Value-driven Design and Implementation of Business Processes
Transferring Strategy into Execution at Pace with Certainty

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Abstract: An organization only competes with approximately 20% of its business processes. 80% of the processes are commodity processes that can have an industry average performance. A value-driven process design and implementation considers this by focusing innovation and optimization initiatives as well as individual software development on the 20% high impact processes, while commodity processes are designed based on industry reference models and implemented as far as possible through standard software. The paper describes an approach to such a value-driven design and implementation of businesses – transferring strategy into execution, at pace with certainty.

1 INTRODUCTION

A key challenge of organizations in today's volatile business environment is "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 do things in order to build such a customer and market-oriented organization. This can be achieved through a consequent process-orientation since processes deliver by definition a result of value for a client outside the process. However, this requires a structured value-driven design of processes focusing on realizing the business strategy of an organization (Rummler, Ramias, Rummler, 2010) (Burlton, 2010).

This paper presents such a value-driven process design and implementation approach that 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.

The approach has been developed based on practical experience in large and mid-size organizations, mainly in the USA and Europe. It has been combined with academic research regarding such value-driven design and implementation methodologies.

2 TARGETING VALUE

The overall goal of the approach is to target and focus on business value during the design and implementation of processes. Research has shown that organizations only compete with approximately 20% of their business processes (Franz, Kirchmer, 2012). This means that 80% of the business processes are commodity processes which can be carried out according to industry standards or common industry practices. An average industry performance is sufficient. Sophisticated improvement approaches targeting higher performance are not delivering real additional busienss value. Hence, process innovation and optimization initiatives have to focus 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.

Such an approach also enables organizations to use resources where they provide best value during design and implementation initiatives. People who are highly qualified in sophisticated process design and implementation methods, for example, focus on high value areas. They can systematically target

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value as well as reduce the risk of project failure (Kirchmer 2013). They can focus on moving the organization to the next level. This reflects requirements of a modern Chief Information Officer (CIO) (Scheer 2013) who moves away from being a technical expert to a driver of innovation and performance. Hence, the approach allows such a person to transition into a Chief Process Officer (Franz, Kirchmer, 2012).

Such an approach 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 and the importance of the resulting business processes for the strategy of an organization. Different levels of sophistication regarding the improvement approaches are necessary.

The following process implementation, including the appropriate software support, is executed accordingly to the process design based on the identified process segments. The value-driven design leads often to different approaches to procure the 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.

Such a value-driven process design and implementation approach enables the required performance of an organization while meeting efficiency goals. It helps creating a culture with the right performance and customer focus by moving strategy into execution at pace with certainty.

3 SEGMENTING PROCESSES

A business process assessment based on the impact of a business process on main strategic value-drivers is the basis for the segmentation of processes into high impact and commodity processes (Franz, Kirchmer, 2014). This process assessment is the key tool to align business strategy with process design and implementation. It enables the desired value-driven approach and makes it a management discipline to transfer business strategy into execution.

The value-drivers are deducted from the business strategy of the organization using value-driver-tree models (value-driver trees). This is a way of transferring the strategic intension of an organization into operational value-driven targets. An example for such a value-driver tree is shown in figure 1. The value-drivers themselves can again be prioritized to focus the segmentation on the most important value-drivers.

In practice a three step approach has proven to be successful. The strategy delivers the business priorities which are decomposed into strategic objectives. Then one or several value-drivers are identified for each objective, hence the drivers that make this objective happen.

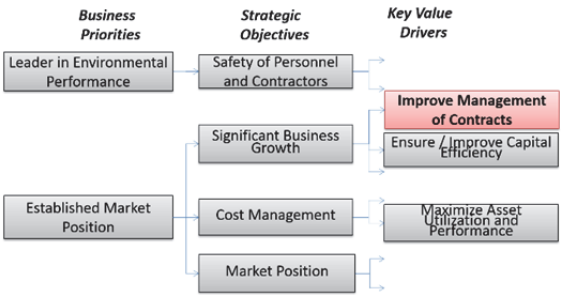

Figure 1: Value-driver tree (Excerpt).

The business processes of an organization are then evaluated based on their total impact on the specific value-drivers. Result are 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. They link strategy to execution. This approach is visualized in figure 2.

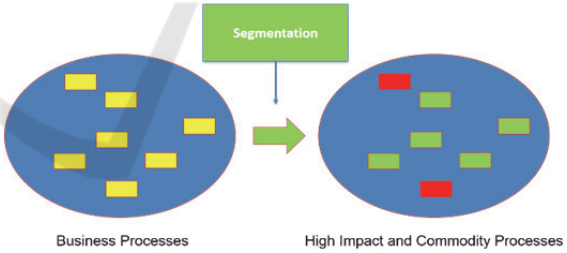

Figure 2: High impact and commodity processes.

The value-drivers can be weighted regarding their importance. Minor changes and adjustments in strategy can then be just reflected through adjustments of those weights. Larger strategy changes result in different or additional value-drivers. For each process it has to be defined 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 assessment matrix is shown in figure 3.

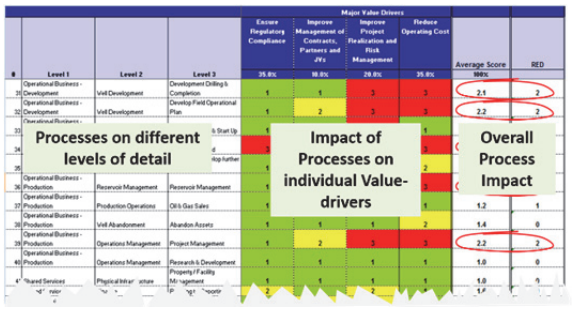

Figure 3: Process assessment matrix (Excerpt).

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 identified 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 to high work efforts. Using the results of the process assessment matrix the 20% of the processes that are classified as high impact can be identified. The others are 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 in a case to case basis reflecting the specific situation of an organization and its business strategy.

4 VALUE-DRIVEN DESIGN

The high impact processes (or at least high impact high opportunity processes, if further prioritization is necessary, e.g. due to budgets) are subject to detailed process innovation and optimization activities focusing on the previously identified value-drivers (Kirchmer, 2011). Therefore product and market-oriented design approaches (Kirchmer, 1999b) have been proven effective. The approach is used in conjunction with the application of standard modelling methods like Event-driven Process Chains (EPC) or the Business Process Modelling Notation (BPMN) to facilitate the integration of process design and implementation. 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. 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). These are perfect targets for innovation initiatives. As an example, a compressor company may deliver "compressed air as a service" instead of just selling compressors. Offering and related sales processes change simultaneously – reflected in the integrated design.

For all high impact processes techniques like process model based simulations and animations are helpful to come up with best suited design solutions. Traditional improvement methods like Lean or Six Sigma (George, 2010) can be applied in selected cases. However, these are in general not approaches that support a focused innovation. Hence, they are more targeted to bringing less strategic people intense processes to better efficiency, in most cases resulting in cost or time reductions.

A structured modelling and design approach is essential to produce models that enable a seamless link to implementation. A perfect framework is "ARIS", the Architecture of Integrated Information Systems (Scheer 1998). This facilitates the design of processes from different view points: organization, functions, data, deliverables and control flow. Result are process models that contain all information for the following implementation. The ARIS architecture is shown in figure 4.

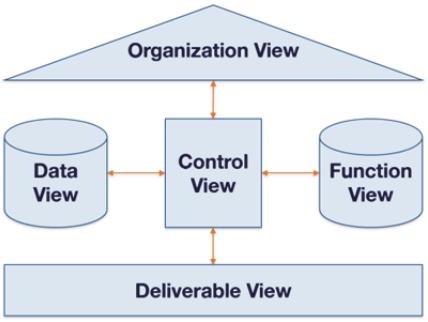

Figure 4: ARIS architecture by A.-W. Scheer.

Starting point for the design of commodity processes are industry reference models. These models are available for example through industry organizations, consulting and software companies

(Kirchmer, 2011). In many cases they are already developed using standard modelling methods. The industry common practices reflected in those models are only adjusted to the specific organization when this is absolutely necessary. The process design work focusses 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 standard performance.

This value-driven process design approach is visualized in figure 5. It shows that also for the design of high impact processes reference models can be used as an input. But this is only one component of getting all information together to come up with real innovative and optimized solutions.

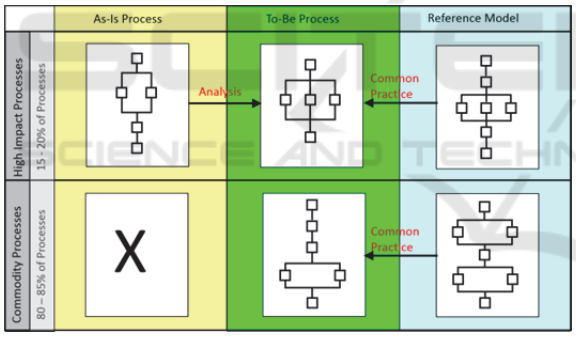

Figure 5: Value-driven process design approach.

In both cases process models are developed until the level of detail that still provides relevant business information through the design. 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). When reference models are used this can mean that in areas where the design deviates from the initial industry model a higher level of modelling detail is required then in other "standard" areas.

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.

5 VALUE-DRIVEN IMPLEMENTATION

The very organization specific process models for high impact business processes are in general implemented using highly flexible next generation process automation engines and require in most cases the development of application software components. The process models reflecting the optimized and innovative design are the entrance point for the more detailed modelling of the underlying software. At this point the modelling method can change, for example to the Unified Modelling Language (UML), reflecting the desired software structure to support the high impact processes. Also the workflow engine of next generation process automation engines can be configured based on those models, depending on the underlying modelling and execution technology even automatically or semi-automatically. The integration between process modelling and execution tools can be extremely beneficial in this situation.

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 sued to configure the workflow and on the other hand to develop the software services that are not available in existing libraries. Existing software services may include detailed process reference models that can be included in the process design. This architecture of next generation process automation environments is visualized in figure 6.

Key advantage of such an 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. Main disadvantage is the effort for providing the appropriate governance while running such an environment as well as modelling efforts in the building phase.

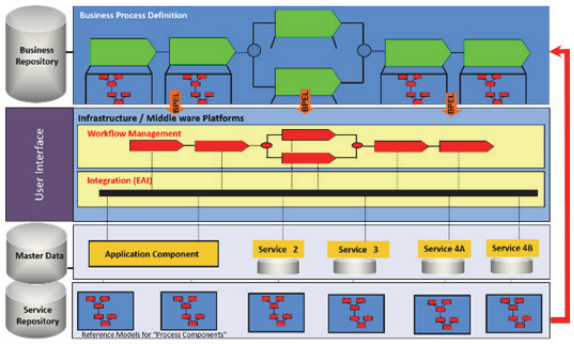

Figure 6: Next generation process automation.

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 from 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 one uses already industry specific software-reference models during the process design. This means, one procures the reference models to be used from the software vendor. Hence, one benefits from the "business content" of the software and minimizes design and modelling efforts. Using other industry reference models (different from the software based model) may lead to design adjustments once the software is selected.

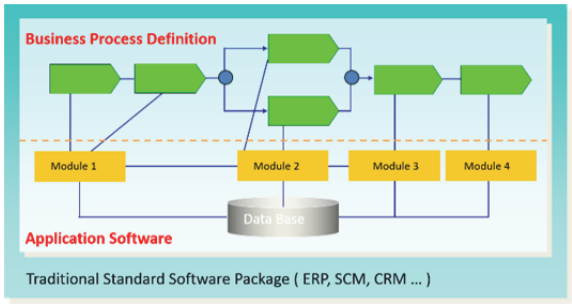

Figure 7: Traditional software architecture.

Figure 7 shows the architecture of such a traditional software. 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 causes issues in strategic high impact processes that need to be company specific. Consequently we have used another implementation approach there. 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.

Advantages and disadvantages are just the opposite as explained for next generation process automation approaches. Hence, in practice a combination of both efforts is in most cases the solutions 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.

Result are end-to-end business processes based on a value-driven process design and an appropriate integrated automation. The approaches provides the necessary flexibility where it delivers real business value and the required efficiency where possible. Business process management, software selection and development are integrated in one overlaying discipline of value-driven business process management (BPM) (Franz, Kirchmer, 2014) (Franz, Kirchmer, 2012).

6 CONCLUSIONS

The approach of value-driven business process design and implementation allows an organization to move its strategy systematically into execution. It aligns the modelling 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 optimisation of high impact process areas.

While the basic approach has proven to be successful in practice there are still gaps to close. In

the design part 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 topic. In the field of process implementation the integration of the process modelling and execution environments can still be improved. While there is quite a bit of progress on the software-side (Scheer 2013) (Stary 2012), there is still work to do on an integrating software and organizational governance solution.

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