

From Paper to impact – Business Process Management at SAP

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Abstract. When introducing Business Process Management at SAP, the goal was to create measurable and sustainable impact. We demonstrate value of process management by delivering process improvement projects using standardized services and LEAN methodology based on documented processes as included in the SAP Process Landscape. To achieve a holistic picture, not only processes are analyzed, but business roles and data as well. Today Business Process Management at SAP has evolved from a pure governance function to a highly-respected in-house consulting team with a reputation of creating impact. The SAP Process Map is a key element of Business Process Management at SAP and serves as the basis for business-driven management and improvement projects.

Keywords: Process Map, Business Process Management, continuous improvement, LEAN

1 SAP – introduction

As the market leader in enterprise application software, SAP is at the center of today's business and technology revolution. Our innovations enable more than 291,000 customers worldwide to work together more efficiently and use business insight more effectively.

SAP helps organizations of all sizes and industries overcome the complexities that plague our businesses, our jobs, and our lives. With Run Simple as our operating principle, SAP's employees focus on a singular purpose that inspires us every day: To help the world run better and improve people's lives [1].

Key facts [2]:

- More than 291,000 customers in 190 countries
- More than 74,500 employees – and locations in more than 130 countries
- A 43-year history of innovation and growth as a true industry leader
- Annual revenue (IFRS) of €17.56 billion

For more information see the SAP Corporate Fact Sheet [2].

2 Operations Management – overall organizational structure

“Run Simple – If we simplify everything, we can do anything” is not only the external key message of SAP, but also SAP’s operating principle.

The chief operating officer (COO), Luka Mucic is a member of the Executive Board and Global Managing Board of SAP SE and as well the chief financial officer (CFO). In his role as COO he is responsible for the Process Office of the company.

The COOs of each Board Area form the virtual COO Network @ SAP. They agree on a joint execution of the SAP strategy and a common portfolio of process improvements.

To be able to produce innovative solutions faster and simpler, SAP started in 2008 to transform its Research and Development processes. SAP moved away from complex and static project methods towards agile and simple processes and thereby significantly reduced the throughput time of the standard innovation cycle. Based on the experience of this so far unique transformation and optimization in a global company consisting of knowledge workers, the Productivity Consulting Group (PCG) has been founded. This central group, also acting as Process Office has direct oversight of SAP corporate functions throughout all global regions and is responsible for:

- Process Infrastructure
 - Process Governance
 - Idea Management and Continuous Improvement Services
- Improvement & Productivity Services and Strategic Projects

From an organizational point of view, PCG is located in the area of SAP’s Chief Operation Officer (COO). This enables a direct connect of PCG’s portfolio to the corporate strategy. By grouping PCG with the area „Business Innovation and IT” a close interlocking with IT projects and innovations is ensured.

In contribution to SAP’s strategy, PCG makes SAP best run – by governance of processes and standards as well as implementing LEAN methodology, continuous improvement and by providing transparency for sound decision making. This is also reflected in the motto “A passion for simplicity, a promise of value”.

PCG supports all areas of the company to make their processes and structures simple for the benefit of SAP’s customers and partners. The clear focus is on processes that enable increased speed of innovation and new business models like cloud computing.

3 Process Infrastructure

Well-designed business processes are a key success factor for SAP. With Run Simple a key part of our strategy, SAP strives continuously to make processes simple, flexible and future-ready. Process excellence means for SAP, to come from paper to impact - process excellence activities result in measurable business performance changes.

Our processes are key to deliver in time, quality, cost, and with the right capacity to our customers – internal customers but especially external customers that generate our revenue [3].

3.1 SAP Process Map – a guidance to find your way in the business process landscape

SAP's Business Processes are reflected in the SAP Process Map (see **Fig. 1**), which serves as the primary top-down process perspective and is the single source of internal process information. The SAP Process Map is closely linked to the corporate strategy and is not only the basis for audits and external certification, but also the starting point for business-driven process management and improvement projects.

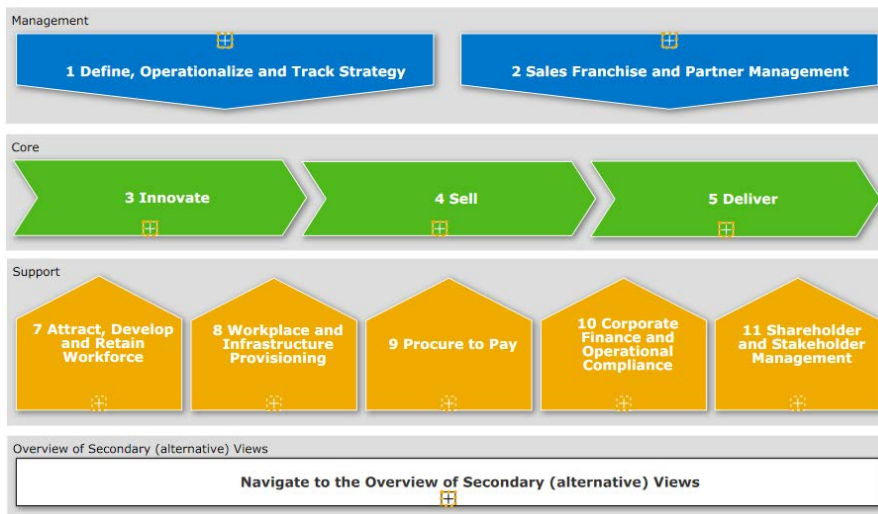


Fig. 1. SAP Process Map

The SAP Process Map is accessible for all SAP employees via the corporate portal.

The processes are structured in:

- *Management processes*: plan, diagnose and manage core and support processes
- *Core processes*: create value for the SAP customer directly
- *Support processes*: provide the necessary resources and the infrastructure for core processes

The SAP Process Map follows a hierarchical composition – with the highest level called 'Level 1' and directly visible on the Process Map, e.g. '4 Sell'. 'Level 2' is a breakdown to a more detailed view, e.g. '4.5 Order-to-Cash', leading to the documented process, represented in 'Level 3'. The 'Level 3' processes documentations are no work instructions, but clearly describe the process flow, the responsibilities and input and output documents (following Business Process Modeling Notation 2.0).

Major Guiding Principles for SAP Process Map:

Entry criteria options for level 3 of SAP Process Map 2.0:

- €1 million costs/influenced, and/or
- SOX relevance of process and/or sub-processes, and/or

- direct support of a core process

Naming conventions starting at level 3 (level 1 and 2 excluded):

- Use the pattern <Imperative Verb + Noun in Singular> unless there is a common name or business terminology (for example, from ITIL or ISO standards)
- Avoid abbreviations
- Names should reflect generally accepted common usage, and be short and concise
- Names should reflect the company’s terminology
- Verbs like manage, perform, coordinate, execute need to have a concrete definition that is used consistently

Each process should serve a purpose, should have a measure for efficiency and should be continuously improved. The focus of process documentation is to deliver valuable information for the people executing the process and to be the basis for business-driven management and improvement projects. A documented process as part of the SAP Process Map helps quick onboarding of new employees and ensures execution of a process independently of persons. It enables common understanding on common execution and thus delivery of the same results in constant quality. This is also confirmed by Process Managers: “[Process modelling] actually made an impact in the daily project work of the GCMS Team, as it changed the way how to visualize processes. It accelerated and improved our collaboration....” quote by a Process Manager of Finance & Administration.

3.2 Process Community - Central and local responsibilities

The central Process Governance Team as part of the Productivity Consulting Group manages the SAP Process Map and provides SAP-wide Process Management standards on how to design, measure and improve processes. It also manages the Process Management Community, namely educating the Process Managers on Process Management methodology.

As shown in **Fig. 2** the responsibility for the design of the actual process, the documentation and the improvement lies with the unit responsible for the business outcome of the process. The Business Owner and the Process Manager for each process are based in the business unit, not in the central Process Governance Team.

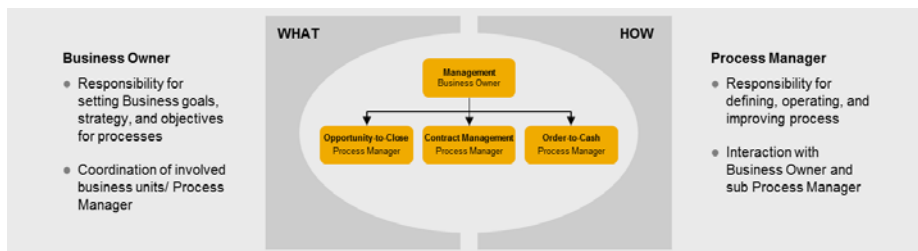


Fig. 2. Main responsibilities of Business Owner and Process Manager

A key element for successful Business Process Management is a vibrant Process Management Community (see Fig. 3). Given the fact that this community is not necessarily defined by organizational structures, but has more a virtual character, creating an own identity is even more important. The Process Governance Team supports a series of communication & enablement activities in order to establish a solid relationship based on the aligned collaboration model between Process Managers, Board Area Process Offices, and the Process Governance Team:

- **SAP Process Excellence Newsletter:** bi-monthly issues, contains training offerings, information on upcoming events and success stories on process improvements
- **Process Manager info sessions:** bi-monthly sessions for Process Managers to share best practices and roll-out information about process management standards
- **Process Management Trainings:** Curriculum of class-room and virtual training sessions on Process Management methodology, tools and best practices (from Process Managers for Process Managers)
- **SAP Process Summit:** yearly event where all Process Managers come together to exchange on best practices, get inspiration from external speakers and learn about new topics around Business Process Management
- **SAP Process Excellence Award:** SAP has launched the Process Excellence Award in 2012 to increase the visibility for excellent processes and to provide a platform for employees working on process improvements. With this award SAP wants to reward outstanding processes that accomplish measurable process improvement and create impact for the company.

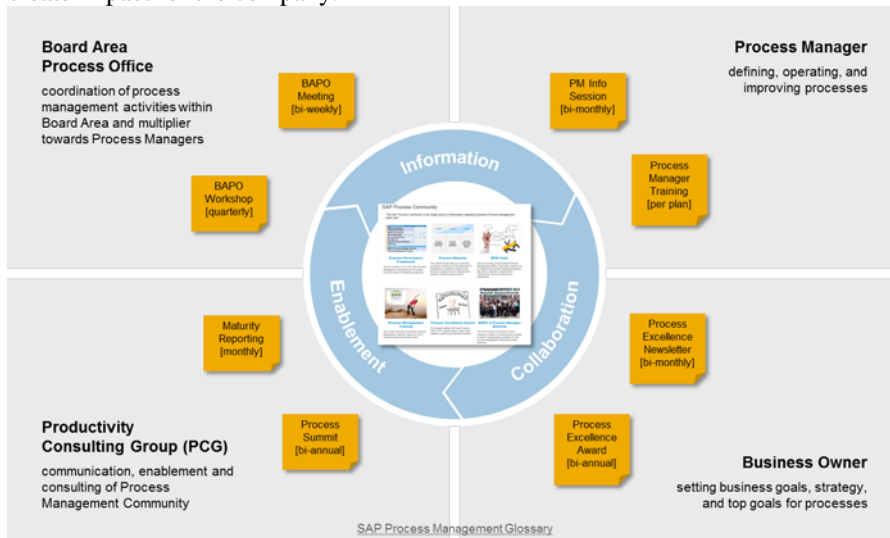


Fig. 3. . Process Management Community – Key Stakeholders and Communication Activities

3.3 Continuous Process Improvement

As mentioned before, the main target of Process Management at SAP is to continuously improve the business processes. Although the triggers for actual process improvement can be manifold, the process of how a business process is improved is standardized and as such documented in the SAP Process Map.

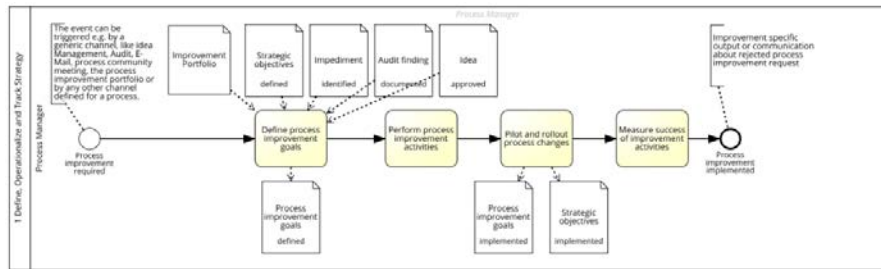


Fig. 4. Improve SAP Process

The Process Manager is responsible to define the process improvement goal (approved by the Business Owner). This is typically derived from the SAP strategy (Improvement Portfolio, Strategic objectives), from a current issue in the process (Impediment, Audit finding) or from an idea of the SAP idea management initiative. Process Managers define process improvements with re-use of existing process definitions.

They clearly state the benefit for the business and the impact on the process itself and on the process performers. The actual activities to come to a process improvement can be manifold and of different type, depending on the process itself and the character of the improvement:

- Following the five phases of the Business Process Life Cycle (BPL)
- (Strategic) (IT) project/program/initiative
- Improvement Service in collaboration with Productivity Consulting Group
- Continuous improvement: e.g. by establishing a regular feedback cycle/group

The effect of the process changes are measured along Process Performance Indicators (before/after view) by the Process Manager and compared with the previously defined success criteria.

3.4 Process Maturity

SAP uses its own process maturity model that has been tailored to the company's needs and business model. It follows the idea of generic maturity models (e.g. Capability Maturity Model Integration (CMMI)), which is to offer a consistent, well-defined methodology to measure the degree of maturity of a process in a comparable way [3].

- **Maturity Level 0:** Process is neither transparent nor managed (insufficient)
- **Maturity Level 1:** Process is transparent (minimum)

- Basic Process Documentation (included in SAP Process Map) available
- Accountable Process Manager and Business Owner named
- Process standardization visible
- Compliance check performed
- Knowledge transfer available
- **Maturity Level 2:** Process is managed (standard)
 - Process operation, input and output measured (Process Performance Indicators (PPI)), monitored and transparent for decision maker (Process Performance Cockpit)
 - Monitoring of PPIs with SAP standard tools where applicable
 - Customers named and their top 3 requirements defined
 - Process improvement levers are defined
 - Detailed Process Documentation (included/linked in SAP Process Map) available
 - Process variants documented
 - Risk Assessment performed
- **Maturity Level 3:** Process is on a high level of optimization and continuously improved (excellence)
 - Process vision is defined
 - Annual improvement targets defined
 - Service Level Agreements established
 - Application of SAP standard systems
 - Online real-time process data for tool-based processes
 - Single tasking
 - End to end Level 3 process output performance accountability
 - Continuous improvement process for process established
 - Process standardization > 80%

SAP as a company strives for process excellence, meaning a continuous improvement of the overall process maturity. The process maturity is monitored centrally and regularly reported to the Board. Experience has shown however, that a top-down goal to increase process maturity can only motivate Process Managers to a certain extent. In order to achieve a sustainable increase of process maturity, the value-add of a managed process has to be conveyed. To promote the investment in raising process maturity, Process Managers regularly share their experiences in Process Manager info sessions or the yearly SAP Process Summit.

3.5 Performance Measurement

The central element of Maturity Level 2 is the measurement of the process performance. Peter Drucker's statement "you can't manage what you can't measure." is especially true when it comes to processes. If you are not able to measure basic performance indicators like number of process instances, the throughput time of a process, working time or costs per output, it's very hard to judge the quality of a process, not even to mention the effect of changes.

Setting up a proper performance measurement for a process creates significant effort and needs thorough discussion beforehand. What are the right indicators? How and how often are they measured? What is a reasonable sample size (if you are not able to measure continuously)?

In order to simplify performance measurement, six basic Process Performance Indicators (PPIs) have been introduced:

- Input:
 - Number of inputs per year
 - Involved Full Time Equivalents (FTE)
- Operations:
 - Throughput time (sum of throughput time per process)
 - Working time (sum of working time per process)
- Output:
 - Cost per output
 - Customer satisfaction (customer of process)

Once the performance indicators are established, the feedback from Process Managers is overwhelmingly positive. Finally they have a fact-based instrument, supporting them in discussions with management and customers of the process and enabling measuring business performance changes. This basic set of Process Performance Indicators is often the starting point for area specific extensions to cover more business specific needs.

4 Improvement & Productivity Services and Strategic Projects

The second pillar of SAP's Business Process Management activities is productivity services and strategic projects.

SAP has started to systematically improve processes in 2008. At that point in time, the core development process of SAP was a mere waterfall process which had been initially implemented in the late 1990's. It introduced quality gates and compliance to standards as well as customer validation thus ensuring that products being shipped were compliant to an ever-growing set of formal & quality requirements. However it was built on a globally distributed functional setup based on division of labor which created long decision times (portfolio), long development cycle times, low adoption, limited usability, low identification of the developers with the result, medium quality and a high number of escalations in an ever less efficient work environment.

In 2008 it became obvious, that this had to be changed towards an approach which allows for efficiency & quality at the same time providing products and solutions that were easy to consume and had superior user experience.

SAP decided to turn this around, striving for efficiency and effectiveness of the entire product development process by implementing a Lean Development Model based on agile practices. Scrum was introduced on team level. Teams were built to cover cross functional requirements to define, build and deliver products and functions on short cycles (2-4 weeks). The Lean Development Model covers the orchestration beyond team size to ensure delivery according to the release cycles. A continuous improvement process takes the impediments out of team retrospectives that couldn't be solved by the teams. This has resulted in constant improvement: Throughput time, on-time delivery, productive capacity, product adoption, number of deliveries, sustainable pace and improved workload and is now building a solid foundation for an even more innovative cloud product delivery process.

4.1 PCG Service Catalog

Based on the Process Infrastructure, PCG offers well-structured, innovative improvement services designed to enable organizations to run better in all processes end to end. These services cover dimensions of classical process improvements as well as role and organizational efficiency and effectiveness services.

The PCG services are clustered along primary improvement dimensions (vertical axis) and the level of intensity (horizontal axis) as depicted below in the PCG Service Catalog.

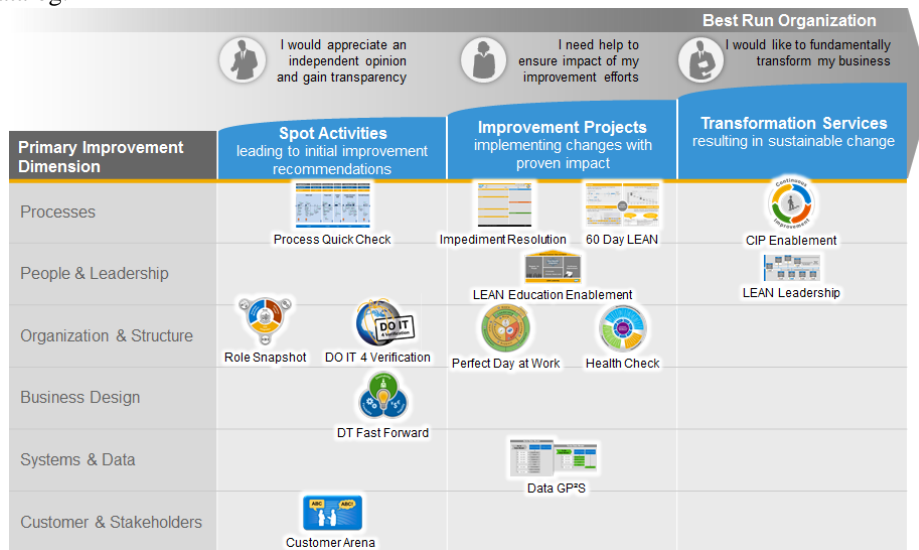


Fig. 5. PCG Service Catalog

The standardized execution of the services makes the education of the PCG employees easier. Based on the service description they can prepare for their first service delivery together with an experienced colleague and later on deliver the service on their

own. The standardization also supports the measurement of the results of the service and simplifies the collaboration with internal customers.

This collaboration is voluntary, and driven by the need for support of improving a process or role or analyzing a problem in the organization of the internal customer. The PCG service delivery is free of internal charge, however the internal customer is obliged to provide equal number of resources in the joint project (we bring one, you bring one). Project results are assessed jointly and measured with respect to value (calculation of Net Present Value) and customer satisfaction (Net Promoter Score).

The standardization of the services, the equal representation in the project team and the measurement of the results lead to an intensive contribution of the internal customer of the services and avoid misuse of the PCG service offering.

4.2 Focus on Business Roles

In order to get a complete picture, analyzing the processes of an organization often is not enough. People working on these processes are equally important and an organization needs to make sure that the prerequisites for employees are met so that they are able to do their job. Taking into account the background, education and day-to-day work reality is important to design excellent processes. Typically employees want to do their job and focus on their key tasks, but often badly designed processes, missing education or wrong assumption hinder them to do so.

To change this situation PCG has designed two services focusing on the business role:

- **Role Snapshot:** A Role Snapshot is an easy and intuitive Lean approach for analyzing a role and identifying opportunities for improvement to increase efficiency. This contributes to improved productivity during the employee's work day and ultimately leads to a better work-life balance. A Role Snapshot provides an initial assessment and concrete recommendations for improvement but does not develop or implement these improvements.
- **Perfect Day at Work:** The role-based Perfect Day at Work offers a comprehensive analysis approach to determine whether and how far the prerequisites for employees are met to be able to do their job. The approach consists of an analysis framework that provides a 360° view on all major aspects that would constitute a Perfect Day at Work. Concrete recommendations are worked out and will be implemented and measured during the project.

5 From paper to impact

The unique combination of strategic initiatives based on the corporate strategy, standardized service delivery and sound process infrastructure enables PCG to simplify internal business processes and raise the overall productivity. Success for SAP's Business Process Management activities means creating measurable and sustainable impact. With that Business Process Management at SAP contributes significantly to the corporate strategy – "If we simplify everything, we can do anything".

Whereas the immediate value of a Process Map or process documentation is difficult to measure, the impact of process improvement projects is. Based on a sample size of 100 projects per year, we achieve a typical result of 20:1 Payback and a Net Promoter Score of higher than 75%.

Business Process Management at SAP creates measurable outcomes, for instance by reducing the processing time significantly. One example is the Marketing Services team, where 11 process steps have been eliminated and the processing time has been reduced by up to 74%, as confirmed by the Co-Project leads: *“We agree that the 60 Day Lean@Marketing Pilot Project has delivered tangible and relevant improvement results...”*

A recent project together with Global Facility Management to improve the process at the food counters in the canteens does not only show the wide range of Business Process Management activities, but also creates an impact on employee side: The waiting time for lunch has been shortened significantly.

Global Facility Management highly appreciated the approach of PCG to demonstrate the value of Process Management by tangible results *“You are not consultants - you actually get things done.”*

And some internal business process improvement projects even get noticed by the press, like the significant acceleration of the quarter end closing process, demonstrating the impact and value of Business Process Management.

When presenting their annual financial reports, German companies are significantly slower than their international competitors. This is mainly due to complex processes and inadequate IT - but also to the mentality of some CFOs. In the United States, large companies are obliged to provide the U.S. Securities and Exchange Commission with detailed information regarding their financial situation within 60 days - a requirement that 76 percent of the DAX listed companies can currently not meet. The situation is different at SAP: CFO Luka Mucic presented the 2014 figures within only 20 days, meaning he was even a day faster than his predecessor Werner Brandt in the fiscal year 2013. Thus, the software provider is once again ranked number one in Germany. (Original in German)

Fig. 6. finance-magazin.de (Germany) | 13.07.2015

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