STEPPING INTO A MILLION SHOES
LEVERAGING CUSTOMER DATA IN ENERGY RETAIL

A point of view provided by the BCG Platinion Energy Practice Area

BCG PLATINION

INTRODUCTION

DATA IS GROWING IN IMPORTANCE UNLIKE EVER BEFORE, EMPOWERING BOTH UTILITIES AND THEIR CUSTOMERS ALIKE. Customers expect their utility to provide them with tailored solutions to meet their demand, adding new requirements for utilities. Utilities, on the other hand, have tools at their disposal that allow them to anticipate and respond to opportunities that loom beneath the surface. This enables them to for example more accurately model customer life-time value, better predict churn, and to interpret new types of signals from their customers.

So how do utilities ride the wave of data-enablement?

In this article, we share our experience on the technological requirements for a data-driven retail business, how the IT and data architecture facilitate these requirements, and what kind of a mindset is required to successfully transform into a data-driven business.

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EVERY PAIR OF SHOES IS UNIQUE
INDIVIDUAL CUSTOMER INTERACTION WITH INDIVIDUAL CUSTOMERS

CUSTOMERS WANT TO HAVE THE CHOICE—ALSO FOR THEIR ENERGY CONTRACT. Driven by personal benefits, ecological responsibility or simply low costs, today's energy customers are emancipated and empowered to select and change their energy product according to their personal preferences.

Energy retailers have to react to this customer demand with the right offering at the right time. Besides an attractive price, products and services have to be customizable and combinable to meet individual preferences. From engagement and offering to supply and churn—the phase of the customer journey and personal living conditions are essential to attract clients with the best-price offerings, innovative bundle products or a contract renewal.

But how to achieve this customer centricity and step into the shoes of probably several million customers? The answer is customer data. This data, which was provided from the client or collected during his journey, could be leveraged to provide a unique customer experience with tailored products, on-time services and personal communication across all sales and service channels.

SHOE SIZE, DESIGN AND COMFORT TECHNOLOGICAL REQUIREMENTS OF A DATA-DRIVEN RETAIL BUSINESS

INFORMATION TECHNOLOGY IS THE KEY ENABLER TO LEVERAGE CUSTOMER DATA. The market offers a high bandwidth of software products to establish this foundation. From "classical" SQL databases to "advanced" Hadoop stacks, every technology has its unique footprint considering analytical capabilities, technological complexity as well as costs for ramp-up and operations.

The tech foundation should be driven by the key value levers for the business, which ultimately means providing individual customer recommendations in real-time. Traditionally, energy retailers defined segments like B2C, SME or B2B to engage individuals on a group level. Besides single B2B key accounts, the vast majority of customers receive broadcasted, non-personalized communication. However, to build and evolve a long-time customer relationship and maximize the commercial outcome, all interactions must be tailored to the client's individual journey. E.g., address impending churn with a best-price offering or leverage an up-sell opportunity during the contract renewal process.

Today's customer engagement is mostly reactive, based on the latest client interaction—service center calls customer with received contract cancellation. Of course, marketing activities like outbound calls, mailings or prints are proactive, but rarely synchronized with the recent customer touchpoints. A real data-driven business requires all: Proactive and reactive customer interaction in realtime across all channels. This enables the energy retailer to contact potential churners with first warning signs and engage potentials with offerings in moments with high sales probability.

These business requirements could be translated in four requirements towards the technical solution:

INTERACTION IN REALTIME

The multiple customer touchpoints have very different needs in terms of interaction time. Irregular, low-frequency contacts (e.g., yearly analysis of profit and loss statements) often can be performed manually and with an "offline" set of tools. Real-time interaction (e.g., next-best-offer on the website) requires fully automatized analytic processes, streaming and synchronized data across the IT platform.

CROSS-CHANNEL ENGAGEMENT

Website, app, e-mail, call, print or even walk-in—utility and customer will be engaged across various channels. In order to have a consistent, meaningful conversation, it is key that relevant information (e.g., master data and recommendations) is available in all client-facing applications: Web content management, marketing automation or call center system.

PROCESSING OF MASSIVE DATA

A comprehensive analysis of individuals within a multi-million customer base requires the management of terabytes of data. Besides a high-speed network, all steps along the analytical process—collection, storage, analysis, action—must be able to process huge volumes of data within the right timeframe (see interaction in realtime).

HIGH DATA QUALITY

In order to provide meaningful recommendations, the processed data must be complete and correct—in specific scenarios, it could be more beneficial to avoid an interaction than risk a wrong one (e.g., contact a churner with an up-sell offering). Comprehensive data quality checks and immediate (manual) reaction to findings are essential.

SLIP IN AND OUT A MILLION TIMES
IT & DATA ARCHITECTURE TO ENABLE INDIVIDUAL CUSTOMER INTERACTION

THE RIGHT IT & DATA ARCHITECTURE consists of four distinct layers to collect, access, analyze the customer data and execute the derived insights across the client-facing interaction channels.

DATA COLLECTION AND INTEGRATION

Customer, master and interaction data need to be collected across various source systems and must be made available in a storage infrastructure. This data is captured in various systems, e.g., CRM, marketing tools, billing systems, EDM and online platforms. Each system must be accessed in (near) real-time to collect latest updates. A state-of-the-art integration system, the grown, heterogeneous IT landscape and bridges between an IT infrastructure on-premises and within the Cloud.

This must be supported by a simple common data model (e.g., customer, products and interactions), aligned unique identifiers and the technical ability to manage the non-perfect data architecture, e.g., via mapping of heterogeneous source systems.

DATA-DRIVEN CAPABILITIES BUILT ON STRONG FOUNDATION IN DATA, INTEGRATION, STORAGE AND ACCESSIBILITY

Source: Platinion project experience

DATA STORAGE AND ACCESSIBILITY

A COMPREHENSIVE VIEW ON CUSTOMER DATA CONTAINS A VARIETY OF DATA FORMATS—from structured master data to unstructured voice-recording of service center interactions. Latest database technology—Hadoop, NoSQL—allows storage of structured and unstructured data side-by-side and provides almost "endless" capacity. Data lake concepts, considering raw data and use-case specific storages, are an ideal starting point to define the data storage layer.

Data privacy and security are key to build a trustful, long-lasting customer relationship. A centralized data architecture does not mean that everyone can access everything. A storage design with stages, segregation of critical data and role-based access gives the opportunity to explore data across business domains within defined boundaries—combine current contract, latest consumption (meter readings) and recent interactions to identify up-sell opportunities.

ANALYTIC TOOLS

DATA SCIENTISTS AND ANALYTICAL EXPERTS ARE SMART PEOPLE WITH OUTSTANDING IDEAS to explore the data and derive insights with their individual way of work. This has to be supported by a variety of tools depending on the mathematical complexity, involved data types and personal preferences. Complex analysis, like prediction modeling or propensity evaluation on a multi-million customer basis, requires professional analytical tools to support sufficient modeling and execution. Data types, like voice files (mp3) or pictures, require special tooling—analyze call recordings with key words to get insights of customer behavior. Besides special analytical skills, this requires a significant investment into the tool suite to derive meaningful, reliable results. Specialized partners and services should be evaluated before spending the first Euro.

INSIGHT EXECUTION

INSPIRED BY ONLINE RETAILERS LIKE AMAZON ("what other customers bought"), the derived customer insights have to be connected into the interaction channels directly. Essentially, this requires a technical integration of the analytical tool with website, CRM or marketing automation in (near) realtime.

Since the business decisions could get quite complex, the IT architecture should include a business rule engine to provide the optimal recommendation in realtime. For example: Offer to upgrade a power contract to a bundle with solar panel and battery to landlords with promising financial rating via the online self-service. The market offers a few, very specialized software vendors, which provide business rule engines with streaming capabilities. A conscious evaluation of the different architecture/software options is highly recommended to find the optimal balance between real-time capabilities and required investment.

» *Specialized partners and services should be evaluated before spending the first Euro.* «

THE "FEEL-GOOD" FACTOR
DATA-DRIVEN MINDSET TO BOOST SUCCESS OF A DATA DRIVEN-BUSINESS

BESIDES THE RIGHT IT AND DATA ARCHITECTURE, A DATA-DRIVEN MINDSET IS ESSENTIAL to leverage the technological capabilities and boost the business benefits. The following aspects facilitate this data-driven mindset:

FOCUS ON BUSINESS BENEFITS

A solid business case is essential to focus data-driven initiatives on value creation—rather than implementing just "fancy" technology. The consequent alignment of business benefits and required investment (people or capital) provides important guidance for the project team.

SHARE DATA

Large amounts of highly relevant data are accumulated but are only made visible for very specific stakeholders or organizational units. In order to enable the company to learn from its data, the default policy must be to make it accessible for anyone who asks—and not vice versa.

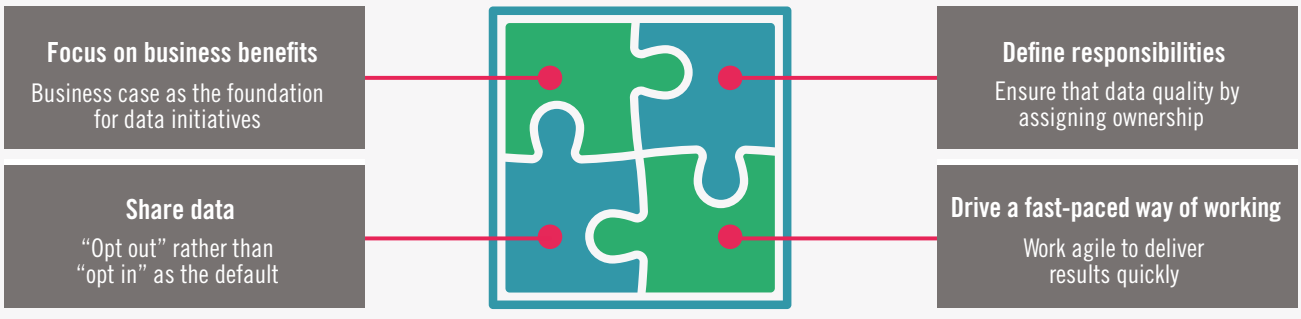
DEFINE RESPONSIBILITIES

Lack of clear responsibility or data ownership is still a key concern observed across most clients. Intuitively, data quality, associated metrics and KPIs can deteriorate in quality unnoticed, if no clear data owner is established. Clear data ownership is a requirement for ensuring high-quality data.

DRIVE A FAST-PACED WAY OF WORKING

An agile project setup facilitates quicker time-to-market and more rigorous alignment to customer needs. Product owners with dedicated teams of business and IT experts must work hand-in-hand to deliver feasible results in short project iterations.

A STRONG TECHNICAL FOUNDATION IS NOT ENOUGH—IT NEEDS TO BE SUPPORTED BY THE PEOPLE USING IT



Source: Platinion project experience

TAKE CARE OF EVERY PAIR
ESTABLISH A SUSTAINABLE DATA-DRIVEN BUSINESS

INDIVIDUAL CUSTOMER INTERACTION IS THE KEY ENABLER TO BE SUCCESSFUL IN THE FUTURE ENERGY RETAIL BUSINESS. Leveraging the customer's data is essential to provide individual customer recommendations and leverage opportunities to gain revenues and minimize costs. Customer lifetime value, churn prediction and sentiment analysis are only a few examples for this data-driven business focus. Even if cutting-edge examples of the retail industry (Amazon) seem to be overdone for smaller energy retailers currently, first players started to explore these opportunities already. Streamlined marketing campaigns or customer-specific web content are first evidence that the energy industry will adapt this strategy.

Like most technology-enabled projects, the setup of the required IT & data architecture is not a "free lunch". Energy retailers have to ramp up a platform for data analytics, integrate their (typically legacy) core systems, execute smart analysis and feed the results back into the customer interaction channels. Moreover, a data-centric mindset across the organization is required to make this project successful. Of course, this requires significant resources and time for ramp-up, learning and achieving the benefits. However, a growing customer base, increased cross-sell revenues and improved Cost to Acquire/Cost to Serve will outperform the necessary investment easily.

We, at BCG Platinion, believe in a step-wise approach, which is tightly coupled with concrete business benefits—rather than using technology which is "fancy" but not mature enough to interact with the established IT environment. An iterative, agile project setup provides an excellent starting point to explore and leverage data-driven opportunities very early in the project and scale developed solutions as soon as benefits can be achieved in a sustainable way. We look forward to engage with your business and IT experts to discuss the opportunities of a data-driven business and enrich the conversation with industry best practices and our broad project experience.

> *» A data-centric mindset across the organization is required to make the project successful. «*

ABOUT THE AUTHORS

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BCG PLATINION SUPPORTS RENOWNED CLIENTS in the industrial and service sectors in mastering the IT challenges that are critical for success—from design to implementation.

As a part of the Boston Consulting Group (BCG) we thrive on challenge, and many of our projects are characterized by special demands. These may originate from the exceptional strategic or operational significance of the assignment, from the extent or complexity of the project content, or even from a tight timeline. We judge solutions by their contribution to the success of the business and long-term effect on the companywide IT architecture.

We are committed to the highest standards regarding quality and functionality to support our clients with feasible, unique solutions considering:

- Individual business strategies
- Complex organizational design
- Efficient business processes
- Technology support

With over 40 dedicated energy experts we are supporting utilities worldwide along all steps of the value chain–up, mid and downstream.

Our expertise is based on deep industry knowledge and broad technological skills to help our energy clients to build something unique.

BCG PLATINION—THE IT ARCHITECTS

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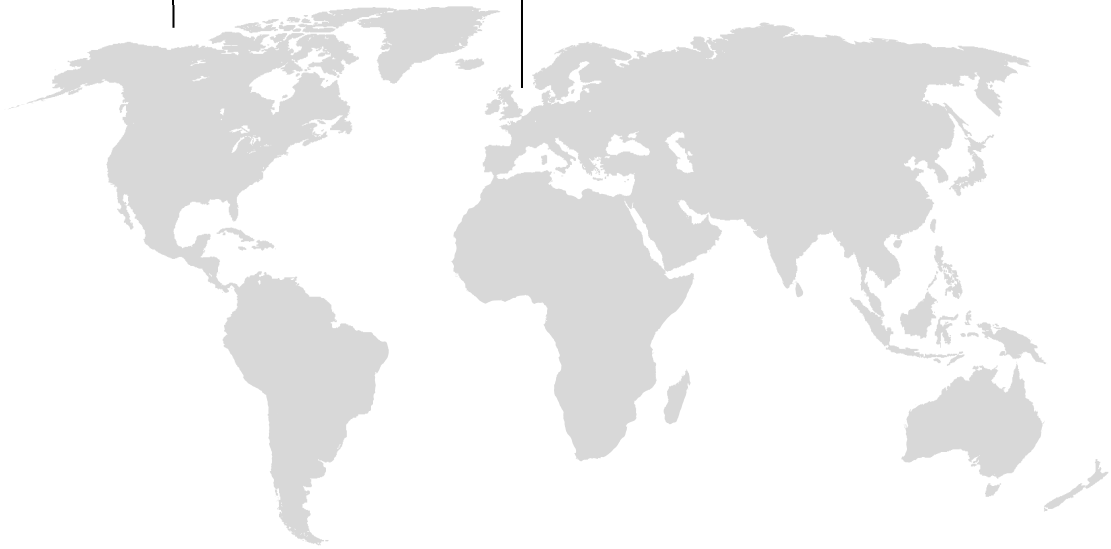

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