex analytical models. First, the employees must be actively involved in the development of a model; they must understand analytics and ensure that the model does show the desired results. Second, model approach should be directed at the simplest model that will give the desired results. The power of the approach by two mentioned steps can easily be seen in the wholesale companies that seek to increase their return on investment in marketing.

A recent case speaks of a certain associate to the company who had independently built a model based on paid advertising, or purchase online traffic, with the aim of increasing the return on investment in the field of online marketing. The employees in the company were surprised by the extremely high results, although they were not familiar with the model. Later on, the company developed its own simplified model. The results were clearly weaker: the new model had shown 15 times smaller return on investment than the model used by the external expert. Further analysis shows that one of the analysts employed in the company mistakenly grouped data, while the complexity of the model used initially hampered the analysis of the problem and timely identification of errors.

3. Collecting data and developing models alone will not bring results, unless the company translates transparent models into feasible actions in the market. Companies must define a whole set of new processes that are easy to understand, both for workers on the market and management.<sup>6</sup>

When implementing a new system of supplying goods in a certain famous wholesale center, there appeared lack of confidence in management system that has been developed with the aim of predicting moments bargains. The system kept regularly sending retail centers stock of goods to avoid stagnation of traffic due to the discharge of stocks in warehouses. Since they did not know the way the system worked, it had been months until the company's management began to trust the system to predict demand. Until this moment, the management had been manually performing the same action as the system, reducing the productivity of the company by 100% in a given sector.

#### 4. THE NEW WAY OF UNDERSTANDING THE ONLINE CUSTOMER

Companies that are in constant and direct contact with the final consumers need to understand the operation of the website and how well their web sites linked to the web entities affects the (non)-purchase of their products. In this case interesting web entities are the blogs and websites that are based on positive or negative criticisms of users. These sites are also known as review sites.

In recent years behavior of some 11,000 online users had been followed in the territory of the United States.<sup>7</sup> All sites visited by the users had been recorded during the period of 6 months, i.e. for the duration of the study. When a number of users click on any of the two sites within the specified period, it is considered that the pairs are connected. All such pairs had been collected for the by companies, information centers and other stakeholders in a given industry.

The links in the network map had been presented, which allow us to distinguish between different network segments at a granular level. The number of nodes and the length of the lines reflect the power of the network. Short lines indicate strong relationships while long lines are weak. The strong connectivity means significant overlap in visitors of these sites, which means that the site that influenced the user was operated on real user traffic site that is part of the same network, but users do not go there directly from the site which influences the user. Therefore, it is enough to be part of the network.

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Example: Seller A has two strong links with sites that influence users (blog, website reviews), while his competitors, vendors B and C, have far more connections. The number of nodes and the length of the lines reflect the power of the network. Short lines indicate strong relationships while long lines are weak. There is a map of the network that contains 5 online retailers of commercial electronics. Visitors of these sites are likely to visit the sites for reviews of specific parts of the technology, media sites, news from the world of technology, etc. Vendor A has two strong ties, while his competitors for B and C have a

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<sup>6</sup> Gijić Nebojša, Lilić Vladana, Đuretić Gordana 2013, „The importance of small wins“, *International Journal of Economics and Law*, Vol. 3, No. 7 (2013), Beograd, FPSP, 40.

<sup>7</sup> Kroell Frank, Schaff Rachel, and Zimmermann Stephan 2013., *Unraveling the Web: A new way to understand the online customer*, *McKinsey Quarterly*, May 2013., [http://www.mckinsey.com/insights/consumer\\_and\\_retail/applying\\_advanced\\_analytics\\_in\\_consumer\\_companies](http://www.mckinsey.com/insights/consumer_and_retail/applying_advanced_analytics_in_consumer_companies).



## 5. CONCLUSION

Nowadays organizations have huge amounts of data that is constantly increasing. To obtain meaningful, relevant information we must effectively and efficiently manage the data. For this purpose appropriate knowledge is necessary. Proper and timely information gained is the main weapon in monitoring and predicting the situation on the market, and the understanding and analysis of business trends. The quality of the decision depends on the quality of available information and its timely submission upon manager's request. The emphasis here is on the best strategic decision-making, based on a full understanding of the data. The process of making strategic and other business plans do not end with creating a plan. Today, plans should be adaptable and flexible for they have to deal with changing dynamics of the business environment, changing market trends and constantly changing competitive environment.

In the process of creating interactive communication the leading role belongs to market research that makes it possible to observe the requirements of the market in order to improve competitiveness, boost performance, and maximize the profit of the company. On-line technology enables a totally new approach to market research, together with the possibility of conducting research via the Internet. Through continuous development of on-line technology a positive impact on market research is achieved, in view of the fact that the marketers (researchers) are able to very quickly and with relatively low cost reach your target population.

The use of advanced analytics in consumer companies to a large extent presents the basis for participation in the market, both in terms of defining and undertaking certain marketing activities, as well as in other segments. The basis for facing the needs and desires of consumers is certainly adequate data collection, and their subsequent processing. There are countless opportunities placed before marketers and consumers, so that everyone can, according to their needs, enhance their activities.

The rapid development of the Internet provides easy access to information not only to end users, but also businesses, both large and small. By analyzing traffic of both your website and competitors websites, companies can easily reach a large number of data crucial for a launch of successful, targeted and profitable marketing campaigns. Because the data generated through the Internet already sorted out and prepared for analysis, primarily due to the Google algorithm that is completely adapted to the development of targeted marketing campaigns, this significantly shortens and simplifies the process of collecting and processing data. Complex data processing operations in order to upgrade to the same analytical usable condition is significantly reduced if the company is oriented toward Internet advertising. For this reason, Internet advertising should be the backbone of all major marketing companies depending on the level of exploitation of online market presence and online clientele.

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