THE ART OF ADHERING TO GOALS

Regulation, Industrialization and Digitalization as Drivers of Transformations

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1   Introduction

The developments in the banking market have confronted financial institutions with major challenges. Factors such as regulatory requirements, the dynamic drive towards industrialization, the increasing significance of international markets, and changing customer behavior and expectations as a consequence of digitalization, all require a high degree of agility. At the same time, the reduced equity base of financial institutions has led to a greater focus on cost reduction which in turn narrows down scope for action and design.

In this situation, it is crucial for banks to create the prerequisites facilitating an effective and efficient positioning on the market. Aside from diversification of product portfolios and collaborations with partners, a key factor in this context is the standardization of products, processes, and IT platforms. This will allow financial institutions to stabilize their cost base and increase their efficiency. Furthermore, standardization will give them access to new levels of utility and benefits that cannot be achieved using systems based on proprietary software (Fig. 1). For banks, this implicates a need for modernization of structures that have grown steadily over the last decades and transforming themselves to meet the latest as well as future requirements.

IT standardization as a key requirement for agility
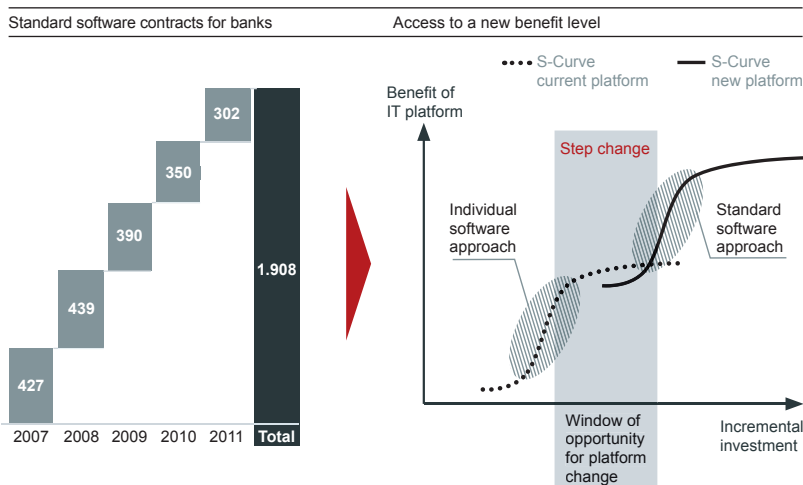

Source: IBS 2012; COREinstitute

Figure 1: Transformation to standard software

Aside from economic and benefit-oriented considerations, two additional factors are central to the decision-making process regarding a transformation. On the one hand, a bank must identify which of the systems available on the market for standard software provides the appropriate solution with regard to its business focus. On the other hand, it is crucial that a bank possesses the ability and the know-how necessary for managing the challenges inherent to a transformation and to successfully carry out the program.

Ability and know-how crucial to transform

In the following paper, we will share our experiences with regard to transformation challenges and will address the migration of core banking systems from proprietary to standard software in the context of the design and management of highly complex large-scale programs. For this purpose, we will first summarize the current situation on the banking market, followed by an overview of providers for standard banking software solutions, and will then sketch the main challenges of this kind of transformation. Next, we will

develop several solution patterns which, based on our experience, offer a stable foundation to manage highly complex programs in an adequate and targeted manner. We will first address the various phases of a transformation and will then focus on topics such as the decision management, the methods and tools, the internal and external parties involved in the program and their skills, and the Go-live management, in order to illustrate the main instruments needed to manage program complexity. In the final section, we will consolidate these aspects and discuss them with regard to the challenges of a transformation.

2   Challenges of a technology-driven transformation

Transformations are a response to the current challenges in the banking industry, but they simultaneously represent a challenge to the banks themselves. The challenges of the banking market lie, first, in the ever increasing tightening of regulations as well as frequency of new regulations (Basel, IFRS, SOX, SEPA, FATCA) which tie down dynamic forces and restrict the banks' scope of action. Further challenges lie in the necessary industrialization of financial institutions. The latter is characterized by higher cost efficiency, standardized products and processes, scalability as well as greater flexibility. In addition, banks must compete against new players originating from partly unrelated industries who are penetrating the financial services market. In the context of the current digitalization, Bank Attackers are using innovative concepts to vie for the business of established banks, break-up their integrated value chains, and thereby create added value for customers, respectively divert revenue that previously went to banks.

In light of these challenges, there is a tremendous need for banks to become more flexible in order to be able to react rapidly and comprehensively to changes. The industrialization of business models and value chains of financial institutions has significantly increased their dependence on technology. At the same time, it has become obvious that retail banks cannot distinguish themselves from their competitors solely by their core banking systems. Banks need to develop an understanding of IT systems as enabler. Therefore, successful banking implicates distinguishing oneself from competitors via products and services while simultaneously taking advantage of ones' positive brand reputation on the market.

Banks' current technological foundations fulfill the requirement for flexibility either only partially or not at all. The IT landscapes used to support the processes of the banking business are for the most part individual developments that have grown in a piecemeal process over the last decades and whose core systems are based on host technologies with programming languages such as COBOL or PL/1. In accordance with changing business demands, these core systems were successively upgraded by adding new functions and technologies. Furthermore, banks rarely defined semantic or technological standards for communication between systems. As a result, banks now possess fragmented software landscapes consisting of hundreds of IT applications reflecting the technology spectrum of the last decades.

In light of this situation, many financial institutions are deciding to transform their IT systems by moving to standard software, drawing on comprehensive banking systems or specialized solutions for individual elements.

In spite of the escalating financial crisis, over 1,900 new contracts were signed between banks and standard software providers in the last 5 years (Fig. 1, left side). The objective of a transformation is to increase efficiency as well as effectiveness with the resources and investments already in place, and to reach greater benefits in comparison to the legacy systems. Initially, reduced benefits have to be tolerated due to higher investments at the beginning of a transformation (Fig. 1, right side).

Overview providers of standard software for banks

Source: IBS 2012; COREinstitute. The logos are the property of the respective trademark owners.

Figure 2: Global overview of standard software providers

There are various data pools and analytical sources available in order to help banks identify the best software solution or combination of solutions on the diversified market for standard software systems, which currently consists of more than 90 providers for more than 100 of such systems (Fig. 2 as well as overview in the appendix). Drawing on this information in relation to the specific banking segment, financial institutions can determine the extent to which their individual business areas can be addressed by individually developed software. This allows banks to identify customized solutions for processes and functions.

Identify the optimal standard software suitable for the needs of both, IT and business

For banks, the challenges associated with the decision to proceed with a transformation indicate the typical scale of a core banking system transformation: a duration of several years, in which hundreds of interfaces and thousands of project milestones must be achieved, in which thousands of workshops and tens of thousands of test cases are necessary, affecting tens of thousands of employees and millions of customers as well as bank accounts with billions of transactions consisting of hundreds of millions in savings and billions in investments. The goal of such a transformation is to reduce the time-to-market from several months to a few weeks, to increase process security and implement state of the art standard software with real-time banking capabilities as well as new front-ends for employees and customers.

Banks are therefore confronted with tasks that demand much of the organization as such, that will require dedicated resources for a number of years, and that have an impact on the core of the management and manage-ability of the program. Whereas in IT environments that have grown over a number of years, the complexity has increased gradually and has only

Understand the transformation as a challenge for the management

been manageable by applying appropriate management tools. Transformations break with this progressive development and are characterized by the maximum degree of change within a limited timeframe. When carrying out a transformation, organizations must take into consideration the legacy system, the new system as well as the transition from the legacy to the new system, while some aspects of the new system remain unknown during the process. Consequently some information is unavailable during the transformation process; inherent uncertainties remain in planning, decision-making, and when actual measures taken.

This does not mean that banks can eliminate the complexity and intrinsic uncertainties of the IT system when managing a transformation. Instead, banks should define a dynamic and adaptable framework when developing their new system, flanked by steering mechanisms in the form of clearly defined and proven methods and processes. This provides orientation, information, and control. Effective implementation of these mechanisms requires experience in transformations in order to address these specific challenges.

> Provide orientation: The scope of the program and the size of the organization require the provision of orientation and consistency throughout the duration of the project in order to make the context of the transformation phases transparent to all participants

> Take decisions: The high degree of complexity and the restricted availability of information require fact-based decision management in order to ensure factual expertise and comprehensible information.

> Use tools: Single areas and factors in the project tend toward inefficiencies as long as they are not supported and managed by applying dedicated methods and tools appropriate for the specific problems.

> Connect experts: The expertise and abilities required for the transformation cannot be provided exclusively by the bank. A project of this nature therefore requires an adapted approach to create a network of internal and external specialists.

> Finalize projects: In order to act in a goal-oriented manner at the end of the project, the operational processes must be results-driven while simultaneously ensuring the decision-making capability of all stakeholders.

Management teams of business and IT can address these challenges by applying specific solution patterns in order to ensure the convergence between the planned and the achieved goals. Within the definition and management of this scope of action lies the art of adhering to goals and the achievement of successful transformations.

Identify and individually address challenges

3 Experiences and Solution Patterns in Core Banking Transformations

3.1 Phases, or: the coordinate system

In the case of complex programs, it is necessary to provide a binding framework for the entire process from the blueprint of the statement of intent all the way through to the Post-Go-live period. This framework functions as a coordinate system which links various program phases with the definition of tasks which span the various phases. Each phase focuses on pre-defined tasks and results that are achieved by applying adequate approaches.

3.1.1 The CORE Transformation Framework

The CORE Transformation Framework consolidates multifaceted experiences and solution patterns in a comprehensive frame of reference (Fig. 3).

Phases and disciplines of transformations

Source: COREtransform

Figure 3: The CORE Transformation Framework

The framework combines the three phases of modeling, preparation, and execution along the time axis with a discipline axis on which the relevant scopes determine the respective management and controlling focus.

Focus: Preparation to ensure execution

In order to prevent implementation steps from having a premature impact on planning, the phases of the detailed project plan and those of the implementation are to be strictly divided. Task-forces should be established to deal with any backlogs during implementation and thereby help to facilitate project management.

Together, the two axes constitute a matrix which ensures the manageability of complex projects in every phase by providing function based scope definitions. The framework integrates methods and tools that have been specifically created for transformations and which are standardized and harmonized, in order to implement structured procedures and to ensure the holistic nature of the project.

This enables steering of neuralgic points in a targeted manner and to concentrate on the transfer of results between phases in order to increase transparency, address risks, increase efficiency, and guarantee the general convergence between planned goals and actual results.

3.1.2 Goal definition through feasibility study and business case

The feasibility study and the business case analysis serve to ensure the necessary alignment of internal and external participants and to outline the essential parameters of the target state and the step by step approach. They represent the central elements used to decide whether to go ahead with a transformation.

The feasibility study evaluates the extent to which the standard software and the provider fulfill the banks' requirements, by using a functional gap analysis, the definition and integration of the target architecture as well as an infrastructure concept and a sizing and operating model. The results of the study must be presented at a sufficient level of granularity to allow the bank to take vital decisions regarding further details, such as collaborations for standard extensions and validation of specific aspects of the architecture.

The business case analysis reflects the complementary tool for internal coordination between IT and business departments. Based on cost reduction and quality factors, the IT determines the required synergy potential resulting from decommissioning of legacy systems, improved functionality, and reduced maintenance needs. The business side determines the functional decision making criteria and evaluates individual factors, such as a reduction of operational risk or shorter time-to-market as well as revenue potential. The business case analysis supports the decision regarding which areas should be the first to undergo a transformation and which ones require further planning, such as those related to the distinguishing characteristics of competitors with unique requirements.

The transformation projects initiated by major banks over the last few years are designed to be implemented over several years and the amount invested reaches up to 1b EUR. The goal of these projects is to reduce the Run the Bank (RtB) and Change the Bank (CtB) costs and to increase profits. However, as these effects can only be realized in the long-term, at least one additional factor contributes to the need for a transformation. This can be a merger & acquisition (M&A) situation, the discontinuation of support or a major upgrade by an IT provider, or a fundamental change in the bank's business strategy. The feasibility study and business case analysis provide necessary but not sufficient arguments for a transformation. An additional factor functions as the catalyst for the final decision and provides the necessary pressure during a transformation process which forces the bank to continue the transformation.
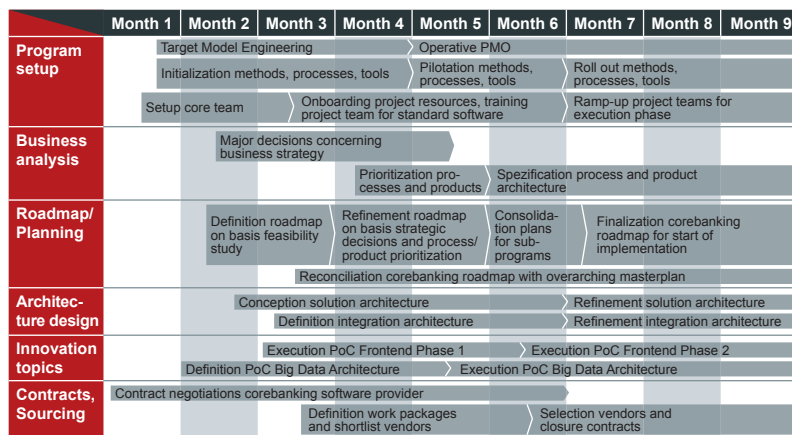
3.1.3 Alignment of the program with the goal

The ramp-up plays a central role during the preparation phase of the transformation program. This planning stage, which can take up to nine months, determines whether the foundation has been properly laid to ensure that the implementation unfolds according to plan. During the ramp-up, particular

attention should be paid to defining the project sequence and the project contents. At the same time, it is vital to create a roadmap for the execution of the program, determine the IT-architecture and layout, fix the details of the contract with the software provider, and define a customized strategy for drawing on the knowledge of external specialists (Fig. 4).

Content and schedule for preparation phase

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9
Program setup	Target Model Engineering				Operative PMO				
	Initialization methods, processes, tools				Pilotation methods, processes, tools		Roll out methods, processes, tools		
	Setup core team		Onboarding project resources, training project team for standard software				Ramp-up project teams for execution phase		
Business analysis		Major decisions concerning business strategy							
				Prioritization pro-cesses and products		Spezification process and product architecture			
Roadmap/ Planning		Definition roadmap on basis feasibility study	Refinement roadmap on basis strategic decisions and process/ product prioritization		Consolida-tion plans for sub-programs		Finalization corebanking roadmap for start of implementation		
		Reconciliation corebanking roadmap with overarching masterplan							
Architec-ture design		Conception solution architecture					Refinement solution architecture		
		Definition integration architecture					Refinement integration architecture		
Innovation topics			Execution PoC Frontend Phase 1			Execution PoC Frontend Phase 2			
		Definition PoC Big Data Architecture			Execution PoC Big Data Architecture				
Contracts, Sourcing	Contract negotiations corebanking software provider								
				Definition work packages and shortlist vendors			Selection vendors and closure contracts		

Source: COREtransform

Figure 4: Topics for execution readiness

The governance structure of the project must be agreed on at senior management level, including all necessary boards and committees. This refers also to management and escalation processes for closing functional gaps. Besides, a detailed plan of execution is to be presented along

Compile a concerted and comprehensive plan during the ramp-up

Focus: Revolving planning

In order to stick to the previously defined key milestones, on the one hand, and to take into account the dynamic nature of developments, on the other hand, revolving planning must be applied under the super-vision of the project management office. This requires participants to be included in the projects early on, in order to enable detailed planning and to provide fix dates for the targeted milestones. Later project phases must be planned with adequate gran-ularity and these plans must be grad-ually refined.

with a sourcing mix, while the process model must be estab-lished in coordination with the software provider regarding methods, processes and tools. In order to determine the contents of the project during this step, the IT side must present the target archi-tecture and the roadmap along with a proof-of-concept (PoC) for innovative technolo-gies and including the piloting phase, while the business side must synchronize the banking processes and products with the processes and the struc-ture of the standard software. Simultaneously, the bank must come to an agreement with the software provider in terms of a long term, viable licensing model for the software solution and also as regards the required support during the implementation phase.

3.1.4 Goal achievement through focused implementation

The execution phase stretches from the analysis, design and realization of the project to the test management and all the way through to the Go-live. During the implementation all parties deliver results into their sub-project. Moreover, the business specifies the execution requirements with regard to products, functions, and processes. The benchmark for these specifications is the advised business processes which are continuously brought onto the new platform and secured in the project results. The milestone plan set up during the ramp-up phase serves as the foundation for the implementation of the project (Fig. 5).

Involve the IT and business sides in dedicated ways

Roadmap/Project plan for execution phase with critical path
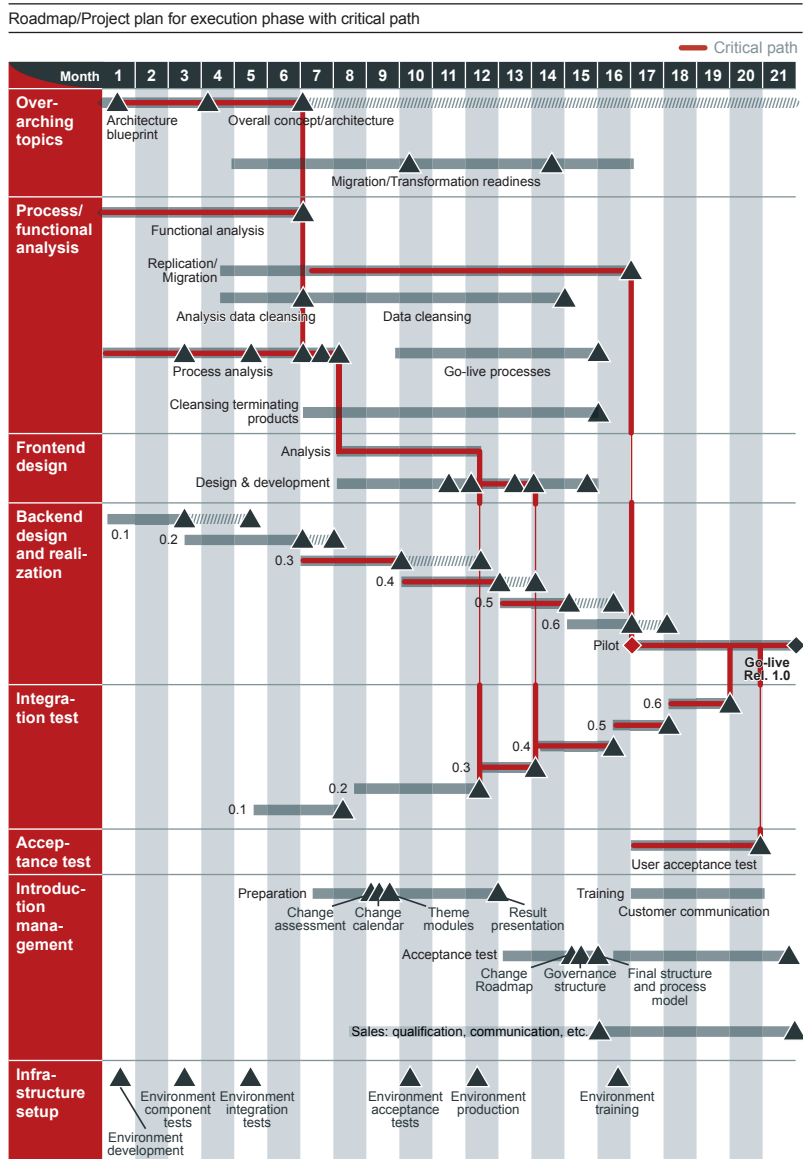
Source: COREtransform

Figure 5: Plan for the execution phase with key milestones

The milestone plan defines the project steps with delivery types and dates and sets up the critical path for the transformation. According to the process model, the targeted processes and products are analyzed, modeled and executed along with the business side. The analysis and execution should be conducted simultaneously to ensure the completion of sub-projects

Carry out activities simultaneously and ensure precise coordination

and to avoid delays later on. The project should include sub-releases with defined scopes and delivery dates that span the various sub-projects, to enable the coordination of parallel activities, provide orientation for the participants, and ensure the implementation of systematic checkpoints.

3.2   Decisions, or: forks in the road

Decisions constitute a central steering element in projects. They determine whether and to what extent certain options are realized, establish the direction of a project, sharpen objectives, and create unity – sometimes by overcoming major obstacles. Due to the high level of complexity and the inherent uncertainty in transformations, those responsible are faced with the need to take decisions on the basis of incomplete and sometimes insufficient information. The challenge lies in avoiding compensating for this lack of information with intuition, and instead to find means for fact-based and educated decisions and to consolidate these within the framework of decision management.

Take decisions based on facts

In the transformations supported by CORE, this management was successfully realized in different ways: through ad-hoc decisions, through the strict timing of meetings as well as by an equally requirement- and management-oriented approach which is usually taken for critical decisions during transformations. In the following section, we will take into account both, the decisions of the bank management as well as those made jointly by the bank's senior management and that of the software provider. We will first focus on the distribution of decisions and steering committee meetings, followed by a discussion regarding their content and finally conclude with a consolidation of the results of these analyses.

Define the organization for decision management

3.2.1 Decisions: the core task of management

The frequency of decisions and meetings at the program management level is unequally distributed across the individual project phases, greatly increasing during the later phases. Less than 10% of decisions are made during the modeling phase and less than 25% during the preparation phase, which means that almost two-thirds of decisions are made during the execution phase. The number of decisions in the execution versus the modeling phase increases almost six fold, while at the same time, the number of meetings increases fourfold. Whereas meetings take place quarterly during the early phases of the project, they are held every two weeks during the later phase, prior to the Go-live. This corresponds to the fact that in the beginning, relatively few principle, fundamental decisions are made, while more specific individual points must be clarified in a timely manner during the later implementation phases.

The higher frequency of meetings in light of the increasing number of decisions ensures that the number of decisions made per meeting remains relatively constant. This prevents participants from "waiving through" decisions due to their large number and in view of the organization secures a fact-based focus for the meetings. In addition, the higher frequency of meetings in the later phases supports timely decision-making and thereby strengthens the information base, as arising questions are addressed while participants are still actively involved.

Ensure continuity and focus on facts by increasing the frequency of meetings

Beyond these insights, which are directly related to the project phases, a more in-depth analysis demonstrates the development of a characteristic pattern for the distribution of decisions and meetings within the single phases (Fig. 6). During the modeling phase a particularly high number of decisions occurs in the middle whereas the frequency of decisions in the preparation phase is highest towards the end of that phase, and during the execution phase a peak occurs in the first third of the phase, with the number of decisions remaining at a relatively high level during the rest of the execution. These results are confirmed by a more differentiated analysis which examined decisions made by the bank together with the software provider, on the one hand, and those made by the bank alone, on the other hand.

Number of decisions and steering committees across the project phases
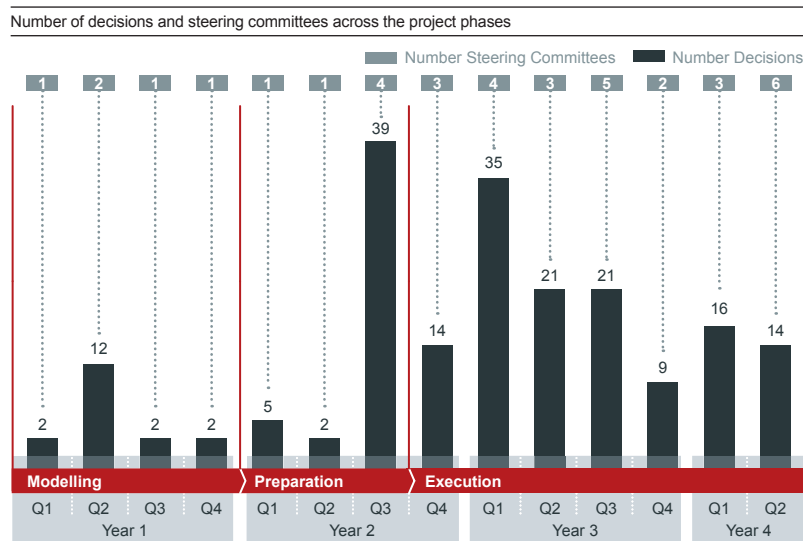
Source: COREtransform

Figure 6: Distribution of decisions and meetings

The finding that there is not a successive increase but rather a characteristic distribution of decisions and meetings is of central importance to a transformation project. This reflects the fact that decisions must be made at very specific points in the project in order to drive it forward. A linear or even exponential increase in decisions could lead to the assumption that the decision-makers were surprised by the progress of the project instead of steering and controlling the project with their decisions.

Take the distribution of decisions into account

Two kinds of evaluations can be used in order to analyze the contents of decisions.

❯ The first analysis revolves around the project criteria of scope, budget, and time.

❯ The second analysis aims at distinguishing between decisions as regards approach versus content.

The analysis of the project criteria (Fig. 7) shows the clear dominance of scope decisions. It is noticeable that an agglomeration of all three dimensions, scope, budget and time, occurs at the end of the preparation phase, and that they are almost equal in value, aside from the time dimension. In the execution phase, decisions regarding scope outweigh the other dimensions, while budget and time are prominent only in the first third of the phase and then again at the midway point of the execution phase.

Decide on scope, budget, and time at the end of the preparation phase

Number of decisions concerning scope, budget, time
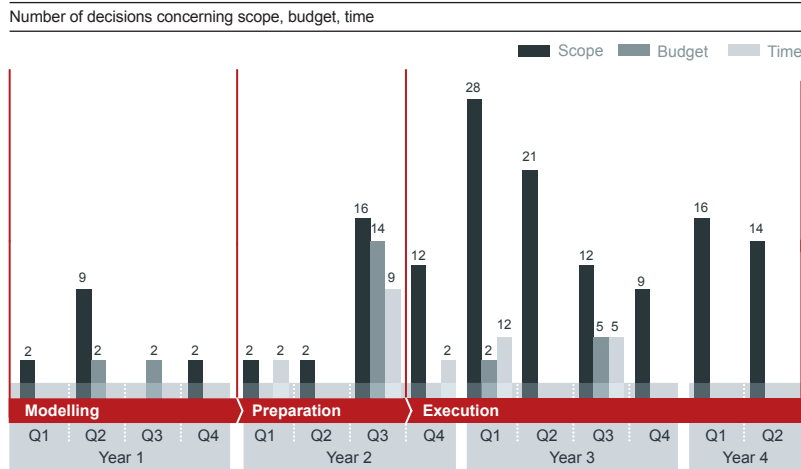
■ Scope ■ Budget ■ Time

Source: COREtransform

Figure 7: Decisions according to scope, budget, time

A similar pattern occurs in regard to the differentiation between project procedure and project contents (Fig. 8). The decisions in the modeling phase are related to the contents of the project, it is only at the end of the phase that the procedure is established. This procedure remains a topic of discussion throughout the first phase of preparation, while a clustering of decisions again occurs at the end of this phase, this time related to both dimensions. Decisions regarding the project procedure are not referred to again until the beginning of the execution phase and again at the end of the project, but decisions regarding content dominate throughout the project.

Take decisions on approach and content jointly

Number of decisions concerning project content and approach

■ Project content ■ Project approach
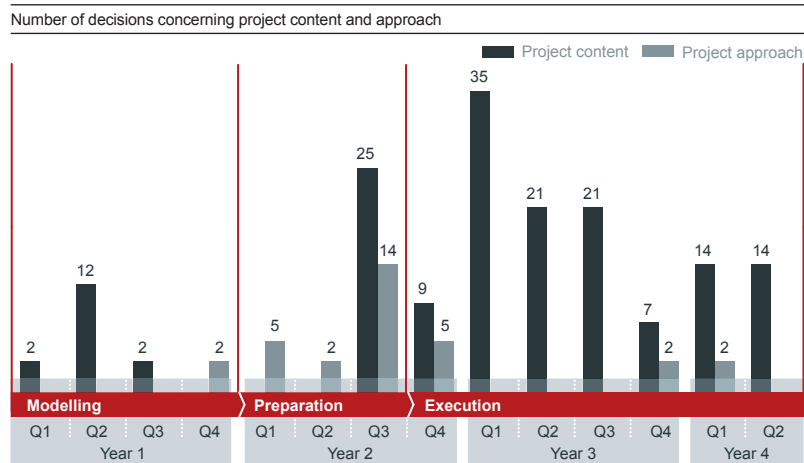
Source: COREtransform

Figure 8: Decisions on content and approach

3.2.2 Comprehensive and consistent decision-making in crucial phases

This typology of decisions in regard to the distribution of decisions and meetings as well as to differentiation among the content of decisions, directs attention to the transition between the preparation and the execution phase. Decisions are concentrated at the end of the preparation and the beginning of the execution phase. What is striking here is not only the sudden increase in decisions, but the fact that decisions made during this phase affect all of the factors and dimensions of the project in subsequent phases. They are related to scope, budget, and time in equal measure, and revolve around both, the content and the procedure of the project.

With regard to the differentiation between procedure and content, it is crucial that the main dividing lines central to the implementation of the project are drawn in relation to both dimensions. Core decisions on the content and procedure of the project are dependent on each other, and the establishment of the space in which the project is to develop at the end of the preparation phase and the beginning of the execution phase impacts both dimensions to the same extent.

Focus: Establish subsidiary bodies for decision-making

In order to embrace the manifold issues present in the decision-making processes, institutions undergoing transformations should establish independent, subsidiary decision-making bodies in addition to the steering committees involving the senior management. These secondary entities function as reference bodies for the (sub-)projects and consolidate the projects' requirements for information and decisions. On the other hand, they serve as contact points for the steering committees and transmit their decisions to those involved in the projects. With the help of such decision-making entities, it is possible to make fact-based and goal-oriented decisions that can be implemented accurately and effectively.

Within the context of differentiating according to scope, budget and time, it becomes clear that budget and time decisions play a minor role in the later phase of execution, but that they become relevant one more time towards the middle of the execution phase. Due to specific shifts in scope, this phase is characterized by increased deliberation about budget or schedule modification in order to reflect the new situation. Such suggestions should be countered by a rigid focus on the scope. If budget and time become dominant factors during the execution phase, this is a signal that the project has entered a critical stage of development.

Maintain budget and time, focus on scope

3.3   Methods and tools, or: maps and signs

Methods and tools are essential for supporting the project and the project management. With their help, relevant information is collected and processed, partially through automated means. They serve to steer the project and, by continually providing information, contribute in an essential way to the steering capability. Methods and tools are used in different contexts during the project; some are used in specific project phases while others are employed throughout the entire project. There are three typical categories that describe the benefits of methods and tools.

Use methods and tools in a specialized and context-specific manner

❯ Through access to methods and resources, processes and procedures within the project are structured, standardized and coordinated, while external requirements of the project are determined and decided upon.

❯ Tools collect information from sub-projects and present it in a consolidated way, directly supporting the operational work of the sub-projects and enabling self-monitoring and self-evaluation of the projects.

❯ Tools are used to obtain data from sub-projects that these projects would either not gather at all or only to a limited extent, since this data is not

directly linked to the operational work. This information is necessary for the coordination of sub-projects, decisions by the management, and for monitoring the project trajectory. The use of tools supports the continuous delivery of relevant data of the sub-projects.

3.3.1 Process Model

The task of the projects is to introduce the standard software and undertake the necessary adjustments and additions, particularly concerning interfaces and missing functions. In order to ensure the quality of the results, these are produced according to a standardized process. The process model aims at describing and defining the process beginning at the initial broad concept followed by business details and IT design all the way to the final system introduction and project end.

As there is nothing such as one single and overall valid process model for transformations, project participants attempt to assert the tested models from their own experiences: the bank, the software provider, and the external consultants, the business and IT departments of the bank, and the development team and those responsible for carrying out the test. Discussions about competing process models are not constructive and can escalate into "method wars".

Lead discussions on methods in a result-oriented manner

Process model detailing the requirements analysis
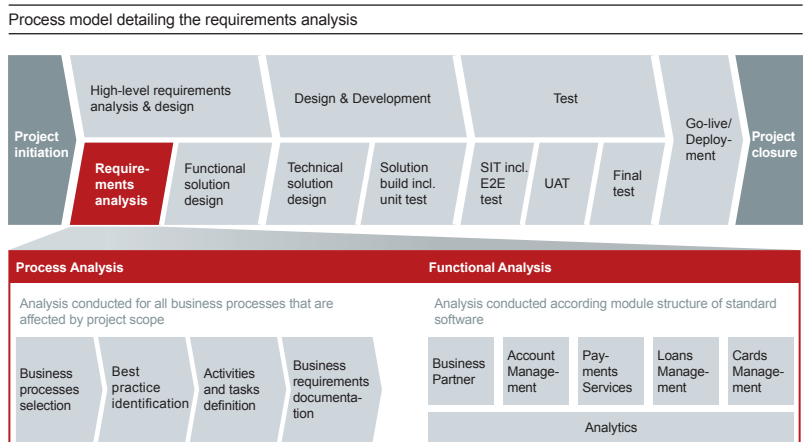
Source: COREtransform

Figure 9: Process model with focus on requirements analysis

Focus: One process model for everybody

In order to direct discussions about the "correct" procedure in an effective way, the process model must be described in sufficient detail and documented by the bank in a comprehensible way. This requires intensive discussions to be conducted and finalized during the preparation phase as well as addressing the possibility of a synthesis of competing models.

In order to counter conflict-prone discussions on methods, a necessity for clarification is vital early on in the project and in a comprehensive manner. Therefore, the project management needs to determine which tools will be used for which steering tasks, what type of information the (sub-)projects will deliver via these tools, and which information the tools will process in what manner (see chapter 3.3.2). With regard

Establish binding process model prior to the execution

to process modeling and the functional analysis, the project management must describe which perspectives will be depicted and the type of analysis to be used, such as portraying the business perspective through a process analysis or the perspective of solution components through a functional analysis (Fig. 9). In view of the realization of the project, the process for adjustments of the standard software and the implementation of proprietary developments must be established (e.g. for modifying interfaces). In this context, the project management must determine which types of results are to be delivered and when. Regarding the testing of the system and the test management, the parties involved must decide which test stages are to be completed by the (sub-)projects for the single releases. The project management must also describe in greater detail to what extent the projects will submit their work packages to a system integration test (SIT) and to a user acceptance test (UAT) (see chapter 3.3.4).

3.3.2 Project plan and dependencies

The project plan fulfills multiple functions: it supports the management of the project, ensures that participants receive information quickly and expediently, and brings transparency to the dependencies within the project. For this purpose, individual management tasks are summarized and subsequently supported by corresponding planning and management tools. The projects and sub-projects are obligated to feed data into the tools from which reports can be automatically generated, in order to inform participants about progress, risks, problems, and dependencies (Fig. 10).

Select tools according to specific tasks

Project reporting based on the CORE Transformation Framework
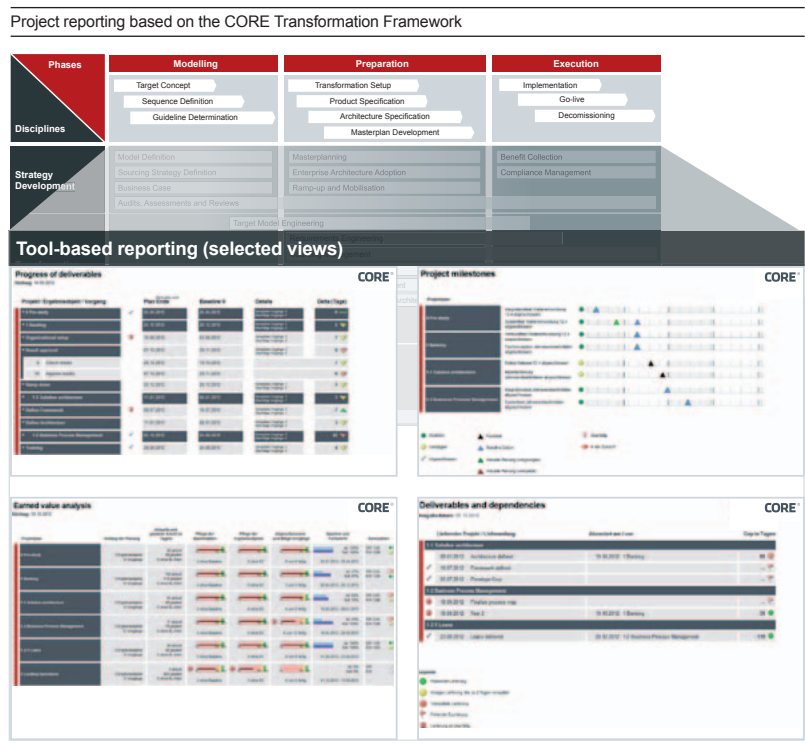
Source: COREtransform

Figure 10: Reporting with the help of the program management tool

One central, server based tool for program planning, monitoring and reporting should be created. Certain projects and sub-projects will be attributed to this tool, in which their planning will be backed and executed, starting with the baseline up to their respective updates based on a previ-

**Enable project planning and dependencies by using one central tool**

ously defined level of granularity. Of decisive importance to the granularity are the milestones which are considered to be necessary for reporting and for containing dependencies with other (sub-)projects. The dependencies contracts between the (sub-)projects are documented in the defined milestones. By linking the various levels via milestones, the project plan provides different planning levels reaching from the program as a whole over the program roadmap to the project and sub-project plans. The project planning tool can then be used to create reports for the individual planning levels, which serve as the basis for management reporting.

Simpler solutions are available for financial and resource controlling, and various tools can be used for information and special document management as well as for change request management and defect management. The tasks and requirements in these fields can be narrowly defined in order to provide customized information through a variety of tools.

3.3.3 Reporting

Reporting is one of the central means of communication during the execution phase. Data is processed and graphically depicted with the help of standardized reports. The latter serves to inform participants about the status, progress and management requirements of the projects and to thereby create transparency for the (sub-)projects and management levels. The use of granular presentations supports the analysis of potential aberrations and their roots.

Apply reporting corresponding to phases and target groups
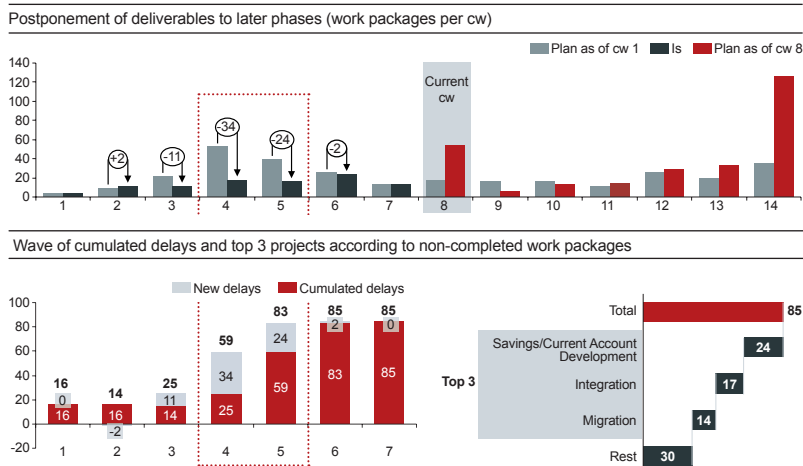
Source: COREtransform

Figure 11: Work package statistics as an early warning system

Work package statistics provide an overview of the relationship between the planned work packages to be completed within a reporting cycle and those actually delivered (Fig. 11). This enables the implementation of an early warning system that alerts the project management to the development of aberrations and shifts in scope, otherwise remaining non-noticeable. Contrasting juxtaposition of initially planned work packages and those planned according to the latest update provides information about the extent of a possible backlog created by shifts in delivery dates. The work package statistics provide a graphic depiction of these shifts, allowing the

Implement an early warning system to assist with steering requirements

project management to counter such a backlog. Additional types of reports such as the earned value analysis and the test case implementation also alert to discrepancies between planned and achieved project results.
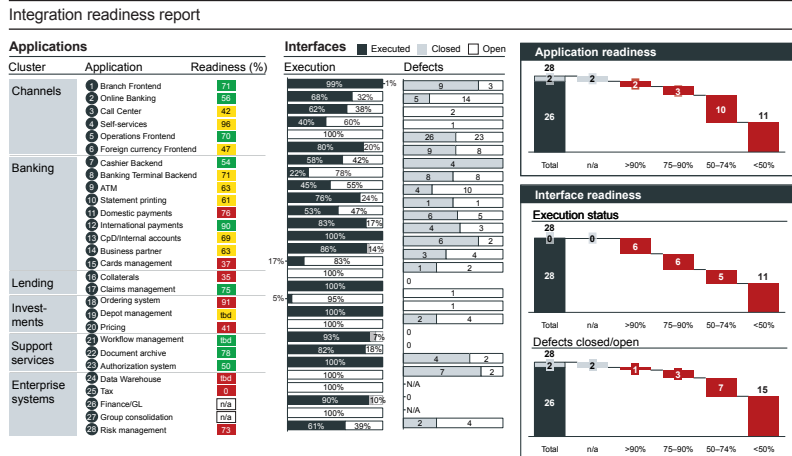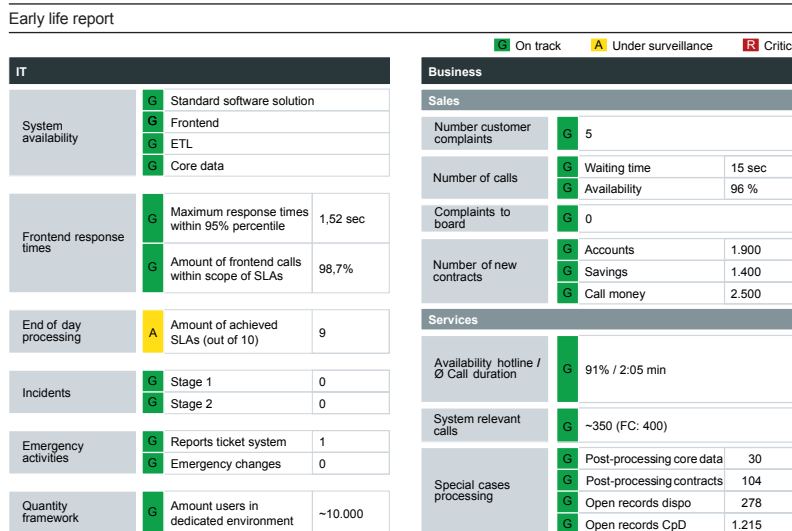

Source: COREtransform

Figure 12: Focus on integration/interfaces

Other reports concentrate on the qualitative status of the (sub-)projects. Status and integration/interface reports provide information about the progress of the project with the help of key indicators. A traffic light system indicates which fields require action (Fig. 12). Both, the dependency report, created using the program management tool, as well as the early life report (Fig. 13), which processes information separately for the IT and business sides after the Go-live, are based on the traffic light scheme. Approval and sign-off cascades (Fig. 18 below), drive the ultimate Go-live decision.

Access scope specific information about status and progress

Source: COREtransform

Figure 13: Measuring the sustainability of success

In order to cope with the changing requirements in terms of information and transparency over the course of a project, reports for each specific project phase need to be created. This ensures that reports do not become simply a routine, but that they are taken seriously by the senders as well as the recipients and that the current challenges of the phases are being addressed.

Test/defect reports (Fig. 15 below) illustrate data for individual and linked applications according to time, categories, and level of importance. The reason for this multifaceted presentation of data is that this phase is exclusively focused on defects and their resolution. Other reports depict the magnitude of different factors in relation to each other. The risk/issue report in form of a matrix describes the relevance of a risk as a product of its possible impact and probability of its occurrence; it places the risk in relation to the urgency of the event.

3.3.4 Testing and test management

Testing serves as continuous assurance for the quality of the results of individual implementation steps. The complexity of the project, the successive development of the functionalities, and the process in the (sub-)release steps, require a systematic test management in order to coordinate and steer the typically thousands of test cases that must be carried out during most of the execution phase.

The test management forms a central method within the execution phase and is used as a means of steering and controlling to ensure proper integration and synthesis of the individual components into a complete system. On the one hand, test management determines what will be tested. Within this framework, specific tests are selected while the contents, scope and timeline of the tests are planned and the test cases are defined. The IT side and the software provider should be included in this process to avoid testing standard functionalities whose quality has already been certified by the provider. The development of individual components is directly followed by the testing of the respective components (Fig. 14). These are the first testing activities to take place and are initialized early on in the implementation phase. Additional testing steps are staggered throughout the process. Typically, half of all test cases are component tests, followed by migration and replication tests (20%), system integration and front-end tests (both 10%), non-functional (5%), end-to-end (3%), and finally acceptance tests (2%). 90% of test cases therefore solely serve the checking of functions and data migration capability.

Ensure quality through systematic testing

Test activities according to shares and schedule

Test activity/test level	Share of test cases		Timetable	
	Test cases total			Go-live
Component tests		50%	17 months	
System integration tests		10%	10 months	
Migration/replication tests		20%	11 months	
Non-functional tests		5%	10 months	
Frontend tests		10%	8 months	
End-to-end tests	3%		8 months	
User acceptance tests	2%		6 months	

Source: COREtransform

Figure 14: Overview of test activities

By establishing test environments, coordination, reporting, and defect management requirements, the test management determines how tests will be conducted and how the results will be handled. Test/defect reporting (Fig. 15) plays a particularly important role here, as the number of test cases per test level markedly increases along with the rising number of releases, from a few hundred at the beginning to several tho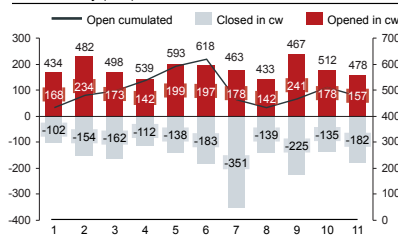usand test cases in the last third of the project. This is due to the increased functionalities that are implemented with each release, which requires testing. Additionally, other regression tests must be carried out since defects discovered in the previous release must be examined in the current release to see if they truly have been resolved and whether solving the aberration possibly led to the creation of other defects.
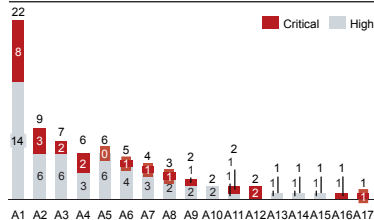
Focus: Early and structured testing

Testing should begin soon after development in order to ensure continuous quality control during the implementation.
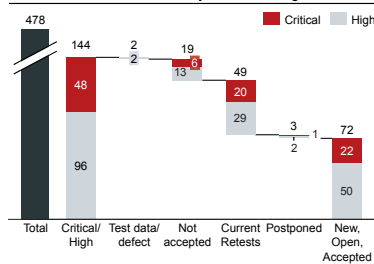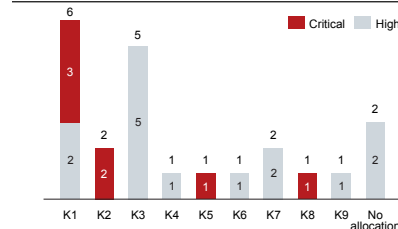
Source: COREtransform

Figure 15: Test/defect reporting

3.4 Network, or: people and skills

A transformation requires a system to divide the entire project into phases, nuanced decision management as well as specific and flexible methods and tools. However, a transformation could not be implemented without the banks' employees and partners who draw on their knowledge to support the project, who use their skills to shape it, and whose experience lead it to the final success.

Focus: Phase oriented sourcing

In order to cover the skill requirements that arise within the execution phase, specific skill areas for each phase are to be identified using typical total load curves. From this, a skill sourcing matrix (Fig. 16) is created to provide specific information about skill requirements and their methodical integration.

Exclusively drawing on its own resources, the bank would not be capable of providing all of the diverse and specific expertise and the related skills necessary for a transformation. The sourcing strategy serves to determine which external support and skills the bank requires for a transformation and to develop an approach for integrating these skills adequately into the structures and processes of the transformation.

Identify and integrate skill requirements strategically

Distribution of skill requirements during execution phase
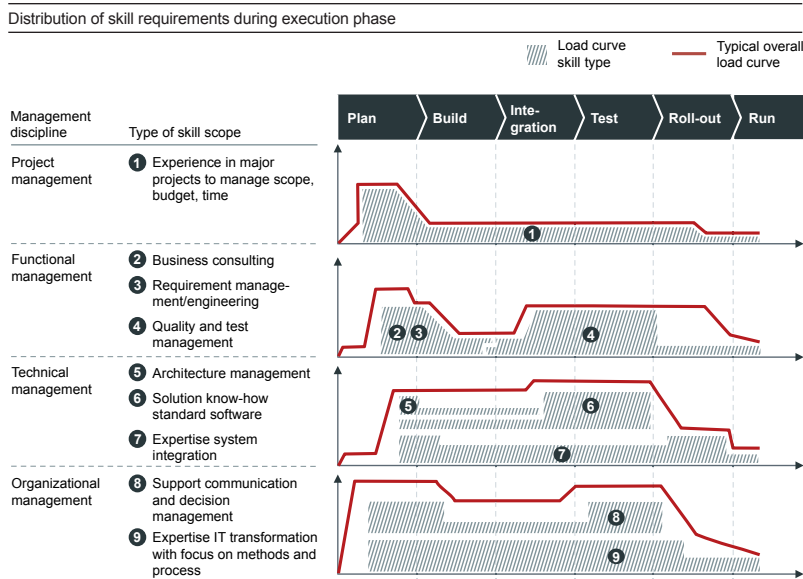
Source: COREtransform

Figure 16: Skill sourcing matrix

The skill sourcing matrix represents the basis to organize the integration of the supporting consultants and to communicate the respective selection processes transparently and comprehensibly for all participants. The depth of detailed planning necessary to that end and the onboarding of experts should be steered in a targeted manner starting in the preparation phase.

3.5 Go-live, or: the goal

All methods, processes, and tools as well as skills serve the goal of going live with the new system and decommissioning the legacy system. The retention of the initially planned implementation will not be enough to achieve this goal, as the corresponding processes have to be actively navigated. This requires a complementary management designed from the perspective of the Go-live. This Go-live management coordinates the individual projects and sub-projects from the perspective of the end result and steers them towards that goal.

The strategic planning of the roll-out starts about six months prior to the Go-live. At this time, the management brings the operational focus onto the elimination of defects and determines which business requirements must be addressed to achieve Go-live readiness. Within this framework, the management formulates specific acceptance criteria that will be successively measured and completed, on the one hand, and, on the other hand, creates the decision-making capability for the Go-live. Finally, the Go-live management plans the Post-Go-live situation.

Perceive dedicated Go-live management as a requirement for successful completion
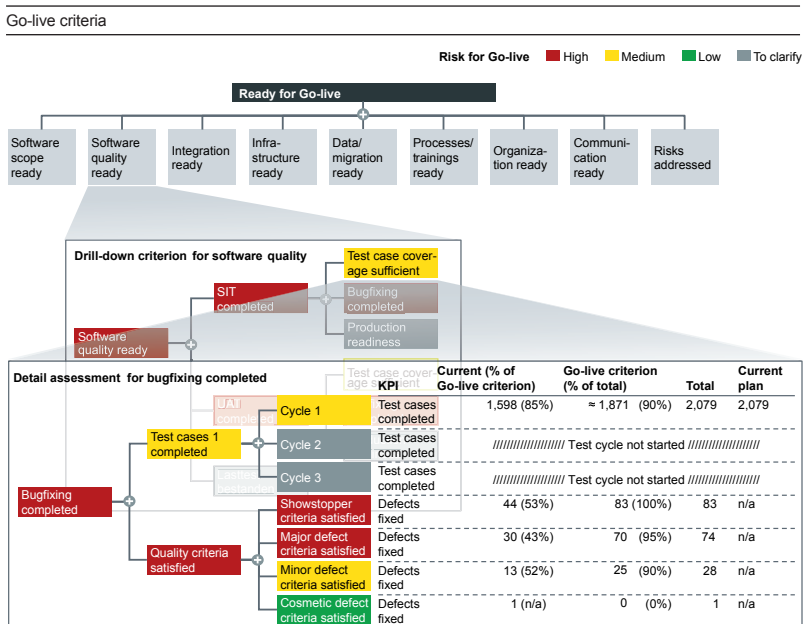
Source: COREtransform

Figure 17: Acceptance criteria for the Go-live

The consolidated preparation of the program process according to Go-live criteria provides a fact-based view and links the status of the deliverables within the projects to the overarching status of Go-live readiness. This allows identification and evaluation of necessary actions in order to take specific measures.

With regard to the acceptance criteria, requirements are formulated for individual areas in a specific and multi-level way including risk evalua-

Focus: Fact based and successive approvals

Decision cascades (Fig. 18) can be used to ensure that the expectations of all stakeholders as well as the IT and business sides are taken into consideration in a coordinated manner, allowing the acceptance for the Go-live by the executive board.

tions, and the implementation status of these requirements is continuously reported (Fig. 17). The operative numbers resulting from these reports enable the project management to undertake precise and fact-based decisions regarding the acceptance of the project. At the same time, the project management must ensure that all stakeholders are informed about the progress of the project and that their expectations are taken into account, whereby the acceptance criteria provide the necessary transparency.
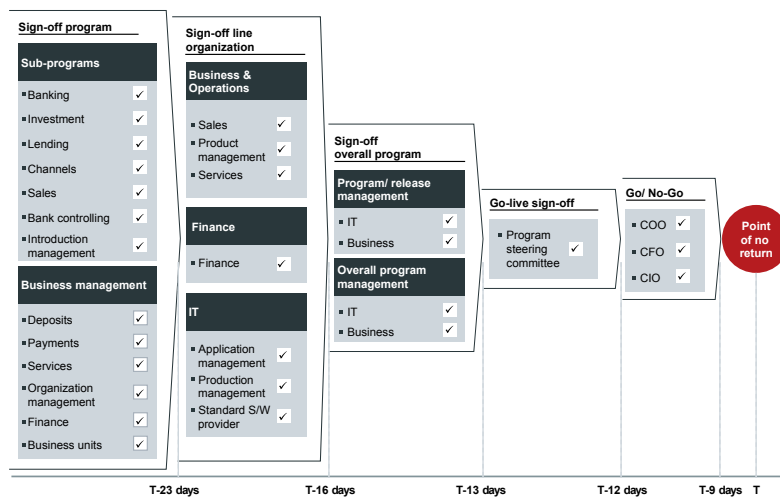
Source: COREtransform

Figure 18: Approval and sign-off cascade

By means of release cascades, stakeholder decisions are brought into a distinct structure; thereby, the dependency between the single competencies is respected and taken into account. In addition, it establishes transparency and addresses possible needs for preserving the responsibilities.

4 Successful Transformations through Goal-oriented Approaches

The manageability of the project and the management's ability to steer the project are crucial for the success of the transformation. The complexity and uncertainty of the project should not be eliminated, but must be addressed within the respective contexts. Transformations require complex management that draws on knowledge, skills, and experience and uses specialized mechanisms and instruments to react flexibly and to steer the main challenges in a goal-oriented and successful manner.

> **Provide orientation:** An adequate framework that divides the program into different phases with specific management and controlling scopes ensures the provision of orientation throughout the duration of the program and the continuity of the procedure for all involved parties.

> **Take decisions:** The decision management ensures a balanced foundation for both the provision of necessary information as well as for the essential scopes of the decisions, within the context of the individual project phases, which allows for consistent decision-making.

> **Use tools:** Specialized methods and tools secure the quality of results and provide detailed information about the status and progress of crucial areas, allowing participants to identify the steering requirements and to adjust developments in a detailed way.

> **Connect experts:** Identifying and connecting the employees and skills necessary for the transformation ensures that the best candidates for the respective task fulfill the identified requirements with respect to scope as well as to the different project / program phases.

> **Finalize projects:** The Go-live management consolidates the results of the projects using specific Go-live criteria and simultaneously creates the decision-making capability with the participation of all stakeholders to ensure that the power required for the completion of the transformation is available.

With the help of these steering mechanisms, the management will be able to adhere to the goal of transforming the core banking system throughout all phases of the program and to lead the transformation in a goal-oriented and efficient manner, thereby using the standardization of the IT system to lay a strategically important building block for dealing with the challenges of structural change in the banking market.

Always keep focus on crucial success factors

Appendix

Standard Software Providers for Banking

Europe	
ABIT	G&H Bankensoftware
afb Application Services	iBS – Innovative Banking Solutions
Asseco South Eastern Europe	ICS Financial Systems
Avaloq	International Financial Systems
b+m Informatik	Intertech
B+S Banksysteme	Inversia
Banking Information Systems	Knowis
Bavaria Banken Software	Misys
BearingPoint	msg Gillardon
Bosch Software Innovations	Murex
Capital Banking Solutions	Neptune Software
Center of Financial Technologies	PASS Consulting Group
Colvir Software Solutions	Probanx
Commercial Banking Applications	Prof. Schumann
COR&FJA Alldata Systems	Profile
CPU Bankensoftware	R-Style Softlab
Delta Informatique	SAB Ingenierie Informatique
Diasoft	Sage
DIE SOFTWARE Peter Fitzon	SAP
e.stradis	SmartStream
EFDIS	SOPLEX Consult
ERI Bancaire	Sopra Banking Software
EVRY	Subito
Exictos	Temenos Group
FERNBACH Financial Software	Torstone Technology
Finnova	UNiQUARE Software Development
Forbis	zeb/rolfes.schierenbeck.associates
FORS-Banking Systems	

North and South America	
Accenture Software	Fundtech
ACI Worldwide	Harland Financial Solutions
Calypso Technology	International Private Banking Systems
Calyx Software	Kyriba
CLS Group	Mimics
Cobiscorp	Open Solutions
Computer Sciences Corporation	Openlink Financial
Datapro	Premium Technology
De Larrobla & Asociados (DL&A)	Provenir
Financial Software Systems	Sungard
FIS	Top Systems
FISA Systems	TwoFour Systems
Fiserv	Wall Street Systems

Asia	
3i Infotech	International Turnkey Systems
Agile Financial Technologies	Nucleus Software
Autosoft Dynamics	Oracle Financial Services Software
BML Istisharat	Path Solutions
HCL Technologies	Polaris Financial Technology
Infopro	Silverlake Axis
Infosys	Tata Consultancy Services
InfrasoftTech	

Oceania	
CCK Financial Solutions	New Technology Business Solutions

A database with further information about the product portfolio of the providers is available on http://www.coretechmonitor.com.

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About the COREinstitute

The COREinstitute conducts research on the dynamics and systems of complex transformations in various industries and sectors in order to develop new solutions within transformation management for industry experts, researchers, and engineers. The COREinstitute makes the results of its interdisciplinary research available to the public across a variety of media and through a range of publications.

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