Oriflame Case Study

Comarch Machine Learning Implementation

This study presents an AI/machine learning project carried out for Oriflame and deployed in Poland and other countries around the world by Comarch.

The study contains a short introduction covering market trends relevant to the project.

The main part of the study is a description of the project, including the perspectives of the customer and vendor.

The study is supplemented by an analyst's opinion on the completed project.

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Data Science Market Trends

The effective utilization of data owned or accessed by organizations is often crucial for achieving sustainable growth and operational efficiency. Despite regulations that can limit data use, businesses still have access to a range of potentially valuable information, including about products, competitors, their customers, consumers in general, the geospatial locations of business, activity, consumption, marketing, vectors of social influence, market supply and demand conditions, rich media and other content, and a number of macroeconomic, microeconomic, meteorological, political, and demographic causal factors.

Moreover, the growth in the volume of data created each year is enormous. According to IDC, the digital universe, which encompasses the total volume of data created in a year, is growing at 40% annually. By 2020, it will reach 44ZB (or 44 trillion gigabytes), a tenfold increase over 2013. However, the majority of this data is yet to be utilized to bring tangible benefits to organizations. Across all industries, IDC estimated that 22% of the information in the digital universe was usable for analysis. However, analysis had only been carried out on less than 5% of that usable information and only 1% of the full digital universe.

22% Usable information

5% Information analyzed

1% Full digital universe analyzed

2013 **CAGR 40%** **2020**

44ZB

10x Increase
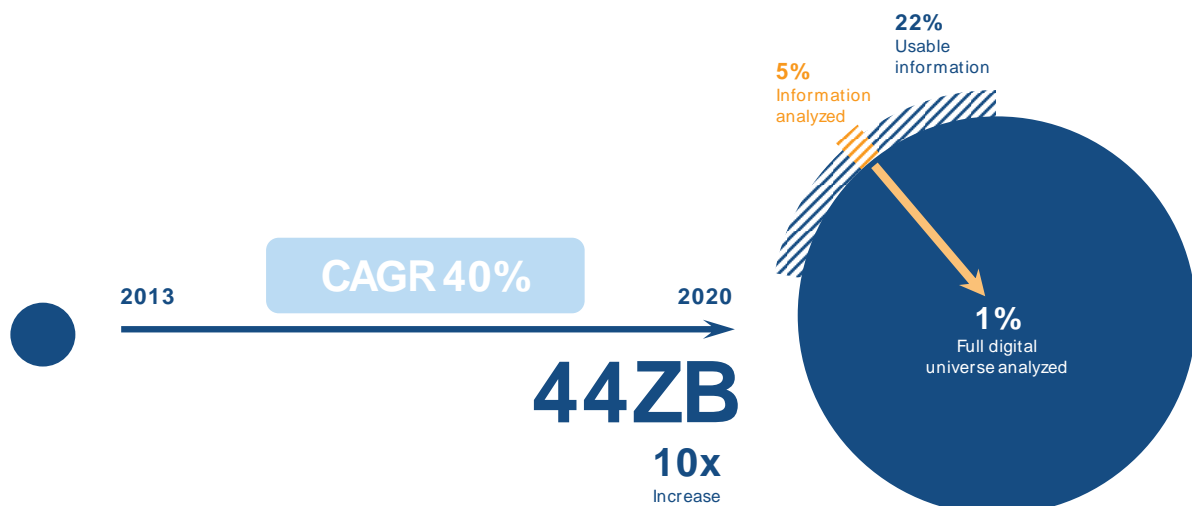
Source: IDC, 2018

Cognitive and Artificial Intelligence Spending

The data analysis market is growing exponentially — especially cognitive and artificial intelligence (AI) solutions, which form its most advanced segment. In 2017, the worldwide growth rate of cognitive/AI software revenue exceeded expectations, demonstrating that organizations are moving from prototypes and proofs of concept to production applications within the enterprise. IDC foresees a global cognitive solutions market value exceeding $50 billion across all industries in 2021.

FIGURE 1

Worldwide Cognitive/Artificial Intelligence Systems Spending 2016–2021 ($M)
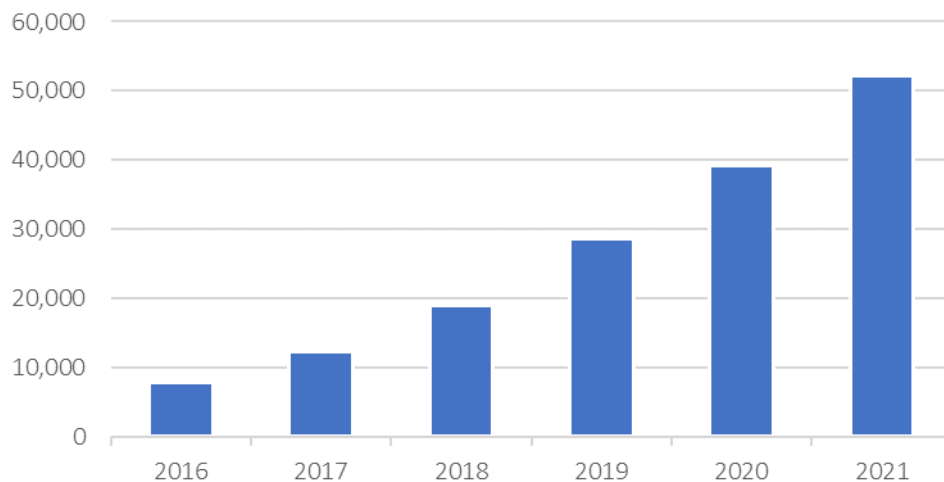
Source: *Worldwide Semiannual Cognitive Artificial Intelligence Systems Spending Guide*, IDC

Organizations in the banking, retail, and process manufacturing industries are currently among the most active in the AI space. Of these, retail will record the highest annual growth.

Cognitive technologies are revolutionizing the retail sector. Innovative AI use cases are spreading across the entire product cycle, from sourcing to merchandise and post-sales customer service. They can boost the customer experience by enabling hyper-personalized product recommendations and offers, online expert shopping advisors, dynamic pricing, real-time information, and customer service. They are also invaluable in improving company operations, supporting the prediction of customer behavior to boost sales and revenue, and forecasting demand based on buying patterns to optimize stock and inventory holdings. The most common AI applications used by retailers in optimization and development processes are machine learning, statistics, personality insights, sentiment analysis, and natural language processing.

Machine Learning Goals

Machine learning supports human decision-making by bringing to bear improved accuracy, confidence, speed, and agility based on broader and deeper bodies of evidence applied to a more comprehensive view of pertinent conditions without bias. Machine learning extends two traditional domains of business analytics — namely, descriptive analytics (i.e., what has happened) and predictive analytics (i.e., what will likely happen) — with a third, discovery analytics (i.e., why something happened). With discovery, machine learning brings new capabilities to prescriptive analytics (i.e., what should happen), the final type of traditional business analytics.

Combined with optimization sciences, machine learning can make more informed recommendations about actions required to achieve a desired set of outcomes within the constraints of permissible or feasible actions.

Machine Learning Challenges

Investing in cognitive technologies is only the first step in achieving tangible benefits. It is equally important to have cognitive skills within enterprises, especially since many tools used in AI and machine learning processes are open source. In a recent survey by IDC, more than 70% of organizations said they had experienced a shortage of data scientists.

FIGURE 2

Availability of Data Scientists

Q. Does your organization have a shortage of internal data scientists?

- We have a shortage of data scentists
- We have a sufficient number of internal data scientists
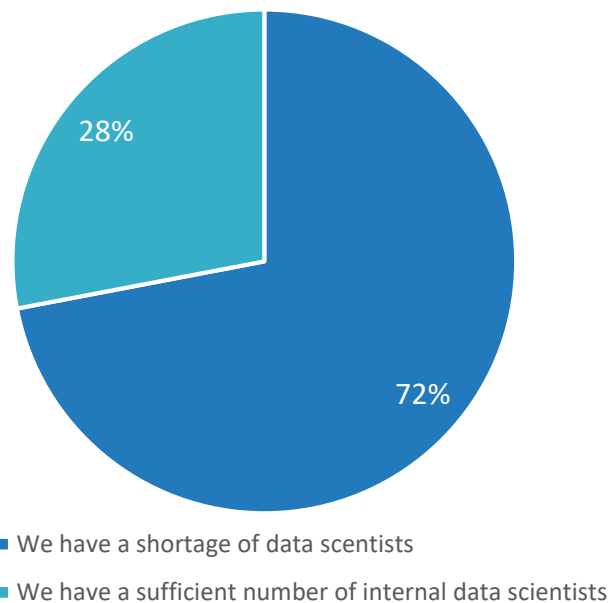
Source: IDC, 2018

Shortages in data science experts force end-user companies to rely on external providers and make the most of third-party knowledge and experience. This is particularly true when organizations lack the internal technological acumen to develop new analytical models or have limited experience in more advanced data science.

Having cognitive skills means more than employing a few data scientists. The full analytics lifecycle requires skills in cognitive strategy development and project management, data preparation, business analysis, advanced analytics, analytics

application development, hardware infrastructure deployment and management, vendor management, performance measurement, and governance. Few organizations will be able to hire all the necessary high-quality staff needed to achieve the outcomes desired from cognitive projects. It is therefore crucial to take a team approach to such projects. Organizations can develop competency centers with a mix of cross-functional and domain-specific skills. Such competency centers will help to engage those staff responsible for data analysis, who require both technology skills and business knowledge.

The use of external services providers is worth consideration as an alternative. This enables the organization to focus on business process enhancement or overall cultural and organizational changes. The project management, technological aspects, and even preparation of business cases can be handled by an external provider.

As can be seen in Figure 4, insufficient data scientists within enterprises results in a great deal of time spent before analysts even reach the insight or action stages. Data professionals still spend most of their time searching for and preparing data, and only one-fifth analyzing the results.

FIGURE 3

The Percentage of Time Spent on Data-Related Activities

Legend:
- Data preparation — 37%
- Data protection — 24%
- Data search — 20%
- Data analysis — 19%
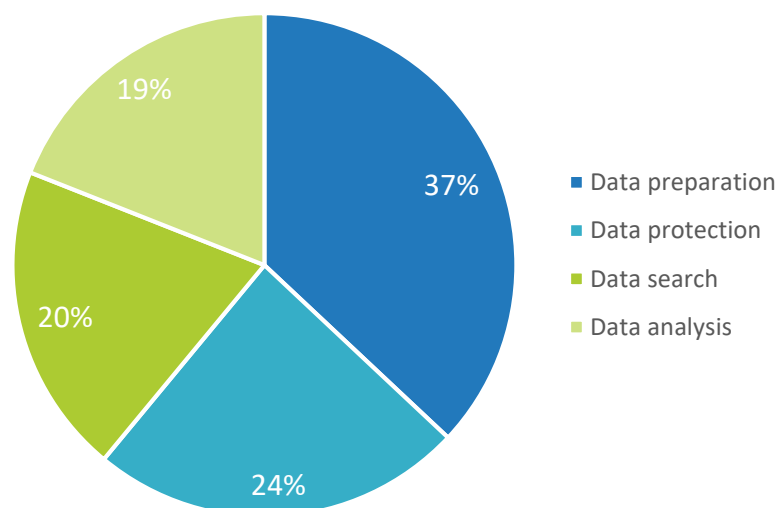
Note: N = 300
Source: Data Integration and Integrity End-User Survey, 2017, IDC, November 2017

The time spent governing, managing, preparing, and searching for data in relation to the time spent analyzing data has followed the 80/20 rule over the past several years, with relatively little change. New regulations such as GDPR will, in fact, increase the proportion of time spent on data preparation. Moreover, an increasingly complex mix of data types will require analysis: 80% of respondents indicated that, in the next 24 months, the number of different types of data that need to be analyzed will increase significantly.

Comarch Data Science Project for Oriflame

About Oriflame

Founded in 1967, Oriflame is a beauty company selling direct in more than 60 countries. Oriflame has its origin in Sweden with corporate offices in Switzerland. Oriflame is listed on the Nasdaq Stockholm Exchange.

Orilame offers a wide range of high-quality beauty products as well as a unique opportunity to join Orilame's sales force and start one's own business.

Its wide portfolio of Swedish, nature-inspired, innovative beauty products is marketed through approximately 3 million independent Oriflame Consultants, generating annual sales of around €1.4 billion.

Respect for people and nature underlies Oriflame's operating principles and is reflected in its social and environmental policies. Oriflame supports numerous charities worldwide and is a Co-founder of the World Childhood Foundation.

About Comarch

Comarch is a leading IT provider with headquarters in Kraków, Poland, which serves as the center of its global operations.

Comarch has 25 years of industry experience, primarily as an independent software vendor offering a wide range of packaged solutions aimed at enterprise operations, from back-end finance to accounting, electronic document exchange systems, and front-end solutions supporting clients in delivering customer service. Comarch is a leader in enterprise resource planning (ERP) systems and on the loyalty solutions market. One of the company's most dynamic areas is business intelligence systems.

In addition to packaged software, Comarch provides various IT and business consulting service types and delivers custom-developed systems tailored to customers' individual needs.

Comarch currently employs 5 600 technology professionals (programmers, computer scientists and economists) worldwide, in 90 locations across 31 countries.

Comarch has completed projects in more than 60 countries and boasts references from across the world and across all company size segments.

Innovation is the key for Comarch, which invests over 15% of its annual revenues in developing new products and services in its own R&D department.

Comarch owns datacenters in many countries to provide services in numerous models, including software as a service and managed services.

The Client's Situation Before Implementation

Like all companies worldwide, Oriflame felt the need to transform digitally in order to meet growing and changing client needs. More importantly, Oriflame's business model makes its consultants a key element of the selling process, so it is extremely important for the company to ensure they understand those consultants well, meet their expectations, and communicate with them in an individualized yet efficient manner.

The perfect starting point of Oriflame's digital transformation seemed to be the optimization of internal processes for the analysis of all consultant-related data.

Oriflame had already collected vast pools of data on about 3.5 million consultants. With the assumption that each consultant had ambitions to become an entrepreneur and develop her/his business, Oriflame realized the necessity of segmenting consultants more precisely. As Oriflame said, "Good segmentation is the key to digitization."

Project Goals

Given the situation, the main goals of the project were:

» Initiate customer data-driven approach across the whole company

» To provide the opportunity for an individualized approach to each group by making analytical segments the foundation for creating personas and mapping their journeys

» To adjust the communication and content strategy for each of the segments

» To increase the overall revenues and activities of the entire network

The Solution

The aim of the project was to use data relating to basic information about consultants, orders, and the sales networks the consultants have managed to build. How these sales networks function is one of the key elements taken into account by the self-adjusting segmentation process.

The priority was to build the most universal segments in order to bring the greatest possible business value and improve understanding and communication with consultants.
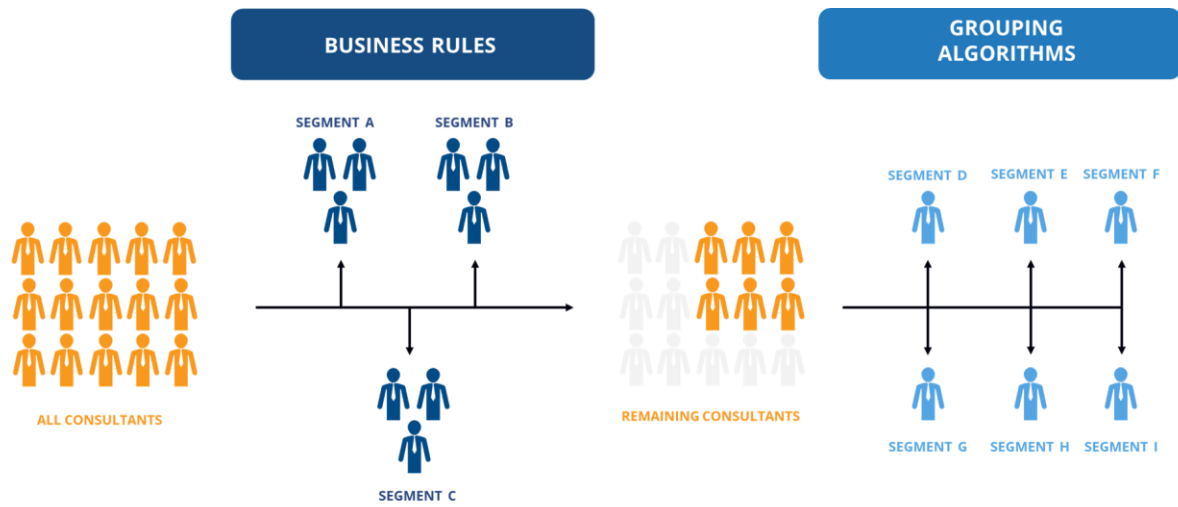
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Properly conducted analysis and identification of homogeneous groups would influence the definition of a set of the most promising sellers or consultants, who focus mainly on developing their own sales networks or purchase exclusively for their own use. Self-adjusting segmentation would also facilitate greater precision in addressing products, offers, and selling tools. One of the key aspects was to better understand the behavior of consultants in order to strengthen relations with them and increase the effectiveness of sales within the given segment.

The self-adjusting segmentation platform was also planned as a tool for conducting additional analysis and visualizing advanced statistics on consultants' potential, classification into subsegments or special groups, activity research, and ongoing monitoring and comparison of the key performance indicators (KPIs) of the individual segments.

Technology

For the Oriflame project, an enterprise data warehouse and advanced statistical tools were used to support tasks related to the process of segmenting network consultants. The solution was prototyped using commercial tools and was later switched to open source.

Selecting a set of attributes that would contribute to the identification of the most homogeneous groups possible, while achieving the highest possible heterogeneity between the obtained concentrations of features used to define clusters, was a great challenge. Following business analysis and statistical verification, the initial set of more than 500 different indicators was reduced to about 50 of the most-important attributes, which became the starting point for advanced self-adjusting segmentation algorithms, including a two-step cluster. In this approach, the first step gathers records into small sub-clusters and, in the second, reduces those to the desired number of full clusters. Such an approach enables a smaller number of clusters and simplifies the process.

Source: IDC, 2018

Proof of Concept

The project in Poland served as a proof of concept (PoC) project phase for Oriflame.

In this phase, data on all Polish consultants was used, and a primary model was developed to test the assumptions. A number of iterations took place according to CRISP methodology and following six steps: business understanding, data understanding, data preparation, modelling, evaluations, and deployment. This ultimately resulted in a model that was appropriate for the Polish market; it yielded very satisfactory results.

Rollouts

As a result of the very positive outcome of the project in Poland, Oriflame decided to roll out the solution in other countries in which it operates.

The system currently operates in eight countries, including Russia and China. Each launch may require some engagement, as factors such as differing database sizes and variances in the importance attached to different attributes may be specific for any given country.

The Client's Perspective

Project Run

Oriflame decided to start the project in Poland for a number of reasons:

>   » The company's Global CRM Director, who also acted as the global owner of the project, is located in Poland, alongside the analytics team.

>   » Having a local presence gave better sense of the market, which was crucial in the first phase of the project, as the results would not otherwise have been precisely defined. Thus, a well-grounded "gut feeling" for the results was invaluable.

>   » Starting a project in Poland enable the primary results to be verified rapidly.

The success of the Polish phase opened the door to the further development of the project in other countries. The self-adjusting segmentation system is currently used in Poland, the Czech Republic, Hungary, Slovakia, Romania, Greece, China, and Russia.

The Oriflame and Comarch project teams try to ensure that new launches do not become "from scratch" projects. Nevertheless, each new launch requires a certain amount of additional work to ensure the solution fits each country's individual market needs. Each launch in a new market requires engagement of a local team.

The Team

From the client's side, the project is run by Oriflame's Warsaw-based customer relationship management (CRM) team. The main advantages of the team included the members' willingness to learn new things, their interest in new technologies and the opportunities these technologies can bring, and their dedication to attempting something novel that could deliver true business value.

One of the most valuable results of this project for the Oriflame team in Warsaw is the constant development of knowledge and competences. Consequently, as the platform is being launched in new markets, the Warsaw-based team has become a competence center for the company and is responsible for disseminating knowledge across all the markets, as envisaged in the contract.

Challenges

As with all technology projects, the project brought some challenges for the client:

» **Large Quantities of Data**

Oriflame had already collected large sets of data about consultants, which included hundreds of attributes that were to be used as differentiators for self-adjusting segmentation. The process of reducing the number of attributes from 500 to 50 was time intensive and effort consuming. It took more than two months of frequent, regular meetings involving the Oriflame and Comarch teams, with the participation of business people and data science experts, to finally arrive at the set of criteria used today.

» **Change Management and Time Constraints**

New initiatives usually mean employees must add new tasks to their already full schedules, and this project was no different. Oriflame management went to great lengths to motivate employees, offering, for example, training, education sponsorship, access to new publications, team meetings, and free lunches when meetings took place at lunchtime. Even though the latter may sound insignificant, employees appreciate it when their time and health are treated with understanding and respect.

» **Rotation of the Project Team and Experts**

Data science experts are in high demand. At same time, their availability is limited.

Oriflame liked and appreciated the Comarch team responsible for the business development phase of the project. However, the makeup of the team changed once the project started. As an understanding of the client's business was crucial to the project, Oriflame felt the need for additional knowledge transfer to Comarch's project team.

During the project, some experts on the client and vendor sides took up new posts, which was inevitable to some extent. Fortunately, Comarch's team of close to 70 professionals enabled tasks to be handed over in a manner that ensured the seamless continuation of the project. A lack of experts was never an issue.
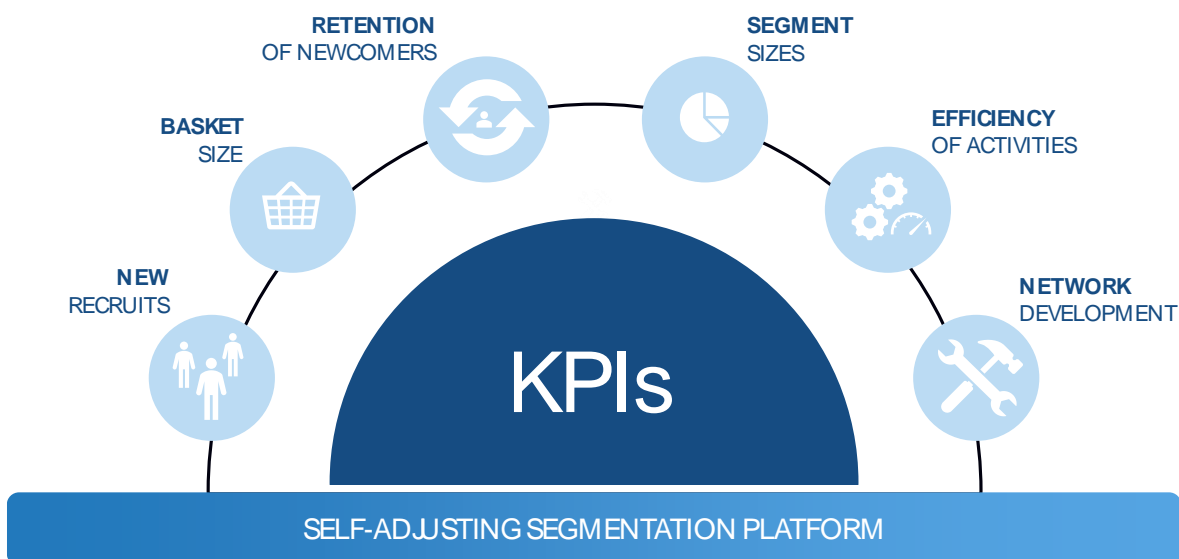
Results

The whole self-adjusting segmentation process now runs without any problems in eight country markets.

Self-adjusting segmentation is being conducted monthly to ensure the up-to-date knowledge of the consultant segments. As a result, Oriflame can regularly update its activities in terms of communication with consultants, the various types of content prepared for them, and the allocation of resources to different segments.

Although Oriflame admits the that the segmentation process does not impact operations as such, it is crucial for a better understanding of sales and the more efficient planning of operations. Moreover, it has a direct impact on marketing communications.

The self-adjusting segmentation platform also helps Oriflame track a number of KPIs — including the retention of newcomers, basket size, new recruits, network development, segment sizes, and more — and verify the efficiency of various activity types.

Source: IDC, 2018

Furthermore, monthly updates to the segmentation increasingly serve as a source of new insight for C-level executives. Among others, Oriflame uses the self-adjusting segmentation results to plan new products launches.

Why Comarch?

Oriflame decided to run this project in cooperation with Comarch for several reasons:

» Comarch's willingness, expressed from the very beginning (at the PoC stage), to deeply understand Oriflame's business models and therefore the company's business needs

» Global presence and references, as Oriflame's intention from the beginning was for this to become a global project

» Comarch's credibility and the relationship between the two companies

» The way the offer was prepared

» Good relations and chemistry between Comarch representatives and Oriflame's C-level managers: As important as competence and experience are for Oriflame, it also sought partners who would ensure smooth cooperation characterized by mutual understanding and respect.

Oriflame's Opinion

The entire process of segmentation has been designed and conducted in such a way as to best reflect the specificity of the business Oriflame conducts daily. Together with Comarch, Oriflame succeeded in creating a model that, on the one hand, ensures compliance with the methodology of statistical object segmentation and, on the other, fully meets the client's expectations and the business environment of each country market.

Most importantly, thanks to close cooperation between the Comarch and Oriflame project teams before, during, and after implementation, it was possible to create a solution that was sufficiently universal to be transferred smoothly to new markets in which Oriflame is present.

Vendor's Perspective

The Problem

For Comarch, the issue was to ensure the delivered tool would facilitate the identification of exclusive groups of consultants.

The main goals were to:

» Understand each group's behavior

» Build the most generic groups based on data

» Define segments as precisely as possible to make it easy for business people on the customer's side to understand

Comarch realized that business value was the top priority, so segmentation must allow personalized communication with each group and facilitate the monitoring of changes within groups and countries.

To achieve that, Comarch's team focused on communication and information exchange with Oriflame's team, while stressing that all work done would be based on data rather than on assumptions (based on discussions with customers, for example).

Project Run

The project started from a PoC run in Poland. The main difficulty in running a project based on machine learning is the uncertainty of the result, as, in the beginning, neither the customer nor the developer of the solution can know what the data will show. Even if a customer assumes certain outcomes, there is no guarantee that the results will confirm those assumptions. In this phase, the key was to build a trusted rapport with the customer and thus accept the inherent uncertainty.

This phase was especially demanding for Comarch, as the vendor needed to be very flexible: numerous iterations were required before the PoC stage was considered successful.

Once the decision to launch a solution in further countries was taken, Comarch tackled an increasing amount of work as the number of countries and quantity of data grew. The development of the project required the reconciliation of demand for resources with what the client had available (e.g., in terms of the licenses used in the solution). At that moment, the decision to deploy open source solutions was taken.

On the softer project management side, extending the project to new markets required openness to different cultures, as experiences from the Polish market did

not necessarily translate to Russian or Chinese realities. In this respect, Comarch's experience in completing global projects and working with customers worldwide, combined with Oriflame's company culture, helped to avoid any potential obstacles.

The Team

Comarch's analytics teams consist of more than 70 experienced data science professionals with various backgrounds. This enables Comarch to build teams of experts to carry out various data science projects.

The project team for Oriflame consisted of more than 10 people, including consultants, data scientists, and developers, depending on the phase of the project. Many experts were allocated to this project as needed.

However, several people worked on the project continuously during the implementation period — primarily, a lead project manager, a lead consultant, and a lead data scientist.

The number of people increased primarily during testing and development at the beginning of the project and, later, during country launches, when additional development and deployment were needed.

Challenges

» The main challenges for both the vendor and the client were data related, though the focus differed somewhat. For Comarch, the main challenge was the quality of the data, which was fundamental to success and, if overlooked, may have led to inaccurate segmentation. Comarch was determined to ensure the data used for the process was clean and could be analyzed without risking errors. The vendor believes that its earlier experience was of great help in the Oriflame project, as it knew where to look for questionable data quality (e.g., errors, noise, and poor descriptions) and how to approach any possible data quality issues.

» From an operational perspective, it was a challenge to ensure quick calculation times, especially to avoid lengthening the process, as new data and new markets were added. A lot of effort went into optimizing the process and minimizing calculation times. Calculations are now done for most of the country markets every three weeks (for two of the markets, every month), without any issues.

» Project scaling posed challenges, as the addition of more countries — and thus larger data sets — inevitably increases the risk of error. Also, customization could have become an issue, which is why Comarch tried to

develop the system in a way that helps avoid excessive code customization every time a country is added.

Achievements

The smooth and smart application of data-mining and machine learning techniques gave a huge sense of achievement to all employees working on this project.

Two key achievements for Comarch were:

1. The optimization of the solution

   - Parallel calculation

   - Reduced calculation time

   - Continuous improvement of process implementation

2. Experience and knowledge

   - Discovery of generic, homogenous, self-explanatory segments

   - A stable, relatively standard solution that is easy to deploy

   - The ability to customize the solution when needed

Comarch's Opinion

The AI/ML project conducted for Oriflame was not Comarch's first project of this kind, but it brought a great deal of professional satisfaction to the vendor.

The most important thing was to satisfy the customer, despite the lack of a clearly predefined outcome for the project. As mentioned earlier, the project did not provide clear or expected answers and contained a large element of uncertainty.

The project was a great success in terms of customer satisfaction, as evidenced by the solution's rollout to other country markets.

From the vendor's perspective, the project being completed in accordance with best practices and the achievement of the desired results were sources of significant professional satisfaction.

One of the most important lessons learned related to the scale of the project and how to cope with such a scale. The vendor managed to achieve this by developing a concept that balanced the amount of data with the costs and expected results.

For Comarch, it was of great value to cooperate with a client that has an unusual sales model, focusing on sellers and consultants and only indirectly on customers.

An unquestionable source of satisfaction is also the fact that the project was delivered to a client from Comarch's target market (i.e., a large global player). High standards of communication, documentation, and code were also maintained.

For Client's reference, please reach out to Małgorzata Marcinkowska, Global CRM Director, Oriflame at Malgorzata.Marcinkowska@oriflame.com

Analyst's Opinion

IDC research shows that *all* major European organizations, and over 80% of other organizations, see digital transformation (DX) as a major business priority. DX is essential to create and sustain business advantage against new, disruptive tech-driven companies and older competitors adopting advanced technologies. Big data analytics — especially when turbo-charged with the use of machine learning — is an important enabler of DX. These can enable new processes and faster, deeper insights, opening up opportunities for enterprises to improve business operations, lower costs, and drive engagement and customer experience.

This Oriflame/Comarch project case study underscores the benefits that can be achieved from a successful big data analytics and AI implementation. It is a good example of an organization looking afresh at its data assets alongside its corporate goals and using those assets to drive true business benefit. But the AI (or ML) route to competitive advantage requires realism and planning, and the Oriflame/Comarch project serves to illustrate several key lessons. Key points from this case study for others to note include the following:

1) The use of AI is not an instant panacea: As Oriflame found out, it took time to hone in on the correct data and models that would give the results sought.

2) Good change management, with employee education, is an essential part of any transformation project. With AI, this can be a particularly crucial aspect, as the topics of machine learning and AI can create issues whereby staff do not fully understand what is happening in the system and may even fear losing their jobs.

3) The right data — correct, clean, and in sufficiently large quantities — is also essential for a successful AI project.

4) With AI and ML being so fashionable at the present time, there is pressure on organizations to adopt AI "because everyone else is doing it." It is vitally important to start from the business need, as Oriflame did, and then to work backward to see if AI can help, and whether the data it requires is available.

Philip Carnelley, AVP, Enterprise Software Group, IDC Europe

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About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in 110-plus countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

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