Business Process Modeling and Analysis with Savvion BusinessManager

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Executive Summary

Every business has (or should have) a set of strategic goals and objectives towards which the business (all employees and deployed systems) works. Such goals and objectives take different forms at different levels: vision, mission statement, business direction and plan, and so on. People within an organization work collaboratively subject to policies and regulations, relevant practices and standards, and established procedures to achieve these goals. The fundamental entity that brings these together is business process.

Underlying every business is a set of processes that define how that business operates, how it generates revenue, how it supports its customers, etcetera. How a business differentiates itself from its competitors is built into its unique business processes. Hence the business processes become a very strategic and critical asset and intellectual property for the company.

As such, they must be properly managed and protected. To do so, processes must be recognized, documented, understood, and analyzed before they can be effectively automated and managed. To do so, there must be easy-to-use visual tools with a common language and searchable repository so that business analysts can model and store the processes. Furthermore, the tool must provide simulation and analysis capabilities so that models can be optimized before full design and implementation activities get under way. Such a tool must be open and standards-based so that it can interoperate with other process modeling, execution, and management tools.

Savvion BusinessManager provides a unified and integrated tool “Process Modeler” for modeling, simulation, and analysis of business processes, with a searchable repository.
The Need for Business Process Modeling and Analysis

There are processes that govern every business. Some of these processes are automated by packaged applications that capture certain functionality, activities, or segments of a process. But many of these processes that govern a business involve various systems, applications, and people—be them employees, customers, partners, or suppliers. These processes often are not formally defined and documented. Each department or organization may implicitly define its own processes (or often segments of its processes) based on various procedures, forms, guidelines, and other documents.

Things become worse when there are cross-functional processes that involve people and systems from multiple organizations. The knowledge about these cross-functional processes is spread throughout various business managers of the involved organizations. There is not a single person or place where one can learn about these processes. Furthermore, business processes typically are not flat. A business process, often within a single department, becomes a part (a subprocess) of a higher-level process, and that higher-level process itself may be a part of a yet broader process. Hence there are layers of processes in an organization.

The critical success factor for a business is the successful execution and management of its key business processes. And thus the need for Business Process Management (BPM), which consists of tools, technologies, systems, standards, and methodologies for the capture and articulation, automation or orchestration, and optimization of business processes.

The very first step in managing business processes—capture and articulation—focuses on process modeling. Before thinking about automating and optimizing processes, first an organization must document the business processes in some common, and easy to use and understand format, and language (preferably in some graphical notation).

A simple graphical tool such as Visio with simple, basic, and common components for process elements may suffice for sketching out a visual representation of a process. And in fact, there are those who have used and still use Visio-like tools for this purpose. But the outcome of this is a static drawing at best. Though this can be an effective means for capturing knowledge about business processes, and using it for training and knowledge transfer purposes, there is not much else one can do with this. Especially considering the fact that processes often change, the static drawings can become obsolete very quickly.

The next progress and advancement on basic graphical drawing of business processes is adding simulation and analysis capabilities. The objective here is to provide simple tools for business analysts such that they can do “what-if” analysis and run through simulated scenarios so that they may identify potential problems with the modeled processes before application design and implementation starts based on those models. (We refer to these process-based applications as process applications.) After all, building an application based on a process model that is incorrect, incomplete, or inefficient can potentially do more harm faster than its non-automated version.

So now we have business analysts from various organizations modeling and analyzing business processes and creating a process knowledge repository. That brings us to the need for a common process repository that can be accessed by various authorized personnel. These process models will then be handed over to the IT professionals to build process applications.

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1 Process modeling (also referred to as Business Process Analysis or BPA) thus far has been treated as a different market segment from the pure BPM segment (primarily concerned with the design, execution, and monitoring of processes). We believe that there will be convergence between the two above-mentioned process segments. While some BPM vendors have attempted to address the need for BPA through partnership with (or acquisition of) BPA vendors, Savvion brings the two together via its own integrated and uniform toolset in Savvion BusinessManager.
Requirements for Process Modeling and Analysis

A process modeling and analysis tool must at least meet the following high-level requirements:

- Visual/graphical, easy and intuitive to access and use, because the primary users of this tool are business analysts who are non-technical.

- Simulation capabilities for “what-if” analysis so that users can see in real-time and in a visual manner what can happen.

- Ability to produce reports from each “what-if” scenario and be able to compare them together to identify optimal deployment and execution scenarios.

- Automatic document generation on process models in standard formats such as PDF, so that they can be easily published and used for training.

- A common process repository that can be accessed by authorized users remotely or locally; it must support versioning with check-in and check-out capabilities so that multiple versions of the same process can be stored. It must also provide search capabilities to promote re-use, and avoid redundancy.

- Integrated with the process application design and development environment so that a developed model can be handed off to IT for full implementation.

- Support for emerging process standards such as BPMN (Business Process Modeling Notation). Ultimately there needs to be a common notation that can be understood by all the involved people and interpreted/executed by various BPM engines.
Benefits of Process Modeling and Analysis

As pointed out already, organizations can greatly benefit from their investments in early phase of process management efforts, namely process modeling and analysis. Studies have shown that even if organizations do not intend to go through the complete BPM cycle, and actually automate their processes; modeling their business processes and doing some analysis can help them optimize and streamline their processes, and thus improve how they run their business.

The proper use of process modeling and analysis can yield the following benefits:

- Putting business analysts and managers (who are non-technical) in charge of their processes.
- A common unified language and methodology for communicating processes and information about processes; ideal for training and knowledge transfer.
- Modeling of cross-functional processes involve various organizations or extended enterprises; these processes have previously been captured in segments if at all.
- Explicit linkage of organization's strategies (which are typically intangible) to explicit and well-defined business processes that can be better measured and managed.
- “What-if” scenario-based simulations to come up with optimum resource usage and overall process improvements that may reduce cost, and increase efficiency and productivity. Such analyses can provide insight into how to achieve better resource utilization. It may also indicate bottlenecks and contention points in the process that can be resolved.
- A common process repository for reuse and collaborative process modeling.
- Support for initiatives and compliances such as Six Sigma, ISO 9000, and Sarbanes-Oxley.
Modeling and Analysis in Savvion BusinessManager

Savvion BusinessManager is a comprehensive BPMS. Using Savvion BusinessManager, businesses can easily and quickly transform and deploy their processes as applications that run over the web and can be accessed through portals or wireless devices. Furthermore, Savvion BusinessManager enables the proactive management of a business in the context of defined business processes and rules. Savvion BusinessManager accomplishes this by offering comprehensive functionality through well-designed, cohesive product components that are based on proven, standards-based, open technologies. Savvion offers complete end-to-end process lifecycle management, from modeling and simulation to deployment to management to process change and improvement.

Process Modeler

Process Modeler provides business analysts an easy-to-use, intuitive, visual tool for modeling, simulating, and analyzing processes. Process Modeler is a standalone Java application, so it can be easily loaded onto a laptop and taken to business planning meetings with process owners.

Process Modeler enables business analysts to:

- **Model** business processes before implementation. The modeling capability allows users create a visual representation of their business process, process-flow diagrams that contain activities with the time and resources required to carry them out. The resulting models are sophisticated and functional representations of the business rules and logic. The modeling tool supports swim lanes that represent organizations or performing groups. It also has explicit support for human and systems performers in processes. Any process model canvas can also be annotated with “post-it” notes to provide additional guidance and information about the process model.

- **Simulate** the process models and thus evaluate them for given loads (for example, 10,000 instances), visually observe the potential bottleneck and contention points in the process models, view reports on the simulation showing the resource utilization, and accurately predict performance and productivity. It supports “what-if” analysis through simulation. The result of each scenario can be saved as reports and then compared.

- **Document** the process models as the modeler generates automatic documentation for the models. And the model itself can be annotated with notes and serve as a documentation. These can be used to maintain and support compliance with new industry and government regulations and for education of parties involved in its use.

- **Store** process models in a process repository. An archive of the organization’s current policies and procedures. It provides version control (with check-in and check-out functionality) for evolving processes. This knowledgebase contains the operational best practices of the organization, enabling evaluation of a wide range of process models and reuse of process logic.

- **Search** the process repository using a search tool based on various search criteria. This promotes reuse, and reduces redundancy.

- **Optimize** the models based on simulation results, to incrementally improve operational efficiency. It is possible to make changes to the process models easily and store them as new versions of the same model. By optimizing processes and making them more efficient, organizations are able to realize significant savings as they catch inefficiencies and bottlenecks in the their processes early on before they get started on process design and automation.

BPM Studio is a collaborative visual process IDE for modeling, design, and implementation of process applications. A unique feature of Savvion is that BPM Studio includes the Process Modeler. It is certainly possible for business analysts to first develop the process models, and then hand them off to IT to build complete applications based on the models. However, because BPM Studio includes the modeler, it is also possible for business analysts and IT staff to work together collaboratively and in parallel to model and design processes. This enables IT staff also to develop or enhance process models and simulate them before going too far into design.
Conclusion

Process modeling and analysis has become an important element in BPM. Business analysts must have access to a visual tool for defining process models and analyzing them.

Savvion BusinessManager is a comprehensive BPM system that covers the process lifecycle end-to-end. An important phase in process management is the initial capture and articulation of processes. Process Modeler provides an intuitive and visual modeling tool that allows business analysts to model their business processes. Process Modeler provides simulation and analysis functionality so that business analysts can do “what-if” analysis and come up with optimal process models and scenarios before handoff to IT for development. Process Modeler also produces documentation for the process models. This documentation and the tool itself can be used for training and knowledge transfer.

Process Modeler also includes a process repository with a tool for searching for process models based on various search criteria.

Process Modeler is fully integrated with BPM Studio so that the process models developed in the modeler can be directly opened in BPM Studio for full process application design and implementation. Because models created in Process Modeler seamlessly and transparently interchange with the BPM Studio, the Savvion solution has the unique capability to support collaborative design between business analysts and technologists.