THE REGULATORY POWER OF STANDARDIZED BUSINESS PROCESSES

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Abstract

Purpose – Managing business processes means establishing and maintaining their regulatory power, i.e., their capacity to guide and shape the practice of users and stakeholders. This paper examines how the regulatory power of standardized business processes can be established and managed.

Design/methodology/approach – Building on a theory of standardization and on qualitative data, the authors suggest a "model of self-reinforcing business process management".

Findings – Business process management consists of several phases (process design, process implementation, process application, process follow-up). A cyclical perspective on how these phases work together to create process legitimacy as presented in the model of self-reinforcing business process management can foster better understanding of the self-reinforcing dynamics of business process management.

Research limitations/implications – The paper offers starting points for interdisciplinary research on business process management. The proposed model should be further examined with regard to its usefulness for overcoming tensions and dynamics associated with standardization.

Practical implications – The model of self-reinforcing business process management provides a guideline for managers involved in planning, implementing, applying, or improving business processes or further areas of change-related organizational governance.

Originality/value – By modeling a cyclical sequence of business process management and highlighting the role of different kinds of legitimacy, the authors integrate functionalist and social perspectives on business process management in one model.

Keywords business process management, implementation, standardization

Paper type Research paper

The Regulatory Power of Standardized Business Processes

THE REGULATORY POWER OF STANDARDIZED BUSINESS PROCESSES

Organizations are increasingly focusing on the development and implementation of standardized business processes. Business processes have regulatory power, that is, the capacity to guide and shape the practice of users and stakeholders (cf. Brunsson, Rasche and Seidl, 2012). Regulatory power is reflected in process acceptance, process application, and process diffusion. Managing business processes in a systematic, integrated way (i.e., business process management) means establishing and maintaining the regulatory power of a business process, thus making it an authoritative, de-facto binding rule. Business process management not only brings operational benefits, such as consistency, cost savings, increased speed, quality, and better service. It also delivers strategic benefits, such as responding more quickly to change, which results in improved customer satisfaction and improved enterprise performance (Armistead, 1996; Hammer, 2015; Ricken and Steinhorst, 2005). Moreover, business process management is increasingly recognized as a driver of innovation (Rosemann and vom Brocke, 2015, p. 106). Thus, organizations are well advised to focus on implementing business processes that are sustainable and create value.

Research on business processes and business process management often concludes by offering lists of general (often generic) critical factors for process functioning, e.g., business process management should not be over-engineered, should be inclusive in scope or should contribute to strategic value creation (see vom Brocke, Schmiedel, Recker, Trkman, Mertens, and Viaene, 2014). The prevailing view on business processes is thus rather *functionalist* and *static*, i.e., with a focus on solving "engineering problems", fostering coordination and reducing transaction costs (also see Botzem and Dobusch, 2012).

However, research highlights the need to better understand the *dynamic* interplay between often generic "success factors" and to add cultural, organizational, and motivational aspects (e.g., Botzem and Dobusch, 2012; Torres and Sidorova, 2015; vom Brocke et al., 2014; vom Brocke and Sinnl, 2011). In other words, there is a need to take a more *dynamic* and

social perspective on business processes. A sequential understanding of rule setting (e.g., Seidl, 2007), i.e., an understanding of the dynamics of business processes and their implementation, can help explore how the regulatory power of a business process is created and maintained over time.

Thus, in the current paper, the authors aim to 1) elaborate the social perspective on business processes, 2) bring together functionalist and social views on business process management while 3) conceptualizing business process management as a cyclical sequence of different phases of process formation and process diffusion, and in doing so, 4) explore how the regulatory power of a business process can be established and managed.

To achieve these aims, the authors draw on a theory about *standardization* (Botzem and Dobusch, 2012) and on qualitative data. From a standardization perspective, business processes can be seen as standards within organizations or "intra-organizational standards" that cannot just be implemented once but have to be managed constantly in order to become and remain a stable force for organizing how work is done (Brunnson et al., 2012; Slager, Gond, and Moon, 2012). Following Botzem and Dobusch (2012), the authors suggest that different forms of "legitimacy" arise from different phases of process formation and process diffusion, thus linking functionalist and social views on business process management and facilitating the development of a deeper socio-functionalist understanding of business processes and the dynamics of their implementation, functioning, and acceptance. The authors combine their theoretical elaborations with empirical data on a specific case of process implementation and formulate a model of self-reinforcing business process management. Self-reinforcing means that phases of process formation and process diffusion positively affect subsequent phases by creating specific forms of legitimacy, which in turn contribute to establishing and managing a process' regulatory power.

THEORETICAL BACKGROUND

Business Processes

Business processes are collections of standard operating procedures or routines that provide precise rules and practices to cope with different situations and enable an organization's efficiency (Laudon and Laudon, 2010). Business processes are usually conceptualized from a functionalist perspective: business processes are designed to coordinate actors, structure and regulate how work is done, produce a specified output for a particular customer or market, and monitor work flows (e.g., Armistead, Machin, and Pritchard, 1997; Lindsay, Downs, and Lunn, 2003). A variety of definitions of business processes exist (for an overview see Lindsay et al., 2003), but most definitions refer to business processes as "a specific ordering of work activities across time and place with a beginning, an end and clearly identified inputs and outputs: a structure for action" (Lindsay et al., 2003, p. 1017) that creates value for internal and/or external customers (Hammer, 2015).

Business Processes as Intra-Organizational Standards

Standards – usually understood as transnational and *inter*organizational rules – are everywhere in our lives. For example, Blu-ray, WiFi, and USB are all based on specific standards or sets of standards. The International Organization for Standardization (ISO) produces, revises, and diffuses standardized processes for quality management (ISO 9001), risk management (ISO 31000) and social responsibility (ISO 26000), to name just a few (Brunsson et al., 2012). The ISO defines a standard as a "document, established by consensus, and approved by a recognised body, that provides for common and repeated use, rules, guidelines, or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context" (International Organization for Standardization, 2001, p. 9). In this sense, standards are rules that are explicitly formulated and decided upon (Brunsson et al., 2012). From a functionalist perspective, governments or organizations implement standards in order to enhance coordination, enable monitoring (Ahrne, Brunsson, and Tamm Hallström, 2007), foster safety, ease interaction, and structure internal action as well as the world around the nation or organization (cf. Botzem and Dobusch, 2012). From a constructivist or rather

social point of view, standards produce uniformity by encouraging actors to behave in a similar fashion (Brunsson et al., 2012).

Connecting the coordinative and structuring function of standards with the standardized and standardizing nature of business processes, the authors view business processes as intra-organizational standards, i.e., standards within organizations. Consequently, in the context of this paper, a business process is conceptualized as an intra-organizational standard that is triggered by internal or external events, sets a sequence of activities, coordinates and entrains them, produces uniformity, and thus regulates goal-directed action.

The Legitimacy of Standards

Research on standards and their legitimacy has been growing, especially in the field of organizational science (cf., Brunsson et al., 2012). Legitimacy is a source of authority apart from material and power resources (Botzem and Dobusch, 2012). "Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574). Legitimacy is given if standard adopters consider a standard to be desirable and proper (see Suchman, 1995) and see it as a rightful and appropriate stipulation of regulation for behavior (see Quack, 2010).

There are several challenges organizations have to consider when adopting new standards (Brunsson et al., 2012) and fostering their legitimacy. First, experts involved in standard setting may pursue specific individual or micro-political interests. Second, standards may collide with local idiosyncrasies within an organization, as standards often do not fit well with prevailing organizational conditions. Thus, the standard and the local context within an organization have to converge in a dynamic process of adjustment and translation (Brunnson et al., 2012). Third, organizations are creating and implementing more and more standards in order to regulate their activities. The increasing multiplicity of standards can undermine their regulatory effect (Brunnson et al., 2012). Organizations thus have to overcome these

challenges – politics, contextualization of standards, and multiplicity of standards – when implementing standardized business processes and fostering their legitimacy.

In their model of transnational standardization, Botzem and Dobusch (2012) suggest how standards can be implemented so that over time they become authoritative rules for action. They describe how "standard formation and diffusion are reciprocally linked, drawing on different sources of legitimacy" (p. 743): standard formation affects standard diffusion via the creation of input legitimacy. Reciprocally, standard diffusion affects standard (re-)formation via output legitimacy. This recursive cycle of standardization lies at the root of a standard's regulatory power.

The Implementation of Business Processes as Intra-Organizational Standards

The implementation of business processes is a critical phase of business process management, as processes can only create a competitive advantage if implemented effectively. "Implementation is a series of steps taken by responsible organizational agents in planned change processes to elicit compliance needed to install changes" (Nutt, 1986, p. 230). Some employees resist new processes because they have experienced a lack of benefit from previous process implementation efforts; perceive a lack of resources; see current crises as more urgent and important; do not understand the use, value, and benefits of process models; or anticipate and fear control, over-prescription, over-systemization, a reduction in creativity, and a stifling of innovation (Browning, Fricke, and Negele, 2006). Some may also dislike the implementation of a new process because they fear losing power, do not feel comfortable working in teams, dislike accepting personal responsibility for outcomes, or are simply unwilling to accept change (Hammer, 2015).

This mix of different (and partially deeply rooted psychological) reasons for resistance to new processes shows that standardization cannot be seen as a purely technical activity mainly concerned with the implementation of a technical routine. Standardization requires "substantive work beyond the mere development of technical solutions" (Slager et al., 2012, p.

767) that "needs to be undertaken to develop and maintain the regulatory power of the standard" (Slager et al., 2012, p. 768), including political and social efforts (vom Brocke and Sinnl, 2011).

Due to the lack of social sciences in theory and research on business process implementation, the authors have adapted Botzem and Dobusch's (2012) model of standardization to business process implementation and investigated *how a business process should be implemented in order to establish and keep its regulatory power as an intra-organizational standard*. By conceptualizing business processes as intra-organizational standards, the authors shift theory and research on standards and standardization from the *inter*-organizational level to the *intra*-organizational level. They not only add social elements to research on business process management, but also integrate functionalist and social perspectives on business processes in one model of self-reinforcing business process management. They explain how different phases of business process implementation are dynamically linked by different kinds of legitimacy, and in this way, shed new light on business process implementation.

METHOD

The authors conducted a qualitative study in a large automotive organization in Germany and investigated the implementation of a cross-functional business process for the management of suppliers. The process involved a sequence of different steps for nominating and training potential new suppliers. At the time of data collection, the business process had been designed but not yet implemented. The study focused on the question of how such a business process must be implemented in the organization in order to be sustainable and accepted by employees – in other words, in order for its regulatory power to unfold.

Data Collection

Sample and Sampling. A total of 26 interview partners (15 managers and 11 employees) from an international manufacturing organization in the automotive sector

headquartered in Germany were interviewed. All interview partners were men, due to the fact that they were mostly engineers – a field dominated by men. Their average age was 45 years (*SD* = 7.16 years). The interview partners had worked in the organization for 15.8 years on average (*SD* = 9.54 years). The interview sessions were scheduled by a student assistant within the organization.

Interview partners from different organizational units were strategically chosen on the basis of their expertise in the topic of interest (i.e., purposive sampling, see Miles and Huberman, 2007). The interview partners' different expertise was necessary as the authors wanted to explore *general* conditions for implementing business processes, which are perceptively shared among different groups, while addressing a specific business process. In order to capture a broad range of opinions, efforts were made to ensure that interview partners differed with respect to their familiarity with the new process and perspectives on the process implementation. Consequently, nine interview partners knew the specifics about the new process, three had been involved in its development, eight were broadly familiar with the business process but not in every detail, and six interview partners were not yet familiar with the new process but would work with it in the future. As our goal was to formulate a *general* model of how a business process should be implemented in order to establish and keep its regulatory power we integrated the different groups' perceptions to complete data analysis.

The number of interviews was determined on the basis of theoretical saturation (Bowen, 2008; Strauss and Corbin, 1990): Using a saturation grid (see Brod et al., 2009; Nelson, 2017) in which categories were tabulated against chronologically listed data sources the authors observed that in interview #18 one new category had emerged which made them decide to conduct six more interviews. The newly identified category emerged again in interview #24, so the authors added interviews until no new topic emerged anymore. This point was reached after 26 interviews.

Internal validity of data was pursued with the comparative method: the authors teased out the meaning of the codes and compared in which way codes were similar or different. This procedure helped to define codes, and to identify and solve ambiguities (Nelson, 2017). To ensure that findings are applicable to different relevant disciplines (external validity), i.e., business process management, organization science, and psychology, the findings were 1) resonated with a person responsible for process implementation within the organization, 2) checked whether they made sense given prior research, and 3) formulated in a more general language which avoided the use of discipline-specific technical terms or descriptions (Nelson, 2017).

Given the consideration of saturation issues, the scope of the research question, the focus on quality rather than quantity, the nature of the phenomenon, and the researchers' experience and knowledge, the sample size was deemed appropriate (Nelson, 2017).

Procedure. Semi-structured interviews were conducted. The interviews focused on the question of *how the specific business process should be implemented so that all stakeholders will actually use the process at all, and, in addition, will be able to run the process smoothly and effectively*.

Four female interviewers conducted the interviews: two authors of this study (with a PhD in Psychology) and two research assistants (with at least a bachelor's degree in Psychology). The first author trained the research assistants in a three-hour session on conducting interviews and reflected with them on two interviews they had joined. Moreover, the authors supervised two interviews that the research assistants conducted before the research assistants conducted interviews on their own. No relationship with interview partners was established prior to study commencement.

At the beginning of each interview, the interviewers introduced themselves. They briefly explained the focus and purpose of the study and collected demographic data (age, tenure, knowledge of the process). Moreover, they obtained interview partners' consent to the

study and to audio recording the interviews. The interviews lasted 0.75 hours on average. Field notes were made during the interviews.

Data Analysis

After the interviews were transcribed, they were analyzed using qualitative content analysis (Mayring, 2008; Miles and Huberman, 2007). One author of this study and one research assistant coded the data.

The coders first read the data material in order to gain an initial overview of the factors that facilitate and inhibit process implementation. Next, the coders split the text into small units of content and identified and marked the specific segments of information to be coded. Each segment was assigned an identification number (ID). The segments were paraphrased in order to condense the information. A preliminary inductive, open coding of each statement was conducted, referring to its paraphrased information. The results of the open coding were condensed into categories. The coders continued to build new categories until no new topics or subcategories could be identified. In an iterative and progressive process, the categories were defined and refined to ensure that there was no overlap and to minimize ambiguity about the assignment of statements to categories. The coders engaged in several iterations of coding and recoding until they had a stable set of categories (Mayring, 2008; Miles and Huberman, 2007; Strauss and Corbin, 1990). In this way, redundancy in the categories was reduced and a categorization system incorporating the most important categories was created. The steps of identifying and labeling categories were closely linked and interlocked. By grouping statements into categories, recurring patterns and tendencies could be identified without a formal frequency analysis (Strauss and Corbin, 1990). As the analysis progressed, more abstract and interpretative axial codes were assigned to subsets of open codes, as will be described in the results section.

In order to ensure the reliability of the coding, independent raters (one author of the study and one research assistant) coded each paraphrased statement a second time. Miles and

Huberman's (1994) formula for calculating inter-rater reliability was utilized, which was high (.98). All discrepancies could be resolved via discussion. To gather feedback on the plausibility of our categories, the authors discussed the categories with a person responsible for process implementation within the organization. Moreover, all phases of data analysis were checked and reviewed by two of the authors, who looked out for inconsistencies and offered recommendations regarding content coding (also see Bowen, 2008).

As we applied a content-analytic approach and primarily focused on inducing categories from the data material, the program Microsoft Excel was deemed appropriate and was used for all analyses.

RESULTS

The categories identified during the process of data analysis are illustrated in Figure 1 (see bullet points in boxes). The categories induced from the interview partners' statements captured both functional and social aspects of business process management and did not just refer to process implementation per se, but revolved around it: the question of how to implement a business process to ensure its acceptance stimulated interview partners to reflect and talk about 1) process design, 2) process implementation, 3) process application, and 4) process follow-up. These four phases of business process management (illustrated in Figure 1, see headings of boxes) were identified by axial coding, and are used to structure the subsequent reporting of results.

In the following sections, the authors describe the aspects managers have to consider in the phases of process design, process implementation, process application, and process follow-up in order to establish the regulatory power of a business process. The respective codes identified during data analysis are written in italics.

Process Design

Process design refers to the design of new processes or the redesign of existing processes. The authors clustered the results into process development, process characteristics, and process description.

Process development. Interview partners often referred to *participation* during the process development phase. Users and stakeholders as well as experts should be involved in the development of a new process so that they can actively contribute to its gestalt. Participation of users ensures that the process fits the organization's "reality", or rather makes it possible to determine how the business process should be designed to make it fit this reality. One respondent mentioned (the authors translated all quotes presented in this paper from German into English):

> "Ok, if it is a process for a specific group of employees … then I have to identify the key players, who provide the input. But the issue is that often the people are not involved, … [and] therefore the … concerns and the needs of those people are not seen." (ID 274)

According to the interview partners, a business process should be developed in accordance with the prevailing *demands and requirements* and should meet the needs of users and the situational circumstances. The process should not be developed for micro-political reasons. Commitment to the process arises when stakeholders perceive that the process addresses their needs and that they can benefit from applying it in their daily work.

> "When I impose a new process on a group of people, the 'be-all and end-all' is that the process fits the needs of the target group. If I do not have the target group in mind [when creating the new process] and do not consider their concerns, the process won't work." (ID 275)

Furthermore, the process should be "contextualized", i.e., *incorporated into existing systems or processes* to ensure on the one hand that it is not an isolated entity and on the other hand that there is no other similar process within the organization with the same purpose. The

process should replace an existing (non-standardized) procedure in order to prevent the co-existence of multiple ways of working on a specific task. The process' scope of application should be defined: to which issues and situations does the process (not) apply? Moreover, the process should be contextualized by integrating known and existing structures or procedures in order to make it easier for process users to come into contact with the new process and orient themselves within the process. For example, established and well-known documentation systems could be used for process documentation. Interview partners argued that in this way, the acceptance of the new process can be advanced:

> "If I recognize an old pattern within the new [process], then I would say, 'I see, the [process designers] really thought through the design, this is indeed a design similar to how I would approach this, but the [new design] is broader or profounder and more standardized and thus more comparable'." (ID 267)

Process characteristics. Interview partners mentioned different attributes or characteristics that a process should have in order to foster its acceptance and application, and thus its regulatory power. First, the process should be *usable* (i.e., not too complex or abstract), unambiguous, comprehensible, and formulated in the language of process users. The latter increases the recall value und eases the transfer of the process to users' daily practice.

Moreover, interview partners emphasized that a process should be *goal-directed*, that is, the process should specify where and when in the process decisions are necessary and how to make them. The process should allow for efficient operations, enable informed, prompt decision-making and suggest concrete procedures for managing critical situations. The process should offer recommendations regarding scheduling and time management and provide milestones that are planned and set by experts with experience and coordinated with process partners. This helps the process facilitate decision-making and improve temporal and team coordination.

The process should be *binding* to enhance obligating its application. The process should have an *owner* who "shepherds" the process, is responsible for its maintenance, and has a holistic perspective on it.

Interview partners furthermore reflected on the *tension between process standardization* and *process adaptability*: standardization ensures that the process can always be used in the same way, like a routine, and the effort involved in process application and documentation can be reduced. However, the process should also be adaptive and flexible, that is, not too rigid, so that it works for different stakeholder groups in different organizational contexts and in different situations. Interview partners argued that processes should have a modular structure, which enables quick changes or adaptations to individual process modules in order to better align the process with specific circumstances or a changing environment:

> "I need a generic process. Which results does one want to achieve, which process partners do I need? And then I have to take a look at it and ask: does [the process] fit my circumstances? And then I have to be able to adapt [the process] appropriately, in fact fairly easily." (ID 213)

Process description. Once it has been developed, a process has to be described. This process description should *specify key process issues*, that is, clearly define and assign roles, tasks, and outcomes to people involved in the process and determine process initiators and deadlines. In addition, structures and dependencies have to be stipulated, i.e., dependencies between sub-processes, relationships between stakeholders and the contributions required from each, agreements about interfaces, sequences of work steps and their inputs and outputs, as well as the process' content, functionality, and background.

The process description should be *usable* (just like the process itself): the process description should be accessible for all process partners at all interfaces (i.e., available, easy to locate, access authorization provided), focused (concise, clear, consolidated), structured (orderly, formal, unequivocal, arranged from overview to details), and include the option of

retrieving more detailed information (explanations, explications, examples). The process description should describe example process outputs so that users understand what they have to generate when applying the process. It should include visual illustrations and comprehensible, readable jargon. A sound process description enables process users to "learn" the process. One respondent mentioned that a process only becomes "viable" if the users know the process "off pat" and internalize it (ID 144).

> "The process description has to be as simple as possible. No one reads through a complex document (…). What works is a simple folder or a one-pager with graphic elements." (ID 300)

Process Implementation

According to the interview partners, the most important aspect of the process implementation phase is providing information about the process and communicating it appropriately. Information should be provided early in time via multiple channels, should be formulated in the language of process users, and should be transparent and comprehensible.

Goals and vision. The vision and goals associated with the process have to be stated clearly in order to answer the question "why do we need another process?" Describing the process' background and design and explaining its necessity creates meaning and understanding. Moreover, criteria for process evaluation can be deduced from the process' goal(s) and vision.

Process functionality and contextualization. According to the interview partners, the process' basic functionality has to be communicated: what are the preconditions and basic operating mechanisms of the process? Which events or signals initiate the process, i.e., when and in which situations does the employee have to conduct the process? Moreover – as already mentioned in the context of process design – management should explain how the process can be integrated into the existing process landscape in order to uncover interrelations and connections between inputs and outputs (e.g., the output of the new process is an input for a

specific already existing process), as well as to differentiate the new process from other processes (the new process applies to x whereas a specific already existing process applies to y). In addition, process users need to know how the process will affect them, their work roles within the organization, and their daily work as well as how the process will lead to changes in previous work routines:

> "Once [the process] is defined and the people say 'okay, I have understood [the process]', than one does not have to be present anymore, then people go with the flow." (ID 219)

Interview partners also mentioned that they need information about the adaptability of the process. What are the core components of the process and at which points is the process applicable in a flexible way? Which parts and steps of the process are mandatory and which ones are optional? Where in the process does the user have the flexibility to make adjustments? Information about process adaptability illustrates how the process can be applied to the process users' daily work and how it can be used to solve existing problems.

Process benefit. Interview partners were concerned that a new business process causes additional work. They highlighted the need to understand the benefits of the business process – both at the individual and at the organizational level: How does the process support process users in reaching their goals within the organization? How does the process contribute to reaching the organization's overall goals? The business process' long-term benefits need to be contrasted with initially increased workload. Management should communicate that the process will not cause extra workload in the long run (despite the initial extra work), but rather replace existing routines and, by providing consistent and standardized procedures, support and simplify the user's work and increase efficiency.

> "Having a seemingly short and quick routine on the one hand and a somewhat more sophisticated, but sustainable process on the other hand … people will choose the short one, even if it causes problems in terms of quality afterwards…" (ID 299)

The explanation of the process' benefits should address real problems and challenges and include a case-based example of process application that illustrates the advantages of the new business process and the downsides of traditional workflows. Such "success stories" increase users' confidence and enthusiasm regarding the new business process. Success stories make the benefits of the process tangible to users and go beyond abstract phrases like "increased efficiency" and "higher quality" (ID 156). However, each process has its limitations and scope of application, and these need to be clearly stated as well. All in all, users should not feel coerced but convinced to apply the business process via open and transparent communication about its benefits and limitations.

> "The advantages for the individual user and for the collective have to be clearly emphasized. In the end, everyone should be part of the winning team." (ID 300)

Process standing. According to the interview partners, it is important to learn about the process' standing within the organization, i.e., its importance, prestige, and reputation, as well as the commitment of management and stakeholders. Management should highlight that important stakeholders were involved in designing the process and state how stakeholders contributed to the process characteristics. Management (who should serve as a role model) must signal the process' status and necessity in order to support users' commitment to process application. One way to achieve this would be to incorporate process application into performance agreements (cf. management by objectives) in order to keep the process from being systematically neglected. If users perceive process application as a priority, they will be more likely to accept and promote the business process.

> "[The process] needs to be backed by the whole department (…), [it] needs to work across divisions and be accepted across divisions (…). According to my experience, many processes end up in the trash can, because they were created by single heroes, but were not kept alive." (ID 57)

Preparation for process application. Interview partners stated that there needs to be sufficient preparation for process application in the course of process implementation. This preparation should include an opportunity for users to learn about the process and associated tools in trainings. Process trainings should be specifically designed for different groups of users and include information and guidelines on how to apply the business process and handle the available tools. In addition, a coach could support users' knowledge acquisition to ensure that they learn the necessary operational skills for optimal process application.

Elements of the process that are intuitively comprehensible (one interview partner called it the process' "intuitive ergonomics"; ID 72) should be highlighted, and example process results should be described. Management should clearly depict the process' scope of application, which work roles within the organization are affected by the process, and who has to do what to make the process work.

In this way, users can develop a mental model of the business process, including a "big picture", i.e., an idea of the dependencies and interfaces within the process and between processes as well as an understanding of the cross-functional transfer of information. Explicit knowledge about the process is then considered to become implicit. Thus, the preparation for process application aims at promoting implicit and explicit process knowledge and process competence among all process stakeholders.

> "Users must see where the new process fits [into the whole process landscape]. Because we have our standard procedure, and now, something new has to be integrated within it." (ID 336)

Process Application

When asked about how a business process should be implemented in order to establish and maintain its regulatory power, interview partners also referred to process application.

Optionality vs. obligation. Interview partners had ambiguous opinions regarding the binding nature of the process. Some interview partners stressed that process application should

be optional and not mandatory. Thus, users are empowered to decide flexibly whether to apply the process in a given situation or not. Consequently, users can apply the process when it is really useful and not just "pro forma". However, other interview partners mentioned that establishing the process within the organization and eliciting commitment is only possible if its use is mandatory. Those interview partners claimed that management should demand and be actively involved in process application.

> "I need a clear rule: this process has to be applied. (…) And now, there is the question: does my supervisor share this rule? It's not only about management commitment but about management involvement." (ID 286)

Process knowledge and process competence. As already mentioned in the previous section on preparation for process application, knowledge and skills regarding the business process ("process competence") are important. When applying a process, users need to understand the dependencies between stakeholders and input-output relations at interfaces. Tasks, roles, responsibilities, structures, results, and goals have to be clear. All stakeholders should be process experts and have implicit and explicit process knowledge.

Resources. Interview partners mentioned that they need tools and instructions describing the overall process and supporting the work flow in order to apply the business process. These tools should be usable, i.e. clearly arranged, concise, and focused, quick and easy to use, accessible, easy to locate, and integrated into well-established systems. Furthermore, the tools and instructions should be easy to adapt to specific situations or needs but at the same time consistent and standardized. The tools should provide the opportunity to set and document deadlines and milestones. In addition to working reliably, the tools should be integrated into and compatible with other management systems. Moreover, the tools should not generate redundancies, and the number of tools should be kept to a minimum.

Furthermore, interview partners stressed that they need adequate resources to apply the process, such as time and a financial budget. Moreover, leeway and freedom of action should be given to process users to enable them to apply the process in their daily work.

Coordination and cooperation. Interview partners mentioned that activities among all relevant process partners should be well-coordinated. This includes having harmonized schedules, clearly stated agreements, and making information about the process available to all stakeholders. During the process, decisions need to be made promptly in order to prevent delays in subsequent tasks or steps. Moreover, decisions should be documented and thus traceable and comprehensible.

> "A new process will work if it is synchronized with all process partners." (ID 135)

Support. Support during process application should be available quickly and easily. Interview partners wanted to have a designated person to contact in case of problems or questions. This person (e.g., the process owner) should provide coaching and work on specific problems with process users. In addition, the interview partners raised the idea of consultation hours in which they can discuss example process applications.

> "There has to be a person, an expert or coach, who supports process users. (…) [T]he coach should offer assistance and should give feedback such as, 'ok, that's not yet how it should be in the end, you can optimize this aspect'. The coach should guide the process users." (ID 287)

Process Follow-Up

Process follow-up should go along with process application. Anticipating the cyclical repetition of a standardized process, users should *document* the results of process application systematically and comprehensibly. This process documentation should be accessible for other process users and stakeholders. This allows the results across many process applications to be compared. Moreover, the results and outputs of process applications should be provided for future use, which also underpins the purpose and advantage of the process.

Documentation also facilitates *monitoring and measurement:* managers should monitor process application and documentation as well as measure whether results have been generated and objectives achieved. In order to support learning for future process application, process users should *exchange knowledge* and experiences with the process. Best practices and success stories should be communicated in order to stress the benefits of applying the process. In this way, the process should be *promoted* or "advertised".

Both the process itself and the corresponding tools should be *continuously improved*. In this respect, the process owner (who is the person responsible) should actively seek feedback, either formally (using feedback forms) or informally by talking to process users.

DISCUSSION

How should a business process be implemented in order to establish and keep its regulatory power as an intra-organizational standard? The results of a qualitative study showed that managers have to consider four phases of business process management: process design (e.g., participation of stakeholders), process implementation (e.g. communicating goals, context and benefits), process application (e.g., coordination, support) and process follow-up (e.g., monitoring, continuous improvement).

This section discusses the results with respect to existing work on business process management and standardization and integrates them into a model of managing business processes as intra-organizational standards (Figure 1). The model's recursive paths are based on existing research and theories from different disciplines.

A Model of Self-reinforcing Business Process Management

The authors argue that a holistic, cyclical perspective on process implementation (including the phases of process design, process implementation, process application and process follow-up) fosters an understanding of the self-reinforcing dynamics of business processes within organizations. These different phases are supposed to produce different kinds

of legitimacy. Mayntz (2010) stressed the fundamental role of legitimacy in generating not just "day-to-day compliance, but long-term stability" of standards (Mayntz, 2010, p. 15).

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Insert Figure 1 about here
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Process design. When designing business processes, managers should *participate* process users, stakeholders, and experts to make sure that the process meets users' *demands and requirements* and is *incorporated into existing structures*. Processes should be *usable, goal-directed* and *owned*. *Standardized* processes need to match the working circumstances but should also be *adaptable* to changing conditions. The process description should be *usable* and contain a *specification of key process issues*.

Design-based input legitimacy. The authors argue that these aspects of process design (which have also been claimed in previous research, cf., Armistead, 1996; Browning et al., 2006; Brunsson et al., 2012; Slager et al., 2012) form the basis for design-based input legitimacy. Design-based input legitimacy describes the perception that a functional standard or process was built *with* and *for* the process stakeholders. Design-based input legitimacy is thus based on both social aspects (the "process" of process design) and functional aspects (the "product" of process design, i.e., the process and its characteristics). The process and product of process design form the foundation for what will be communicated in the process implementation phase.

Proposition 1a: Process design including participative formation of usable, goal-directed, owned, and clearly described processes that are standardized but also adaptable, are incorporated into existing structures, and meet the stakeholders' requirements, positively effects design-based input legitimacy.

Proposition 1b: Design-based input legitimacy positively effects process implementation.

Process implementation. This study showed that management should formulate the *goal and vision* of a new process and communicate its *functionality* and *context*. In light of the *process' standing and benefit*, management should appreciate processes as a means of creating ongoing value for the organization. Furthermore, management should make the benefits of process application in terms of value creation clear. This study showed that the *application* of a business process has to be *prepared* for adequately, i.e., users have to be trained, as new processes "require new roles, tasks, skills and expertise" (Armistead, 1996, p. 51).

Implementation-based input legitimacy. Implementation-based input legitimacy describes stakeholders' understanding of *why* a functional standard or process was created (social perspective) and how it can be applied (functional perspective). The authors argue that a process' implementation-based legitimacy is fostered if management convincingly communicates the process' goals, necessity, and significance within the organization (Ricken and Steinhorst, 2005). Communication of the "why" is essential to foster users' understanding of the process' value (Browning et al., 2006; Ricken and Steinhorst, 2005). This study provided first evidence that if management communicates the process' goals and vision, its functionality and contextualization, its benefits and standing, and prepares for process application during the process implementation phase, process users will be more likely to accept the new process and feel enthusiastic about its application. In this way, management can prepare the ground for process application and diffusion.

Proposition 2a: Process implementation including the communication of a process' goals and vision, its functionality and contextualization, its benefits and standing, and the preparation of the ground for process application and diffusion, positively effects implementation-based input legitimacy.

Proposition 2b: Implementation-based input legitimacy positively effects process application and diffusion.

Process application and diffusion. According to the results of this study, *process knowledge*, *resources*, and *support* are important for process application. Moreover, process partners have to *cooperate and coordinate* their interactions within the process. Regarding process application, interview partners discussed whether process application should be *optional* or *obligatory*. As stated above, making a process mandatory in an environment for which it is not suitable can be ineffective (Browning et al., 2006). Bozem and Dobusch (2012) argued that a standard should be revisable over time, as the fit between the business environment and a business process is a critical factor for business process management (vom Brocke et al, 2014).

Application-based output legitimacy. Application-based outcome legitimacy describes process stakeholders' understanding of how a standard or process works (functional perspective) and their perception that the standard or process is actually applied within the organization (social perspective). The authors argue that application-based output legitimacy results from the application and diffusion of a business process. For example, if process users perceive that a process has not been simply imposed on them and they are not forced to follow it regardless of the actual circumstances, but perceive flexibility such that they can adapt the process to the circumstances they face, they will be more inclined to accept, adopt, and apply the process. Flexibility makes a standardized process more attractive to users. If a process provides users with options and a range of action, conflicts emerging from discrepancies between the process and the environment in which it has to be applied might be reduced.

Proposition 3a: Process application including process users' knowledge, competence and resources, support in process application, and cooperative and coordinated interactions within the process, positively effects application-based output legitimacy.

Proposition 3b: Application-based output legitimacy positively effects the process follow-up phase.

Process follow-up. *Process improvement*, one of the main principles of business process management (Armistead, 1996), requires process *documentation, monitoring, and measurement* (Armistead, 1996). Process measurement aims at determining a process' performance in terms of fulfilling customer requirements and reaching economic targets. In the process follow-up phase, process users should exchange *experiences and knowledge* in order to foster continuous mutual learning and the process should be *promoted*.

Follow-up-based output legitimacy and process diffusion. Follow-up-based outcome legitimacy describes process stakeholders' understanding of what happens after process application (functional perspective) and their perception that the organization cares about process application (social perspective). Follow-up-based output legitimacy arises when a process meets the expectations of its users and has the capacity to solve collective problems (Botzem and Dobusch, 2012). As output legitimacy stems from a process' effectiveness and coordinative capacity, output legitimacy is "predominantly related to its diffusion" (Botzem and Dobusch, 2012, p. 741).

Proposition 4a: Process follow-up including the measurement, documentation, and monitoring of a process' results, as well as the exchange of knowledge and experiences, continuous improvement and promotion, positively effects a process' follow-up-based output legitimacy.

Proposition 4b: Follow-up-based output legitimacy increases the rate of process application and the number of process users who are convinced of the process' benefits and thus in turn the diffusion of the standard within the organization.

Contribution and Implications for Theory

Research on implementation (e.g., Nutt, 1986; Ravesteyn and Batenburg, 2010; Torres and Sidorova, 2015), organizational routines (e.g., Becker, 2004), standardization (e.g., Botzem and Dobusch, 2012), IT governance (e.g., De Haes and Van Grembergen, 2004) and business process management (Lee and Dale, 1998; Pritchard and Armistead, 1999) has accumulated

over the years. This paper contributes to current theory and research on business process management and standardization in multiple ways by combining theoretical perspectives and empirical results from both disciplines, thus showing ways that they and further areas of change-related organizational governance can enrich each other.

First, the authors show that most work on business process management has been conducted from a functionalist perspective and contribute to existing research by elaborating a social perspective. However, the authors not only "added" a social perspective, they instead *integrated the social and functionalist views on business process management*. To do so, they applied a theory of standardization to the context of business process management and showed how functionalist and social perspectives can be merged in one model via different forms of "legitimacy". In this way, business process management theory can be enriched by standardization theory.

Second, the authors elaborated on *different forms of legitimacy and their sources*. They not only referred to "input legitimacy" and "output legitimacy" (Botzem and Dobusch, 2012), but further differentiated input legitimacy into "design-based input legitimacy" and "implementation-based input legitimacy", and output legitimacy into "application-based output legitimacy" and "follow-up-based output legitimacy". This differentiation accounts for the empirically-identified phases of business process management. The empirical results also allowed suggesting *different sources of legitimacy* and thus offer rich ground for both practical implications as well as the further development of standardization theory and business process management theory.

Third, the authors *identified different phases of process formation and process diffusion* and conceptualized business process management as a *cyclical, dynamic sequence* of these phases. They differentiated between process design and process follow-up (as phases of process formation) and between process implementation and process application/diffusion (as phases of process diffusion, see Figure 1) and set the different phases in a cyclical, self-

reinforcing relation to each other. This recursive model of business process management fosters a better understanding of how process formation and process diffusion evolve and influence each other over time. The model underlines the dynamic nature of legitimacy, which must be repeatedly created and recreated (Botzem and Dobusch, 2012). The model is thus meant to stimulate longitudinal research on long-term developments in business process management and standardization. Moreover, the model shows that standard formation and diffusion phases both contain functionalist and social elements and thus helps to overcome the blind spots of each perspective. This differentiated view of the phases and their interplay makes the model more applicable to the everyday reality of business process managers.

Fourth, the authors do not only study business process implementation from the perspective of managers, they also *integrate the perspectives of employees*, who have to work with the process that is to be implemented. The results show that in each phase of business process implementation, both employees and managers are key actors whose activities can hinder or drive process formation and process diffusion. Thus, the model should have wider applicability than models that build on only one perspective – either the managers' *or* the employees'.

All in all, this paper's contributions to the field of business process management provide insights into the "standardization of standardization procedures", as called for by Botzem and Dobusch (2012, p. 756) in the context of standardization. This paper not only adds further descriptive "success factors" to the list of "how to do good business process management" but suggests how functionalist and social factors in different phases of business process management dynamically relate to each other in creating legitimacy. The theoretical model of self-reinforcing business process management thus goes beyond descriptive models as can for example also be found in the context of IT governance. Adding a time perspective by suggesting a cyclical sequence of business process management phases, the model offers a starting point for systematic, theory-driven longitudinal research.

Implications for Practice

The model of self-reinforcing business process management can be used as a guideline for managers involved in planning, implementing, applying, or improving business processes. Below, some examples of practical applications will be described.

First, when *planning or designing* a new business process, managers should involve future process users, process stakeholders and process experts. For example, managers could conduct workshops with future process users and stakeholders to systematically collect data on their demands and requirements. In this way, managers can gather useful information about users' needs, existing structures and routines, and the expectations of users and stakeholders. Both functional aspects ("What was designed?") and social aspects ("How was it designed?") should be considered in the process design phase.

Second, in the *process implementation* phase, communication is key. Managers' communication should include information about the goals of the new process, its benefits, functionality, and contextualisation. For example, management could provide an example of a completed process application demonstrating how the application of the new process facilitates daily work. Moreover, management could contrast the new process with the way things were formerly done and explain which former routines were replaced by the new process. Additionally, management should show their own commitment to the new process. Thus, both social ("Why was the process designed?") and functional aspects ("How can the process be applied?") should be addressed in the process implementation phase as well.

Third, in the *process application and diffusion* phase, management should make sure that process users have the resources that are necessary for process application: time, money, and manpower. Management should encourage process users to actively seek help from process owners when problems arise in process application. Management should also make clear at which points process application is optional and at which points it is obligatory.

Management should make visible how the process works (functional aspect) and who actually applies the process (social aspect).

Fourth, in the *process follow-up* phase, managers should monitor the results of process application and ensure that the results are documented adequately. Managers can use these results to further promote the process within the organization. Managers should thus communicate both functional aspects ("What happens after process application?") and social aspects ("Who cares about process application?").

In sum, these practical guidelines should create process legitimacy. Fostering legitimacy (which is a source of authority apart from material and power resources) to regulate behaviour can be a resource-saving socio-functionalist form of business process management. Legitimacy is supposed to foster process diffusion by integrating process application into employees' and managers' socially constructed system of norms, values, and beliefs.

Limitations and Future Research

Standardization and – applied to the context of this study – the implementation of standardized business processes are an endeavour involving many different dynamics and tensions. Micro-politics, local idiosyncrasies and a multiplicity of standards are only three examples of dynamics that can impede or complicate standardization and the regulatory power of standards. Future research should explore how the model of self-reinforcing business process management can contribute to coping with these dynamics and tensions. For example, multiplicity of standards could be overcome by incorporating new processes into existing structures or by merging lower-level processes into a single higher-level process or "meta-process".

Local idiosyncrasies could be considered by making a process both standardized and adaptable, for example, by creating convergence in the process' higher-level structure and differentiation at lower-level structures (cf. Reinecke, Menning, and von Hagen, 2012). Micro politics could be confined by participating stakeholders and experts and by focusing on the

process' goals and vision. This participation could be organized in a way that resembles open innovation communities, allowing for the involvement of everybody inside (or even outside the organization) who feels affected by the process or has ideas regarding its design.

Moreover, the authors assumed that regulatory power is expressed in the level of process acceptance, the frequency of process application and the degree of process diffusion. Future research should delve deeper into the social construct of process acceptance and identify indicators for its expression. For example, process acceptance can be expressed in post-implementation behaviour, by doing things beyond one's responsibility to ensure process application, by intending to continue to use the process, by being committed to the process, or in an employee or manager's willingness to utilize the process (Lapointe and Beaudry, 2014). Process acceptance is a "prerequisite before turning standards into de-factor prescriptive rules" (Botzem and Dobusch, 2012, p. 755).

This study applied a qualitative research methodology. Future research should dedicate itself to the psychometric measurement of the process design phase, the process implementation phase, the process application phase and the process follow-up phase and quantitatively explore the relationships between them (mediated by perceptions of legitimacy) as postulated in the model of self-reinforcing business process management.

Finally, the authors encourage future research to empirically investigate and theoretically advance business process management from a perspective of "second-order standardization" (i.e., to investigate business process management as the "standardization of standardization") and to advance work on standardization by addressing related work on business process management as a form of second-order standardization.

Conclusion

Researchers and practitioners in the fields of change management, standardization, innovation implementation, organizational routines, IT governance, and business process management all face the same challenge: something new is designed or invented and has to be

implemented in such a way that managers and employees accept and apply it. Building upon and extending Botzem and Dobusch's (2012) view of standards, the model of self-reinforcing business process management shows from a socio-functionalist perspective that process design and process diffusion are interrelated via process implementation and process follow-up. The regulative power of business processes can be established, managed, and maintained by considering these four phases, their specific requirements and their legitimacy-producing function. Developing this new process mindset is a necessity in organizations that rely on the regulatory power of standardized business processes.

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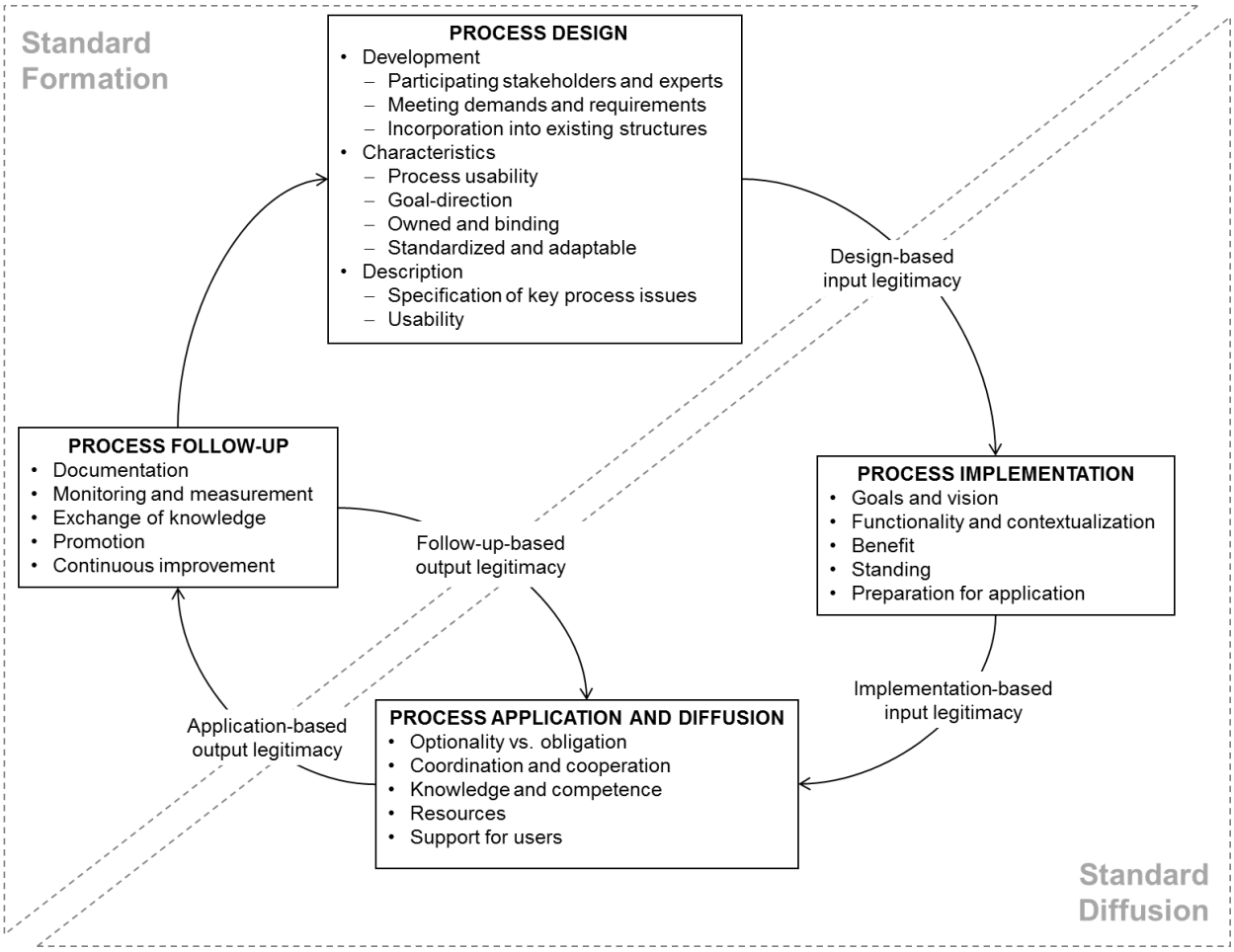

Figure 1. A model of self-reinforcing business process management