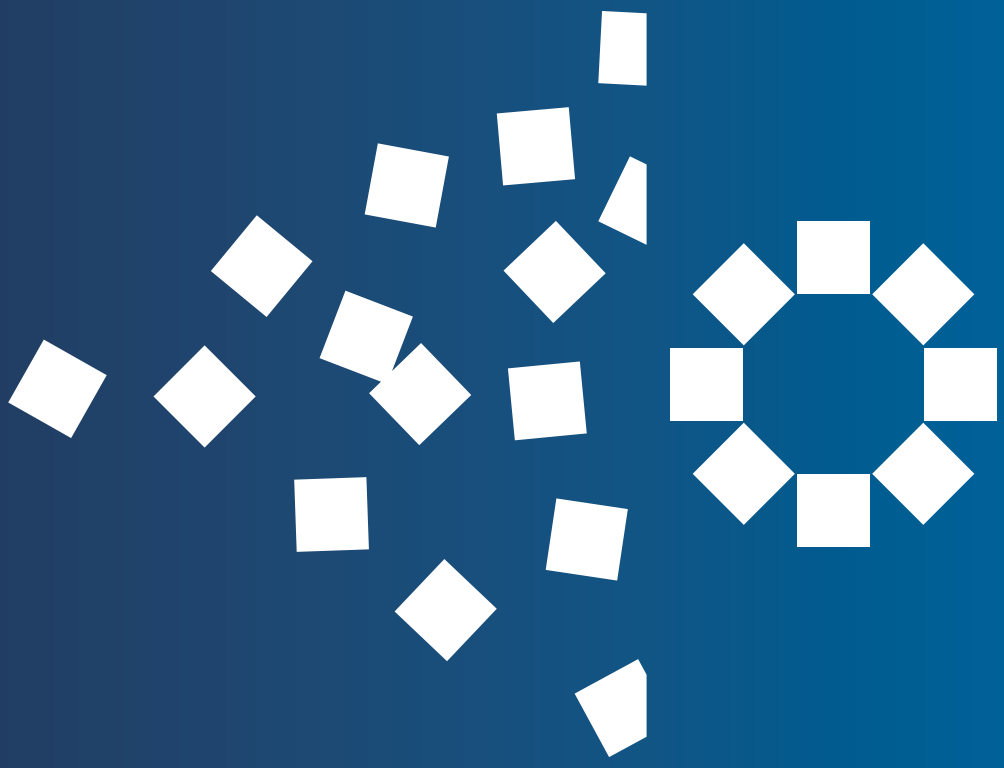
Zurich University
of Applied Sciences

School of
Management and Law

Case Study SIX: "Transformation of Client Communication – Model-Driven and Platform-Based"

Prepared in the context of a study by the Institute of Business Information Technology:

"Diversity of Perspectives: Openness and Solution Focus for Digital Change"



EDITORIAL INFORMATION

Publisher:
ZHAW School of Management and Law
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July 2018

Context of the Case Study:

"Don't fight forces – use them,"[1] is a quotation from American architect, inventor and visionary Buckminster Fuller. He was relating to the design of physical buildings, but in the age of co-creation, design thinking, and interdisciplinary teams, it also seems relevant for the design of digital solutions. The ZHAW School of Management and Law study "Diversity of Perspectives: Openness and Solution Focus for Digital Change" addressed the impact of synergies. Is the diversity of perspectives always helpful when creating digital solutions, or do too many cooks spoil the broth in some situations? Can the diversity of perspectives in digitization projects be systematized and managed effectively? To answer these questions, digitization experts from renowned Swiss companies came together and shared their experiences in the context of the study. A symposium and a practical workshop offered the opportunity to look at the presented case studies from the perspectives of management, human-centered design, and engineering as well as to exchange best practices.

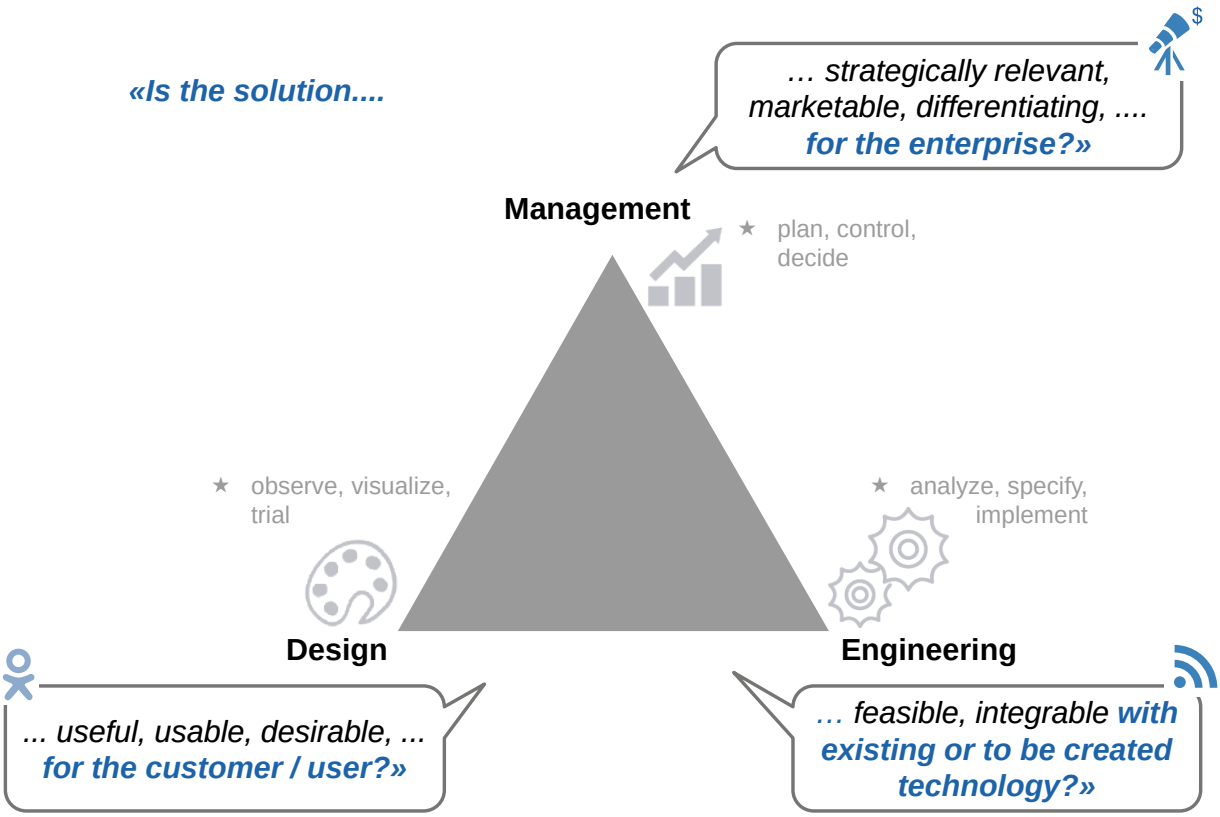

Figure 1: Study framework: Three perspectives on the creation of digital solutions and their driving forces

Case Study SIX: "Transformation of Client Communication – Model-Driven and Platform-Based"

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SIX Financial Information[1], has been a leader in the procurement, processing, and distribution of international financial information for over eighty years. SIX clients – banks, insurance companies, and media companies worldwide – expect not only reliable information of a high quality but also modern and efficient client communication concerning these data services. The digitization of the required client interface is the subject of this case study. It describes how SIX has succeeded in transforming client communication on a global level via the "SIX FI Portal". The chronology of the transformation shows how SIX had to align and weight the perspectives "management," "design," and "engineering" during the project to achieve the goals of the customer-driven digitization initiative.

1. Initial situation, trigger, and motivation

Since 1930, SIX has been doing what has become the dominant business area in Silicon Valley over the last fifteen years: using data to make money. Thanks to its long history, SIX has been able to build up a veritable treasure trove of reference data and expertise. Together with corporate actions, price and market data, and financial news, these form the foundation for the structured and customized data services that SIX offers its corporate clients from the financial, insurance, and media industries worldwide. In these companies, financial specialists from the areas of investment advice, portfolio management, financial analysis, and securities administration use SIX data to carry out analysis, comply with regulatory requirements, and make decisions. For these data services, SIX aggregates and refines financial data on 27 million financial instruments and more than 60 national and global regulations, which it obtains from over 1'600 exchanges, contributors, and specialized providers.

With offices in 23 countries, SIX ensures not only the high quality, precision, and reliability of this financial information, but also communication and client service concerning data services (Figure 2). This client interface comprises, on the one hand, the answering of client inquiries. On the other hand, SIX clients must be informed promptly of any changes in data delivery so that they have sufficient notice to advise their financial specialists and adjust their systems and services accordingly. These so-called "notifications"

1 Subsequently referred to as SIX. SIX Financial Information was a business unit of SIX until April 2018, before it was integrated as a part of SIX.

"Based on client needs, a digitization project was initiated that did not stop at the client interface but required a high degree of willingness to change throughout the entire company."

Beat Hugelshofer, Senior Business Analyst, SIX

are indispensable and critical elements of SIX client communication. Notifications are triggered, for example, by content or functional adjustments to a product, by changes in data structures, or planned maintenance windows on the part of SIX data suppliers. The fact that the volume and frequency of these notifications are continually growing is due to the nature of the increasingly complex and dynamic world of global financial instruments.

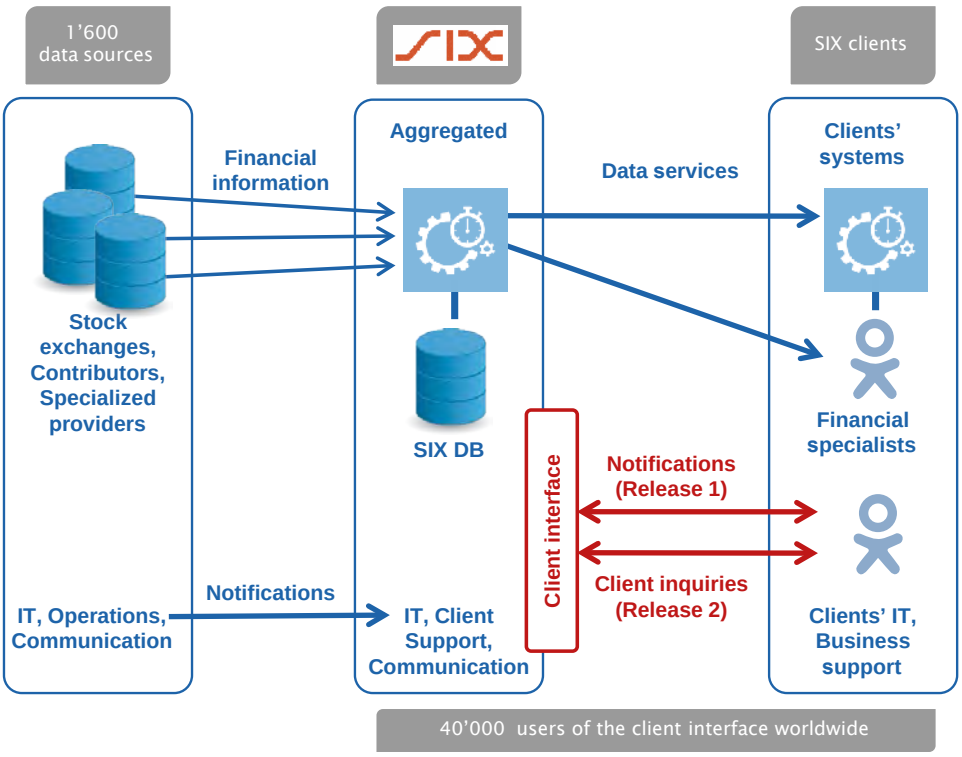

Figure 2: The client interface in the context of SIX data services

The Client as Driver: Needs-Based Notifications

The particular challenge for SIX is not only to provide its clients with timely and complete notifications on the financial information they receive but also to take into account the various information needs of the client companies. For example, the IT department, which has to adapt the system interfaces on the client side, needs different information than the portfolio and fund managers in the same company for a structural change in the price data supplied. Before the start of the digitization project presented in this case study, SIX had only limited possibilities to respond to the special information needs of the different roles within the clients' organizations when providing the notifications. The problems were manyfold. The 23 global locations communicated differently, and the communications, which were adapted to local practices, did not have a uniform structure that would have made it possible to bundle the notifications by target group. Each day, clients received several notifications of different types and levels of detail. Major clients processed and categorized the notifications received from SIX and – depending on the content of the notifications – passed them on to the departments responsible within their organizations.

Marketing & Communications at SIX recognized this problem based on customer surveys and personal feedback from major clients and took the initiative as sponsor for the first release of the digitization project presented in this case study. The primary trigger for the transformation of the cli-

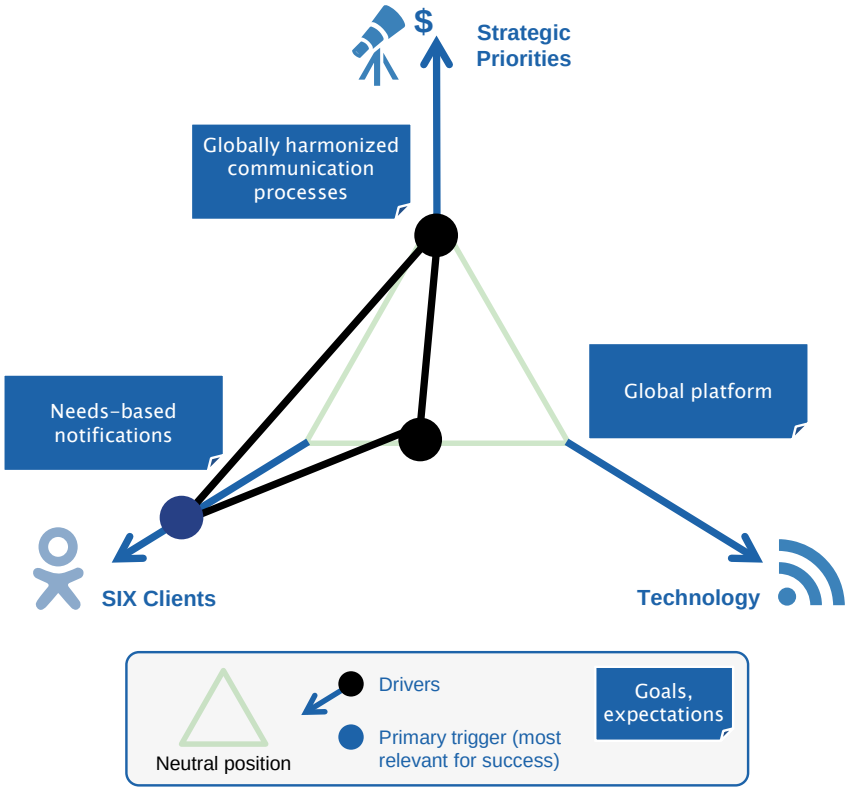

Figure 3: Initial situation for the digitization of the client interface

ent interface was the desire to free SIX clients worldwide from the little structured notifications described above and instead to make the notifications available to them according to their needs, i.e., individually configurable. In order to meet these expectations, a paradigm shift in client communication had to take place, i.e. SIX had to find an alternative to the general push principle according to which notifications had been delivered to date.

Precondition: Globally Harmonized Communication Processes

Already when the project was initialized, SIX was aware that the paradigm shift in the provision of notifications would only be possible if the associated processes and systems were transformed and harmonized on a global level. Nevertheless, the global harmonization of communication processes was not a triggering factor for the digital transformation of the client interface. The project was not launched by SIX in the context of a strategic standardization initiative but was clearly driven by the clients' desire for needs-based notifications. For SIX, it was clear that client satisfaction with the optimized provision of notifications would be the primary success factor when creating the new solution. The global redesign of the communication processes was geared to this objective. This change affected not only SIX clients but also SIX employees responsible for the processing and distribution of notifications at 23 locations.

Technological Implementation: Global Digital Platform

Specific technologies or technological potential initially played no significant role as a motivation for the digitization initiative. Technological feasibility and availability of enabling technologies were beyond question. The possibility of exploiting a platform-based approach to the global solution became apparent when the requirements for implementation were specified (see Chapter 2).

If one considers the triggers and motivations for the digitization of the client interface with regard to the three drivers of the ZHAW study framework: "client," "strategic priorities of the company," and "technology," a picture of the initial situation emerges which identifies the client as the primary driving force with the highest relevance for success (Figure 3).

2. Implementation and outcomes

The transformation of the client interface took place in two subprojects (Figure 4). The first release, which went live as the "Client Communication Portal" in Switzerland at the end of 2014 and was subsequently rolled out globally, focused on providing SIX clients with notifications in line with their needs. In the second release, ticketing for client inquiries was globally consolidated and integrated into the existing platform. As a result, all client communication relating to financial information services worldwide has been bundled in a single system, the "SIX FI Portal". The challenges, approaches, and findings by SIX along this course are described below.

2.1 CLIENT COMMUNICATION PORTAL – RELEASE 1

The design of the solution began with workshops in which Marketing & Communications together with major clients defined goals and general requirements for the new "Client Communication Portal" to be created. A decision was taken to move away from a general push principle towards a configurable delivery of notifications. Depending on the type and content of the notifications, SIX clients should be able to determine the time, frequency, level of detail of the notifications and the recipients within their organizations by themselves via an online portal.

To achieve these objectives, the structure of the notifications on the one hand and the processes for preparing and providing these notifications on the other hand had to be fundamentally revised. In a first step, Business Engineering at SIX roughly assessed the current situation of the notifications and the associated communication processes and developed proposals for solutions for the adapted global processes and the new structuring of the notifications. To enable the notifications to be delivered based on client needs, they had to be clearly defined, categorized, and divided into different levels of detail. Business Engineering discussed the proposed solutions in several iterations with

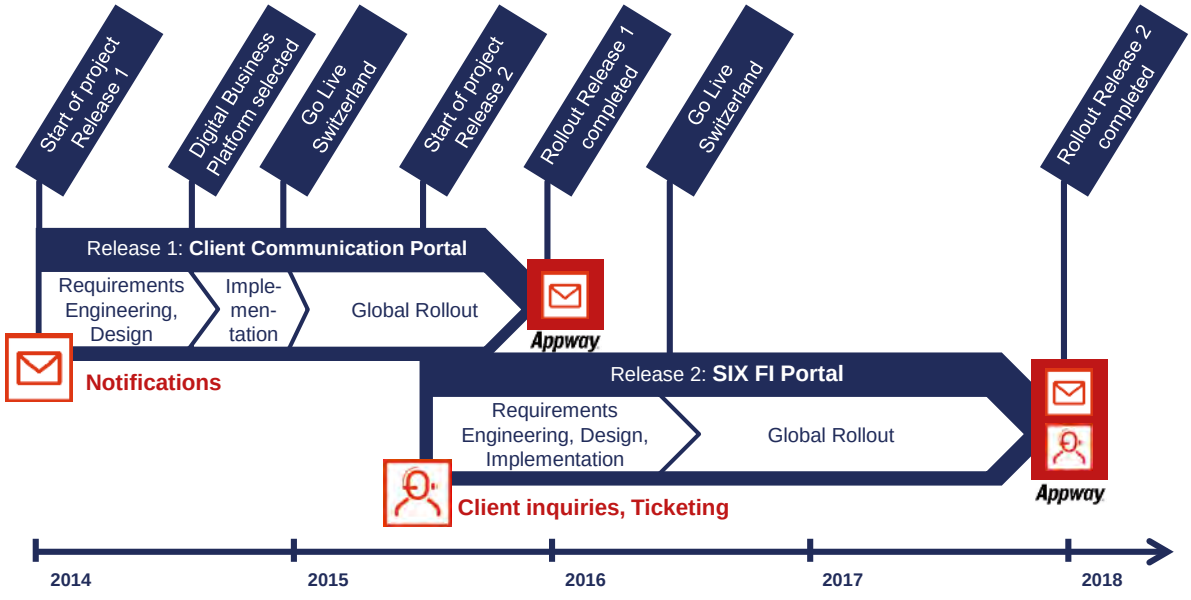

Figure 4: Course of the initiative

"Process and data models were not only a good basis for co-operation with the implementation partners, but also proven to be useful in communicating with internal stakeholders. In particular, the responsibilities for activities and inconsistencies in details, such as mixed-up actions, were recognized. However, it was not easy for some stakeholders to assess the big picture on the basis of models."

Beat Hugelshofer, Senior Business Analyst, SIX

the internal stakeholders from Marketing & Communications and the operations at the locations, which were responsible for processing and distributing the notifications to clients. In communicating with these future internal users of the solution, Business Engineering used graphical models (see text box: "Models as a basis of communication in requirements engineering"). Unified Modeling Language (UML) class and state diagrams were used to design the new structure of the notifications and their flow of processing. The processes were modeled using Business Process Modelling Notation (BPMN).

While the flow logic of the BPMN models was intuitive for the business audience involved, even if the participants did not master every detail of the notation, the interpretation of the UML diagrams was more challenging. Business Engineering, therefore, used alternative formats to convey the new structure of notifications such as lists and tables to obtain feedback from the business experts.

From Functional Requirements Space to Technical Solution Space

Another challenge for Business Engineering was that the structural and operational models could only make the actual vision of the new system partially tangible to internal stakeholders in this early project phase. The communication processes at the 23 locations were not only very heterogeneous but also oriented towards the push principle, according to which notifications had been previously sent to clients. In the light of clients' desire for notifications tailored to their needs, it was unavoidable that the transformation of the notification service would fundamentally change the way of communicating with SIX clients worldwide. However, in many cases, feedback from internal users referred to the established way in which the various locations worldwide communicated with clients. Business Engineering was required to identify the business requirements as completely and in as much detail as necessary, without losing sight of the strategic optimization goals of the new solution, which were clearly geared towards SIX clients.

At this point, the strength of the model-driven approach in combination with a platform-based solution came into play. In summer 2014, based on the findings of the requirements engineering, SIX decided to implement the portal not as an in-house development but on the basis of a process digitization platform. The evaluation of possible solutions resulted in Appway's Digital Business Platform. This platform was intended to create the technological prerequisites for harmonizing the new communication processes with SIX clients globally. While the Appway developers immediately started to implement on the basis of the first models, SIX Business Engineering was able to continue focusing on the in-depth analysis and functional redesign of processes and notification

Models as a Common Ground for Communication
The object of requirements engineering is the systematic collection, documentation, and validation of requirements that various stakeholders place on a digital solution. Effective communication plays a central role in this. Instead of – or in addition to – prosaically captured requirements, Requirements Engineering increasingly uses graphical modeling languages that define a set of graphical elements (syntax) with a particular meaning (semantics) to map the functionality, behavior, and information structures of a system. The advantage of graphical models is that, according to cognitive science findings, they are more easily understood and memorized by people than natural language, textual descriptions [4],[5].

"A model is an abstract representation of an existing reality or a reality to be created."

K.Pohl & C.Rupp 2016 [2]

Graphical models essentially fulfill two tasks for require-ments engineering:

1. **Visualization of requirements** so that they can be discussed, validated, and agreed in a binding way with stakeholders.

2. **Formal specification of the properties of a solution** so that they can be documented consistently and coherently for technical implementation and can be kept up-to-date.

In practice, the fulfillment of these two tasks creates an area of tension for modelling experts as they have to meet the needs of different stakeholders and purposes. For the sources of the requirements, i.e., the primary stakeholders from the business side, the quality of perception of the modeling artifacts is decisive so that they can capture and comment on the visualized section of reality. For the requirements and software engineers, the consistent and detailed formalization achieved by the models is key to enable implementation, i.e., for them the syntactic and semantic quality of the models is essential [5]. Business analysts typically sit on the fence between these two camps - mediating, translating, and ensuring that, depending on purpose and target group, complexity is hidden or exposed. To be able to consistently map all relevant aspects of the solution design, they make use of two qualities of graphical modeling languages:

1. **Abstraction levels,** so that the captured level of detail of the model can be adjusted for specific target groups and purposes: With BPMN, for example, a simple descriptive process model can be created for a management audience. On a more granular level, the same process can be modelled in the form of detailed analytical process models for business specialists. Analytical process models in turn can be broken down into detailed, executable process models for implementation.

2. **Views or perspectives** to represent a certain aspect of the solution most effectively: For example, the Unified Modeling Language (UML), which is well established in requirements engineering, offers various diagram types to represent both the static structures of a system (e.g., structures and relations of information elements in a UML class diagram) and the behavior of a system (e.g., processes in a UML activity diagram).

"The goal of any modeling activity is a complete and accurate understanding of the real-world domain, within the bounds of the problem at hand and keeping in mind the goals of the stakeholders involved."

H.J. Nelson e. a., 2012 [3]

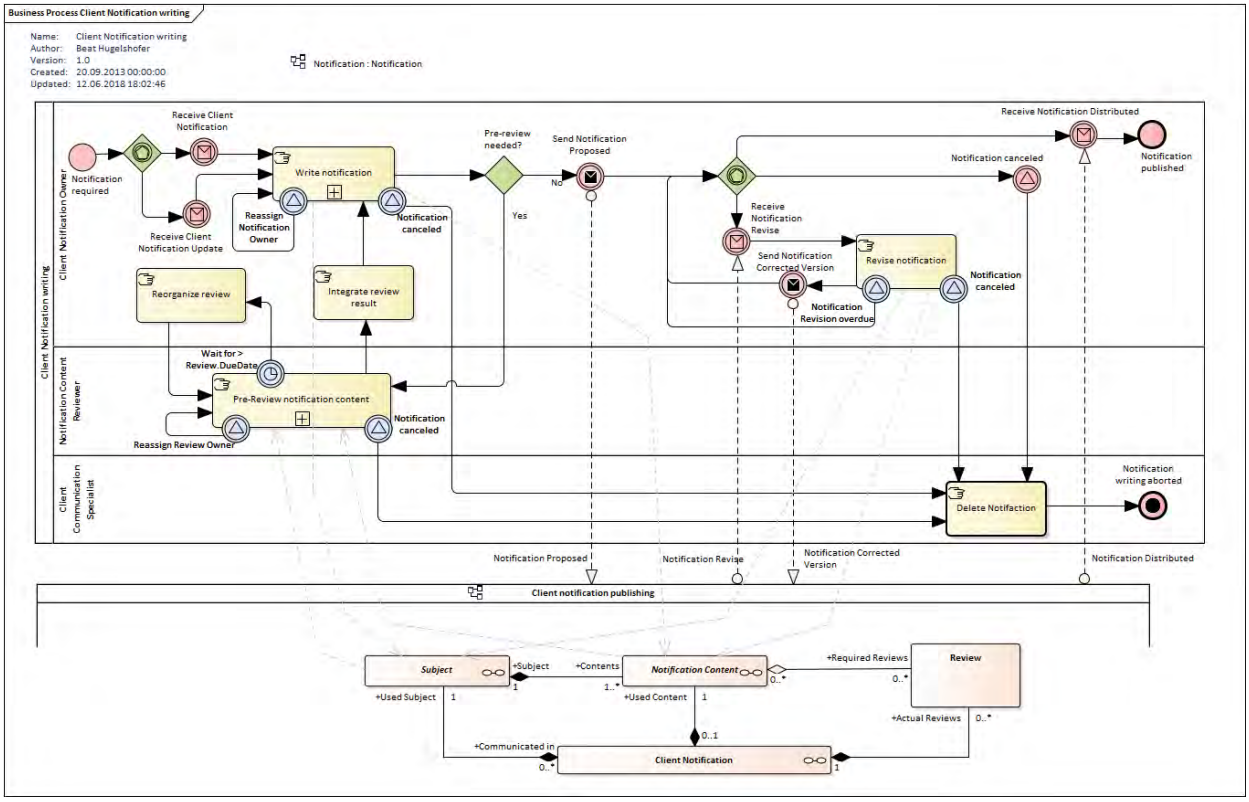

Figure 5: Combined use of BPMN and UML (Example: "Client Notification Writing")

structures without having to worry about the details of technical implementation.

Thus, the "Client Communication Portal" went live in Switzerland as early as December 2014 and was tested for the global rollout. The feedbacks in the first phase showed that SIX clients appreciated the possibility of configuring the subscription of notifications via the portal by themselves (Figure 6). Most of them continued to use emails rather than the portal inbox to receive the targeted notifications. Regardless of the delivery channel, SIX clients benefited from the qualitative improvements in the notifications. The standardized format,

categorization, and detail levels made the notifications more relevant and easier to read for the clients' dedicated recipients. The digital platform not only met the requirements of SIX clients but also made the fundamental transformation of all operational processes associated with the notifications tangible for internal users at SIX. SIX employees responsible for processing and distributing notifications could experience what it meant to deploy the notifications via the "Client Communication Portal" on the basis of the implemented solution. This concrete basis for discussion and the model-based cooperation with Business Engineering which had been established in the course of the project facilitated communication with the internal stakeholders in the context of the global rollout. The latter was driven forward on the basis of positive customer reactions.

2.2 SIX FI PORTAL – RELEASE 2

Already during the global rollout of the "Client Communication Portal" a new requirement was formulated for the digitally transformed client interface. While a globally harmonized solution was now taking shape for the notifications, the processing of client inquiries (= ticketing) – another critical element of client communication – continued to be decentralized across 13 globally distributed client support locations using various ticketing systems. Global processing of client inquiries or cross-location transparen-cy regarding the status of client tickets was not possible in this way. The Client Support Department recognized the potential of the newly created platform to eliminate this inefficiency in ticket processing and to raise the quality of service to a new level.

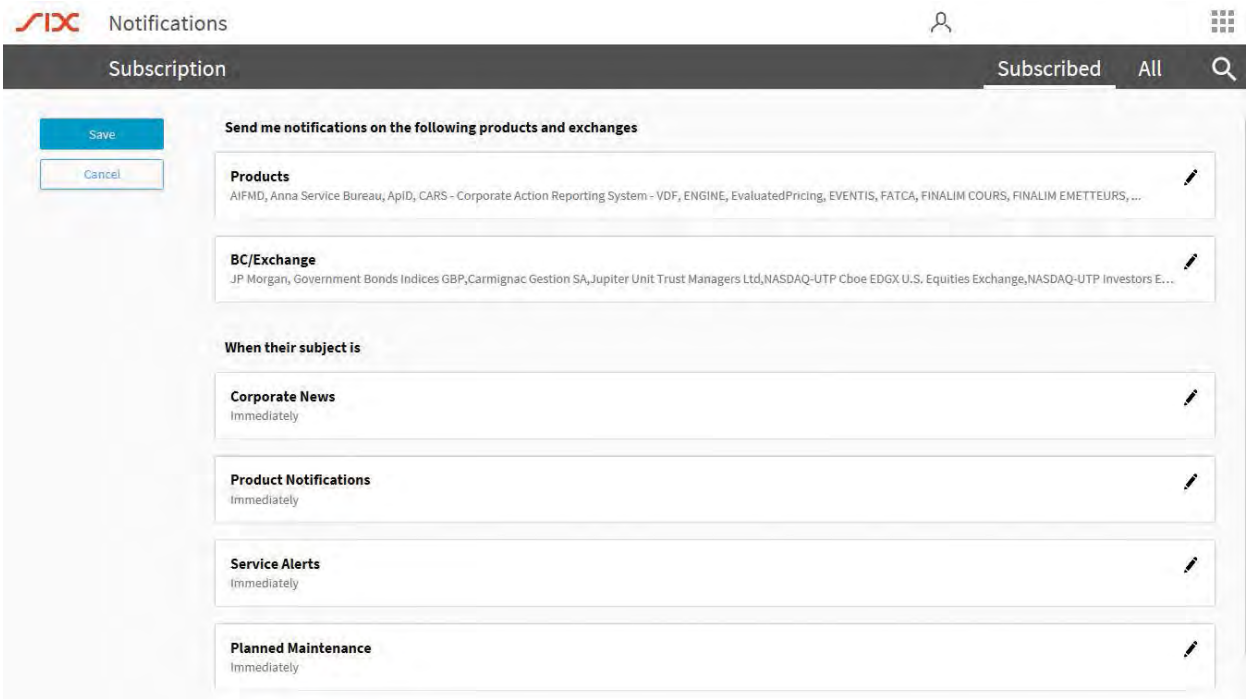

Figure 7: Inbox with notifications of the "SIX FI Portal"

With this situation in mind, the Client Support Department as sponsor initiated the second sub-project of digitizing the client interface and formulated the following goals:

- **Faster responses to client inquiries:**
  - Realization of a "follow-the-sun" process: Tickets can be received, assigned, and processed 24/7 by client support locations along time zones.
  - Higher level of automation in ticket processing: end-to-end digitized process for opening, processing, closing, and evaluating tickets.

- **Transparency:**
  - Visibility of ticket processing status for both clients and SIX.
  - Traceability of all tickets and their processing.

- **Uniformity:**
  - Consolidation of the five existing ticketing systems into one global ticketing system.
  - Uniform end-to-end process for handling tickets globally

The digital platform of the "Client Communication Portal" was the obvious basis for extending the customer interface. In Release 2, it was to be supplemented by the ticketing function and thus be expanded to become the "SIX FI Portal". Instead of replacing all existing ticketing systems, one of the existing systems should continue to be used and the four other systems should be migrated to the remaining system. The digital platform should, therefore, not be expanded into a ticketing system, but should orchestrate global cooperation and ensure transparency in ticketing processing.

For the redesign of the ticketing processes for the new global setup, Business Engineering was able to draw on the proven approaches from the first release. Again, BPMN process models and UML diagrams were used to validate the processes and data structures with the globally distributed forces of client support. As in the first release, Business Engineering once again had to ensure that the requirements of the internal stakeholders could be taken into account without losing sight of the formulated strategic goals for the globally harmonized ticketing process.

This clear strategic orientation of the project also became evident in the management's growing interest in the increasingly visible monitoring and analysis options. The management's desire both at the locations and at the centralized client support to verify the effectiveness of the new solution regarding processing times, transparency, and degree of automation also became apparent to the client support staff. The more concrete the consolidation of systems and processes became, the greater became the fear of the consequences of automation and the new monitoring functionalities. This reaction was countered by improving communication and raising awareness among the managers concerned.

"When I took over responsibility for client support in 2015, I found that five different ticketing systems and numerous shared mailboxes were in use for the approximately 100 client support agents. It made sense to streamline."

Marcus Müntener, Head Global Data Operations, SIX

"At the beginning, we underestimated how differently client inquiries were actually handled. We had dedicated client support operations at 13 out of 23 locations, and each location had its own ideas and experiences of how to communicate with clients. Due to time constraints, we were not able to reconcile an "ideal process" with all locations. This became apparent during the system launch when those locations that had not been closely involved in the process redesign initially had difficulties with the new solution."

Marcus Müntener, Head of Global Data Operations, SIX

The project was already well under way when another strategic decision was taken. The "SIX FI Portal" became the focus of a global initiative by SIX aimed at harmonizing and optimizing the user experience (UX) for all web-based client interfaces. For this purpose, a new competence within Product Management was created. Using the "SIX FI Portal" as a pilot project for the user experience initiative seemed obvious, especially as interaction with clients via the portal was to increase significantly with the extension to ticketing compared with the first release. Usability engineers came into the picture and concentrated on the interaction of SIX clients with the portal interface. They created interaction models, tested mockups with clients, and formulated their requirements. At that time, the redesign of processes and data structures was well advanced, and implementation had already begun. Business Engineering demonstrated the consequences for the already partially implemented processes and data structures on the basis of the established process and data models. Compromises had to be found so that the requirements for a globally harmonized user experience could be incorporated into the "SIX FI Portal" without slowing down the progress of the project. The branding requirements of the global UX initiative could be met on the basis of the existing Appway design components

THE RESULT: THE SIX FI PORTAL

Since 2016, with the integration of ticketing, the SIX FI Portal has bundled all processes and information flows relating to messages and customer enquiries. The core elements are the inbox that manages all client inquiries and notifications and the configurator already implemented in Release 1 with which clients define the delivery of their notifications. A filter function can be used to call up notifications by type (Figure 7). Clients can open tickets and track their processing status. SIX employees are supported by the "SIX FI Portal" in

processing tickets and deploying notifications. Client interaction reports provide a complete history of the client communication.

The functional solution architecture of the "SIX FI Portal", which again first went live in Switzerland and was subsequently rolled out globally, comprises the following components (Figure 8):

Mailbox: offers an alternative channel for opening tickets not opened via the portal. All emails sent to client support addresses at SIX are automatically transferred to the ticketing system via the business platform. This ensures full transparency for global follow-the-sun support.

Appway Cluster: The core of the digital business platform is the process engine, which orchestrates the cooperation of all systems involved in the "SIX FI portal" and carries out the business processes. The system is designed redundantly and has a load balancer that automatically distributes the requests to the available entities.

Ticketing System: This system was already in use before the development of the "SIX FI Portal" and was connected to the process engine. The ticketing system can still be used internally – independently of the FI portal.

Contract Management: Contains information about the products that a client purchases. SIX recognized in Re-

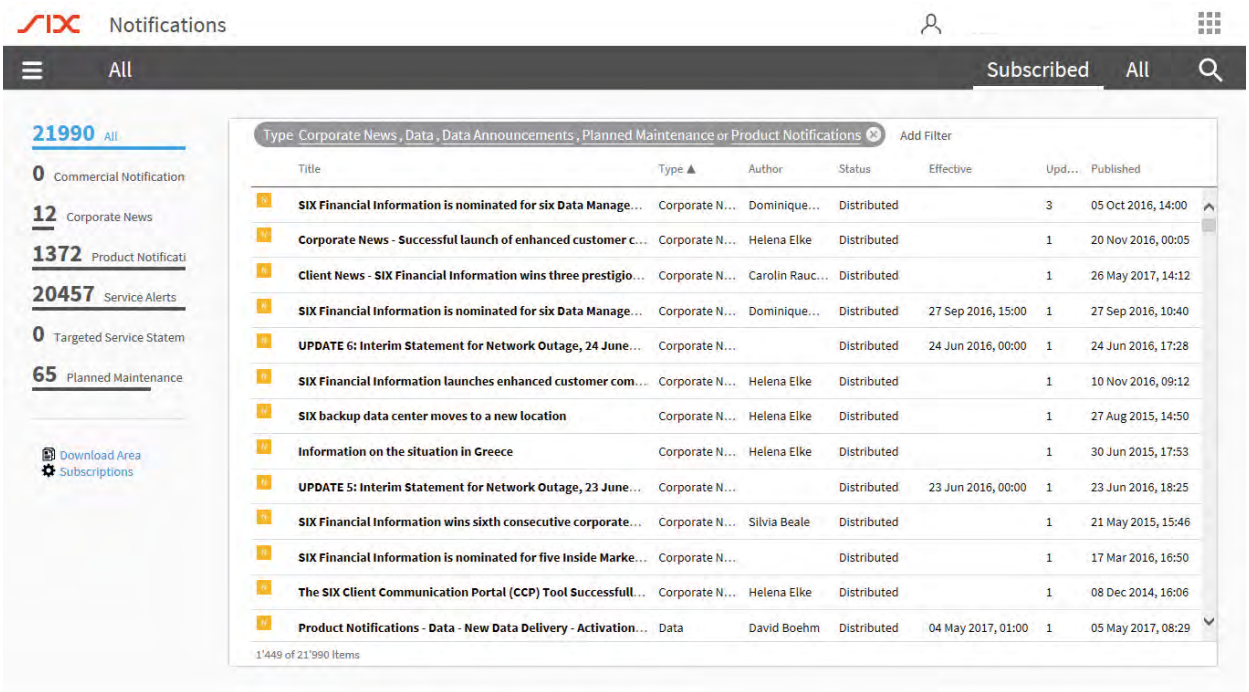

Figure 7: Inbox with notifications of the "SIX FI Portal"

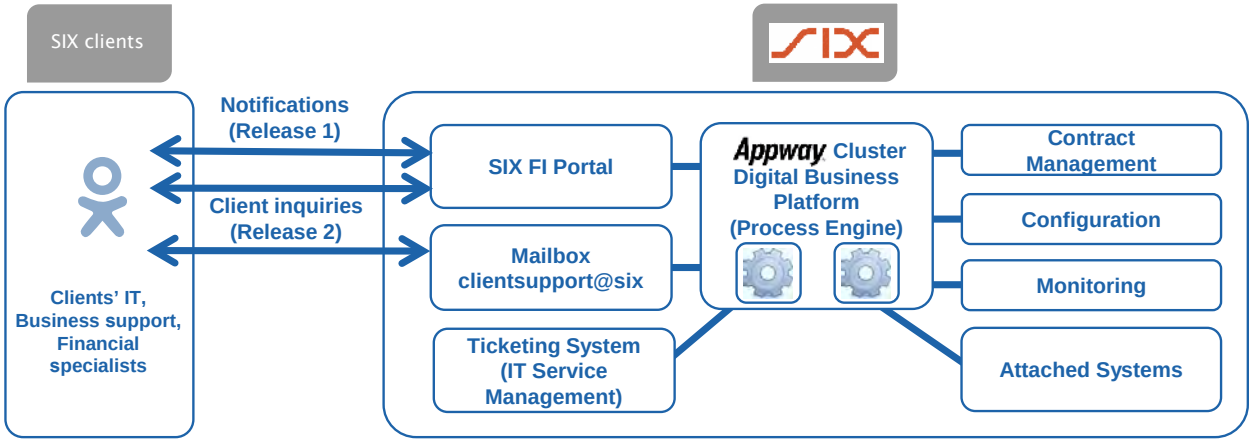

Figure 8: Functional architecture of the "SIX FI Portal"

lease 1 that globally harmonized contract management is a prerequisite for a global rollout. With Release 2, the distributed sites are required to use the global contract management of the portal so that their clients' service levels become effective.

Configuration: Contains the structural and reference data required by the system. For example, client data are stored both in the ticketing system and in contract management, but not linked to one another. The configuration task, in this case, is to link the two data pools.

Monitoring: Oversees the availability of all critical systems and applications.

Attached Systems: Various applications use the functionality of the process engine, for example, to send notifications or to prepare data collected in the engine.

3. Impact, conclusion, and outlook

The results of both projects materialized in the "SIX FI Portal" have fulfilled the expectations of clients and internal stakeholders (Figure 9). SIX clients use the configuration options of the portal and customer surveys and individual client feedback show that they appreciate the demand-oriented delivery of notifications. Processing times for client inquiries have been significantly reduced, and there is now full transparency in the portal regarding the processing status of inquiries.

The "SIX FI Portal" has demonstrably improved service quality and transparency for clients. SIX also benefits from significantly reduced complexity, which could be realized on the process and system side by consolidating on a global platform.

In addition, both SIX and its clients can statistically evaluate inquiries and thereby identify problem areas (Figure 10). For SIX, it has become easier to identify ambiguities in products or gaps in what is available and to address these issues and opportunities systematically in product and content management. SIX clients can use these insights to arrange internal training sessions or adaptations to products. The possibility of using the "SIX FI Portal" as a management information system was not initially formulated as a goal but is increasingly recognized and valued by SIX and its clients.

"We have significantly improved our service quality and service consistency."

Marcus Müntener, Head of Global Data Operations, SIX

SERVICE QUALITY
Increased customer satisfaction through configurable notifications; Availability for customer inquiries increased; processing times shortened

TRANSPARENCY
Ticket status visible to clients and SIX at all times; new monitoring functions for management at SIX and at clients

REDUCED COMPLEXITY
Systems consolidated, processes globally harmonized

Figure 9: Benefits of the "SIX FI Portal" at a glance

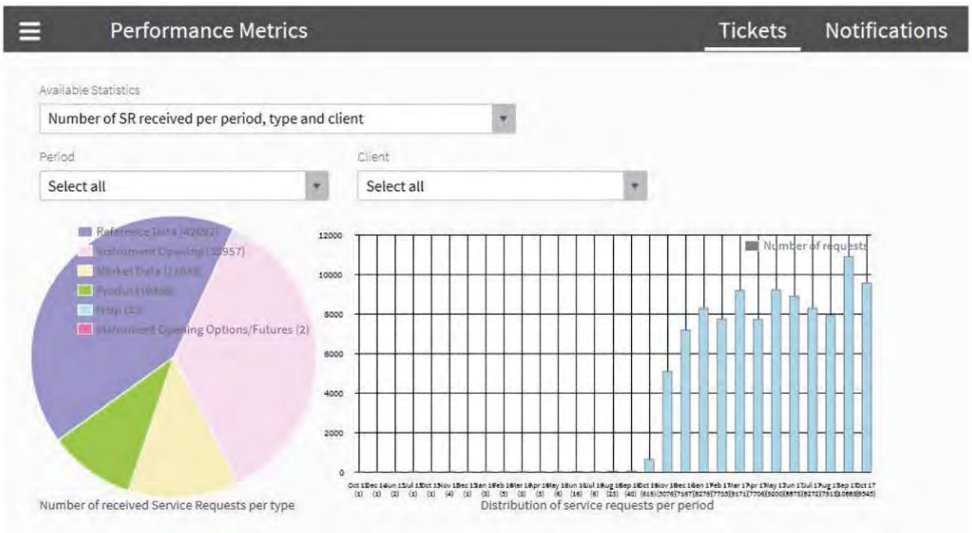

Figure 10: The portal as a management information system: evaluation of the tickets

CONCLUSION: PERSPECTIVES AND THEIR CONTRIBUTION DURING THE PROJECT

The transformation of the client interface had a significant functional and geographical reach and fundamentally changed the way SIX communicates with clients worldwide. Accordingly, the stakeholders and requirements that had to be taken into account in the course of the project were extensive and heterogeneous. A look at the chronology of the presented digitization initiative, starting with the triggers for Release 1 up to the global rollout of Release 2 against the background of the study framework, reveals the variety of perspectives and design forces involved. (Figure 11).

Design Perspective: What did Clients Expect?

SIX clients clearly triggered the transformation. Their desire for demand-oriented notifications was the primary driver in the implementation of the "Client Communication Portal" (CCP, Release 1). The project sponsor Marketing & Communications collected and processed the clients' requirements. The objective of the project – to create a solution that enabled clients to configure the supply of notifications themselves – was decisive for all further decisions when implementing Release 1. The requirements of internal users at 23 locations, who had an understandable desire to integrate their established communication patterns into the new solution, were consistently subordinated to the client-driven objectives.

Even though the process and data models designed by Business Engineering provided a valuable basis for discussion and were indispensable in defining the critical properties of the solution, they were only partially suitable for communicating the portal's vision to internal users. When the limited rollout in Switzerland made the solution tangible after a short implementation period, communication with internal stakeholders was simplified, especially as the proven quality gains and increased client satisfaction left no doubt about the benefits of the solution and a global rollout. This experience shows how important it is in a customer-driven project to make client benefits – and also the effects on internal processes – tangible at an early stage, be it through a limited rollout or a prototype. In addition, no usability engineering involving SIX clients took place in Release 1. During the Swiss rollout, it became clear that clients used the portal mainly for the configuration of notification feeds. To receive information, they continued to prefer the email channel rather than the portal's inbox. However, the portal interface gained relevance with the second release. No longer ought clients to be configuring only their notifications via the portal, but they should also be able to submit requests and track their status. Against this background, a stronger focus on the user experience made sense. However, SIX had only just established this expertise in Product Management as part of a global initiative to harmonize the user experience for their web applications worldwide. As a result, UX design was introduced to the project at a point when the implementation of Release 2 was already well advanced. Consequently, the findings gathered by usability engineering with clients on the basis of mockups could only be taken into account at a very late stage. The requirements of the global UX initiative were ultimately met. However, had there been an earlier integration of the client perspective into the interaction design of the portal, communication between business engineering and usability engineering would probably have been more open and unencumbered by constraints in the intensive implementation phase. The willingness and time to deal with the models and visualizations of the other discipline, would also have been present to a greater extent.

Engineering Perspective: Which Technological Prerequisites had to be Created?

Although the project was triggered and shaped by client requirements, the focus of the implementation phase of Release 1 was not on typical human-centered design

activities such as contextual inquiries, prototyping, or user-testing. Even in the early phase of requirements engineering, it became clear that the success of the solution would not depend on the interaction of the user with the solution but on the quality of the notifications that had to be redesigned. For clients to benefit from needs-driven and targeted notifications, SIX first had to create the prerequisites in the back-end. SIX Business Engineering became a design force that was crucial to success because it had to carefully analyze and redesign the notifications and the communication processes. Adherence to the model-driven approach required a certain persistence and patience with internal stakeholders, but this paid off when solution provider Appway was able to start implementing the platform-based solution in parallel to the ongoing design work and launch it in Switzerland shortly afterwards. Concentration on the engineering perspective paid off in this phase and ultimately resulted in a solution that convinced the clients in terms of functionality and clear quality gains. The engineering perspective also remained central to the implementation of the second release. The consolidation and migration of the ticketing systems proved to be more demanding and complex than expected, as the target system turned out not to be multitenant capable. The constellation of forces for the technical implementation also became more diverse. While the first release was realized with the solution provider Appway alone, a system integrator was brought on board for the second release. Furthermore, due to the unbundling and migration of the existing ticketing systems and the integration with the "SIX FI Portal", SIX IT was more heavily involved than in Release 1. Moreover, diverse requirements from the 13 client support locations came into play.

Management Perspective: What were the Strategic Goals of the Solution?

In view of the diverse forces involved in Release 2, the clear strategic objectives of the new project sponsor Client Support in terms of efficiency, transparency and uniformity of the solution to be expanded were all the more important. The management perspective was more dominant both initially and during the implementation than in Release 1. While in Release 1 the global harmonization of communication processes was regarded as necessary preparatory work, the far-reaching operational changes in the handling of client inquiries were explicitly on the management's agenda for Release 2. For project sponsor Client Support, it was clear that the vision of a modern follow-the-sun process for client inquiries could only be realized if the processes were analyzed end-to-end, revised, and automated to the fullest extent possible.

In summary, the following success patterns in the syner-

"Operational innovation is truly deep change, affecting the very essence of a company: how its work is done. The effects ripple outward to all aspects of the enterprise... Thus it will never get off the ground without executive leadership."

M. Hammer, 2004 [6]

gistic effects of the different perspectives can be identified for the overall course of the project:

I. SIX has defined and consistently pursued the fulfilment of client expectations as a key success factor of this customer-driven initiative. This clear direction was essential to enforce the necessary global harmonization of client communication on the process and system side and to realize the vision of needs-oriented notifications for SIX clients.

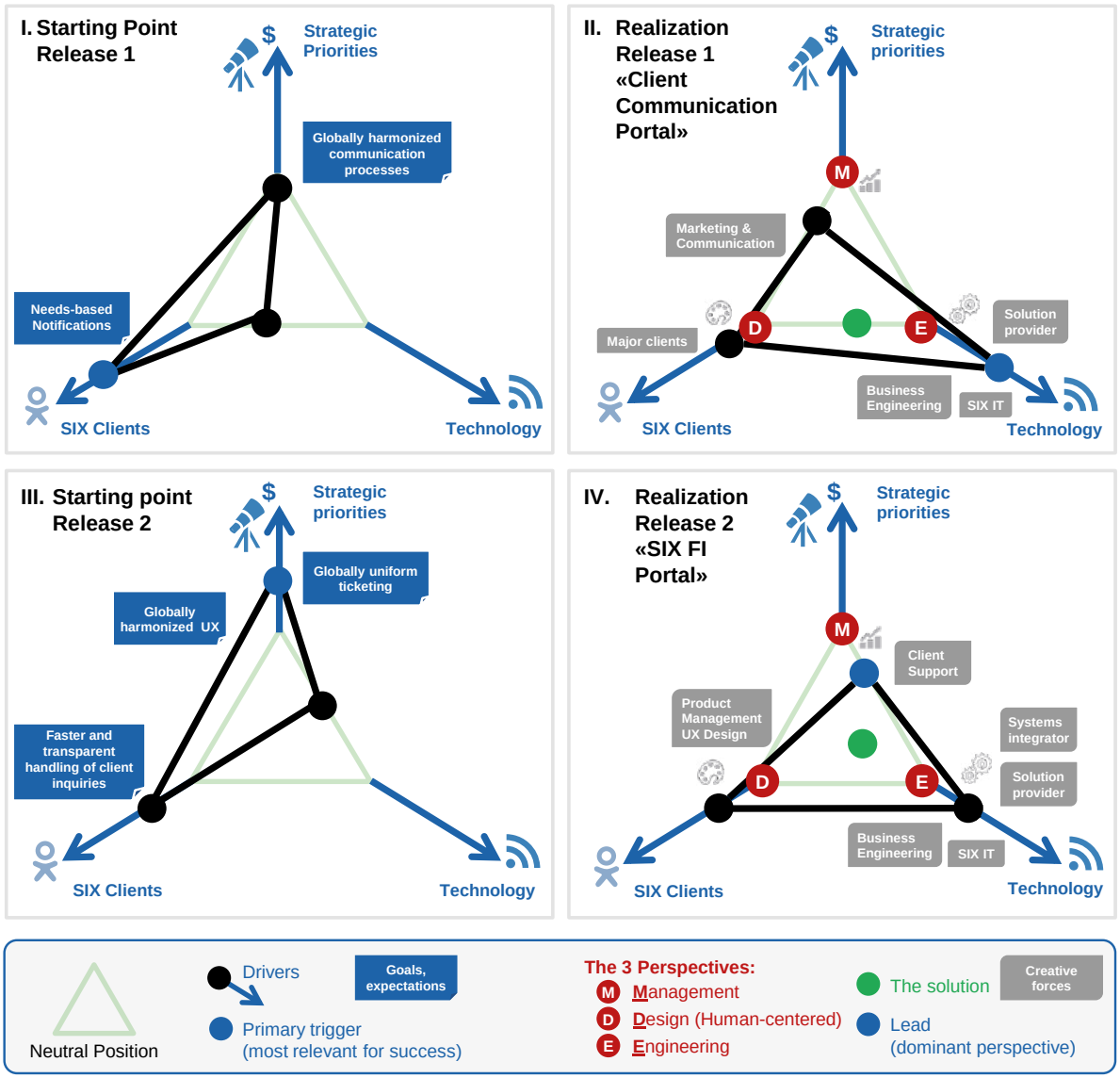

Figure 11: Chronology of the solution design and implementation

II. The dominance of the engineering perspective as a driver of analysis and design, especially in the implementation phase of the first release, was necessary to fundamentally revise the structure of the notifications and the processes for their provision. The paradigm shift in customer communication – away from the general push principle to the configurable provision of notifications – would not have been possible without this groundwork. The early go-live of the implemented solution in Switzerland enabled SIX to verify client benefits and made the operational changes tangible for the SIX employees.

III. The management perspective (Client Support) recognized the potential of the newly created global platform to handle customer inquiries faster and more transparently as well as to standardize the systems and processes for ticket processing globally. These strategic objectives were the key drivers for the second release.

IV. The management perspective (Client Support) remained dominant during the implementation and ensured the strategic orientation in the course of the far-reaching process redesign and the intensive integration and migration work. This strong presence was essential to consistently harmonize the heterogeneous global structures and turn the global follow-the-sun support process into reality for SIX customers.

OUTLOOK AND FURTHER DEVELOPMENT

While on the client side the goals were fully achieved with the "SIX FI Portal", SIX still sees potential in optimizing the degree of automation of communication and service processes. The aim is to design certain standard processes in such a way that they can be adapted more flexibly to local characteristics and at the same time become easier to automate.

One field of development in this context is the use of artificial intelligence. For the automation of processes that are difficult to standardize, SIX has achieved impressive results with the use of cognitive computing in conjunction with Robotic Process Automation (RPA). For example, the share of automated work when opening instruments for structured products could be increased from 6% to 90%. Such intelligent features are to be integrated into the existing platform in the near future. Use cases for cognitive computing in client interactions are also being analyzed.

Experiments with chatbots to respond to specific client requests are at an early stage. The global foundation for these ongoing innovations was created, not least, by the presented digitization initiative.

"My expectation was not that the portal would simplify our processes. This work has been and will continue to be done by our specialists. If the processes are not understood and continuosly revised end-to-end, no tool in the world will solve the problem."

Marcus Müntener, Head of Global Data Operations, SIX

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ABOUT APPWAY, PARTNER IN THE REALIZATION OF THE "SIX FI PORTAL"

With over 15 years of industry experience, Appway guides the leading financial institutions, both big and small, as they build sustainable and scalable solutions that quickly adapt to changing conditions. Headquartered in Zurich, Switzerland, the company has offices around the globe. The Appway platform serves over 420,000 users worldwide. More than 225 organizations rely on Appway to improve their internal operations, engage customers across all channels, and keep ahead of regulations.

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