Towards an Understanding of the Business Value of Business Process Standardization - A Case Study Approach

Alexander von Stetten
University of Bamberg, vonstetten@is-bamberg.de

Bjoern Muenstermann
University of Bamberg, muenstermann@is-bamberg.de

Andreas Eckhardt
University of Frankfurt a. Main, eckhardt@is-frankfurt.de

Sven Laumer
University of Bamberg, laumer@is-bamberg.de

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Towards an Understanding of the Business Value of Business Process Standardization – A Case Study Approach

Alexander von Stetten
University of Bamberg
vonstetten@is-bamberg.de

Bjoern Muenstermann
University of Bamberg
muenstermann@is-bamberg.de

Andreas Eckhardt
University of Frankfurt a. Main
eckhardt@is-frankfurt.de

Sven Laumer
University of Bamberg
laumer@is-bamberg.de

ABSTRACT
What is the business value of process standardization? Alongside the development of industrial engineering of information technology and of business process redesign studied by Davenport and Short (1990), and Davenport’s approach defining business processes (Davenport, 2005), other researchers offer initial insights into business process standardization research opportunities (Venkatesh, 2006). Based on this new thinking about business process standardization, this paper presents a step towards understanding the business value of business process standardization. A single case study with a global operating company was conducted to show how a successful standardized business process and a supporting information system can impact the process performance in terms of cost, time and quality. The process studied within the case study is the company-wide recruiting process. As the results indicate, the company has improved the overall process performance. The results provide an initial insight into an understanding of the business value of process standardization.

Keywords (Required)
Business Process Standardization, Business Value, Case Study, Human Resources Information Systems

INTRODUCTION
Apart from the common assumptions that standardization, and especially business process standardization, is suitable for and provides a positive impact on business values such as process performance and market success (Lee and Kim, 1997; Manrodt and Vitasek, 2004; Fomin and Lyytinen, 2000; Ramakumar and Cooper, 2004; Swaminathan, 2001), there is little reliable knowledge about why and how business process standardization can provide these benefits. Neither in management nor in information systems literature can a usable concept for business process standardization and its business value be found (Davenport, 2005; Wuellenweber, Beimborn, Weitzel and Koenig, 2008). However, some of the literature on outsourcing does indicate that a standardized process impacts the outsourcing success (Rouse and Corbitt, 2004; Wuellenweber and Weitzel, 2007) and recent HR literature recommends concentrating on areas such as process standardization in order to reduce costs and improve efficiency (Majchrzak, 1988).

Following Venkatesh’s call for "research that aims to understand (...) business process characteristics and relevant outcomes" (Venkatesh, 2006) we aim to answer this research question, adapted from IT-business value creation research (Melville, Kraemer and Gurbaxani, 2004; Ray, Barney and Muhanna, 2004), by providing a single case study based on a theoretical framework for process standardization:

What is the business value of business process standardization in the special case of the recruiting process?

Research suggests that results-based appraisal methods would be most appropriate for these purposes (Ouchi, 1977; Snell and Youndt, 1995). Therefore, our paper proceeds as follows. First, we provide a theoretical background to process standardization and the observed business process. In section 2 we explain our single case study approach and in section 3 we describe the case study we conducted with a global operating company. Section 4 discusses our findings and Section 5 provides some limitations and implications for research and practice.
THEORETICAL BACKGROUND

This section aims, firstly, to introduce "business process standardization" to provide a solid framework for the standardization of a certain business process as presented in the following case study and, secondly, to elaborate on the performance of a particular business process, in our case the recruiting process.

Business Process Standardization

Following one of the most common definitions of a business process as given by Davenport and Short (1990), a "business process", the fundamental research object of this paper, is defined as a "set of logically related tasks performed to achieve a defined business outcome".

While it does not take much of an effort to find definitions of business processes in the (IS) literature, it is considerably more difficult to approach "standard" respectively "standardization" or even "business process standardization". Starting to approach "standardization" first, there are several definitions of "standard" and "standardization". The most common one has been given by ISO/IEC: "Standards are documents, established by consensus and approved by a recognized 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" (ISO, 1996).

Although to date quite some research has been done on standards and standardization\textsuperscript{1} Lyytinen and King (2006) – while highlighting the importance of standardization – complain about an alarming lack of research on it: "Despite the importance of standardization, the IS field has not pursued research on it vigorously. Scholarly discussions are rare, and strong contributions are lacking. […] Notably absent are studies of standardization concepts, processes, the impact of ICT standards on industrial coordination and strategy, or the economics of ICT standards."

Building on the literature on "business processes" and "standard" respectively "standardization" and trying to approach "business process standardization" there is not much relevant literature to be found. Although some ideas can be borrowed from the rich business process improvement literature from the nineties only a very limited number of papers exist treating "business process standardization" solely\textsuperscript{2}. Consequently Ungan (2006) points out that "despite its great attractiveness, academics' and practitioners' work on process standardization is conspicuously absent".

To address this void and to concisely approximate "business process standardization" for the rest of this paper we choose a two step approach by Muenstermann and Weitzel (2008), consisting of first "business process homogenization" and second "business process standardization":

1. Business process homogenization:

Given a business process P of which several business process variants P\textsubscript{1}, \ldots, P\textsubscript{n} exist (e.g. different production locations or product types), the authors of this work, first choose a so called "archetype process" A that "serves as a master or prototype process" (from either the distinct business process variants or newly designed ones) and then, secondly, propose to "homogenize the business process variants against the chosen archetype process". i.e. "to align the business process variants P\textsubscript{1}, \ldots, P\textsubscript{n} with the archetype process" (Muenstermann and Weitzel, 2008).

This first step, "homogenizing the business process variants against the chosen archetype process", does not necessarily need to pursue the objective of optimizing the performance of the business process variants. On the contrary, the authors propose that while "homogenizing the business process variants against the archetype process" it suffices simply to align the business process variants with the archetype process without simultaneous performance (Muenstermann and Weitzel, 2008).

2. Business process standardization:

To standardize business processes the authors' suggestion is not only to "chose an archetype process A and then to homogenize the business process variants P\textsubscript{1}, \ldots, P\textsubscript{n} against it", but to "first enhance the chosen archetype process A to a standard process S and then to homogenize the business process variants against that standard process". Our initial proposal of how a chosen archetype process may be enhanced to a standard process is presented in Table 1, as four dimensions which a standard process has to fulfil (Muenstermann and Weitzel, 2008).

\textsuperscript{1} Compare for example the Total Quality Management (TQM) literature or exemplarily the early work of David (1985), Farrel and Saloner (1985) or Katz and Shapiro (1985) and the later work of Cargill (2001), De Vries (1999, 2001, 2006) or Davenport (2005).

\textsuperscript{2} Compare for example Sánchez-Rodríguez et al. (2006) or Ramakumar and Cooper (2004).
An archetype process that is documented, modularized, contains specificities in only a low number of process activities and incorporates (external) expert knowledge meets the requirements of a standard process. "Homogenization of the given business process variants $P_1, \ldots, P_n$ against" an "enhanced archetype process $A$ respectively standard process $S$ is then called business process standardization". As opposed to business process homogenization, this second step of "standardizing the business process variants against the standard process" pursues the objective of optimizing the performance of the business process variants.

**Business Value of the Recruiting Process**

Ray et al. (2004) argue that instead of the overall business value, the performance of a business process can be the dependent variable for empirical research as well. Therefore the business value of the recruiting process is evaluated as a business process. In 1998 Chambers, Foulan, Hanfield-Jones, Hankin and Michaels introduced the idea of a "war for talent" to describe the talent shortage in some branches of business. Furthermore, Luftman, Kempaiah and Nash (2006) identified recruiting as one of the key issues for IT executives. Agarwal and Ferratt (2002) have forecast that talent shortage on the IT labour market will not be merely a transient problem. Thus if a company is able to identify and hire the best possible candidate for a vacancy faster than a competitor, extensive benefits are afforded. The fact that the best possible employee is hired in an efficient way within an acceptable time by a certain company and not by a competitor may lead to a higher performance of this business process of recruiting.

**CASE STUDY APPROACH**

In compliance with Eisenhardt (1989) the case study uses a research strategy which focuses on understanding the dynamics present within individual settings. Yin (2003) additionally emphasizes the real-life-characteristic of these single settings.

As we used a single case study approach to answer our research question, we designed the case study following the guidelines of Yin (2003). Hence we started by defining our research design and its components including the initial research question, its proposition(s) and its unit(s) of analysis (Yin, 2003). In our case the research question is: What is the business value of business process standardization in the special case of the recruiting process? Our ambition in the paper at hand is to answer this question with the help of a single case study against the given theoretical background.

Our general proposition is that standardizing a given business process can lead to performance improvements in this business process and thus be of value for the entire enterprise. For this purpose we plan to conduct more case studies focusing on different business processes in the future to reach a certain level of generalisability (Lee, 1989). In the following case the recruiting process as a specific business process is the unit of analysis.

Having concluded the definition phase, we selected the company to be considered within the case study in accordance with Eisenhardt (1989). Next we established interview guidelines defining the procedure pursued during the data collection (Eisenhardt, 1989; Yin, 2003).

The interviews were conducted in two stages. First, the context variables were discovered using a semi-structured interview. This was followed about one month later by a fully structured interview. The interviews took place in the company selected and lasted about two hours. Two representatives of the enterprise and two members of our research team were involved. To support our results we have added further documents provided by the company as meeting records and project descriptions. Finally the resulting case study report was released by the participating company.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document process</td>
<td>&quot;Degree to which the business process in question is modeled and documented in written form.&quot;</td>
</tr>
<tr>
<td>Modularize process</td>
<td>&quot;Modularization means the activity of subdividing a process into meaningful and suggestive sub-processes and steps. What is meaningful and suggestive depends on the respective domain (company, industry etc.).&quot;</td>
</tr>
<tr>
<td>Isolate specificities</td>
<td>&quot;Concentrate/fence specificities which only reveal a low probability of being reused, i.e. of being applicable to a lot of process instances, to the lowest number of process activities possible.&quot;</td>
</tr>
<tr>
<td>Ensure process excellence</td>
<td>&quot;If available incorporate knowledge and experience supposed to be &quot;best practice&quot; or &quot;best in class&quot; into the business process in focus.&quot;</td>
</tr>
</tbody>
</table>

Table 1: Dimensions a standard process has to fulfill according to Muenstermann and Weitzel (2008)
CASE STUDY

Description of the company and the project in focus

For reasons of anonymity we will call the company investigated in this case study “Future”. Future is a global operating company with three different business domains: automotive engineering, steel/tube manufacturing and retail. These business domains are legally autonomous and responsible for their own results. Production within these business domains is located in different places, even in different countries.

Because Future has attempted to standardize its recruiting process extensively since the end of the year 2004, the recruiting process is the business process addressed in this case study. In the past, several partial, individual information systems were in use in the HR departments in the global business locations to attain the same goal: Recruitment of appropriate candidates. This led to a loss of overview and the demand for a more structured recruiting process. Later, although the different information systems developed individual improvements for the particular locations where they were in use, there was little overall improvement for the company in respect of decreasing process costs and time needed and increasing candidate quality. In addition to this, the large number of incoming paper-based applications gave rise to huge administrative expense because it is mandatory to save the application data for 24 months in the USA.

Due to these problems responsible managers decided to standardize the whole recruiting process with the aim of appropriate IT support involving all global locations. As a result, positive outcomes like the improvement of data documentation, the creation of transparency within the human resource unit and the implementation of a cost efficient recruiting process were expected. Finally, a project with the following primary objectives was set up:

- To process a large proportion of online applications as quickly as possible
- To build up a high level of internal and external transparency in the company
- Standardization as far as possible and decentralization as far as necessary

The project started after extensive preliminary analysis in July 2004. As a result of country-specific differences (legal regulations, different modes of education and qualification) the project was initially implemented only in the business locations of Germany and the USA. Today Canada and Brazil have a standardized recruiting process as well.

Business Process Homogenization and Standardization

Several features of the approach which separates homogenization and standardization, as described in the theoretical background of this paper, can be found in the Future case study, as shown in the following five stage procedure.

Step 1: The first step in the aforementioned approach is the definition of the business process to be standardized. In the Future case this business process was defined as the recruiting process. Several variants of the recruiting process existed in the different global locations and business units of the company. This variety of process variants is connected with the use of different information systems within the recruiting processes of the individual global locations.

When it was decided to limit the project to the business units and locations in Germany and the USA, all variants of the recruiting process in this part of the enterprise needed to be standardized.

Step 2: Then an archetype process that serves as a prototype process has to be defined. This archetype process could either be designed anew or chosen among the distinct variants of the business process to be standardized. In the present case study, Future chose the recruiting process of the company’s headquarter as a master process. Combined with suggestions for improvements made by a firm of consultants, the design of the archetype process was then based on this master process.

Step 3: Since the archetype process and the business process have the same outcome, the next step is the homogenization of the business process. In the Future case, the outcome of both the archetype process and the recruiting process to be homogenized is the employment of a new staff member if possible. Future homogenized the distinct variants of recruiting processes against the archetype process previously designed, i.e. the different recruiting processes were brought in line with the archetype process. In doing so, Future determined the following factors for all variants of the recruiting process:

- Using the same HR marketing channels
- Uniform preference for application methods
- One harmonized mode of internal communication

Step 4: The final step includes the standardization of the business process in focus. Therefore an archetype process has to be enhanced to a standard process internally, or a standard process has to be chosen externally in terms of the dimensions
process documentation, process modularization, isolating of specificities and ensuring process excellence. Future proceeded in the following way:

Firstly, having an in-depth understanding of the existing process variants, Future built a model of the archetypical recruiting process. In this way activities and their chronological sequence were identified and documented in detail as well as all persons involved and the related processes or systems.

The second task necessary to enhance the archetype process to a standard process is the modularization of the process. Future subdivided the whole recruiting process into the following steps: "attracting candidates", "incoming applications", "management of applications" and "final selection and employment".

To achieve a further enhancement of the archetype process Future isolated recruiting process specificities in the next step. As a result the utilization of CV databases offered by employment boards (e.g. Monster.com) in the process of attracting candidates has been excluded. Another example is the acceptance of only one application method (application by web form) for a specific group of candidates.

As for the last dimension considered within the enhancement of the archetype process, Future did not incorporate external recruiting process excellence.

As a result of the procedure in the fourth step Future was able to enhance the archetype recruiting process to a standard recruiting process, whereas the requested (Muenstermann and Weitzel, 2008) incorporation of an external recruiting process excellence was not provided.

**Step 5:** Having developed a standard recruiting process, Future was ultimately able to homogenize the existing variants of the recruiting process in Germany and the USA against this standard process and thereby standardize these process variants.

The standard recruiting process is depicted in Figure 1 and described in the following context.

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**Figure 1. Process perspective of the standardized personal recruitment of Future**

When the hiring manager of an operating department reports a job vacancy to the HR department, the recruiter responsible first scans the internal data pool of the enterprise. This data pool contains both internal (i.e. current staff) and external
candidates (i.e. former trainees). In principle all incoming applications are saved in this database as long as it is statutory in the different countries. If an applicant is generally of interest for the company though s/he did not get the job s/he applied for, s/he is asked for permission to save the applicant data for a longer time. Otherwise the data are deleted from the database after the statutory time.

If it is not possible to find an appropriate candidate in this data pool, the recruiter has several ways to publish the vacancy. In the first step it is published in the intranet and on the website of the company. If necessary, online job portals are used as well. If there is still no adequate candidate available after these activities an employment agency or, as a last resort, a head-hunter could be assigned.

For incoming applications Future only accepts applications by web form via their own website for candidates like students or young professionals because an application by web form is the only application procedure that can be processed without any media conversion. For other groups of candidates like professionals or apprentices paper-based applications or applications by e-mail are still accepted.

Within the management of applications Future implemented one single applicant management system in all locations in Germany, Brazil, Canada and the USA. This system provides a standardized query form without a predefined filter for each recruiter. All the applicant profiles are pictured uniformly. If a recruiter identifies an appropriate candidate, the profile of this candidate is sent to the operating department by e-mail. After that the responsible person in the operating department is able to assess the applicants and to add comments, invitations, refusals etc. to the profiles. If there is no assessment of a profile by the operating department within two weeks the applicant is given a refusal. If the candidate was rejected by the operating department he receives a standardized refusal by e-mail.

In the final selection the recruiter has the alternatives of either inviting the applicant to an interview on site or arranging a telephone interview. The final decision about the employment of the candidate is made by the operating department. If a candidate is accepted s/he will be called first and receive an e-mail afterwards.

**Business Value of Business Process Standardization**

Standardization of the recruiting process depicted above increased overall clarity and transparency of this process. Having used several information systems within the recruiting processes in the different global locations and business units of the company in the past, Future is today only using one single applicant management system in combination with one central internal database in all locations in Germany, Brazil, Canada and the USA.

Future was also possible to significantly reduce administrative expense within the HR department because it was able to increase the proportion of incoming online applications in line with the standardization project. Online applications are much more space-saving and easier to handle than paper-based applications because of their digital form.

Now measuring the business value of process standardization along the dimensions time, costs and quality Future was able to reduce its "Time-to-Hire" from 92 to 69 days during the first year after the standardization of its recruiting process. Further on, it was possible to reduce the overall costs of the recruiting process by about 30 percent. Finally it was possible to clearly improve the quality of the applicant data due to the increased number of applications per web form. The applicants are not able to send redundant information by web form because Future determined via the input options in its web form which data is of interest for the company and which is not. Consequently there is in contrast to paper-based applications no need to filter out the interesting applicant data.

In the opinion of Future this is not the end of the improvements made possible by the process standardization. For instance a reduction to 50 days of the "Time to Hire" in Germany is expected to be possible in the following years.

**DISCUSSION**

A new chapter of one of IS research’s most controversial topics, the value of the information system itself, has been initiated. Despite its complex quantifiability and barely known profile, process standardization seems to represent a promising new opportunity for generating business value in IT. With our contribution we aim to support the previous findings of Davenport (2005), Venkatesh (2006) and Basu and Blanning (2003) and provide new business process standardization knowledge. We used a proposal of a construct for process standardization developed by Muenstermann and Weitzel (2008) and applied it to a single case study of a global operating company. Within this case study we identified improvements for all dimensions of process performance due to the standardization of this particular sample process. The company in the case study was able to save time and costs and to enhance the quality of the applicant data in the recruiting process under observation. Beyond that, a considerable reduction of administrative expense within the HR department was achieved as well as greater clarity of the
recruiting process. Altogether these improvements provided substantial value for the whole business, not only for the HR department. As this is just the first indication of the benefits of business process standardization, we encourage further research to find empirical evidence to confirm our findings.

LIMITATIONS AND IMPLICATIONS

Limitations
Research about business process standardization is still in its infancy, so we had to choose a preliminary approach and not a completed model or construct. Therefore the research presented in this document is not the validation of an existing business process standardization construct but a further step on the way to the development of such a model.

Our results are based on one single case study, so the generalizability of our findings to other companies or different industry sectors is open to question. Moreover, we chose the recruiting process as our research object and the same findings may not be true for other processes in the corporate context.

Implications for Research and Practice
With regard to the implications for research, this paper is another step on the way to linking business process standardization research and IT business value research, thereby helping to create a precise and unambiguous understanding of what process standards are and how/why they contribute to the business value. These how-and-why-questions have barely been addressed in the research literature up to now. Standardization research covers a wide area and the work in hand describes another instance of how and why certain standards are developed and used.

Finally, having provided evidence that the standardization of a certain business process can contribute to the business value, the case given in this document could act as an ante type for other companies and thereby be useful for improving practice.

REFERENCES

von Stetten et al.

Business Value of Process Standardization