Developing a Governance Model for Successful Business Process Standardization

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ABSTRACT
Standardization of business processes is considered as an important instrument in the context of business process management. However, research in that field has mostly focused on the impact of business process standardization on business process performance while only a few attempts have been made to determine the success factors for effective process standardization, yet. Moreover, a major issue in any standardization initiative is to convince decision makers to follow the standard. This is particularly true when it comes to process standardization: how can a firm be sure that its different divisions have implemented the process standard and that the employees adhere to the rules? Following an action design research approach, we introduce a governance model that consists of a role concept for ensuring successful process standardization. As part of the research process, we provide first steps of evaluation through a qualitative case study at an international aviation company.

Keywords
Process Standardization, Role Concept, Governance Model, Organizational Structure, Action Design Research

INTRODUCTION
The expansion of a firm’s business activities into international markets represents a considerable growth potential. Particularly for such internationally operating organizations, a unique appearance and comparable quality across their different plays a central role towards the customer to keep competitiveness in the long run (Lufthansa Technik 2011). Therefore, one part of achieving this competitiveness is business process standardization (BPS) (Davenport 2005; Hammer/Stanton 1999) which tries to implement the same process in the overall organization (Kindler/Nuettgens 2005; Münstermann/Eckhardt 2009). Further, to build up necessary organizational competencies, prior to standardization, a management of these processes has to be achieved (PWC 2011).

As several studies showed during the last years, an increasing number of companies invest into business process management (BPM) to become more efficient and productive (Bach/Biemann 2004; Gadatsch et al. 2004; Harmon/Wolf 2012; Skrinjar et al. 2008). Nevertheless, there is evidence that many companies have focused on implementing IT systems (e.g., enterprise resource management and documentation systems) and have taken only a first, technical, step in realizing a holistic BPM. Necessary governance structures that implement and establish the process management approach within the organization have often been neglected, so far (PWC 2011).

But, especially this organizational governance, besides top management support and cooperation of involved departments, is one of the important drivers of business process standardization (Münstermann/Eckhardt 2009). Designing to-be processes, or ‘process standards’, which define optimal workflows and procedures is just one first step. The second is to ensure that this standard process gets actually and effectively implemented into the different parts of the organization and that organizational units and single workers adhere to the standard, because even after a successful roll-out, new process variants will likely appear because workers will identify local optimization potentials (which might not be beneficial from the overall organization’s perspective) and change their individual process, accordingly.
On the other side, resistance to change can be an enormous force (Laumer/Eckhardt 2010; Keen 1981) against the successful roll-out of a process standard requiring efforts, management attention, and a governance model that fits with the demands of such organizational changes. Such a governance model needs to implement a differentiated role concept with clearly defined competencies and responsibilities (Nesheim 2011; Rohloff 2011), which also describes how the different roles are coordinated.

Goal of our research is to develop such an effective role-based governance model, which enables and supports business process standardization (BPS) in a global and distributed organization. Therefore, our research question is: How needs a role model to be designed in order to ensure effective and sustainable business process standardization?

To answer this question, we follow the ‘action design research’ approach (ADR) suggested by Sein et al. (2011) and develop and validate a ‘Framework for Assignment of Responsibilities’ (FAR+) to achieve effective and sustainable BPS. The remainder is structured as follows: In the next section, we introduce the theoretical background and research approach which help to orient our work and set the frame for the role model to be developed. Then, we introduce the developed FAR+ concept and the results of a first, case-based evaluation.

THEORETICAL BACKGROUND

Münstermann et al. (2010) define “process standardization as the unification of variants of a given business process by aligning the variants against an archetype process. The archetype process against which the process variants are aligned can either be created or selected within the focal firm or be based on/adopted from an existing external reference/best in class process”. One advantage of BPS is that the effort for optimizing a process occurs only once, but the advantages appear in every site or business unit performing this particular process (Münstermann and Weitzel 2008); further positive effects are economies of scale and of skill in terms of creation of superior process knowledge, and a unified customer experience across different sites. Accordingly, studies have shown that BPS has a positive pay-off and leads to increased process performance (Münstermann et al. 2009; Sánchez-Rodríguez et al. 2006; Ramakumar and Cooper 2004).

Over the last years, BPS has enjoyed rising attention in the academic and practitioner literature. However, research has hardly made suggestions on how BPS can actually be successfully accomplished (von Stetten et al. 2008). Firms can find it challenging to successfully implement a process standard in a distributed organization. One reason is that employees resist against change, which can have various reasons that are well researched from psychological and organizational perspectives (e.g. Piderit 2000; Pardo del Val and Martinez Fuentes 2003). Another reason is that in standardization scenarios the locus where benefits of standardization are reaped might differ from the locus where the standardization efforts appear (the so-called “standardization problem” (Weitzel et al. 2006)). Both reasonings call for a strong governance, i.e. firms need to implement organizational mechanisms that ensure the standard-compliant behavior of its units and employees.

Analogous to Weill et al.’s (2004) definition of IT governance, we define governance as “specifying the decision rights and accountability framework to encourage desirable behavior” in implementing and executing business processes. A firm has to define roles and responsibilities and a control framework that defines, implements, and ensures optimal process standardization procedures within the organization. The approach introduced in this paper makes a proposal towards such a governance model.

RESEARCH APPROACH

This research project was performed as action design research at Lufthansa Technik AG (LHT) in Germany. LHT is the parent company of the Maintenance, Repair and Overhaul (MRO) business segment of Deutsche Lufthansa AG and comprises a total of 54 companies around the globe within the LHT Group (Lufthansa Technik 2011, p. 4).

In 2002, LHT started to implement a role-based, process-oriented management system to document its processes and organizational structures. Processes are mapped in swimming lane process models where activities within the swimming lanes are performed by roles. To connect processes with the organizational structure, roles are assigned to organizational units as shown in Figure 1.
Figure 1. Linking of Processes and Organizational Structures Implemented by Roles within Process Descriptions and Org Charts

In this system, the role of the ‘process owner’ is accountable for the definition of the process and the coordination of its operations. Initially, the system was designed for LHT in Germany only, but in the meantime, the system has been rolled out to 23 companies of the LHT Group worldwide. This roll-out offered the possibility to map standardized processes performed by different companies in a common system, but it also increased the complexity to be managed by the system. Thus, the existing process management role concept had to be renewed and this research project was started.

Table 1 summarizes the research procedure as conducted and shows how we followed the Action Design Research (ADR) stages and principles from (Sein et al. 2011).

<table>
<thead>
<tr>
<th>Stage</th>
<th>Principle</th>
<th>Key Facts of Research Project</th>
</tr>
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</table>
| 1. Problem Formulation | P1: Practice-Inspired Research | - Identification and elaboration of field problem:  
- Increasing complexity due to internationalization to be managed  
- Weak perception of ‘process owner’ as management role  
- Missing assignment of process and disciplinary responsibility to management roles  
- Non-uniform implementation of cross-linking of processes and structure  
- Internal and external benchmarking to get practical inspired ideas for solutions |
| | P2: Theory-Ingained Artifact | - Research of applicable theories to develop problem solution |
| 2. Building, Intervention, and Evaluation | P3: Reciprocal Shaping | - Initial design of FAR+ role concept as artifact by project team (see below)  
- Discussion of initial FAR+ concept within the project team  
- Evaluation of FAR+ in the context of a test process using an exploratory case study approach to collect feedback on the influence of the role concept on BPS and its applicability to practice  
- Further improvement of the concept by the project team |
| | P4: Mutually Influential Roles | - Project team consisted of BPM experts at LHT and university researchers. One researcher was onsite at LHT during the project. |
| | P5: Authentic and Concurrent Evaluation | - Continuous evaluation of concept within the project team and test process while defining further details  
- Several cycles to define the FAR+ concept |
| 3. Reflection and Learning | P6: Guided Emergence | - Circular discussion of FAR+ concept with university researchers  
- Circular discussion of FAR+ concept with project review board consisting of LHT managers |
| | P7: Generalized Outcomes | - Generalized formulation of FAR+ concept  
- Specialized application of the FAR+ concept to LHT organizational context |

Table 1. Key Facts of ADR Stages and Principles in our Research Project
In this paper, we introduce the FAR+ concept and on its evaluation which was conducted as a case study in ADR stage 2. This case study was performed within the context of a BPS project where the business process of analyzing quality issues was standardized across the LHT Group companies. Within this project, the FAR+ concept was pilot-wise applied to drive and to ensure process standardization at eleven LHT subsidiaries in eight European countries. Details on the case study follow in the evaluation section below.

THE FAR+ CONCEPT

Artifact of our research project is the FAR+ concept, which was evolved from different other role models and organizational concepts (e.g., Gadatsch 2005, Osterloh and Frost 2006; Koch 2011). The innovative concept of FAR+ lies in its focus on the separation of disciplinary responsibility and process responsibility to avoid conflicts and connected effort. The disciplinary responsibility is further divided into a resource responsibility and an administrative responsibility. Figure 2 shows this separation.

<table>
<thead>
<tr>
<th>Process Responsibility</th>
<th>Administrative Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Define functional strategy</td>
<td>• Sign legal contracts</td>
</tr>
<tr>
<td>• Issue directives and instructions for function execution</td>
<td>• Issue power of attorney (right of intervention)</td>
</tr>
<tr>
<td>• Represent and maintain ownership of function-specific processes, master data, and customized system settings</td>
<td>• Bear risk of organizational fault</td>
</tr>
<tr>
<td>• Provide advice and support for functional execution (Functional competence)</td>
<td></td>
</tr>
<tr>
<td>• Monitor process performance, standards, deadlines, and directives</td>
<td></td>
</tr>
<tr>
<td>• Define functional training</td>
<td></td>
</tr>
<tr>
<td>• Participate in appointments to process management roles in the function</td>
<td></td>
</tr>
</tbody>
</table>

The administrative responsibility is the initial responsibility which signs legal contracts and issues the power of attorney to resource and process responsibility. So it also bears the risk of a possible organizational fault.

The resource responsibility defines the business strategy for its organizational unit, derives goals, and is accountable for their fulfillment. It plans and controls revenues, earnings, costs, capital, and expenditure related with resources such as personnel, material, infrastructure etc. This is supported by the development of the needed resources and their deployment, which contains the assignment of roles and the performance monitoring.

The process responsibility defines a process-related strategy which contains decisions about process standardization, reduction of cycle time, and increase of user acceptance. Thus, directives and instructions for process execution are issued. Furthermore, the process responsibility represents and maintains the ownership of processes, master data, and customized system settings. In addition, it provides advice and support for process execution and monitors the process performance, standards, deadlines, and directives. The process responsibility defines process trainings and participates in appointments to process management roles of the respective process.

Figure 2. Tasks of the Responsibilities

Roles of the Far+ Concept

In the FAR+ concept, the disciplinary responsibility is granted to two roles (Resource Responsible and Administrative Responsible) while the process responsibility is assigned to four roles (Process Domain Owner, Process Owner, Process Architect and Process Manager). Figure 3 shows the roles at a glance.
The **Process Domain Owner** is responsible for one process domain and appoints each Process Owner of the single processes in his/her domain.

The **Process Owner** is responsible for definition, documentation and further improvements of a single process. Furthermore, he/she is the process leader for the employees performing the process.

The **Process Architect** supports the Process Owner by defining and improving the processes.

The **Process Manager** supports the Process Owner and the Resource Responsible by coordination of the product-, location- or customer-related process execution.

In addition, two disciplinary roles are defined: The **Administrative Responsible** is responsible for an administrative management of the employees (e.g. signs contracts). The **Resource Responsible** assigns (process) roles to his/her employees and defines target agreements. Furthermore, he/she monitors the personnel development and the process accomplishment of his/her employees.

As an example for the assignment of roles in the context of aircraft maintenance, the Process Domain Owner role of the process domain of ‘Aircraft Maintenance’ is held by the head of the division ‘Aircraft Maintenance’. Within this domain, the Process Owner role of the process ‘Planning aircraft maintenance’ is assigned to the head of the central engineering department within the division ‘Aircraft Maintenance’. For the improvement of the process, the Process Owner is supported by one of his/her engineers holding the Process Architect role. Finally, for the operations of the process, Process Managers are nominated at every airport where this standardized process is performed.

**Boards of the FAR+ concept**

In addition to the roles, the FAR+ concept comprises process-related boards to support the collaboration and coordination of the process participants.

The **Process Domain Board** consists of the Process Domain Owner and his/her subordinate Process Owners. Aim of the board is to review the domain’s processes on a regular basis to facilitate strategic optimization and further development by focusing on the improvement of process interfaces and interaction between processes.

The **Process Operations Board** consists of the Process Owner, his/her assigned Process Architects and a representative subset of subordinate Process Managers. Aim of the board is to review process operations and improve the corresponding end-to-end process on a regular basis.

The **Process Review Board** consists of the Process Owner of an end-to-end process and a representative number of Resource Responsibilities of employees participating in the process. Target of the board is to facilitate coordination between process responsibles and disciplinary responsibilities about process goals and resulting performance parameters for employees.
DISCUSSION OF THE GOVERNANCE MODEL

While implementing these process management roles, several difficulties can arise. For example, the assignment of employees to managers can cause conflicts between the process responsible and the line manager. To reduce conflicts, tasks of both roles have to be defined and a sharp delimitation of the roles to an existing organizational structure has to be established. In this context, the compatibility of process responsibility and disciplinary leadership are very challenging (Davenport 1993; Hernaus 2006; Nesheim 2011). Therefore, in the FAR+ concept, it was decided to define separate roles for the disciplinary and process responsibility to be able to assign these responsibilities clearly to the relevant managers.

The split of the disciplinary responsibility into two roles is necessary to enable managers to lead employees from a resource perspective which are not located in the same legal entity. In this example, it is possible to employ someone in one legal entity – for example in another country – by the Administrative Responsible and to perform target agreements and develop the employee by a manager holding the Resource Responsible role located in the headquarter – i.e., in another legal entity – in Germany.

The necessity to be able to carefully assign the different tasks of the process responsibility to different persons is the reason for the definition of four sharply delimited roles within this area. This delimitation offers the possibility to cover all extremes from the assignment of all four roles to one person in case of a simple local process to the cautious assignment of the four roles to different specialized persons in case of a very complex international process setup.

The boards are designed to facilitate communication between the different roles of the FAR+ concept on a regular basis. Especially the structured coordination between process and resource responsibility in form of the Process Review Board is an essential element of the concept and supports standardization of processes.

CASE-BASED EVALUATION

As outlined above, the FAR+ concept was pilot-wise applied within a BPS project at eleven LHT subsidiaries in eight European countries. For collecting data for a first round of evaluation, we conducted seven interviews with those managers already being involved in the BPS project at the time of data collection. Five interviews took place in person while two interviews were performed over the phone. All interviews were held in German language. To achieve detailed insights on the influence of the FAR+ concept on BPS, process participants from all process management levels were interviewed. In addition, the current and future process management roles of the interviewees were considered.

The interview guideline consisted of three sections. In the first section, the differentiation of the various roles defined by FAR+ was discussed by questioning the general understanding of different areas of responsibility, the pros and cons, and the
necessity of differentiation among these roles. The second section focused on the FAR+ concept by analyzing the role definitions, possible training and communication measures, and the influence of the model on BPM effectiveness. In the third section, first the overall understanding and attitude of the interviewee towards BPS was determined before the pros and cons of the FAR+ concept were evaluated with regards to its contribution to BPS. All interviews were digitally recorded, transcribed, and analyzed according to the Open Coding methodology of Corbin/Strauss (2008).

**Separation between process and disciplinary responsibility**

All interview participants have the same idea about the separation of process and disciplinary responsibility. “Process means to give guidelines about what to do and disciplinary means how to do it in daily work.” (Process Manager). According to that definition each participant sees the necessity of such a separation, especially for managing a large and international company like Lufthansa Technik AG. Furthermore, a big advantage of the separation is the possibility to step ahead in process orientation because now employees have to deal with processes and their embedding in the organization. Due to clearly defined responsibilities and a consistent structure, the separation can be seen as a necessary prerequisite for process standardization. Besides a lot of chances, there exist also some risks regarding the separation between process and disciplinary responsibility. Several interviewees fear that local, emotional, and human needs won’t be considered. As a consequence and due to missing alignment, conflicts between process and disciplinary guidelines can arise. The process responsible could “hide his/her topics and his/her ideas and sits in a kind of ivory tower. Out of this hiding-place we have no connection [between process and disciplinary guidelines]” (Process Domain Owner). The following table shows the connected chances and risks at a glance.

<table>
<thead>
<tr>
<th>Chances</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Step towards process orientation</td>
<td>- Conflicts between process and disciplinary guidelines</td>
</tr>
<tr>
<td>- Clear defined responsibilities</td>
<td>- Missing consideration of local, emotional and human needs</td>
</tr>
<tr>
<td>- Consistent structure</td>
<td>- Hierarchical organizational culture</td>
</tr>
<tr>
<td>- Separation between process and disciplinary responsibility as necessary prerequisite for process standardization</td>
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</tbody>
</table>

Table 2. Chances and risks of a separation between process and disciplinary responsibility

**Role concept**

The role concept of FAR+ got a very good evaluation from the interviewees. They mentioned a lot of chances which result from its implementation. “An advantage is the clear responsibility. Everyone knows which responsibility he/she takes and what he/she has to do on the guideline side and on the implementation side” (Process Manager). Another interviewee (Process Owner) also mentioned: “Responsibility and acceptance needs transparency, definitions, and a comparison of expectancies. And at the end, a clear role concept is nothing else than defined and documented expectancies”.

Besides a lot of positive feedback also some concerns were mentioned. Due to the fact that a lot of new roles will be implemented the amount of tasks and the connected complexity could rise or there could be overlaps between role respectively task definitions. “We extend the [existing] role model – it will become more complex. We have to pay attention to define each responsibility very carefully, without overlaps or gaps” (Process Manager).

Table 3 depicts the most important chances and risks which are connected with the role concept.

<table>
<thead>
<tr>
<th>Chances</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Clear responsibilities</td>
<td>- Increased complexity</td>
</tr>
<tr>
<td>- Clear tasks</td>
<td>- Conflicts between process and disciplinary guidelines</td>
</tr>
<tr>
<td>- Simplified adjustments</td>
<td></td>
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</tbody>
</table>

Table 3. Chances and Risks which Are Related with the Implementation of the FAR+ Concept

Based on the mentioned chances and risks a lot of obstacles which can occur during the implementation of the role concept could be detected. Especially conflicts between process and disciplinary guidelines could cause problems for the employees. “The employee stands between the process responsible and the resource responsible. He/she receives guidelines from both sides and he/she has to handle with this dilemma. We have to make sure that the employee is not the one who has to solve this conflict. In my opinion the administrative, resource, and process responsibilities have to cooperate and to provide the employee the environment where he/she can work efficiently” (Process Manager). Further obstacles could be the hierarchical...
organizational structure, missing acceptance for the roles, and the connected responsibilities as well as fears about the rising complexity.

<table>
<thead>
<tr>
<th>Obstacles</th>
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<tbody>
<tr>
<td>- Conflicts between process and disciplinary guidelines</td>
</tr>
<tr>
<td>- Complexity (and missing acceptance of the roles)</td>
</tr>
<tr>
<td>- Hierarchical organizational culture</td>
</tr>
<tr>
<td>- Estrangement of the process</td>
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</tbody>
</table>

Table 4. Obstacles which Can Occur during the Implementation of the Role Concept

**Process Standardization**

Process Standardization means for all interviewees “[…] a description of a proceeding for which a responsible exists who manages all the connected things.” (Process Manager). Furthermore it is important that a standardized process “is described only once and that there are no various alternatives” (Process Domain Owner). In this context the role concept can be beneficial. Clear defined responsibilities and tasks enable a consistent structure. As a consequence, the amount of involved responsible persons could be limited. Due to this fact the definition and ensuring of standards could be simplified. “Everyone knows which responsibility he/she takes and what he has to do” (Process Manager). The Process Owner also mentioned: “An agile process can be noticed by its committed responsible person or governance structure that are not display the org chart but the real responsibility. For that you need review meetings, KPIs or reporting. That’s the way you live process management and for what you need an explicit definition of roles.”

Table 5 shows the chances and risks for process standardization at a glance.

<table>
<thead>
<tr>
<th>Chances</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Clear responsibilities</td>
<td>- No company-wide standardization</td>
</tr>
<tr>
<td>- Less amount of involved persons/process responsibilities</td>
<td>- Conflicts between process and disciplinary guidelines</td>
</tr>
<tr>
<td>- Clear structure</td>
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</tbody>
</table>

Table 5. Chances and Risks for Process Standardization

**Challenges**

For a successful implementation of the FAR+ concept, the mentioned chances and risks must be considered. Hence, a lot of challenges arise. First of all, an operational concept for practical use is needed: “Who has to do what? How can we live the model? How can we implement it? How will target agreements be hold?” (Process Manager). To avoid conflicts between process and disciplinary guidelines, continuous alignment is very important. “I fear that for the person on the process guideline side the implementation side doesn’t really exist. So a good feedback is needed. Otherwise we will get guidelines which are not efficient” (Process Manager). Furthermore, consistent role definitions are necessary to reduce the employees’ fears about the model’s complexity. So acceptance for the roles can rise and organizational change can be pushed. “We can convince the employees if we have enough good examples out of their daily work life. So we can show them that there isn’t more complexity but exoneration” (Process Manager). Table 6 summarizes the challenges.

<table>
<thead>
<tr>
<th>Challenges</th>
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<tbody>
<tr>
<td>- Operational concept for practical use</td>
</tr>
<tr>
<td>- Close alignment between process and disciplinary guidelines</td>
</tr>
<tr>
<td>- Consistent role definitions</td>
</tr>
<tr>
<td>- Reduction of fear about complexity</td>
</tr>
<tr>
<td>- Clear task definitions</td>
</tr>
<tr>
<td>- Acceptance</td>
</tr>
<tr>
<td>- Integrated view about processes</td>
</tr>
<tr>
<td>- Hierarchical organizational structure</td>
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</table>

Table 6. Challenges while Implementing the Role Concept
To manage the identified challenges successfully a high degree of top management support is needed. This should be shown via "the daily cooperation" (Process Domain Owner) between managers and employees and via "motivation and example" (Process Domain Owner). In addition, diligent change management should be focused.

OUTLOOK

Aim of the paper was the development of a governance model for successful business process standardization. Therefore, we presented the role-based FAR+ concept and did a first, qualitative evaluation of its effectiveness by conducting an exploratory case study.

The most important finding was the fact that a role model as part of an organizational structure supports BPS. The separation between functional and disciplinary responsibility is necessary to manage large and internationally distributed companies. In this context a role model is necessary to make sure that the organization adheres to the defined process standards. Clearly defined responsibilities, tasks, consistent structures as well as less involved responsible persons simplify the definition and operations of business process standards. Hence, this paper represents an attempt to derive and underpin the importance of a role concept as part of a governance model for BPS. In addition, managers and practitioners can use the idea of this paper as further bullet on their checklist for implementing and pushing BPS ahead.

As limitation, we need to raise that relevant literature about the development and impact of a role model on the success of business process standardization is very limited. As consequence, this paper received its findings mainly from the exploratory case study, which restricts generalizability and transferability to different organizational contexts.

To analyze the impact of a role model on the success of business process standardization in a more detailed manner and to confirm the validity of the findings, further evaluations will be conducted, according to (Sein et al. 2011). Furthermore, it will be promising to substantiate the FAR+ concept and its impact on business process standardization for other processes and even other industries as requested by the ADR approach.

REFERENCES


