Targeting Value
In a Digital World

By Mathias Kirchmer and Peter Franz
Targeting Value in the Digital World: 
Value-driven Design and Implementation of Business Processes

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Abstract

Extensive research has proven that an organization competes through less than 20% of its business processes that have a high impact on strategic value drivers. Over 80% of the processes are more routine (commodity) processes. It is sufficient to achieve industry average performance in these areas. A value-driven process design and implementation considers this by focusing innovation and optimization initiatives, as well as company specific digitalization, on the 20% high impact processes. Commodity processes are designed based on industry reference models and implemented, as far as possible, through available standard solutions. Design and implementation of processes thus focuses systematically on creating business value.

The paper describes an approach to such a value-driven segmentation, design and implementation of businesses processes, transferring strategy into execution, at pace, with certainty in the digital world. The approach is explained using a number of case examples.

Keywords


Content

1. Targeting value systematically
2. Segmenting business processes
3. Value-driven design
4. Value-driven implementation
5. BPM-Discipline to Sustain Value
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1. Targeting value systematically

In our increasingly digital world, organizations have to master the ability to continuously adapt to an ever-changing business environment in order to strive and to survive in the medium to long term. Dealing successfully with a volatile business environment, in general, means continuously “leveraging people to build a customer-centric performance-based culture” (Mitchel, Ray, van Ark, 2014). Therefore, it is not only important to have a good strategy, hence to know what to do. But in many organizations the key challenge is about how to execute the strategy. In order to overcome this challenge, more and more organizations establish a value-driven Business Process Management (BPM) Discipline (BPM-Discipline) with a consequent process-orientation across the company (Kirchmer, Franz, 2014-2) (Franz, Kirchmer, 2012).

This management discipline is about moving strategy into execution, fast with low risk. It especially enforces a customer and performance focus since business processes deliver (by definition) a result of value for a client outside the process. This is even more pronounced for a digitalization approach, to make sure that emerging technologies are used in a way they really have a positive business impact. A key component of a BPM-Discipline is a structured value-driven design of processes realizing the business strategy of an organization (Rummler, Ramias, Rummler, 2010) (Burlton, 2010).

This chapter presents an approach for business process design and implementation that meets those requirements of targeting value (Kirchmer, 2014). It is both, focused on executing the strategy of an organization while being as resource efficient as possible. Result is a practical and effective approach to process design and implementation. Typical results of this approach embedded in a BPM-Discipline are transparency over an organization’s processes which enables achieve quality and efficiency, agility and compliance, external integration and internal alignment, as well as innovation and conservation. Figure 1 shows the “BPM-D Value-Framework” with categories of values delivered through a BPM-Discipline (Kirchmer, Franz, 2014-2).
Research has shown that organizations only compete with approximately 5% of their processes with a further 15% being important core processes, supporting the competitive advantage (LEADing, 2014) (Franz, Kirchmer, 2012). This means that 80% of the business processes are commodity processes that can be carried out using industry standards or common industry practices. An industry average performance is sufficient for these and significant innovation in these usually detracts focus away from the differentiating core. Sophisticated improvement approaches or even innovation and sophisticated digitalization initiatives, targeting higher performance, don’t deliver any real additional business value on this 80%. Hence, process innovation and optimization initiatives have to focus mainly on the 20% high impact processes while other business processes can be designed and implemented using existing industry common practices. Results are highly organization specific business processes where this really delivers competitive advantages and processes following industry common practices where this is sufficient.

Targeting value systematically requires the appropriate segmentation of processes, as basis for a differentiated design and implementation approach. Process models, developed during the process design, need to reflect the requirements of those different process segments with an understanding of the importance, of the resulting business processes, in enabling the strategy of the organization. Different levels of sophistication of the improvement approaches are required. The subsequent process implementation, including the appropriate
software support, is executed according to the process design based on the characteristics of the identified process segmentation. Value-driven design often prescribes different approaches to procure the required, enabling software. Highly organization-specific processes often require an individual development of software. Processes designed based on industry standards lead, in most cases, to the use of standard software packages, adapted as little as possible.

A value-driven approach to design and implementation of processes enables organizations to use resources where they provide best value during improvement initiatives. As an example the people, who are highly qualified in applying sophisticated process improvement methods, focus their time on high value areas. They can systematically target value as well as reduce the risk of project failure (Kirchmer 2013). They focus on moving the organization to the next level of performance, including the right degree of digitalization. This requires in many cases an “enlightened” Chief Information Officer (CIO) (Scheer 2013) who moves away from being a technical expert to becoming a driver of innovation and performance. The business value-focus allows such a CIO to transition into a “Chief Process Officer” (CPO) (Franz, Kirchmer, 2012) (Kirchmer, Franz, 2014-1).

The approach has been developed based on practical experience in large and mid-size organizations, mainly in the USA, South America, Japan, India and Europe. It has been combined with academic research regarding value-driven design and implementation methodologies, especially the LEADing Practice guidelines (LEADing, 2014).

2. Segmenting business processes

A business strategy needs to be operationalized in order to use it to drive process design and implementation. (Some would call this creating a “Strategic Execution Plan”) This starts by deriving strategic value-drivers from the organization’s strategy. Value-drivers are simple statements that describe necessary achievements required to make the strategy happen. The degree of realization of a value-driven process design is measured through key performance indicators (KPIs). A business process assessment based on the impact of a business process on strategic value-drivers is the basis for the segmentation of processes into high impact and commodity processes (Franz, Kirchmer, 2012). This process assessment is the key tool to align business strategy with process design and
implementation. It enables the desired value-driven approach and is a core part of a BPM-Discipline, where we focus on transferring strategy into execution.

*Value Drivers*

The value-drivers are derived from the business strategy of the organization using value-driver-tree models (value-driver trees). This is a way of transferring the strategic intent of an organization into operational, value-driven business targets. An excerpt of an example value-driver tree is shown in figure 2. The value-drivers can be further weighted, to focus the segmentation (and subsequent analysis) on the most important business objectives.

In practice a three-step approach to developing a value-driver tree has proven to be most successful as depicted in figure 2. The strategy describes the business priorities outlining the overall direction the company is taking. These priorities are decomposed into strategic objectives (the second column in figure 2), describing the key components of a business priority. Then one or several value-drivers (the final column) are identified for each objective, hence the operational achievements that make this objective happen.

**Shipping Services Execution**

A company, of great vision, needed to reinvent its service proposition to remain relevant in an increasingly digital, information intensive world.

Turning this vision into reality started with a design of the business process, focusing on those processes at the waterfront, enabled by a
Process Impact

The business processes of an organization are then evaluated based on their total assessed impact on the specific value-drivers. The result gives two segments of business processes: high impact and commodity processes. “High impact” processes are the ones that are key to make the business strategy of the organization happen: the “competitive” processes and “supporting core” processes. They are the most important link of business strategy to execution. This approach is visualized in figure 3 (with the high impact processes shown in red).
The value-drivers can be weighted according to their importance. Minor changes and adjustments in strategy can then be reflected through adjustments of the weights. Changing, removing or adding value-drivers accommodates larger strategy changes. This update of value-drivers and their weights enables an agile adjustment of process-priorities to respond to revised strategies, reflecting the ever-changing business environment.

**Impact Assessment**

For each process it is necessary to assess if it has no (0), low (1), medium (2) or high (3) impact on each of the value-drivers. Then the overall impact is calculated in a process assessment matrix by multiplying impact with the weight of the appropriate value-driver and calculating the total of all impacts of a process. An example of a process impact assessment (PIA) is shown in figure 4.

![Figure 4: Process Impact Assessment (Excerpt)](image)

The high impact processes have then to be evaluated based on general industry practices, e.g. through benchmarks or purely qualitative evaluations. In that way you identify the high impact “high opportunity” business processes. These are the
processes where improvements have the biggest value potential since the process has a high impact on the strategy but it currently performs only in or even under the industry average.

Practice experience, with different companies, has shown that the processes should be analyzed on a level of detail so that 150-200 process definitions describe the entire organization. This is often referred to as “level 3” (L3). This level is detailed enough to obtain differentiated results but high level enough to avoid excessive work efforts and getting “lost in the weeds”. Using the results of the process impact assessment the 20% of the processes that are classified as high impact can be identified. The others are considered the commodity processes.

In practice there is often a “grey” area of processes that could be in either group. Hence there may be slightly more or less than 20% of the processes in the high impact segment. This issue has to be resolved, on a case-by-case basis, reflecting the specific situation of an organization, its business strategy and the overall business environment it works in. The absolute level is not important, as the level of improvement is, based on experience, normally driven by the level of process expertise available and the appetite it has for investment.

3. Value-driven design

The high impact, high opportunity processes are subject to detailed process innovation and optimization activities, focusing on the previously identified value-drivers (Kirchmer, 2011). The degree of achievement is measured through KPIs that relate to the identified value-drivers. The check of the quality of a process design through KPIs can be used in agile as well as in top-down waterfall design approaches. Depending on the specific process and the culture of the organization, either approaches or a combination of both can be relevant (Morris, 2014). The design approach uses formal modeling methods like Event-driven Process Chains

PIA at Energy Company

Implementing a Process Impact Assessment for the first time was an eye-opener for a division of an energy company. The first challenge was to simplify their list of (level 3) processes from the morass of corporate reference models. Then a simple survey technique was used to assess the impact of
(EPC) or the Business Process Modeling Notation (BPMN) to facilitate the integration of process design and implementation.

Product and market-oriented design approaches (Kirchmer, 1999b) have been proven effective since they link processes with their value-drivers to the offerings a client is looking for. The product and market-oriented design supports an integrated product (offering) and process innovation. Such an approach is especially important for the processes that are highly relevant for the strategic positioning of an organization, hence the top 5%. In order to identify these business processes another segmentation of the high impact processes is required distinguishing between strategic and non-strategic high impact processes. The focus is on high impact strategic processes (Franz, Kirchmer, 2012).

New technologies, especially information technologies (IT), relevant for a specific process, have to be evaluated in the same business-driven way. You can, e.g. model different processes scenarios representing various degrees of automation. The best scenario is chosen based on the expected value of the relevant KPIs as compared to the level of investment (and complexity) to introduce it.

For all high impact processes techniques like process model based simulations and animations are helpful to identify the most appropriate design solutions based on KPIs. Often even the transparency created through these information models is sufficient by itself to discover relevant improvement or even innovation opportunities.

Traditional improvement methods like Lean or Six Sigma (George, 2010) can be applied in selected cases. However, these are generally not approaches that support a focused innovation or a full blown optimization of processes, including automation opportunities. Hence, they are more targeted to bringing less strategic, people intense processes to better efficiency, in most cases resulting in cost or time reductions.

The starting points for the design of the 80% commodity processes are industry or functional reference models. These models are available through industry
organizations or consulting and software companies (Kirchmer, 2011). In many cases they are already developed using standard modeling methods. The industry common practices reflected in those models are only adjusted to the specific organization when this is absolutely necessary, e.g. due to legal requirements in country subsidiaries or specific logistics requirements through the product.

The process design work focuses on “making the industry standard happen”. If process areas are identified where the industry standard cannot be applied, e.g. due to product specifics, only those areas will be designed in a company specific way, keeping the adjustments as close to the industry standard as possible. Process solutions can here often be found through a simple application of the mentioned traditional improvement methods like Lean and Six Sigma since a pure efficiency focus is in most cases justified here. However, it is important to keep in mind that it is in general not worth improving above industry average performance.

A structured modeling and design approach is essential to produce information models of the business processes that enable a seamless link to implementation. A well proven and academically sound framework is “ARIS”, the Architecture of Integrated Information Systems (Scheer 1998). This framework facilitates the design of processes from different viewpoints: organization, functions, data, deliverables and control flow. Result are process models and other information models (e.g. entity-relationship-models) that contain all information necessary for a holistic process design and the following process implementation. The ARIS architecture is shown in figure 5.
This value-driven process design approach is visualized in figure 6. It shows that reference models can also be used as an input for the design of high impact processes. But this is only one component of getting all information together to come up with real innovative and optimized solutions regarding the KPIs and the value-drivers they relate to.
In both cases process models are developed down to a level of detail that still provides relevant business information. The decomposition of the function “Enter Customer Order” into “Enter First Name”, “Enter Last Name”, etc. would from a business point of view not add any additional relevant content (but may be necessary later for the development of software). Less detail would also be required when reference models are used, only adding more detail where the design deviates from the initial industry model.

Both, high impact and commodity processes are part of overlying end-to-end business processes. Process-interfaces in the underlying detailed processes reflect this overall context and make sure that the various process components or sub-processes fit together. Hence, during the process improvement work cause-and-effect considerations have to take place in order to avoid fixing issues in one area while creating new ones in other processes.

4. Value-driven implementation

The organization specific process models for high impact business processes are generally implemented through people and highly flexible next generation process automation engines. Processes are “what we do” in the business and are executed, in part, by people. This required the right level of change management. In most cases, the implementation also requires the development of specific application software components. The process models, reflecting the optimized KPIs in support of the relevant value-drivers, are the starting point for the more detailed modeling of the underlying software. They enable a consistent, value-driven process implementation and automation. At this point the modeling method can change, for example to the Unified Modeling Language (UML), reflecting the desired software structure to support the high impact processes. The workflow engine, of next generation process automation, can also be configured based on those models. This, depending on the underlying modeling repository and execution technology, could even be done automatically or semi-automatically. The integration between process modeling and execution tools can be extremely beneficial in this situation, especially since it enables the flexible value-driven adjustment of processes.
The overall architecture of such next generation process automation environments is often referred to as Service Oriented Architecture (SOA). In such an architecture the “execution software” and the “process logic” (workflow) are separated (Kirchmer, 2011) (Slama, Nelius, 2011). Hence, the developed process models can, on one hand, be used to configure the workflow and, on the other hand, be used to develop the software services that are not available in existing libraries. Existing software services may include detailed process reference models that can be re-used in the process design. This architecture of next generation process automation environment is visualized in figure 7.

![Figure 7: Next Generation Process Automation](image)

One of the key advantages of this architecture is the high degree of flexibility in adjusting process flows and functionality. This can be crucial for a company looking for agility and adaptability. The main disadvantages are: the effort required in providing the appropriate governance for running such an environment; and the information modeling efforts required in the building phase.

The process models of the commodity processes are used to select or at least evaluate pre-selected “traditional” software packages like Enterprise Resource...
Planning (ERP) systems, Supply Chain Management (SCM) or Customer Relationship Management (CRM) systems. These can become part of the overall next generation architecture, representing one software component. Then those models developed during the process design are used to drive a process-oriented implementation of the software packages across the various organizational units involved in the business processes in scope (Kirchmer, 1999). Ideally the industry specific software-reference models are already used as an input during the process design. This means, one procures the reference models to be used from the software vendor. If this is possible you benefit from the “business content” of the software and minimize design and modeling efforts. Using other industry reference models (different from the software based model) may lead to design adjustments and extensive re-work once the software is selected.

Figure 8 shows the architecture of a more traditional software environment. Here process definition and software functionality are linked in a static way. This means the software more or less dictates how a process has to be executed (allowing only pre-defined variants through the software configuration). This is fine for commodity processes but often causes issues in strategic high impact processes that need to be company specific. Consequently we have used another implementation approach for those strategic processes. However, in some cases it is also possible to develop add-on software to support high impact processes and integrate it into the larger software package, e.g. the ERP system.

![Figure 8: Traditional Software Architecture](image)
Advantages and disadvantages are the opposite of the earlier description for next generation process automation approaches. Hence, in practice, a combination of both implementation technologies and approaches is, in most cases, the solution that delivers best value.

The process-interfaces in the different process models guide the software integration. This can be supported from a technology point of view through appropriate enterprise application integration environments – in general included in SOA environments. Such software tools or middle-ware tools reduce the efforts for interface development to a necessary minimum. Their efficient use is again driven through the appropriate process models, specifically the integration of the various process components.

The implementation of processes includes as a main component the preparation of the involved people for the new work environment. They have to learn new manual processes and how to use the automation technologies in the specific process context. The necessary change management is carried out using the same process design as a basis that was used to drive the development and configuration of the IT components. Information, communication, and training are supported through the information models of the process design (Kirchmer, 2011) (Franz, Kirchmer, 2012). The integrated implementation of people and IT based processes leads to a “digital organization” that really delivers additional business value.

The implementation of the business processes can again be based on an agile approach, developing several “intermediate” prototypes or a top-down waterfall approach. In most cases a combination of both is best suited since this avoids a possibly “end-less” number of development cycles created by agile development or developments getting stuck on their way top-down of waterfall development models (Morris, 2014).

The result is end-to-end business processes based on a value-driven process design and an appropriate integrated automation. The approaches provide the necessary flexibility where it delivers real business value and the required efficiency where possible.
5. BPM-Discipline to Sustain Value

Once business processes have been designed and implemented targeting business value, these results need to be sustained. You have to “control” and re-evaluate your business processes, especially the high impact processes, to see if the KPIs remain in an acceptable range and adjust the design or implementation if necessary. Also changes in business strategy need to be reflected. Therefore the value-driven design and implementation approach needs to be part of the larger BPM-Discipline, the management discipline focused on moving strategy to execution, fast and at low risk. This BPM-Discipline is established through an appropriate “process of process management”, that manages the lifecycle of each business process to keep it on track (Kirchmer, Franz, 2014-2) (Franz, Kirchmer, 2012). This BPM-Discipline is visualized in figure 9.

![Figure 9: The BPM-Discipline – Management Discipline to move Strategy into Execution](image)

Providing appropriate process governance is especially important to make a BPM-Discipline reality and keep processes focused on creating value. This means that the process ownership, accountability and responsibility, as well as a mechanism to take decisions and execute resulting actions across organizational boundaries are defined (Kirchmer, Hofmann, 2013). In many successful organizations the “process of process management” is owned and focused on value by a chief
processes officer (CPO) and operationally managed by a BPM Center of Excellence (CoE) with various operational roles (Franz, Kirchmer, 2012) (Kirchmer, Franz, 2014-1). Business processes require roles like process owners and supporting operative roles to be kept on target over time. These roles can be decentralized in business units or centralized, project based or permanent, in-house or out-sourced.

The groups of extended and core roles of a BPM-Discipline are shown in the BPM-D Organization Framework in figure 10. Targeting value in the design and implementation of processes only leads to real business success if that value is sustained through a BPM-Discipline and kept alive through people in the required governance roles.

The approach of value-driven business process design and implementation allows an organization to move its strategy systematically into execution. It aligns the modeling and implementation efforts with the strategic direction of the organization.

First experiences with real live companies showed that this approach helps on one hand to dramatically reduce process design and implementation times due to the efficient handling of commodity processes. Companies estimated more than 50% savings in time and effort. On the other hand it enables real strategic advantage though the innovation and optimization of high impact process areas based on the KPIs and the related strategic value-drivers.
While the basic approach has proven to be successful in practice there are still gaps to close. In the design phase the systematic achievement of appropriate process innovation is still a topic that needs further research. Considering the importance of process innovation, this is a real key research topic. In the field of process implementation the integration of the process modeling and execution environments must still be improved. While there is quite a bit of progress on the software-side (Scheer, 2013) (Stary, 2012), there is work to do on integrating software and organizational governance solution. The biggest remaining challenge is to build the overarching BPM-Discipline to keep the value-driven processes on track while providing the appropriate degree of freedom necessary in an agile organization.
6. References


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As innovative CEO and Managing Director at BPM-D, Accenture, and IDS Scheer, Dr. Kirchmer has worked successfully in an international environment across various industries. He has combined his broad practical business experience with his extensive academic research. This systematic integration has led to pioneering management approaches that have proven to be both sustainable and provide immediate benefits.

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Peter Franz has been working at the forefront of Business Process Management (BPM) for many years as part of a 30-year career with Accenture. He has a deep understanding of the application of Business Process Management discipline to drive real business results.

His career includes education and experience in the use of Information Technology and thus understands the Business / IT interaction from both sides and can help bridge this divide. He is passionate about BPM and its application to real business challenges.