The Impact of BPMS implementation on Business Process (Management) Maturity: A Nested Case Study in an International Financial Institution

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Abstract

In current business environment enterprises have to deal with increasing complexity of many aspects (i.e. regulations, information technology, rapidly changing market conditions). Both academicians and practitioners have proposed approaches to manage this ever growing complexity. Two relatively new developments from the last decades that support enterprises in managing this complexity, are Business Process Management Systems (BPMSs) and Business Process (Management) Maturity, or BP(M) Maturity. The former relates to Information Systems that are “process-aware”, i.e. aware of the processes and their organizational context. The latter relates to the maturity of organization’s business processes (i.e. organization’s level of process orientation) and their business process management capabilities.

This thesis work studies the impact of a BPMS implementation on BP(M) Maturity of an organization. Therefore, a nested case study was performed at a Financial Institution, which is in the process of implementing a BPMS in a number of divisions across Europe. Using a questionnaire and semi-structured interviews with company employees, the impact of implementing a BPMS on the diverse aspects of BP(M) Maturity was investigated (e.g. culture, governance, leadership, ownership and performance measurement) as identified by two of the most referenced BP(M) Maturity models in the literature. Because the implementation of the BPMS will take another 1.5 years as of the moment of publication, the initial results have been based on a limited set of implemented processes. However, this report presents support for a positive relation between the BPMS implementation and an increased level of process orientation, and provides insights into the mechanisms leading to this relation.
Preface

When I started with my thesis and internship, of course I had some expectations of what I would learn and experience. In hindsight, I think the most relevant thing I got confirmed towards myself (and for my future career), is that I get energized by inspiring other people by showing them ways to look at things from other perspectives. This is also something I recognize in the concept of the thesis itself.

Of course I would not have been able to finish the thesis without the help and support of others. Mostly, I would like to thank four people. The first being my academic first supervisor Oktay Turetken. Oktay helped me to stay on track, acted as a critical sounding board, but at the same time he was pragmatic and flexible when possible. Although certain parts of my thesis sometimes were very clear to myself, Oktay held up a mirror showing me some parts of my story were kind of abstract/fuzzy or hard to follow without prior knowledge.

Secondly, I specially want to thank company supervisor Patrick Cremers for being interested in my research (so not only with respect to my internship assignment) from start till end and for introducing me to the right people. The amount of freedom and trust given, combined with clear expectations had a great impact on my progress. Lastly I want to express special thanks to my parents for always being supportive and allowing me to choose my own way, even when they did fully not agree. But also for learning me to keep both feet on the ground and letting me think twice about important choices in life.

Apart from those people, I would like to thank my brother, my friends from Eindhoven Student Rowing Association Thêta, Van Speyk and the friends I made in Valencia for helping me to become the best version of myself. And of course all people from the internship company who received me heartily, invested time to help me and who gave me a great deal of true energy!
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1 Introduction

Even before the introduction of the term Business Process Management (BPM) in the 90’s, companies have been trying to make processes more controllable and predictable. This was done with the purpose of enabling employees to focus on value-adding activities. However, transforming processes towards value-adding activities has become challenging due to an increased number and extent of regulations, growing IT-complexity, and rapidly changing business environments (Vom Brocke, Zelt, & Schmiedel, 2015).

A way to make processes more predictable and relying less on specific people is to define processes, harmonize, control and improve them, based on the insights provided by the execution of these processes (Dumas, La Rosa, Mendling, & Reijers, 2013). Creating a professional environment in which a company can track, harmonize and improve processes is a complex transition, which cannot be achieved instantly. Therefore, both scientists and professionals came up with ways to deal with this complexity, which formed the base for the Business Process Management domain.

The key concepts of this work can be divided into two groups, corresponding to the two BPM subdomains that are aimed to be bridged. At the one hand there is the paradigm of Business Process (Management) Maturity (BPMM). At the other hand there is the field of Business Process Management Systems (BPMSs).

From 2001 onwards, several BPMM models have been developed by academia and practice, often in collaboration with each other. These models have the purpose of aiding companies in overseeing their processes and describing a pathway towards higher process maturity. As several researchers state, within the Business Process Maturity research field there has been a disproportionate emphasis on model creation, elaboration and comparison (Tarhan, Turetken, & Reijers, 2015). However, there are only a few studies that focus on the application and implementation of BPMM models. Insights gained in such a research can provide a great benefit when implementing such a model.

The challenge that many companies face is that they do not know where to start when it comes to process improvement and increasing process orientation. At the same time, many companies – particularly in the service sector (Bandara, Indulska, Chong, & Sadiq, 2007) - try to shift from a functional oriented enterprise towards a more process oriented enterprise (Hammer, 2007), without a clear roadmap. In the past two decades, a couple of maturity models have been proposed that describe a growth path towards a process-oriented enterprise. In parallel to this, certain companies and researchers have introduced tools (such as BPMSs) to develop process-aware information systems (Dumas, Van der Aalst, & ter Hostede, 2005). However, these developments in the technology field have only explicit connections with BPMM and process orientation in general. Understanding the interplay between these two fields, and the implications of the technological advances on the level of process orientation and maturity of the enterprise can provide benefits to both fields. Positive implications can allow for building a valid case for BPMS implementations in companies, and enterprise-wide process improvement initiatives can be coupled with such implementations when this relation is explicit and solid.

The research on business process maturity and process orientation (implicitly) assumes a positive relation between the technology support provided to the process and the increased process maturity or increased process management capability of an organization (Rosemann & Vom Brocke, 2015).

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1 Despite the difference between the terms ‘Business Process Maturity’ and ‘Business Process Management Maturity’ (which is discussed in Section Background and Literature review), both terms are abbreviated to BPMM in the remainder of this document, referring to both concepts.
However, the underlying forces in this relationship and the effects of this technology support on different facets of process maturity and orientation have not been investigated. Therefore, this research explores the influences of BPMS implementations on the level of process orientation of an organization, more specifically on different aspects of BPMM.

Both in the fields of BPMS as in BPMM, the goal is to support businesses in performing their processes in a proper way. This study explicitly tries to bring these concepts together by indicating that these two fields could emphatically strengthen each other.

Accordingly, we pose the following research question:

“How does the implementation of a Business Process Management System influence the Business Process (Management) Maturity of an organization?”

BPMM entails various aspects (such as governance, culture, leadership, process design, infrastructure, performance measurement, etc.) to be considered in process improvement initiatives. In addressing our research question, we are interested in the particular aspects of BPMM and how they are directly or indirectly influenced by BPMS implementations.

In order to answer our research question, we started with an exploratory and an analytical literature study to gain insight into the concept of BPMM and BPMS, and to pinpoint the research gap. Subsequently, we selected a case organization - an international financial institution - which was in the process of implementing a BPMS in their divisions located in a number of countries around Europe. For a particular group of processes of the case organization, we performed pre- and post-assessments of its maturity level in order to reveal any differences in the level before and after the BPMS implementation. For these assessments, we used the PEMM – Process and Enterprise Maturity Model (Hammer, 2007). Furthermore, we performed semi-structured interviews with a number of key stakeholders in the case organization. This was done to capture the perceptions of the stakeholders and gain a deeper understanding of the impact of BPMS implementations on BPMM. These interviews used the Business Process Management Capability Framework (Rosemann & Vom Brocke, 2015) - referred to as BPM-CF - as the basis for their structure.

The remainder of this thesis is structured as follows:

Section 2 Background and Literature review provides an overview of the main theoretical concepts, indicating a need for bridging the research gap.

Section 3 Research Design presents and discusses the research methods and procedures that have been applied to address the research question.

Section 4 Case Study context describes the case study, and the characteristics of the organization at which the case study has been carried out, as well as the role of the researcher with respect to the case study.

Section 5 Process maturity assessments using PEMM presents the Process pre- and post-assessments of the maturity levels of the case organization using the Process and Enterprise Maturity Model (Hammer, 2007), and introduces the statistical test that was done to test for differences between the Process pre- and post-assessment.

Section 6 Semi-structured interviews using BPM-CF provides a deeper understanding of the impact of BPMS implementations on BPMS, based on the results of semi-structured interviews. These interviews used the Business Process Management Capability Framework (Rosemann & Vom Brocke, 2015) as the basis for the interview structure.
Section 7 Analysis & Discussions presents and discusses the research outcomes, followed by a discussion on the implications of the results.

Section 8 Conclusion provides a brief overview of the research, and discusses the most important limitations of the research. Furthermore, this section includes suggestions for further research directions.
2 Background and Literature review

This background and literature review section provides a theoretical foundation for the Master’s thesis and was partly conducted in advance to the thesis itself (exploratory literature review), and partly during the execution of the thesis to support the claims in this thesis. The subsequent subsection composes a detailed overview of the most interesting theories, articles and book sections with respect to this topic.

Furthermore, it justifies the need for further research by describing a gap in literature, which this Master’s thesis tried to bridge.

2.1 Business Process (Management) Maturity models

This subsection is about the different Business Process (Management) Maturity models—in this thesis further referred to as BPMM models—that are present and indicates the different forms and purposes of BPMM models. However, first the concept of BPMM models will be discussed.

2.1.1 Concept of Maturity models

The concept of “maturity” in business environments was introduced by Crosby (1979), who focused on getting a better understanding of the concept of quality. In this context, maturity refers to “state or quality of being mature”, “full development” or “perfected condition” (Oxford Dictionaries).

The Capability Maturity Model (CMM) was developed by the Software Engineering Institute at Carnegie Mellon University, Pittsburgh, PA as a model to assess the maturity of software development processes. It consists of 5 levels indicating 5 steps towards full maturity. This model has been a starting point for many BPMM models, as Röglinger et al. (2012) state. Table 2.1 shows the basic idea of the Capability Maturity Model that has been adapted to the business process domain, better known as the Capability Maturity Model Integration (Dumas et al. (2013)).

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Initial</td>
<td>Organizational success depends on competence and improvisation efforts of the people in the organization and not on the use of proven processes.</td>
</tr>
<tr>
<td>2 – Managed</td>
<td>Each work unit or project has a management foundation and processes are defined per department.</td>
</tr>
<tr>
<td>3 – Standardized / Defined</td>
<td>Processes are organized in such a way that there is one organizational process infrastructure and there is consistency in how work is performed.</td>
</tr>
<tr>
<td>4 – Predictable</td>
<td>Process capability is controlled, quantified and predictable. Since processes are measured and stable, outliers can be isolated to find the cause of the variation.</td>
</tr>
<tr>
<td>5 – Innovating / Optimizing</td>
<td>The company continuously improves its processes by defect and problem prevention, and tries close the gap between current and desired performance and results, rather than reduction of variation as is being done at level 4.</td>
</tr>
</tbody>
</table>

Table 2.1: Basic concepts of Capability Maturity Model Integration

One thing almost all maturity models have in common is that the consecutive levels progressively build upon each other. So in order to reach a certain level, all conditions have to be met, including the conditions of the level itself and of all lower levels (e.g. for a company to reach level 2, all conditions of level 1 and 2 have to be satisfied). However, companies may satisfy some of the conditions of higher levels while having a lower maturity.

2.1.2 Business Process Maturity vs. Business Process Management Maturity

Although some literature does not make a clear distinction between the two (Rosemann et al., 2015), (Tarhan et al., 2016), Business Process Management Maturity is not the same as Business Process
Maturity. The former focuses on the ability of a company to apply Business Process Management principles rather than the maturity of the processes themselves, which is the focus of the latter (Rosemann et al., 2015). Two examples: many Business Process Management Maturity models often prescribe the existence of a Business Process Management Office in order to reach a high maturity level, whereas a typical Business Process Maturity characteristic is that the process’ inputs and outputs should be identified and agreed upon.

However, this does not mean that these two kinds of maturity do not contain a certain overlap. Both types of maturity models are typically based on Critical Success Factors of Business Process Management and Business Processes that can be found in literature (Rosemann, De Bruin, & Power, 2006). In this way, some of the concepts form the theoretical base for both Business Process Management Maturity as Business Process Maturity. Following that logic, it makes sense that BP Maturity and BPM Maturity share a certain theoretical base. Since this thesis does not specifically focus on one of the concepts, the remainder of this thesis mainly refers to both concepts as BPMM.

2.1.3 Existing BPMM models
As mentioned earlier, there are several BPMM models, of which many are adaptations or elaborated versions of longer existing BPMM models (Rosemann & Vom Brocke, 2015, p. 109), because authors indicated deficiencies or experienced compatibility issues related to the already existing models. This resulted in a broad variety of BPMM models, of which certain models are regarded as the generally accepted models, since they are applied in later studies, as can be seen in Tarhan et al. (2015).

Some of these models arose purely from practice or academics, but many models have been developed by both practitioners and academicians (Röglinger et al., 2012) (Tarhan et al., 2016).

One way to categorize BPMM models is to make a distinction between descriptive, prescriptive and comparative maturity models (Röglinger et al., 2012).

- Descriptive maturity models are models that can be used to assess the current maturity level.
- Prescriptive models are aimed at describing to which features one has to comply in order to achieve a certain maturity level.
- Comparative maturity models are models that have been designed to measure differences in terms of maturity, either internally between different departments or externally with other companies.

Two well-established models are known as Business Process Management Capability Framework (BPM-CF) by Rosemann et al. (2013) and the Process and Enterprise Maturity Model (PEMM) by Hammer (2007). According to Tarhan et al. (2015) BPM-CF is the most referenced model. Moreover, the model has been updated over time, mainly consisting of updates with respect to the definitions of terms (Rosemann et al., 2015).

2.1.4 Business Process Management Capability Framework (BPM-CF)
Rosemann et al. (2013) describe a prescriptive framework, established in cooperation with many people from different countries, both from academia and practice. Although this article describes a quite generic maturity model with respect to the assessment of maturity, the additional value of this model lies in its prescriptive Capability Framework, which was based on the PhD thesis by De Bruin (2009), and was updated several times, as can be seen in Rosemann et al. (2013) and (2015). This model was designed to form a widely accepted global standard and has a holistic nature (Rosemann et al., 2013).
This framework describes 6 different factors that are based on Critical Success Factors that have been identified in literature (Rosemann & Vom Brocke, 2015). All 6 factors comprise 5 capability areas that can be used to further specify these 6 factors. Consecutively, for all capability areas a set of detailed questions exists to assess the maturity level of each capability area.

The 6 different factors will be shortly introduced here:

Factors

Strategic Alignment
The importance of Strategic Alignment is based on the idea that the strategy of a company should be tightly linked to the company’s position towards BPM and vice-versa. This enables effective actions to improve business performance in a continuous way. Furthermore, the strategic alignment has to do with the extent the strategy of the business is explicitly linked to business processes, but also the other way around, i.e. the understanding of the impact of operations on the business’ strategy (Burlton, 2014). A high maturity for this aspect will be apparent when an organization’s strategy is fully linked with BPM. A low maturity indicates there is no mentioning of BPM at all.

Governance
Governance has to do with clear definitions of roles and responsibilities for all different levels of BPM, including portfolio, program, project and operations (Spanyi, 2014). Apart from this the design of the decision making process is deemed to be important. Low maturity indicates that there are no clear definitions of these concepts, depending on peoples own interpretations. When the decision making process with the according roles and responsibilities are completely defined, this indicates a high maturity for Governance.

Methods
BPM Methods can be described as the techniques that provide support process improvement and other parts of the process lifecycle. Dumas et al. (2013) describes methods like process analysis and process improvement techniques. As Conger (2014) showed, SixSigma is an example of an approach that applies several BPM methods.

Information Technology
Information Technology has a big impact on BPM initiatives in general; for instance because of statistical analyses of processes like SPSS and Excel, Process Modeling tools like ARIS, and nowadays the use of Process Mining tools like Disco & ProM. Furthermore, Process-Aware Information Systems or “PAIS” (Dumas, Van der Aalst, & ter Hostede, 2005) get more and more apparent. In this context, “process-awareness” relates to the fact that these information systems contain the logic of the processes, either via the input of a process model or hard-coded processes (Van der Aalst, 2009). More on this in subsection 2.2. A high maturity for the Information Technology factor is characterized by a standardized use of intelligent software for all stages of the process life cycle. Low maturity indicates an ad-hoc based (or even no) use of software, and this software not being intended to use as such (Dumas et al., 2005).

People
The People factor relates to the “hard facts” of people. It refers to the skills that individuals or groups of people have of process management and the knowledge that people possess to improve business performance (Rosemann & Vom Brocke, 2015). If all needed BPM-skills and knowledge are apparent, the maturity of the People factor is at a high level, whereas a giant lack of skills indicates a low maturity.
Culture

In contradiction with People, Culture is related to the soft side of people, or as Schein (2004) describes it: it is about the collective values of a group of people. It includes the cultural aspects that are claimed to be needed to apply BPM successfully (de Bruin, 2009). There have been studies identifying the effect of certain cultural values on BPM and methods to create a BPM-supportive organization culture (Schmiedel, Vom Brocke, & Recker, 2014). When this BPM-supportive culture has been created, the maturity level of the Culture factor is high. A complete resistance towards BPM-initiatives indicates a low maturity for this factor.

2.1.5 Process and Enterprise Maturity Model (PEMM)

The Process and Enterprise Maturity Model (PEMM) by Hammer (2007) is a descriptive model to assess the maturity of an enterprise or department with respect to its processes and the enterprise as a whole. Because of its descriptive nature, it does not specify what certain processes should look like, but it provides an insight into the steppingstones towards a higher maturity level.

Constructed in collaboration with both industry and academia, the model describes an assessment method that is thought to be easy to administer and can be used to assess a company’s maturity. Consecutively, it could be used to identify which things have to be established in order to reach a higher maturity level. Like most maturity models, the higher levels build upon lower maturity levels, which means one has to satisfy all aspects of lower levels in order to reach higher maturity levels.

In his model, Hammer made a distinction between five so-called Process enablers and four Enterprise capabilities. Together, these form a “comprehensive framework that allows companies to evaluate the maturity of their business processes and the receptiveness of their organizations to process-based change” (Hammer, 2007). These Process enablers and Enterprise capabilities are discussed slightly further in this section.

Each of the aspects is represented by 4 statements, which all can be labeled either “largely untrue” (less than 20% correct; symbolized as a red label), “somewhat true” (between 20% and 80% correct; yellow label) or “largely true” (at least 80% correct; green label). This (colored) representation gives an intuitive view what parts should be focused on by the company in order to improve with respect to process-orientation.

A big advantage of this model is that it can be easily applied in workshop environments after a short introduction on how to apply the model (Hammer, 2007).

However, there also exist some critical views on this model; e.g. Rosemann et al. (2015, pp. 108-109) state that the model by Hammer (2007) has a too limited reliability and is not specific enough to be applied in several areas.

Process enablers

This subsection discusses the details of the Process-part of PEMM. The five process enablers are represented by 13 elements to cover the different aspects that together form the 5 process enablers. The first Process enabler is called “Design”, which is related to the understandability of the process descriptions (Hammer, 2007). Table 2.2 discusses the different aspects of the Design-enabler, with its three sub-enablers: Purpose, Context and Documentation. Per sub-enabler, the different maturity levels (P-1 till P-4) are represented by one statement, which all have to be valued as discussed earlier.
Performers are skilled in problem solving and "Metrics"-enabler. Infrastructure relates to Resource Systems the process. The fourth Process -enabler, "Infrastructure" is further specified by the employees that execute the process. Process enabler "Performers" is related to "Infrastructure"-enabler.

<table>
<thead>
<tr>
<th>Design</th>
<th>Purpose</th>
<th>Context</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The process has not been designed on an end-to-end basis. Functional messages use the legacy design primarily as a context for functional performance improvement.</td>
<td>The process has been redesigned from the ground up to optimize its performance.</td>
<td>The documentation of the process is primarily functional, but it identifies the interconnections among the organizations involved in executing the process.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The process has been designed to fit with other enterprise processes and with the enterprise's IT systems in order to optimize the enterprise's performance.</td>
<td>The process documentation describes the process' interfaces with, and expectations of, other processes and links to the enterprise's IT and data systems.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The process has been designed to fit with external customer and supplier processes in order to optimize inter-enterprise performance.</td>
<td>An electronic representation of the process design supports its performance and management and affords analytical business linkages to environmental changes and processnaplications.</td>
</tr>
</tbody>
</table>

Table 2.2: Process sub-enablers of "Design" - PEMM (Hammer, 2007)

Process enabler "Performers" is related to the employees that execute the process (Hammer, 2007). This Process enabler consists of the sub-enablers: Knowledge, Skills and Behavior of Performers. Table 2.3 shows the different statements of the Performers-enabler.

<table>
<thead>
<tr>
<th>Performers</th>
<th>Knowledge</th>
<th>Skills</th>
<th>Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-1</td>
<td>Performers can name the process they execute and identify the key metrics of its performance.</td>
<td>Performers are skilled in problem solving and planning techniques.</td>
<td>Performers have some allegiance to the process, but owe primary allegiance to their function.</td>
</tr>
<tr>
<td>P-2</td>
<td>Performers can describe the process’ overall flow, how their work affects customers, other employees in the process, and the process performance and the required and actual input levels.</td>
<td>Performers are skilled in teamwork and self-management.</td>
<td>Performers try to follow the process design, perform it correctly, and work in ways that will enable other people who execute the process to do their work effectively.</td>
</tr>
<tr>
<td>P-3</td>
<td>Performers are familiar with the enterprise’s current and its means and can describe how their work affects inter-enterprise performance.</td>
<td>Performers are familiar with the enterprise’s industry and its trends and can describe how their work affects inter-enterprise performance.</td>
<td>Performers are skilled at business decision making.</td>
</tr>
<tr>
<td>P-4</td>
<td>Performers are familiar with fundamental business concepts and with the drivers of enterprise performance and can describe how their work affects the enterprise’s performance.</td>
<td>Performers are skilled at change management and change implementation.</td>
<td>Performers look for signs that the process should change, and they propose improvements to the process.</td>
</tr>
</tbody>
</table>

The third Process-enabler is "Owner". This Process enabler is related to Identity, Activities and Authority of the Owner. Table 2.4 shows the different statements related to the Owner-enabler.

<table>
<thead>
<tr>
<th>Owner</th>
<th>Identity</th>
<th>Activities</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-1</td>
<td>The Process Owner is an individual or a group formally charged with improving the process’ performance.</td>
<td>The Process Owner is an individual or a group formally charged with improving the process’ performance.</td>
<td>The Process Owner is an individual or a group formally charged with improving the process’ performance.</td>
</tr>
<tr>
<td>P-2</td>
<td>Enterprise management has created an official Process Owner role and has filled this position with a senior manager who has clout and visibility.</td>
<td>The Process Owner identifies and documents the process, communicates it to all the members, and sponsors small-scale change projects.</td>
<td>The Process Owner establishes the process team and implements the new design and has some control over the technology budget for the process.</td>
</tr>
<tr>
<td>P-3</td>
<td>The Process Owner sets the process’ annual budget and has the power to allocate resources across different areas.</td>
<td>The Process Owner facilitates redesign and improvement efforts; plans their implementation; and ensures compliance with the process design.</td>
<td>The Process Owner controls the process’ budget and exerts strong influence over personnel assignments and evaluations.</td>
</tr>
<tr>
<td>P-4</td>
<td>The Process Owner is a member of the Enterprise’s most senior decision-making body.</td>
<td>The Process Owner works with other Process Owners to integrate processes to achieve the enterprise’s goals.</td>
<td>The Process Owner earns the trust of the enterprise’s most senior decision-making body.</td>
</tr>
</tbody>
</table>

The fourth Process-enabler, “Infrastructure”, is further specified by Information Systems and Human Resource Systems. Infrastructure relates to the information and management system(s) that support(s) the process. Table 2.5 presents the eight statements adhering to the two sub-enablers of the “Infrastructure”-enabler.

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Information Systems</th>
<th>Human Resource Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-1</td>
<td>Fragmented legacy IT systems support the process.</td>
<td>Managers reward the achievement of functional excellence and the resolution of functional problems in a process context.</td>
</tr>
<tr>
<td>P-2</td>
<td>An IT system constructed from functional components supports the process.</td>
<td>The process’ design drives role definitions, job descriptions, and competency profiles. Job matching is based on process documentation.</td>
</tr>
<tr>
<td>P-3</td>
<td>An integrated IT system, designed with the process in mind and adhering to enterprise standards, supports the process.</td>
<td>Hiring, development, rewards, and recognition systems emphasize the process’ needs and results and balance them against the enterprise’s needs.</td>
</tr>
<tr>
<td>P-4</td>
<td>An IT system with a modular architecture that adheres to industry standards for inter-enterprise communication supports the process.</td>
<td>Hiring, development, rewards, and recognition systems reinforce the importance of inter- and intra-enterprise collaboration, personal learning, and responsibility.</td>
</tr>
</tbody>
</table>

The last Process-enabler is “Metrics”, defined as the measures that indicate the process’ performance. The two sub-enablers are Definition and Uses. Table 2.6 shows the statements belonging to the “Metrics”-enabler.
Table 2.6: Process sub-enablers of "Metrics" - PEMM (Hammer, 2007)

Enterprise capabilities

The four Enterprise capabilities of PEMM are also represented by 13 elements, spread over 4 Enterprise capabilities and can be found in Table 2.7. Since these Enterprise capabilities are out of scope for the pre- and post-assessment, the Enterprise sub capabilities are not specified in the level of detail of the Process sub-enablers.

<table>
<thead>
<tr>
<th>Enterprise capability</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>Senior executives who support the creation of processes</td>
</tr>
<tr>
<td>Culture</td>
<td>The values of customer focus, teamwork, personal accountability and willingness to change</td>
</tr>
<tr>
<td>Expertise</td>
<td>Skills and methodology related to process redesign</td>
</tr>
<tr>
<td>Governance</td>
<td>Mechanisms for managing complex projects and change initiatives</td>
</tr>
</tbody>
</table>

Table 2.7: The 4 enterprise capabilities of PEMM (Hammer, 2007)

2.2 Business Process Management Systems

In short, Business Process Management Systems (BPMS) are Enterprise Information Systems that are designed to support business processes, while being aware of these processes and their organizational context. The latter is sometimes referred to by the generic term “Process-Aware Information Systems (PAIS) (Van der Aalst, 2009). BPMSs are a relatively new development; in the past, Enterprise Information Systems were designed as “data-aware” information systems. (Dumas, Van der Aalst, & ter Hostede, 2005). More than 20 years ago, Karagiannis (1995) described the emergence of BPMs, where he mentioned Workflow Management Systems (abbreviated as WMS, WFM/WFMS) as the first generation of BPMSs. As Karagiannis (1995) described, by that time a lot of innovative companies were entering the market to launch their software based on workflow-based technology. Since the emergence of Workflow Management Systems a lot has happened and the technology matured (Cummins, 2014).

The historical roadmap of Ravesteyn & Batenburg (2010) below clearly depicts the evolution towards BPMSs.
When looking at the illustration, even before the Workflow Management systems, Enterprise Resource Planning (ERP) systems emerged in order to guide the execution of certain domain specific processes, as an innovation on the use of databases only (being purely “data-aware” information systems). From WFM systems onwards, there have been developments towards Enterprise Application Integration (related to middleware), letting different applications work together by communicating via an application server (Ravesteyn & Batenburg, 2010). Eventually these IT-innovations led to the emergence of the BPMS as we know them today. This was the result of the convergence of Business Process Management and the aforementioned IT Innovations (Ravesteyn & Batenburg, 2010). BPM emerged from the Total Quality Management (TQM, (Deming, 1982)) and Business Process Reengineering (BPR, (Hammer & Champy, 2001)) paradigms that formed a big part of the basis for Business Process Management (Gilbert, 2010).

Some people regard BPMSs as being ‘just another’ type of Information System as mentioned in Ravesteyn & Batenburg (2010), but both practice and academia acknowledge the special added value of BPMSs (Van der Aalst & Van Hee, 2002), (Dumas et al., 2005), (Reijers & Van der Aalst, 2005), (Van der Aalst, 2009), (Ravesteyn & Batenburg, 2010), (Cummins, 2014), (Ouyang, Adams, Thandar Wynn, & Ter Hofstede, 2014) (Reijers, Vanderfeesten, & Van der Aalst, 2016).

2.3 Research gap

In his paper on implementing BPMSs (2006), Reijers wrote about the importance of “process orientation” during BPMS implementations. In this paper, Reijers presents a checklist for “process orientation” needed for implementing a BPMS. Furthermore, Reijers already stressed the importance of having the right scope and focus, and that it would be useful to get a better understanding of the factors underlying of the ease and success of BPMS implementation.

In a very recent publication, Reijers et al. (2016) focused on the effectiveness of Workflow Management Systems in a longitudinal study. This study focused on the achieved organizational
performance improvements in terms of lead time, waiting time etcetera. Some of the studied companies did not succeed in implementing the Workflow Management System. However, the research design was not set up to test the reasons behind this. Therefore, it lead to tentative conclusions on the Critical Success Factors that distinguished the successful implementations from the aborted ones.

As Cummins (2014) describes, there are many opportunities ahead for BPMSs; the only thing is to let the business fit well with the use of these systems. At the one hand BPMSs are thought to elevate performance of enterprises, but at the other hand its complexity makes it hard to oversee. There have been several researchers trying to come up with ways to describe methods and approaches for successfully implementing BPMSs. Ravesteyn & Batenburg (2010) came up with a set of Critical Success Factors for implementing BPMSs, which can be considered as an intermediate step towards what this current thesis work tried to achieve.

Next to this, more recently Rahimi et al. (2015) tried to come up with a way to align IT and Business Government and Aversano, Grasso & Tortorella (2016) focus on the alignment between business processes and software systems in general.

In his research on the Critical Success Factors for business process management, Trkman (2010) specifically addresses the fit between business processes and technology (task-technology fit). Next to this, Trkman refers to Dynamic Capabilities, which is about “Continuous improvement to assure sustained benefits from bpm” and thirdly, he mentions Contingency theory which is about the “Fit between the business environment and business processes”. Although his theoretical framework has not been explicitly based on it, it shares a lot of concepts with BPM domain, focusing on similar Critical Success Factors as Rosemann & Vom Brocke (2015). Therefore, the problems that are being faced during the guidance of BPMS implementations inspired the researcher to look for solutions in nearby research areas, being BPM in this case.

There has been quite some focus on the elaboration of all kinds of BPMM models, but as Tarhan et al. (2015) state as well, there are only a few studies that focus on the actual implementation of BPMM models and the roadblocks people face. In addition to this, Vom Brocke, Zelt & Schmiedel (2015) state that most BPM methods and approaches describe a one-size-fits-all approach. Therefore it could be interesting to develop a holistic approach to provide a certain structure in which one can apply concepts from domain specific while implementing BPMSs.

In that sense, this thesis clearly bridges a research gap, since the two fields of research (being BPMS and BPMM) have never been explicitly addressed to be complementary to one-another. In that sense, this thesis might be a first step towards explicitly inheriting and applying solutions from both concepts, which was done by investigating a case study by addressing a holistic view of BPMM focused on BPMS, by researching the impact of BPMS implementation on BPMM.
3 Research Design

In addressing our research objective, we followed the research procedure depicted in Figure 3.1. We selected the case study as our main research method for this purpose, as it has distinct advantages in situations where “how” questions are asked about a setting over which the investigator has little or no control (Yin (2003)). Furthermore, a case study is a recommended approach in emerging research fields that are in the discovery, understanding and description stage (Bandara, Gable, & Rosemann, 2005).

We performed the case study in an international company operating in the finance domain. The company was in the early stages of implementing a BPMS to harmonize and automate its processes in a number of divisions around Europe. This provided a suitable business environment to gain insight into the influence of the implementation on the various aspects of organizational process maturity.

In investigating the potential influence, we applied both quantitative and qualitative research methods within the case study to support for methodological triangulation. First, with the participation of a number of employees working in different divisions/locations we assessed the maturity of a particular group of processes (Contract Management) of the company before and after the BPMS implementation. We did this to identify in quantitative terms any statistically significant difference in the level of maturity as measured by pre- and post-assessments of that process group.

For the assessments, we looked for a maturity model that shows descriptive properties, since the main objective is to assess process maturity (rather than to guide process improvement, as in prescriptive models). Therefore, we used the PEMM (Hammer, 2007) mainly due to its rich descriptive properties that make it effective and easy to use for process assessments (Tarhan et al., (2015)). PEMM is also the most cited descriptive maturity model in the literature (Tarhan, Turetken, & Reijers, 2016). The assessments were conducted using surveys among 16 employees of the company located in 3 different European countries. All employees who participated in the survey, take part in the execution of these processes, contributed to the development of the processes, or are managers responsible for the successful operation of the processes.

Second, we organized semi-structured interviews with a group of stakeholders in the company who are actively involved in the process improvement initiatives across the company at different divisions. We gathered their perception on the effects of the BPMS implementation project over various aspects of process maturity. In structuring these interviews and in determining the particular aspects that can potentially be influenced by the BPMS implementation, we used the Business Process Management Capability Framework (BPM-CF) (Rosemann et al., (2013)). BPM-CF is the most referenced BPMM model in the literature (Tarhan et al., (2016)). It has been rigorously validated and its applications have been reported in several academic works. The BPM-CF was developed considering BPM as a holistic management approach (Rosemann et al., (2016)) (Rosemann & Vom Brocke, 2015, p. 109), which
covers a wide-spectrum of BPM capabilities (aspects). During the interviews, questions related to each capability were asked to identify if and how that capability was (directly or indirectly) influenced by the BPMS implementation efforts.

In the sections that follow, we describe the case study including the case organization and the business context at the time of the case study conduct (Section 4). Next, we describe the results of the pre- and post-process assessments that used PEMM (Section 5), and findings from interviews that are structured using BPM-CF (Section 6).
4 Case Study context

Within the case organization, since the 2010’s there have been several initiatives related to Lean/SixSigma to create a Continuous Process Improvement culture (CPI, e.g. Robson (2010)). The BPMS implementation project that was initiated in the case company focused on “Contract Management” in several countries in the Western half of Europe. The BPMS was rolled-out process by process and country by country. This enabled us to find a relatively short time window that allowed for pre- and post- assessments of the maturity before and after the BPMS implementation (related to that particular process group). However, as the research was performed in such a relatively short time period, it focused more on providing insights in some of the gains that can be perceived in an early stage of the BPMS implementation (rather than benefits that can emerge in the long term).

4.1 Project characteristics

The organization has chosen to implement a BPMS to create end-to-end processes (or at least to enable them in the future). This BPMS runs on top of the already existing contract management systems and controls all the different (legacy) systems that are invoked during a process, which eventually smoothens a roll-off of the Dutch systems. The BPMS implementation was planned to last at least 1.5 more years at the moment of writing this thesis.

During the implementation, the project team applied an agile/scrum approach to develop the BPMS software (Schwaber, 2004).

The supplier of the BPMS software is considered to be one of the Leaders, according to the annual Gartner research (Gartner, 2016).

Figure 4.1: Schematic overview of the project's goal
5 Process maturity assessments using PEMM

In order to assess the maturity level of a group of processes in the case organization, before and after the BPMS implementation, we used the ‘Process’ part of the PEMM\(^2\) (or Process & Enterprise Maturity Model, please refer to Section 2.1.5). The group of processes comprised the processes related to contract management, which is of critical importance to the case organization that made it the main focus of the initial phases of implementation project.

In the remaining parts of the chapter, we describe the setup of the process assessments and the statistical analysis, and discuss the results of the pre- and post-assessment, including the findings from the statistical analysis.

5.1 Setup for the process (self-)assessments

The assessments were in the form of self-assessments in which participants were asked to rate each maturity characteristic (through an online questionnaire) of a process sub-enabler in the PEMM. For each maturity characteristic the following rating options were provided:

- Largely true (80-100% correct)
- Somewhat true (20-80% correct)
- Largely untrue (0-20% correct)
- I do not know / I cannot answer this question

The first three options correspond to PEMM, but the fourth option (I do not know / I cannot answer this question) was added to cater for the respondents that were not knowledgeable about that particular part of the process and its contextual aspects. This enhances measurement validity (Blumberg et al., 2008).

Table 5.1 depicts a part of the self-assessment questionnaire (for the purpose sub-enabler of the Design enabler in the PEMM model) including the answer options.

<table>
<thead>
<tr>
<th>Enabler: Design</th>
<th>Maturity Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sub-enabler:</strong></td>
<td><strong>P-1</strong></td>
</tr>
<tr>
<td>Purpose</td>
<td>The process has not been designed on an end-to-end basis. Functional managers use the legacy design primarily as a context for functional performance improvement.</td>
</tr>
<tr>
<td></td>
<td>o largely true (80-100% correct)</td>
</tr>
<tr>
<td></td>
<td>o somewhat true (20-80% correct)</td>
</tr>
<tr>
<td></td>
<td>o largely untrue (0-20% correct)</td>
</tr>
<tr>
<td></td>
<td>o I do not know</td>
</tr>
</tbody>
</table>

Table 5.1: An extract from the process self-assessment questionnaire (regarding the ‘Purpose’ sub-enabler of the Design enabler in the PEMM)

The participants of the assessments consisted of people from functionally comparable departments of the organization located in three countries: Germany, Belgium and The Netherlands. This brought the

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\(^{2}\) The ‘Enterprise’ part of the PEMM was assumed not to show significant changes during the limited time frame of the research, since these are related to enterprise-wide changes, rather than just the Contract Management area. Secondly, the ‘Enterprise’ part of the PEMM contains even more BPM-jargon than the ‘Process’ part, making it hard to interpret without providing context. Hence, the ‘Enterprise’ part was out-of-scope for this research.
necessity to translate the original PEMM statements to respondents’ native language to provide options other than English.

As a result, German and Dutch translations were prepared from the English version, and validated by native speakers in the company (who were excluded from the sample). This was done to ensure that the statements corresponded to the original statements. These people functioned also as a sounding board to check whether people without a formal BPM background could understand and provide answers to the statements. In some cases, a short example or explanation was added to the statements for clarifications; but no changes were made to the original statements, since this potentially harms the content validity (Blumberg et al., 2008). These translations and explanations are given in Appendices 3 & 4.

The first series of self-assessments (pre-implementation) were completed before the BPMS implementation for that particular process group. After the BPMS implementation took place for the process group that was assessed, the second series of self-assessments was performed (post-implementation assessment).

5.1.1 Participants of the process assessments
The sample of participants consisted of the people working in the in the departments that performed the selected group of processes in three divisions of the company locations in Germany, Belgium and The Netherlands. The processes performed in the departments of these divisions differ mainly due to different regulations. These departments were undergoing a transformation from a comparable legacy situations towards a single BPMS-situation as described in Section 4.1. Therefore, the participants were expected to judge based on what they actually experienced before and after the implementation.

In inviting the participants, ‘judgement sampling’ approach was followed (Blumberg (2008, p. 253), in which key stakeholders were pre-determined based on their relation to the group of processes and the process initiative. Accordingly, the following strategy was followed. Since end-users of the groups of processes were highly affected by the implementation, it was convenient to invite them as participants. Additionally, there were few employees within the BPMS implementation team that had working experience at the studied department (Subject Matter Experts) or were authorized to make decisions on behalf of the end-users (Product Owners). Since these people had a similar role and background knowledge, they were invited. Furthermore, the department managers were also asked to participate as management corresponds to another point of view on the processes and their maturity. Finally, several Lean/SixSigma specialists with knowledge on the specific group of processes were also invited to provide a different perspective to the assessment.

The participants were invited using the invitation as given in Appendix 1. The invitation included the University and company logo to enhance credibility (Blumberg et al., 2008). The company logo was presented as a heading in all questionnaire pages. Table 5.2 shows an overview of the sample participated in the assessments.
Table 5.2: Sample Process assessments using PEMM

<table>
<thead>
<tr>
<th></th>
<th>NL</th>
<th>DE</th>
<th>BE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>End-users</td>
<td>3</td>
<td>3</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Lean/SixSigma specialists</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Subject Matter Experts / Product Owners</td>
<td>5</td>
<td>1</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Managers</td>
<td>1</td>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>11</td>
<td>3</td>
<td>2</td>
<td>16</td>
</tr>
</tbody>
</table>

### 5.1.2 Statistical testing methods

We performed a series of statistical tests in order to test for statistically significant increases between the pre- and post-BPMS-implementation process assessments.

Before performing quantitative/statistical analyses, the results of the questionnaire for each sub-enabler were encoded as follows:

- Largely true (80-100% correct) → 3
- Somewhat true (20-80% correct) → 2
- Largely untrue (0-20% correct) → 1
- I do not know / I cannot answer this question → 0

The responses leading to the value of ‘0’ (I do not know / I cannot answer this question) were treated cautiously. If a maturity characteristic of a particular sub-enabler by a specific participant is ‘0’ in the pre-implementation assessment, the corresponding answer in the post-assessment was also marked ‘0’, and vice-versa (the same procedure is applied also when this is the case in the post-assessment). This was done to help prevent biased statistical comparisons between the pre- and post-assessments.

Sometimes this led to cases where participants get a total score of 0 for the entire sub-enabler. These cases were omitted from the analysis, since they cause Type II errors (Field, 2009), only decreasing the power of the test. As a result, different numbers of responses were available for the assessment of each sub-enabler.

The data resulting from the assessments originated from metrics that use an ordinal scale (i.e. the values describe the nature of information within the numbers assigned to the variables in the ranked order, e.g., largely true: 3; somewhat true: 2, etc.). Accordingly, using parametric tests (e.g. Student t-test) that assume normality in the data does not fit well. Hence, we forewent the predictive power of such parametric tests and applied their non-parametric counterparts (Field, 2009) to identify any differences between pre- and post-implementations assessments.

A commonly used option as a non-parametric test is Mann Whitney U test, which uses two independent samples as its basis (Montgomery & Runger, 2007). However, as the samples we used in our assessments are relatively dependent (the same set of participants provided values for pre- and post-assessments) using Mann Whitney U test would not be appropriate (wrt. the concordance, (Field, 2009)). Therefore, we used the Wilcoxon Signed-Rank test as our statistical method, which focuses on the differences between the pairs of pre- and post-assessments coming from the same participant.

The assumptions of the Wilcoxon Signed-Rank test are as follows (Montgomery & Runger, 2007):
1. Data are paired and come from the same population.
2. Each pair is chosen randomly and independently.
3. The dependent variable is measured at least on an ordinal scale (cannot be nominal).
4. The distribution of the differences between the two related groups needs to be symmetrical in shape.

In order to control for these assumptions, the following actions were performed:

1. Since the names of the people have been tagged and the same people have been asked to fill-out the pre- and post-assessment, this assumption was satisfied due to the research design.
2. The second assumption was not fully met, since the participants had to possess certain knowledge of the processes. However, this assumption was addressed by selecting participants from various stakeholder groups (as discussed in Section 5.1.1).
3. The third assumption was satisfied since the dependent variable is tested by using a measure with an ordinal scale (largely true, somewhat true and largely untrue).
4. The fourth assumption was tested by analyzing the histograms (given in Appendix 8), which confirms that the two related groups are symmetrical and that the assumption is fulfilled.

The details regarding the generic test procedure used for the Wilcoxon Signed-Rank test are given in Appendix 7.

### 5.2 Results of the Assessments and the Statistical Analysis

This subsection presents the results of the pre- and post-implementation assessments including the statistical analyses. In doing so, first, we provide -in a table format- the average values for each maturity characteristic for a particular sub-enabler in the PEMM. We used color coding to increase understandability. The legend for the coding is as follows: For each maturity characteristic, the cell is shaded with:

- **red** if the average value for that maturity characteristic ranges between 0 and 1.49
- **yellow** if ... between 1.5 and 2.49), and
- **green** if ... between 2.5 and 3)

Secondly, we provide and discuss the result of the Wilcoxon Signed-Rank test performed for that particular sub-enabler. Please refer to Appendix 7 for further details on the test procedure.

#### 5.2.1 Design

**Purpose**

Looking at the values for the different P-levels\(^3\) in Table 5.3, every level shows a clear increment between pre- and post-assessments. Especially P-4 shows “I do not know / I cannot answer this question” 4 times, resulting in a very low average level for both the pre- and post-assessment. The Wilcoxon Signed-Rank test also shows a significant increase, as can be seen in Table 5.4. One thing

---

\(^3\) The five people answering a “largely untrue” (corresponding to a value of 1) for the P-1 statement in the Process post-assessment were asked what they intended with the answer. All people answered the process model was designed as an end-to-end model and the functional managers use this new design as a context, rather than the legacy design. Furthermore, three people answered “largely untrue” during pre- and post-assessment. According to them, processes were already end-to-end prior to the implementation. Therefore these answers have been adapted to “largely true” to fit with the logic of the PEMM model and to prevent critically biased input for the statistical test cause by problems with the face validity (Blumberg et al., 2008).
which is surprising is the increase for P-1, since all statements have been answered independently. This can be partly explained by footnote 3. However, there also was a small number of participants indicating an increase for P-1, together with a decrease for P-2. This implies not every participant experienced an improvement with respect to P-1 and P-2.

<table>
<thead>
<tr>
<th>Design - Purpose</th>
<th>P-1</th>
<th>P-2</th>
<th>P-3</th>
<th>P-4</th>
<th>Overall Average/Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The process has not been designed on an end-to-end basis. Functional managers use the legacy design primarily as a context for functional performance improvement.</td>
<td>The process has been redesigned from end to end in order to optimize its performance.</td>
<td>The process has been designed to fit with other enterprise processes and with the enterprise’s IT systems in order to optimize the enterprise’s performance.</td>
<td>The process has been designed to fit with external customer and supplier processes in order to optimize inter-enterprise performance.</td>
<td></td>
</tr>
<tr>
<td>pre</td>
<td>2.47</td>
<td>2.13</td>
<td>2.00</td>
<td>1.07</td>
<td>7.67</td>
</tr>
<tr>
<td>post</td>
<td>2.73</td>
<td>2.60</td>
<td>2.60</td>
<td>1.27</td>
<td>9.20</td>
</tr>
</tbody>
</table>

Table 5.3: Results Process assessments using PEMM for "Design - Purpose"

<table>
<thead>
<tr>
<th>Sub-enabler</th>
<th>Wilcoxon Signed-Rank test</th>
<th>p-value</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>significant Yes</td>
<td>0.015</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 5.4: Wilcoxon Signed-Rank test results for "Design - Purpose"

**Context**

With respect to Context, for all levels an increase is visible in Table 5.5. Although the enterprise does not have an official Process Owner role, the participants must have related P-3 and P-4 to an informal Process Owner role, which led to an increase, especially for P-3. The increase for all levels also resulted in a significant increase of the total score Table 5.6. Based on these results, the contextual part of the process design seems to have improved during the BPMS-implementation.

<table>
<thead>
<tr>
<th>Design - Context</th>
<th>P-1</th>
<th>P-2</th>
<th>P-3</th>
<th>P-4</th>
<th>Overall Average/Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The process’ inputs, outputs, suppliers, and customers have been identified.</td>
<td>The needs of the process’ customers are known and agreed upon.</td>
<td>The Process Owner and the Owners of the other processes with which the process interfaces have established mutual performance expectations.</td>
<td>The Process Owner and the Owners of customer and supplier processes with which the process interfaces have established mutual performance expectations.</td>
<td></td>
</tr>
<tr>
<td>pre</td>
<td>2.60</td>
<td>2.20</td>
<td>1.27</td>
<td>1.13</td>
<td>7.20</td>
</tr>
<tr>
<td>post</td>
<td>2.73</td>
<td>2.47</td>
<td>1.67</td>
<td>1.20</td>
<td>8.07</td>
</tr>
</tbody>
</table>

Table 5.5: Results Process assessments using PEMM for "Design - Context"

<table>
<thead>
<tr>
<th>Sub-enabler</th>
<th>Wilcoxon Signed-Rank test</th>
<th>p-value</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context</td>
<td>significant Yes</td>
<td>0.027</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 5.6 Wilcoxon Signed-Rank test results for "Design - Context"

**Documentation**

Except for P-1, an increase is visible between pre- and post-situation, which indicates the Process Documentation has been improved, as can be seen in Table 5.7. The decrease for P-1 might be related to the fact that the process documentation is not “primarily functional” anymore, but was regarded to be end-to-end and process-oriented in the post-situation. However, this cannot be concluded just
based on these numbers. The decrease for P-1 partly contributed to the fact that the statistical test does not show a significant increase (Table 5.8).

<table>
<thead>
<tr>
<th>Design - Documentation</th>
<th>P-1</th>
<th>P-2</th>
<th>P-3</th>
<th>P-4</th>
<th>Overall Average/Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The documentation of the process is primarily functional, but it identifies the interconnections among the organizations involved in executing the process.</td>
<td>1.93</td>
<td>1.73</td>
<td>1.33</td>
<td>1.27</td>
<td>6.27 2.939</td>
</tr>
<tr>
<td>There is end-to-end documentation of the process design.</td>
<td>1.73</td>
<td>1.87</td>
<td>1.60</td>
<td>1.47</td>
<td>6.67 3.132</td>
</tr>
</tbody>
</table>

Table 5.7: Results Process assessments using PEMM for "Design - Documentation"

<table>
<thead>
<tr>
<th>Sub-enabler</th>
<th>Wilcoxon Signed-Rank test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documentation</td>
<td>significant p-value N</td>
</tr>
<tr>
<td>No</td>
<td>0.512</td>
</tr>
</tbody>
</table>

Table 5.8: Wilcoxon Signed-Rank test results for "Design - Documentation"

### 5.2.2 Performers

#### Knowledge

With respect to the knowledge of performers, there is a mixed picture visible in Table 5.9. P-1 and P-2 have slightly decreased, whereas P-3 and P-4 have increased a little bit. Based on these values, there is nothing more to conclude other than there was no measurable effect on Knowledge in terms of PEMM thus far, caused by the BPMS implementation. This is also supported by the statistical test in Table 5.10.

<table>
<thead>
<tr>
<th>Performers - Knowledge</th>
<th>P-1</th>
<th>P-2</th>
<th>P-3</th>
<th>P-4</th>
<th>Overall Average/Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performers can name the process they execute and identify the key metrics of its performance.</td>
<td>2.33</td>
<td>2.40</td>
<td>1.93</td>
<td>1.33</td>
<td>8.00 2.535</td>
</tr>
<tr>
<td>Performers can describe the process' overall flow; how their work affects customers, other employees in the process, and the process' performance; and the required and actual performance levels.</td>
<td>2.20</td>
<td>2.33</td>
<td>2.00</td>
<td>1.47</td>
<td>8.00 2.699</td>
</tr>
</tbody>
</table>

Table 5.9: Results Process assessments using PEMM for "Performers - Knowledge"

<table>
<thead>
<tr>
<th>Sub-enabler</th>
<th>Wilcoxon Signed-Rank test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>significant p-value N</td>
</tr>
<tr>
<td>No</td>
<td>0.910</td>
</tr>
</tbody>
</table>

Table 5.10: Wilcoxon Signed-Rank test results for "Performers - Knowledge"

#### Skills

Looking at the skills of performers in Table 5.11, the pre- and post-assessments do not show big differences, just as for the previous sub-enabler. Interesting however, are the clearly lower values for P-1 compared with P-2, with both having just 1 “I do not know / I cannot answer this question”. The
test results as presented in Table 5.12 show no significant increase. Combining these results, it seems that, at least in this early stage, there have not been significant effects related to the skills of performers.

<table>
<thead>
<tr>
<th>Performers - Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>N: 16</td>
</tr>
<tr>
<td>Overall Average/Std.</td>
</tr>
<tr>
<td>P-1</td>
</tr>
<tr>
<td>Performers are skilled in problem solving and process improvement techniques.</td>
</tr>
<tr>
<td>pre</td>
</tr>
<tr>
<td>2.19</td>
</tr>
</tbody>
</table>

Table 5.11: Results Process assessments using PEMM for "Performers - Skills"

<table>
<thead>
<tr>
<th>Sub-enabler</th>
<th>Wilcoxon Signed-Rank test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>significant</td>
</tr>
<tr>
<td>No</td>
<td>0.910</td>
</tr>
</tbody>
</table>

Table 5.12: Wilcoxon Signed-Rank test results for "Performers - Skills"

Behavior

Again, also with respect to the behavior of the performers some slight differences are visible, as in Table 5.13. An (visually) interesting fact might be that the P-1 level is yellow for both pre- and post-assessment, whereas P-2 (pre) and P-3 (pre and post) show green cells. When looking at the individual data, the higher number of “I do not know / I cannot answer this question” partly explains this (out of the sample -N: 15-, there are 3 for P-1 vs. 1 for P-2 and 0 for P-3). The mixed image of increasing and decrease averages for the different P-levels is also represented in the non-significant statistical test result (Table 5.14). A possible explanation for the decrease of P-2 is that people did not yet fully rely on the BPMS and still preferred to use the legacy system in this early stage after implementation. A decrease for P-1 might be even favorable, if this would imply that people owe primary allegiance to the processes, rather than to their own function.

<table>
<thead>
<tr>
<th>Performers - Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>N: 15</td>
</tr>
<tr>
<td>Overall Average/Std.</td>
</tr>
<tr>
<td>P-1</td>
</tr>
<tr>
<td>Performers have some allegiance to the process, but owe primary allegiance to their function.</td>
</tr>
<tr>
<td>pre</td>
</tr>
<tr>
<td>2.13</td>
</tr>
</tbody>
</table>

Table 5.13: Results Process assessments using PEMM for "Performers - Behavior"

<table>
<thead>
<tr>
<th>Sub-enabler</th>
<th>Wilcoxon Signed-Rank test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior</td>
<td>significant</td>
</tr>
<tr>
<td>No</td>
<td>0.797</td>
</tr>
</tbody>
</table>

Table 5.14: Wilcoxon Signed-Rank test results for "Performers - Behavior"
5.2.3 Owner Identity

Since the case study organization had no process owner role, it seems that some people tried to interpret this question by thinking of someone who fulfills this role informally (Table 5.15). The increase for all levels is also contributed to a significant value for the Wilcoxon Signed Rank-test (Table 5.16). Next to this, many people answered “I do not know / I cannot answer this question”. Possibly, people related the Process Owner role to the Product Owner role, being the person that is entitled to make process-related decisions for the BPMS implementation on behalf of the business. This led to people answering either “I do not know / I cannot answer this question” (1 for P-1, 2 for P-2, 7 for P-3 & P-4) or interpreting the statements P-2 to P-4, which led to increasing values for all levels (with P-4 being a bit questionable).

<table>
<thead>
<tr>
<th>Owner - Identity</th>
<th>P-1</th>
<th>P-2</th>
<th>P-3</th>
<th>P-4</th>
<th>Overall Average/Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N: 16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Process Owner is an individual or a group informally charged with improving the process' performance.</td>
<td>2.25</td>
<td>1.50</td>
<td>1.13</td>
<td>0.69</td>
<td>5.56/ 2.828</td>
</tr>
<tr>
<td>Enterprise management has created an official Process Owner role and has filled the position with a senior manager who has clout and credibility.</td>
<td>2.31</td>
<td>1.94</td>
<td>1.25</td>
<td>0.88</td>
<td>6.38/ 2.941</td>
</tr>
</tbody>
</table>

Table 5.15: Results Process assessments using PEMM for "Owner - Identity"

<table>
<thead>
<tr>
<th>Sub-enabler</th>
<th>Wilcoxon Signed-Rank test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity</td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td></td>
<td><em>p</em>-value: 0.014</td>
</tr>
<tr>
<td></td>
<td>N: 16</td>
</tr>
</tbody>
</table>

Table 5.16: Wilcoxon Signed-Rank test results for "Owner - Identity"

Activities

With respect to activities the same could be stated. Additionally, three people filled-out “I do not know / I cannot answer this question” four times, leading to an N of 13. The people that tried to interpret the Process Owner activities did indicate some small differences between pre- and post-assessment, both positive (P-2 and P-3) and negative (P-4), as can be seen in Table 5.17. In line with this, statistical test also does not show a significant increase for Activities, as can be seen in Table 5.18. Based on the P-2 and P-3 statements it seems like there might have been some developments ongoing, but the effect size is too small to conclude anything.

<table>
<thead>
<tr>
<th>Owner - Activities</th>
<th>P-1</th>
<th>P-2</th>
<th>P-3</th>
<th>P-4</th>
<th>Overall Average/Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N: 16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Process Owner identifies and documents the process, communicates it to all the members, and sponsors small-scale change projects.</td>
<td>1.92</td>
<td>1.69</td>
<td>1.23</td>
<td>0.92</td>
<td>5.77/ 2.488</td>
</tr>
<tr>
<td>The Process Owner articulates the process' performance goals and a vision of its future; sponsors redesign and improvement efforts; plans their implementation; and ensures compliance with the process design.</td>
<td>1.92</td>
<td>1.92</td>
<td>1.31</td>
<td>0.85</td>
<td>6.00/ 2.415</td>
</tr>
</tbody>
</table>

Table 5.17: Results Process assessments using PEMM for "Owner - Activities"
Table 5.18: Wilcoxon Signed-Rank test results for "Owner - Activities"

Authority
For Authority, P-1 and P-2 show decreasing values when comparing pre- and post-assessments (Table 5.19). This might be related to the fact that the Product Owner actually had the power to steer for process changes and had more than “some control” over the technology budget. This reasoning is also reflected by the increase of P-3. Also for Authority, several people filled-out “I do not know / I cannot answer this question” for some P-levels, leading to lower average values (so totally not reflecting the actual maturity levels). The mixed image of decreases and increases is also represented in a non-significant result of the Wilcoxon Signed-Rank test (see Table 5.19).

<table>
<thead>
<tr>
<th>Sub-enabler</th>
<th>Wilcoxon Signed-Rank test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>significant</td>
</tr>
<tr>
<td>Activities</td>
<td>No</td>
</tr>
</tbody>
</table>

Table 5.19: Results Process assessments using PEMM for "Owner - Authority"

<table>
<thead>
<tr>
<th>Owner - Authority</th>
<th>P-1</th>
<th>P-2</th>
<th>P-3</th>
<th>P-4</th>
<th>Overall Average/Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authority</td>
<td>2.00</td>
<td>1.33</td>
<td>1.00</td>
<td>0.92</td>
<td>5.25 / 1.865</td>
</tr>
<tr>
<td></td>
<td>1.83</td>
<td>1.17</td>
<td>1.42</td>
<td>1.00</td>
<td>5.42 / 1.730</td>
</tr>
</tbody>
</table>

Table 5.20: Wilcoxon Signed-Rank test results for "Owner - Authority"

<table>
<thead>
<tr>
<th>Sub-enabler</th>
<th>Wilcoxon Signed-Rank test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>significant</td>
</tr>
<tr>
<td>Authority</td>
<td>No</td>
</tr>
</tbody>
</table>

5.2.4 Infrastructure

Information Systems
For Information Systems, every P-level shows an increase between the pre- and post-assessments (Table 5.21). Also based on the statistical test (Table 5.22), it looks like the Information Systems sub-enabler clearly improved because of the BPMS implementation. This implies that the Information Systems did have a better fit with the process after the BPMS implementation. For P-1 however, it is questionable whether the high score for P-1 indicates a “high overall maturity”. This increase was not only caused by footnote. A comment several people shared was that the BPMS runs on top of the legacy system, so technically speaking the legacy system is still being used.

---

4 The two people answering a “largely untrue” (corresponding to a value of 1) for the Process post-assessment were asked what they intended with this answer, since it did not make sense from a logical and theoretical perspective. All people clearly answered the new system did not represent a fragmented legacy system. Moreover, the BPMS connected all different databases. Therefore these (and only these) answers have been adapted to “largely true” to fit with the logic of the PEMM model and to prevent critically biased input for the statistical test, caused by problems with the face validity (Blumberg et al., 2008).
Table 5.21: Results Process assessments using PEMM for "Infrastructure - Information Systems"

Table 5.22: Wilcoxon Signed-Rank test results for "Infrastructure - Information Systems"

Human Resource Systems

For Human Resource Systems there does not seem to have occurred a lot of change, according to Table 5.23. P-1 shows an increment, but on the other hand P-2 even shows a slight decrease. The low values for all P-levels are partially caused by a lot of “I do not know / I cannot answer this question”-answers. The Wilcoxon Signed-Rank test shows a result that is not even close to being significant (Table 5.24).

Table 5.23: Results Process assessments using PEMM for "Infrastructure - Human Resource Systems"

Table 5.24: Wilcoxon Signed-Rank test results for "Infrastructure - Human Resource Systems"

5.2.5 Metrics

Definition

Definition is one of the sub-enablers with the clearest increase for all P-levels as can be seen in Table 5.25. The statistical test also shows a significant increase for this sub-enabler, as can be seen in Table 5.26. Combining the two tables, it looks like the definition of the metrics have been improved during the BPMS implementation.
Table 5.25: Results Process assessments using PEMM for "Metrics - Definition"

<table>
<thead>
<tr>
<th>Sub-enabler</th>
<th>Wilcoxon Signed-Rank test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td>significant</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 5.26: Wilcoxon Signed-Rank test results for "Metrics - Definition"

Uses

The last sub-enabler shows an increment for all statements (Table 5.27). However, the statistical test does not show a significant increase for this sub-enabler, as can be seen in Table 5.28 (though it is close to being significant). This was caused by some people indicating decreases for the uses of metrics, not resulting in a statistically significant increase of the Uses sub-enabler.

Table 5.27: Results Process assessments using PEMM for "Metrics - Uses"

<table>
<thead>
<tr>
<th>Sub-enabler</th>
<th>Wilcoxon Signed-Rank test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>significant</td>
</tr>
<tr>
<td>Uses</td>
<td>No</td>
</tr>
</tbody>
</table>

5.3 Summary

This section showed the results of the process pre- and post-assessments, in terms of process sub-enablers as a part of the PEMM. For some of the sub-enablers, a significant increase between the pre- and post-assessment was measurable. Furthermore, this section put the scores for the different P-levels in its context. Section 7 provides an overview of the results and links these results to other findings of this research.
6 Semi-structured interviews using BPM-CF

The objective of the semi-structured interviews is to provide further qualitative evidence on the influence of BPMS implementation on several aspects of process maturity by capturing different organizational stakeholders’ perception on the subject matter.

We referred to the BPM-CF (Rosemann et al., 2013) for particular aspects of BPMM. These aspects correspond to the capability areas in the BPM-CF. As discussed in the background section (Section 2), the capability areas are grouped into 6 factors, namely Strategic Alignment, Governance, Methods, Information Technology, People, and Culture. There are 5 capability areas under each factor, leading to 30 capability areas in total.

In structuring our interview, we prepared at least one question for each capability area that inquiries participant’s judgment on if and how the BPMS implementation have influenced or will potentially influence that particular capability area. For instance, for the capability area of “Strategy and Process Capability Linkage” (under the factor of Strategic Alignment), the following questions were generated:

*How does the implementation of the BPMS fit with the enterprise’s strategy? Does it change process capabilities from the pre-BPMS situation? If so, how? Is there an effect on the link between processes and the enterprise’s strategy, caused by the BPMS? If so, how?*

These questions were subsequently reviewed and validated by an academician working on the field of BPM, in particular BPMM, to ensure that they reflect the core concepts underlying each capability area, and they are formulated in a neutral way, so that researchers pose minimal bias and direction to potentially influence participants’ perception.

The set of questions generated based on the BPM–CF is given in Appendix 10.

6.1 Interviewees

To capture the perceptions of the stakeholders from multiple perspectives, and therefore to enhance the internal validity of the findings from the semi-structured interviews (Gibbert, Ruigrok, & Wicki, 2008), people with different organizational roles and responsibilities were selected for interviews. The sample consisted of 7 stakeholders as described below:

- One Program Manager, manager of the BPMS implementation program.
- One Change Manager, member of the BPMS implementation program responsible for change management.
- One Developer, responsible for programmatically linking the BPMS to the application layer, thus connecting the processes to the business’ back-end systems.
- Two Subject Matter Experts, on certain business domains regarding the group of processes under consideration. One Dutch [SME – NL], one German [SME – DE].
- Two Dutch End-users [User - NL], taking part in the daily execution of the group of processes.

6.2 Interview procedure & measurement protocol

The discussions on each of the 30 capability areas started with a brief introduction of the concept of the Capability Area, based on their original descriptions provided in Rosemann et al. (2013, pp. 610-616). This introduction was followed by a set of structured questions (as mentioned above) that require open-ended answers. This was done to ensure a certain level of flexibility with respect to the provided answers during interviews, but also bring a structure for consistency and repeatability across different interviews. If needed, the researcher put the questions in a proper context to ensure a correct interpretation of the questions.
The qualitative nature of interviews makes the interviews highly vulnerable with respect to interpretation, and therefore subjectivity (Blumberg et al., 2008). In order to reduce the risk of subjectivity the following steps were taken: the interviews were recorded with standard sound recording software in order to pay full attention to the interviewee, to use the available time as efficient as possible, and to be able to convert the interview into text without leaving certain claims unnoticed (Dul & Hak, 2008).

After these interviews had been transcribed (see Appendix 11), the transcription was checked with the interviewee to reach an agreement on what was answered during the interviews. Consecutively, for all capability areas and for every participant the transcriptions were coded into “direct” and/or “indirect” and “other”, referring to a “direct, indirect or other effect” of the BPMS implementation project on the capability area. For many capability areas it was hard to define whether an effect was either direct or indirect, or both. In those cases, the coding procedure resulted in coding like “direct + indirect” or “indirect/other”, where the quoted passages from the interviews provide context. This coded part was also checked with the interviewee to ensure correctness of the drawn conclusions. If a transcription did not provide sufficient support for coding an effect on a capability area, the coding resulted in “no answer”, abbreviated as “N/A”.

The results of this coding have been placed in a table per factor. These coding results, together with the passages from the transcribed interviews are aimed at providing a better understanding of the impact of BPMS implementation on the BPMM concept.

For all subsequent subparagraphs, the definitions as presented in Rosemann et al. (2015, pp. 113-119) defined the hierarchical structure. For every factor, the links that have been induced from theory are presented as they are found in literature, followed by a summary with a coded set of answers as they have been deduced from the semi-structured interviews. In order to put these relations in their appropriate contexts, interesting quotes from the interviews have been added where they have a significant impact on the interpretation with respect to the research questions.

6.3 Findings

6.3.1 Strategic Alignment

Process Improvement Plan

As a strategy-driven process improvement plan captures the overall approach towards BPM it should be directly derived from the company’s strategy. All interviewees recognized a full fit with the strategy of the company, and many related it to the company-wide introduction of the Continuous Process Improvement paradigm.

“One part of this was the establishment of an organization with CPI Leaders who apply strategical themes in the different countries. Next to that, CPI Experts act on those concepts within the countries or regions. Basically with the idea to improve the processes continuously. The entire concept, including the concept of Lean/SixSigma as tools for CPI, formed the basis for the BPMS Program.” [Program Manager]

Moreover, the participants also foresaw an impact of the BPMS on the corporate strategy because of the possibilities that would become apparent with the implementation of a BPMS:

“(…) what you do see, is that we want to convert customer requests to real-time. (…) our current resources and architecture are not capable of handling this, and that would be the only link towards “being strategically ready for the future”. What is said, is that “in order to reach that state, we will have to implement a BPMS platform.” [SME – NL]
“(...) when we are able to perform process-specific measurements with the BPMS, which is step 1, I expect there to be developments towards a tight linkage to strategic goals. So yes, I certainly think the implementation of the BPMS and its implementation will have its contribution to these developments in the future.” [SME – NL]

**Strategy and Process Capability Linkage**

The bi-directional link between strategy and business processes is deemed to be an important element in the BPM context. This is something that is inevitably intertwined with the previous capability area (especially in this case), since the change of strategy as described at the previous capability area will have an effect on the Strategy and Process Capability Linkage.

“The strategy we are going towards is to lower operational cost, a higher level of automation; the BPMS will fully contribute to this. I think the strategy will shift towards a shared-service setting, with self-service components (...).” [Change Manager]

Cummins (2014) described his vision on the use of SOA in combination with BPM, perfectly fitting with the latter quote, but in order to reach this state there has to be a perfect match between strategy and process capabilities. Related to this, Strategy and Process Capability Linkage can also be seen as the extent to which the company is able to translate its strategy into executable business processes.

“(…) before the implementation we were acting quite function-oriented and also our technical/system support is oriented functionally with a lot of manual steps. With our implementation we try to base our thoughts from a process perspective, by supporting the process with our BPMS. This is aimed at reducing manual tasks by automating those steps.” [Program Manager]

“I expect there to be developments towards a tight linkage to strategic goals. So yes, I certainly think the implementation of the BPMS and its implementation will have its contribution to these developments in the future.” [SME – NL]

**Process Architecture**

As “Enterprise Process Architecture” relates to the highest level of abstraction of the hierarchy of value-driving and enabling processes. In the case company there existed a certain Enterprise Process Architecture. However, these processes were connected in a complete drill-down-like way:

“Our process-oriented approach helps us to create a higher level of awareness of our processes and their execution, but the hard thing about our implementation project is that there are lot of smaller processes. The process itself could be stated as “updating or maintenance of contracts”, with all kinds of tasks like an address change, so the level of ‘a process’ is also a bit disputable. However, it does help to focus on the customer to customer process. Currently, sometimes we are still looking from an internal point to an internal point within our processes.” [Change Manager]

This is certainly not something that can be fully addressed just by implementing a BPMS. In his article Cummins (2014) sketches his vision on BPM and SOA, which could be achieved by using a BPMS the right way, by applying the ideas like the ones mentioned during another interview:

“(…) Architecture recently defined certain domains or boxes in which the processes are carried out, or “where value is created” (...). However, these domains are still quite “functional”. For instance, there is Sales, there is Collection & Recovery and there is Calculation of Quote; and that is a bit odd, since all three perform Credit Scoring, and then people say “yes, that also is a
box” (...). In fact, Invoicing is value-adding, Credit Scoring is value-adding, and Calculation of Quote is value-adding. However, these areas are not regarded as separate boxes. So there are functional areas, and we stated that these had to be reusable and there will be an added value of such a BPMS, covering and connecting these boxes, able to retrieve the different information needed to execute process steps, so if you ask whether it will contribute to the Enterprise Process Architecture strategy? Yes, but it could contribute much more. For instance, if we would really think in terms of reusable components, like “Invoicing”, “Credit Calculation” et cetera.” [SME – NL]

The capability area Process Architecture as defined by Rosemann et al. (2015) also refers to the Enterprise Process model as a starting point for further process analysis and models.

One might also apply a bottom-up approach by keeping the bigger picture in mind (e.g. Turetken & Demirors (2011)).

“(…) we are creating those descriptions, step-by-step, by making Value Stream Maps. If we do it correctly and we manage to archive them properly, there will be a repository of all kinds of processes, which can be consolidated in a process architecture. These processes together will then form your process architecture. So, I regard our initiative as a possible start for a future process architecture that is described concisely, designed according to standards and able to be maintained.” [Program Manager]

Process Output Measurement

Based on the CPI approach within the company, interviewees regarded the BPMS initiative as having a clear effect, some relating it to the Measurement Framework (please refer to Methods – Process Control and Measurement), triggering discussions on what and how to measure.

“(…) many people within the company do not think in those kind of terms yet. In the past, we have not been that strong at using KPI’s for management purposes. If the customer expects to get an answer within two hours, firstly we did not ever ask them about this and secondly, if we ever established a norm, we did not use it to steer upon.” [Program Manager]

Many interviewees saw discussions on KPI’s being triggered because of the BPMS implementation and the possibility to measure and monitor data automatically rather than manually.

“the BPMS can measure the Process Lead Time, and also the amount of tickets we are handling in the system easily. This will help the users, as well as their Team Leads and Managers, to organize their business. Then they can get insights like “every 15th of a month there are more requests for Copy Invoices”, just as an example. With that knowledge they can decide to have more people available on the phone for instance. Hopefully we can get reports like this, so people can organize their business better. (…) I think this is really supporting the people on the floor.” [SME – DE]

Process Customers and Stakeholders

This capability area relates to the impact on the important stakeholders. The participants related this topic to both the impact the implementation project had on itself by having an impact on the managers, Team Leads and Subject Matter Experts, and to End-users since it would affect their daily business. Most of the things mentioned will be the case for any project, but of course it will have had an effect on these stakeholders.

When people were asked to relate it to the impact on the execution of the processes itself, this is what some of them said:
“I do not really think our customers are aware of the system we use for our processes as of this moment, because we execute those behind the scenes. And an Address Change via an online request we could already do quite fast. So the customer will not really experience that much of a difference, but here at the office it will affect us a lot. Step by step we introduced the system to the department and when we showed them what is possible with the system we really had a ‘wow!’ experience by seeing how intuitively the system works.” [User – NL]

“I do think that with a system we are developing, you are able to connect to processes or systems of others, to align them with the process execution of others. (...). I do not think it will contribute to process execution of vendors themselves, but it will contribute towards their customers’ process execution. I see possibilities, but I am not certain whether we will actually use them, but who knows.” [Change Manager]

Summary

Table 6.1 presents a summary of the findings for the Strategic Alignment factor based on the responses provided by the interviewees. The table indicates that the implementation had mostly indirect impact on Strategic Alignment. These effects include the enabling or catalyst role that the BPMS can play, e.g. based on Lean Operational Management roll-out in the company, or as a trigger for discussions on the strategic alignment. Direct effects relate to the effects that can be achieved by implementing the BPMS. An example of a direct effect was the documentation of process models by incorporating the process design in the BPMS itself, which directly contributed to Process Architecture, apart from making the process models in software like Microsoft Visio first. Another example is that the BPMS directly added to the Strategy and Process Capability Linkage by the automation of certain tasks.

<table>
<thead>
<tr>
<th>STRATEGIC ALIGNMENT</th>
<th>CM</th>
<th>Developer</th>
<th>PM</th>
<th>SME (NL)</th>
<th>SME (DE)</th>
<th>User (NL)</th>
<th>User (NL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Improvement Plan</td>
<td>D+I</td>
<td>D+I</td>
<td>D+I</td>
<td>D+I</td>
<td>N/A</td>
<td>D+I</td>
<td></td>
</tr>
<tr>
<td>Strategy and Process Capability Linkage</td>
<td>D+I</td>
<td>D+I</td>
<td>D+I</td>
<td>D+I</td>
<td>I</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Process Architecture</td>
<td>D+I</td>
<td>D+I</td>
<td>D+I</td>
<td>D+I</td>
<td>D</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Process Output Measurement</td>
<td>I</td>
<td>D</td>
<td>D+I</td>
<td>D+I</td>
<td>D</td>
<td>N/A</td>
<td>D</td>
</tr>
<tr>
<td>Process Customers and Stakeholders</td>
<td>I</td>
<td>I</td>
<td>D+I</td>
<td>D</td>
<td>D</td>
<td>N/A</td>
<td>D+I</td>
</tr>
</tbody>
</table>

Table 6.1: Summary of “Strategic Alignment” factor

6.3.2 Governance

Process Management Decision Making

With respect to this capability area the participants related their answers to both the (future) business situation and the decision making process of this project. Most answers were related to the agile/scrum way of working or projects in general, which would be the case for other implementations as well. Related to the business change, below are some relevant responses:

“(…) with our new process to be implemented, I do see a clear focus on things like Lead Times and the “ease-of-doing-business”, so the least possible manual actions and letting the system do more. With that in mind, the focus is on what parts are most time consuming, so those tasks we try to implement in the system and we try to improve those tasks.” [User – NL]
“It is not mature enough to already be the main source to cover the decisions, since only a few processes have been implemented, but I think it will be interesting to know what happens. Because you can see problems before it is completely clear they are occurring, checking touch times, timeliness, that will improve decision making. (…) it is creating awareness of how processes are built. Because when I came in last year, I would say for most of the processes, even the most experienced users did their work just because of their expertise. However, there was not a proper design. It is bringing awareness, so that will also bring opportunities to change in the right direction.” [Developer]

“(…) Address Change is a relatively small change, although it took a lot of effort to implement [from an integration perspective], the change for the user is relatively small.” [User – NL]

From the responses, it can be inferred that the implementation project had an impact both in direct and indirect ways, but that the effect size also depends on the complexity of the process.

**Process Roles and Responsibilities**

Interviewees identified clear influences of the BPMS on this capability area:

“I also think that the current roles and how they have been defined will already change with the emergence of the BPMS. I think it will lead to a setting like “operational” and “expert” use of the system. Having everything as one activity will be a bit disordered, so I expect some changes.” [Change Manager]

“(…) if you would ask in 6 months or after a year, I think the approval levels will be higher and that there have been some processes that shifted to the “front-side”, so address change first went through “the second line”, but then will go to the “first line”, by means of shifting responsibilities. This can be regarded as a direct consequence of the BPMS implementation.” [SME – NL]

However, similar to the case in the previous capability area, the extent of influence depends on the complexity and previous situation of the process:

"With respect to responsibilities you do not really experience differences compared to the previous situation, because everyone within our sub-department can do this process. With a process like the Pilot Process you have to go through all kinds of screens and there are certain validations required, but with this process this is not really the case if you talk about responsibilities. [User – NL]

Some participants also indicated a challenge towards the future, since having a BPMS that is used in a big part of Europe will invoke a lot of stakeholders. This raises questions like “who will take decisions with respect to the BPMS that affect all countries once the implementation has been finished?”. A Process Owner (Hammer, The Process Audit, 2007) or group of Process Owners that oversee all processes executed through the BPMS might be a possible solution, but in any case it is important to have a decision body that decides on these things.

**Process Metrics and Performance Linkage**

Within the scope of the implementation project, a Measurement Framework has been created (see also Methods – Process Control and Measurement) that links the performance criteria as identified for Strategy – Process Output Measurement to business processes. The approach that is described should become an integral part of the company’s own Lean Operational Management approach and CPI initiative.
“With the creation of the Measurement Framework, we want to measure process performance. Based on that, we try to analyze and see how the process functions. From that perspective, there are certain points/milestones in the process on which you would like to see performance.” [Program Manager]

Process Management Standards
The aforementioned Measurement Framework also fulfilled a part of the needs with respect to the definition of the standards. It came with a step-by-step plan to connect measures to business processes. Furthermore, there were some developments that will guide the standards related to the use of this BPMS and other implementations within the company:

“One year ago, the [BPMS] Center of Excellence did not exist yet, and now it does exist because of the BPMS implementation, and it is creating the baseline for all the feature and current processes that are going to be implemented. So it is creating a baseline/framework and quality standards. So, it is growing together with the BPMS.” [Developer]

Process Management Controls
With respect to Process Management controls, people expect there to be other factors of importance, that have to be taken care of in order to let the BPMS stay central, proper functioning part of the business. Apart from the technical standards being regulated by the [BPMS] Center of Excellence, process related governance is something that should be accounted for as well:

“(…) people come with all kinds of requests that solve local problems, but do not contribute to a global harmonization. What you need is people who can identify where we do need to change or where we can maintain our standard processes. My experience is that people recognize the need, so they tried to setup these kind of bodies, but these bodies also get dismantled quite soon afterwards, because it does not work, or does not contribute or is too expensive, so for all kinds of reasons. So we should develop it, but also be able to maintain it. With the new approach of this system and the implementation project of working process-oriented, this body also needs to see everything from a process perspective.” [Change Manager]

Summary
The interviewees did not (yet) experience significant differences with respect to the Governance factor. We attribute this the fact that the project is still in the early phases of operation. However, most of the participants foresaw a significant impact of the project on the Governance factor in the future. As can be seen in Table 6.2, not all capability areas were expected to be directly influenced by the BPMS, but the BPMS will have a clear position within the other BPM-related developments within the company.

<table>
<thead>
<tr>
<th>GOVERNANCE</th>
<th>CM</th>
<th>Developer</th>
<th>PM</th>
<th>SME (NL)</th>
<th>SME (DE)</th>
<th>User (NL)</th>
<th>User (NL)</th>
</tr>
</thead>
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<td>1</td>
<td>1</td>
<td>D+1</td>
<td>1+0</td>
<td>1+0</td>
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<td>1</td>
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<td>I</td>
</tr>
<tr>
<td>Process Metrics and Performance Linkage</td>
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</tr>
<tr>
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<td>N/A</td>
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<td>O</td>
<td>N/A</td>
<td>N/A</td>
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</tr>
</tbody>
</table>

Table 6.2: Summary of “Governance” factor
6.3.3 Methods

The capability areas Methods and Information Technology are structured in a slightly different way compared to the other factors. These are related to the different stages of the “process life cycle”, therefore having identical labels for the different capability areas (Rosemann & Vom Brocke, 2015).

Process Design and Modeling

With respect to this point all interviewed people stated that the current approach is really refreshing compared to previous situation in the company. An important reason for this was the collaborative approach as a part of agile/scrum approach (Schwaber, 2004). People did regard the BPMS to have a perfect match with the agile/scrum way of working.

Process Implementation and Execution

When explaining the relation of this capability area with the BPMS, it is unavoidable to address that this component is tightly linked to the namesake capability area of the Information Technology factor. One thing that lowers the barrier is that the system is process-oriented, which takes away the translation from a process model to the logic of the system, since the logic of the process flow becomes the logic of the system.

Process Control and Measurement

One of the influences that was considered obvious was the impact on the applied methods for process performance measurement. In order to set-up a structure to measure and control process performance, a framework was created that guided both business and BPMS developers, including the process execution state model of Figure 6.1. This state model was based on the generic model by Zur Muehlen & Shapiro (2015) and was adapted to align with the logic of the BPMS and the company’s CPI approach (e.g. Robson (2010)). For all to-be-implemented processes, this state model was used to structure the different phases and possibilities of a case, in addition to making process flow diagrams. The flow diagrams were used to indicate the overall process flows, which consecutively were implemented in the BPMS.

![Figure 6.1: Process execution state model](image-url)

Process Improvement and Innovation

The impact on the methods that are used to improve the processes is that the BPMS will provide the data to execute SixSigma approaches and similar analyses. People with BlackBelt or CPI training get the possibility to base their analyses on process data obtained from the BPMS, rather than
benchmarking a sample or combining and linking all kinds of data from all kinds of sources. Therefore, more relevant and reliable data becomes available.

“When your BPMS matures and the focus changes to maintaining your processes it would shift towards an approach in which we apply SixSigma-like techniques for which you perform statistical analyses. Then it will get a bit more complex and there the number of people within our organization with the required capabilities (i.e. BlackBelt certified people) will be a lot lower than, for instance, the number of people with a BlueLean training, who are skilled at things like Value Stream Maps.” [Program Manager]

Process Project and Program Management
With respect to Project and Program Management participants regarded the BPMS implementation to have a better fit with process change management, which is considered to be a common problem in practice (e.g. Rahimi et al., 2015), and is also suggested by Ravesteyn & Batenburg (2010). The Program Manager illustrates this in the following way:

“Often, people look to Project and Program Management from an IT-perspective, but I am fond of placing the ownership of an IT-project at the business-side. If you want to change something as a business, you should let it be managed and executed by the business itself. Usually people think “80% of projects is IT-related, so let’s place Project and Program Management at IT”. By doing that, the interaction and “us versus them thinking” starts there. Related to this, I think our BPMS Program is an example of having a big drive from the business itself and the Program Management is really part of the business. Within our Core-team, four people have a link with the business and two are linked to IT. So again, if you really want to achieve something as the business, you should take ownership.” [Program Manager]

Summary
The respondents did not consider the BPMS implementation to have a direct influence on this factor (i.e. Methods), as can be seen in Table 6.3. However, they considered a clear indirect impact since the BPMS perfectly fits with the methods mentioned at the different capability areas. However, for Process Control and Measurement the provided example directly shows why it is so important to link IT and business. The use of a framework (Zur Muehlen & Shapiro, 2015) as a basis for the modeling of processes and measurement turns out to be very useful to align business with IT (though being a bit abstract without any context).

<table>
<thead>
<tr>
<th>METHODS</th>
<th>CM</th>
<th>Developer</th>
<th>PM</th>
<th>SME (NL)</th>
<th>SME (DE)</th>
<th>User (NL)</th>
<th>User (NL)</th>
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<tbody>
<tr>
<td>Process Design and Modeling</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>D+I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Process Implementation and Execution</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>D</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Process Control and Measurement</td>
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<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
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<tr>
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<td>I</td>
<td>I</td>
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<td>I</td>
<td>I</td>
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</tr>
</tbody>
</table>

Table 6.3: Summary of “Methods” factor
6.3.4 Information Technology

Process Design and Modeling
Just like most BPMS-suites, the BPMS that was implemented comes with features that allow process modeling within the BPMS. End-users were involved during the design and modeling phase, for instance during demos:

“With this BPMS they can already show you what it looks like with the demos and that is a useful thing.” [User – NL]

Process Implementation and Execution
One of the big advantages of the applied BPMS suite is the possibility to model the processes directly in the BPMS-suite (Direct Capture of Objectives for this BPMS-suite), which directly creates some of the necessary integrations:

“There is Direct Capture of Objectives (DCO) which is related to the working methodology. So, DCO is more like a tool or working methodology to develop, so DCO would be useful because it allows a better connection between the business users and the developers. It will give you more feedback in both ways, it will become more useful in a later stage.” [Developer]

As the Developer noted: “it will become useful in a later stage, since the project currently is still in a learning phase”. During a mature use of the BPMS, Business Analysts could model the process directly in the BPMS:

“(…) a benefit would be that for the developers it will be a lot clearer from the start. Sometimes you see that certain elementary things that are considered to be self-evident, are not that obvious at all. At a previous employer, I had to work with a Belgian company with only French-speaking people and it was not easy to explain them how the Dutch payment system worked. Even on an input field level, which may sound quiet trivial, it went wrong. And with a tool like DCO, you are better able to prevent those kind of things.” [Program Manager]

Process Control and Measurement
This capability area as a part of the IT factor refers to the solutions that are offered for workflow mining, exception handling et cetera, which will be quite apparent for a sophisticated BPMS. Apart from that, the dashboards that come with the BPMS will really help users, Team Leads and Managers. Some of them are provided Out-of-the-Box as these are the most frequently used, others have to be developed.

Maybe in a future situation this data is exported towards a Business Intelligence tool. As of the moment of writing, the Measurement Framework prescribed a way of logging the process execution which could be exported, e.g. for Process Mining purposes. Eventually the process management-related IT-landscape might look like Appendix 12: OLTP/OLAP Enterprise I.T. Architecture.

Process Improvement and Innovation
The tools used for improvement and innovation are related for automated support of the generation of improved business processes. Intelligent BPM suites, like the BPMS of the case study, contain agile tools for continuous process improvement (Gartner, 2016). These are designed to fit with the Process Improvement and Innovation capability area of Methods.

The process execution log data as mentioned at the previous capability area can be used in a Process Mining tool (Van der Aalst, 2009). In this case not to discover the regular flow of a process (since the
process flow was incorporated in the BPMS as-is). Moreover, it could help Business Analysts to recognize irregular patterns (Van der Aalst, 2009), which is just one of many potential applications.

**Process Project and Program Management**

As the BPM-CF (Rosemann et al., 2013) states, the software used for Project and Program Management typically is less BPM-specific:

“I do not want to relate this specifically to a BPMS. I think it is related to working in an agile-scrum way of working. So there you see a different use of software, but also with respect to our Project Management approach, we are not used to agile phases [within the company] (...) In that sense there is a change with respect to tooling, but that is more related to the agile approach, than just the BPMS approach.” [Program Manager]

**Summary**

As expected, the BPMS implementation was considered to have a direct impact on this factor and most of its capability areas, which can be seen in Table 6.4. Some respondents also identified some indirect effects, like the lessons that could be learnt from the use of the BPMS triggered discussions on which tools to use for Process Improvement and Innovation. Like Roseman et al. (2013) states as well, the interviewees that were able to answer the question indicated no effect related to the tools related to Process Project and Program Management.

<table>
<thead>
<tr>
<th>INFORMATION TECHNOLOGY</th>
<th>CM</th>
<th>Developer</th>
<th>PM</th>
<th>SME (NL)</th>
<th>SME (DE)</th>
<th>User (NL)</th>
<th>User (NL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Design and Modeling</td>
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<td>N/A</td>
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<tr>
<td>Process Implementation and Execution</td>
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<td>N/A</td>
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</tr>
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<td>Process Control and Measurement</td>
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</tr>
</tbody>
</table>

Table 6.4: Summary of “Information Technology” factor

**6.3.5 People**

**Process Skills and Expertise**

The participants indicated clear impact on this capability area:

“Previously, people really had to be aware on “never skipping any step”, and now it became a lot easier, since you do not have to worry about forgetting certain steps.” [User – NL]

With the new system people did not have to focus on things like navigation, opening the right screen or form, so people could focus on the correctness of the data they put in the BPMS, instead of having to think of all kind of non-value adding steps. In addition to that:

“Maybe not with respect to function titles, but I imagine that there will be a shift towards the front-office. (...) those people have extra social skills, they really know how to communicate with the customers. In the back-office we got more administratively skilled people, who know better how to deal with numbers and such. So I think the numbers and proportions will change, mainly due to decreasing need of administrative people. This will be even more the case when we implement self-service portals.” [Program Manager]
Process Management Knowledge

Most of the participants described situations in which the BPMS together with training should result in a higher awareness of people, i.e. knowing what their effect on the outcomes is.

“We will show them how things will be presented on an invoice. Before, this was never possible. So if you could see this draft upfront, then you will also see what will happen if you change something. In that case, you can tell the customer “with these 10 contracts we will do this and this”, whereas with the old system you would not have seen that.” [SME – NL]

However, as both users stated, this was not necessarily the case for every process:

“(…) before, for this process you also had to process a request and you had to see whether the change was processed by the system correctly, so your result would still remain the same. So the BPMS does not lead to a better understanding of it. For this process it just became easier. It is not a really complex thing.” [User – NL]

For other processes, especially when a process passes through multiple departments, participants expected that the BPMS would lead to a clearer overview, since it would connect all the different stages in one process.

Process Education and Learning

From a learning perspective, all people acknowledged the intuitiveness of the system:

“the BPMS shows you almost immediately what you have changed. Moreover, it works very intuitively. With the old system you have to search where to apply the changes and you need to know the program’s structure for that. The BPMS works really intuitively, it shows you what the customer wants and nothing more, it is very clear. (…) Of course you will show the logic behind it, so people will not just do some trick.” [User – NL]

“Maybe the new users are not learning to work with the legacy system anymore. So they do not know the connection between our old system and the new one. I am not sure if this is really needed, but I see that there are those discussions going on in Germany [SME – DE]

However, the role of the BPMS in this perspective was more of a catalyst:

“(…) it won’t be originated by the BPMS itself. The system is easy to use, therefore training will be limited. However, the system creates insight in process performance. I think this will result in more demand for process training. [Change Manager]

Process Collaboration and Communication

To the question whether the implementation of the BPMS would enhance the collaboration between the stakeholders, most people related this to two different perspectives. On the one hand people indicated an increased level of collaboration with a direct influence on the execution of processes:

“I think that is the main source of improvement, and I am not sure how to describe that exactly because I am a developer, but the tool we are developing is going to help a lot.” [Developer]

“It will give a lot more insight, and there will be a higher need of collaboration.” [Change Manager]

But this would not simply be the case for just any process, as the Users described:
“before you had to execute this process alone as well and there is not much discussion on this process” [User – NL]

“(…) nothing different compared to before. For this process the change is not that big, although it was a big project, but I think the collaboration will not change that much for this process. On the other hand, it is a new system. So the link with the project team is a lot shorter, because small errors will always appear. That link will definitely be shorter. But otherwise, not that much will change. Maybe the complex processes will change.” [User – NL]

As the latter user mentioned, “the link with the BPMS project team will be shorter”. The Developer acknowledges this:

“we brought a collaborative methodology in which all the stakeholders are not only aware, but also involved in the process. This is one thing that really would influence all the projects in the future.” [Developer]

This did not just lead to cooperation between different departments, but also between different countries:

“we already see developments on this aspect. We are able to bond Germany and The Netherlands; Belgium and the UK will follow soon. You see conversations being ignited. (...) now you see the Operational Manager of one area sitting together with the ones from other areas. I think the BPMS implementation project also contributed to the fact that this interaction increases.” [Program Manager]

Process Management Leaders

With respect to Process Management Leaders, participants recognized an influence, but almost all related it to the Lean Operational Management.

“Before the implementation of the BPMS, the company already started with Lean Operational Management training. As a result there have been several projects on process improvement. (...) this was already developing before the BPMS, focusing on “waste”. The BPMS could be a nice way to recognize the problems and build to a solution.” [User – NL]

“I think the dashboards will provide insight in individual performance and how it contributes to the strategy and maybe trends that you can recognize. Those things will contribute to initiatives. This will not be an achievement of the BPMS implementation project only, because the Lean Operational Management also focuses on this, but the collaboration between these two things is very close, so I am sure the BPMS will contribute to this aspect. So not only from a technical perspective, but also the way we want to design our dashboards and how we challenge the strategy, by seeing things not from a system-perspective but from a project-perspective, and I think that will be an important contribution.” [Change Manager]

An important note was made by some of the participants, with an imaging example below, relating to implementing due dates of 2 (working) days (or 48 hours) for a given process:

“(…) it is not the case that implementing the BPMS itself will tell you to do it in 12 hours, it’s more important to ask yourself, “why 48 hours?”, because now we will just build 48 hours. So the system itself won’t make this decision for you. So, you have to start benchmarking over different companies or industries, or base it on literature or the external environment that triggers you to think “you could also do it within 4 hours”.” [SME-NL]
This movement should be triggered either by something like Lean Operation Management or for instance by someone asking those critical questions, but still:

“let’s say once we are finished, and you do not do anything for two or three years, in what sense will it become weak; I do not know. I think this really depends on the type of managers and employees you have. I think the important thing will be to spread the CPI awareness. The 1 out of 25 that did a Lean Operational Management training, they have to be challenged to search for improvement; that will have a bigger impact than just the BPMS process. It would be an enabler of working in that way at least, but it will always depend on the way people behave themselves.” [Program Manager]

Summary

Altogether, people is a factor for which the participants recognized an influence in many dimensions (see Table 6.5). Though participants described some effects that can be directly related to the BPMS, the link with the Lean Operational Management seems to be quite apparent; for all capability areas the BPMS could play an enabling role, since BPMSs are designed to allow people to cooperate and work in process oriented ways. As both users addressed, the improvement would not be that significant for every process, especially if the process is small in scale.

<table>
<thead>
<tr>
<th>PEOPLE</th>
<th>CM</th>
<th>Developer</th>
<th>PM (NL)</th>
<th>SME (NL)</th>
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<tbody>
<tr>
<td>Process Skills and Expertise</td>
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<td>I</td>
<td>D+I</td>
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<td>D+I</td>
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</table>

Table 6.5: Summary of the “People” factor

6.3.6 Culture

Responsiveness to Process Change

All participants acknowledged cautiousness after the first release. This is not surprising, as most new software systems are likely to deal with this behavior (Davis, Walton, & Venkatesh, 2004). All participant stressed on the intuitiveness of the BPMS. This led to a relatively quick acceptance by the people to the concept in general. At first, the people reacted:

“In a general sense, positively, in such a way that people realize that these changes do have an actual impact. With this system people see that there are less errors, so the quality elevates. The system support towards the end-user is better. Despite the effect that this implementation could lead to doing the same job with less people, the employees do not see this as a threat. In the contrary, they perceive the system as “wow, this is what we needed”, because the way they were doing their jobs was not the best way to do it.” [Program Manager]

“The employees are also happy and they would like to do basically everything with the new process. They do not have to perform that many steps, they do not have to check other people’s work that much, so the ease-of-doing-business is a lot bigger”
As the project was still in an early phase, the business remained a bit cautious and wanted to verify whether the BPMS did everything correctly. However, the trust was already growing as apparent from the increasing adoption rate (i.e. cases going through the BPMS instead of manually in the legacy systems).

**Process Values and Beliefs**

As this capability area refers to “process thinking” within the company, many saw the BPMS having an influence:

“In the mission statement of our BPMS Program, we say “we enable our members to deliver the customer a perfect service”, so we support our employees to achieve a perfect customer service delivery, which will lead to unburden our customers fully so they can focus on creating their own success. That last thing again is something the company rooted deeply in her own mission statement. We want to be a financial partner that relieves the customer from the financially complex aspects, so he can fully focus on his own business success. In that sense, the BPMS will contribute towards that.” [Program Manager]

More related to the end-users of the system,

“(…) we pass from a “task-culture” to a “process-culture”, from “the customer needs this, so I have to perform a task to fulfill that request” towards this process, which is optimized to give the best service to the customer.” [Developer]

“(…) there is the old system-thinking, with a 36 pages manual, 25 screens on 4 different places, because it is just the way it technically works. And to convert this into 2 screens, not only from a screen perspective, but the customer arrives with a request and you just apply the process-thought behind it. This will also help reducing “yes, but the system requires this or that”, because now we are going to solve those questions. Hopefully we will reach a situation where not only within the BPMS Project team people will think this way, but that our own IT and Business will not accept the old system-thinking.” [SME – NL]

“(…) the combination with Lean Operational Management is really strong. It provides a tool to make everything visible and understandable and this perfectly supports the Lean Operational Management.” [Change Manager]

**Process Attitudes and Behaviors**

Among others, this capability area relates to the willingness of questioning current processes in light of potential process improvements. It is also related to the willingness to comply with the process design.

“(…) eventually you see that everyone conforms to the customer-value and that people say “the customers benefit from us working in the BPMS-situation, so let’s start using it then” and now you that see the percentage of employees who think this way increases.” [SME – NL]

“Traditionally, you see that people are a bit concerned with new systems. But also with our pilot we launched last year, you saw that people did the calculation in Excel themselves to check whether the end-result was correct. Nowadays, you see the adoption rate is really high and people ask more of it, because they see what results are being delivered.” [Program Manager]

When looking at the speed of process improvement, people expected some improvements for the small changes, but for the significant changes they did not expect a faster implementation. For example, the BPMS will be easy and fast to change in a case when:
“(…) I miss some information here or there, to which you want to have a fast access. But on the other hand, if you see the entire process and want to convert it from a to z, it will take just as long, because you have to work with people who have to perform the work or have to make the decision. There you still see the decision making terms, the required analyses and the effort to get the final decision.” [SME – NL]

“(…) this BPMS software helps you to develop really quickly, so it is a perfect tool for this way of working. I am completely sure about that; it’s not the only one, but certainly the most adequate for working like this.” [Developer]

**Leadership Attention to Process**

With respect to the Leadership Attention to Processes, there were two apparent ways of interpretation.

Since the company is a large organization, it might not even be practical to let the most senior leadership worry about these things, or as some of the participants stated:

“To them, processes are more like: “just do what you have to do”, and I doubt they even know something about our throughput times, or volumes, or most occurring processes.”

On the other hand, most of the participants indicated that, on a country level, some people within the leadership will have attention to processes:

“(…) our Operations Manager is very interested in those kind of things. (…) He foresaw these things like three years ago, and now he has the BPMS platform to achieve his thoughts. (…) then the BPMS implementation project came up and he was the first one to jump onto this project. Now others have “read the signs” and they see how important it is to make this change possible.” [SME - DE]

“In the countries themselves, there are certain departments that are really process-driven and client-oriented and those also achieve the biggest successes. So sooner or later, people will realize this. [SME – NL]”

**Process Management Social Networks**

With respect to Process Management Social Networks, people recognized possibilities but do not necessarily link this to the BPMS implementation, some state in the future the BPMS could play a role. However, the Program Manager clearly saw some opportunities with respect to this capability area:

“That is one of the things on which we are actively steering towards. This is also an assignment for the Change Management Team to form a certain community within Europe, to have conversations about processes together. During the demos, we invite the countries to participate. There we discuss the approaches used in the different countries; in Belgium they are doing it in this way, in Germany they do it that way. Let’s talk about those differences, to see what we can learn from each other, to do it differently or better. I think the BPMS implementation project acts as a booster for those kinds of communities. In the past, when a country had the opportunity to change something, usually it was something small, but now things are really changing and people see they are really forced to look outside of their own country borders and business area.” [Program Manager]

**Summary**

For the factor Culture, many participants recognized capabilities that are influenced by the implementation of the BPMS (see Table 6.6). In order to create a continuous process improvement-
culture, the company was rolling-out Lean Operational Management training (at the time of conducting the interviews), which would fit with the BPMS implementation. In that sense, the BPMS implementation clearly has an indirect impact on the different capability areas of Culture, -acting as an enabling technology for this continuous improvement culture. Apart from this, for some of the aspects that are part of the capability areas people recognized a direct effect of the BPMS as well, since the intuitiveness of the BPMS was thought to help enhance process change acceptance by making changes tangible and intuitive. For Process Management Social Networks it appeared to be hard to assign a distinctive coding, since people interpreted this capability area in very distinct ways.

<table>
<thead>
<tr>
<th>CULTURE</th>
<th>CM (NL)</th>
<th>Developer</th>
<th>PM (NL)</th>
<th>SME (NL)</th>
<th>SME (GER)</th>
<th>User (NL)</th>
<th>User (NL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsiveness to Process Change</td>
<td>D+I</td>
<td>I</td>
<td>D+I</td>
<td>D+I</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Process Values and Beliefs</td>
<td>D+I</td>
<td>D+I</td>
<td>D+I</td>
<td>D+I</td>
<td>I/O</td>
<td>D</td>
<td>D+I</td>
</tr>
<tr>
<td>Process Attitudes and Behaviors</td>
<td>D+I</td>
<td>D+I</td>
<td>D</td>
<td>D+I</td>
<td>D</td>
<td>N/A</td>
<td>I</td>
</tr>
<tr>
<td>Leadership Attention to Process</td>
<td>I</td>
<td>N/A</td>
<td>D+I</td>
<td>I</td>
<td>D+I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Process Management Social Networks</td>
<td>O</td>
<td>N/A</td>
<td>D+I</td>
<td>O</td>
<td>I/O</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Table 6.6: Summary of interview coding on "Culture"
7 Analysis & Discussions

This section provides an overview of the results obtained during this research. Furthermore, next to discussing the outcomes of both the PEMM and the BPM-CF sections, it provides insights on the relation between the findings of both sections. The end of the section discusses the research contributions and implications.

7.1 Process assessments using PEMM

The findings of the statistical analyses performed over the data resulting from the process assessments performed using the PEMM is given in Table 7.1. Among 13 sub-enablers, 5 of them show a significant increase when applying a Wilcoxon Signed-Rank test (Field, 2009). This proves that already in an early stage of an implementation, the BPMS project can lead to a significant increase in some certain aspects of process maturity.

<table>
<thead>
<tr>
<th>Enabler</th>
<th>Sub-enabler</th>
<th>Wilcoxon Signed-Rank tests</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Significant</td>
</tr>
<tr>
<td>Design</td>
<td>Purpose</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Context</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Documentation</td>
<td>No</td>
</tr>
<tr>
<td>Performers</td>
<td>Knowledge</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Skills</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Behavior</td>
<td>No</td>
</tr>
<tr>
<td>Owner</td>
<td>Identity</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Activities</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Authority</td>
<td>No</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Information Systems</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Human Resource Systems</td>
<td>No</td>
</tr>
<tr>
<td>Metrics</td>
<td>Definition</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Uses</td>
<td>No</td>
</tr>
</tbody>
</table>

Table 7.1: Results statistical test of Process assessment using PEMM

The results do not necessarily mean that people agree on the current level of maturity. However, it shows that there was an increase of maturity level for 5 sub-enablers, compared to the participants’ own pre-assessments. Hence, regardless of what the post-assessment was, it can be concluded that the maturity of those 5 sub-enablers significantly increased during the BPMS implementation.

The result of the Identity sub-enabler can be considered unexpected, since no official Process Owner role was (going to be) created. However, this could indicate that people related this role to similar roles. For instance, people could refer to the Subject Matter Experts or Product Owners who contributed to the development of the BPMS.

Moreover, the p-value of sub-enabler Uses is also close to being significant (p < 0.05). When relating this to the findings of the Semi-structured interviews using BPM-CF, sub-enabler Uses can be related to the Operational & Visual Management efforts, since these will have a contribution towards the use of the metrics, as described in Section 6.3. Therefore, this sub-enabler is expected to increase as the required developments are in place and start to be used by the business. As described in Section 6.3, the BPMS comes with Out-of-the-Box solutions for reporting and dashboards, and therefore provides tools for the described Operational & Visual Management efforts.

In addition, although statistical analysis for the Documentation sub-enabler was not found to increase significantly, the interviews with the participants indicate an increase for that aspect (see Section 6.3).
In line with what Section 5.2 describes, the absence of a significant effect might have been caused by the decrease of the average value for P-1, since the Documentation was no longer functional, but process-oriented. Another explanation might be that in this early stage, the new Documentation of process models was not yet apparent to all participants.

At a later stage other sub-enablers might increase as well, but these might be even more subject to the combination with Lean Operational Management training or organizational changes. For instance, Section 6.3 shows many indirect effects on factors People and Culture of the BPM-CF, which contain a certain overlap with Process enabler Performers.

Concluding, although there are some limitations to using PEMM to test the impact of a BPMS, next to using PEMM in a questionnaire-setting, the assessments provide a useful tool to make the impact of BPMS on BPMM tangible, partly supported by statistical analyses.

7.2 Semi-structured interviews using BPM-CF

Figure 7.1 provides an overall view on the results of the interviews for the capability areas of the BPM-CF, by taking an aggregate view on the perception of 7 interviewees. Although people disagree on whether there are direct and/or indirect effects on a certain capability area, Figure 7.1 clearly indicates that a significant number of capability areas are influenced by the BPMS implementation.

It was already expected that highest amount of direct effects would be visible at the Information Technology factor, except for Process Project and Program Management (in line with Rosemann et al. (2013)). However, for many capability areas people indicated both direct and indirect effects. All Capability Areas of Strategic Alignment have clear direct and indirect links, so this implies the BPMS played a vital role in the strategy of the company and has an impact on the strategy.

Governance, Methods, People and Culture mostly have indirect links, although there are also some direct effects visible. This implies the BPMS can play an important supportive role in the developments of these factors.

For three capability areas, being Program Management Controls, Process Project and Program Management (of the Information Technology factor) and Process Management Social Networks the influences are considered to be fairly insignificant.

The holistic overview the BPM-CF provided in Figure 7.1 serves as a clear guidance of the BPM aspects that are considered to be affected by the BPMS implementation, based on the structured interviews with the participants.

---

*For Process Management Standards the provided answers were so diverse, that no label was given to this capability area.*
Figure 7.1: BPM-CF coding summarized
8 Conclusions

This research provides a holistic view on the positive relation of BPMS on the different aspects of BPMM. Two of the most referenced BPMM models have been used in order to answer the research question:

“How does the implementation of a Business Process Management System influence Business Process (Management) Maturity in an organization?”

This thesis shows that the implementation of a BPMS has an impact on a broad set of capability areas as defined for the BPM-CF (26 out of 30), as can be seen on the previous pages. Furthermore, the outcomes of the statistical test based on the PEMM show that the Purpose and Context of the process’ Design, the Definition of Metrics and the Information Systems (as a part of Infrastructure) have improved within the early stages of the implementation. Furthermore, the values related to the Identity of the Owner indicated an increase as well, although this was unexpected due to the absence of an official Process Owner role.

8.1 Limitations

This subsection discusses the most important limitations of this research. Although this is not an exhaustive list, these limitations pose risks to the validity of this research to a certain extent. The subsequent subsections discuss these limitations, and suggest future research directions to address them.

8.1.1 The Case Study

The thesis’ conclusions are based on a single case organization, with an implementation project that took place at different divisions located in a number of countries in Europe. This makes generalizability an issue, since the results might also depend on the context where the case organization and its divisions operate. Furthermore, cultural differences with e.g. US or Asian companies might have impact on the results of the case study. Furthermore, the sample size of 16 for process assessments can be considered limited relatively low (for one process enabler this even dropped to 11 valid answers); preferably a sample should at least consist of 30 participants (Field, 2009). Moreover, it is questionable whether all effects will be the case for every company prior to implementing a BPMS, as some effects might be related to the maturity level of the Case Study company prior to the BPMS implementation.

Especially for the indirect effects, it is questionable whether all of the described relations between BPMS and different capability areas of the BPMM will be as apparent as in this Case Study. For instance, some of the effects might hold for all (successful) IT-implementations. However, this would not contradict the effects that a BPMS implementation had.

Therefore, future research should consider performing this research in multiple companies, preferably both in similar and in different industries. The former to see whether companies in comparable environments experience similar outcomes, for internal reliability, the latter to test for external reliability. It can also be important to take the context into account for all types of industries (e.g. related to the Enterprise assessment using PEMM). The current case organization is still in a learning phase with respect to Lean/SixSigma approaches. There is a considerate amount of BPM-related knowledge within the company, but there are other companies which are front-runners with respect to these approaches.

Another limitation regarding the case study is the fact that the BPMS had not been fully implemented at the time of writing this report. In a timeframe of a couple of months, not all potential influences can
become visible and some of those would need longer time periods to manifest themselves. In addition, as the BPMS implementation enters into a more stable and mature phase (with respect to early version bugs, and issues) the effects would be more visible. Longitudinal studies would fit well in these situations some advantages may unfold only after the BPMS is fully accepted and trusted upon. Once the performance tracking measures are in place and data starts to show trends over a longer period of time, people would be expected to rely more on the BPMS as their source of information.

Furthermore, the researcher contributed to parts of the BPMS as well, in parallel with the thesis research. The researcher created a “measurement framework” that should guide the business in tracking and visualizing process performance. This harmed the independency of the researcher in such a way that “measuring process performance” addressed a part of the concepts that are part of the BPM Capability Framework by Rosemann et al. (2013) and of Hammer’s PEMM (2007). In this way, the researcher contributed to changes with respect to the concepts that were pre- and post-assessed. Therefore, the researcher might have directly created the situation for some of the conclusions. In order to eliminate the limitations brought by the problem of having an action-researcher, future studies should consider having a design where the study is performed by a researcher who is not part of the implementation project. In this way, the researcher can act more independent of the BPMS implementation.

### 8.1.2 Measurement validity

The model by Hammer (2007) has been designed to use in workshop sessions in which the model is shown and discussed as a whole. However, in this research the model has been applied in a survey setting as a self-assessment tool, only with limited mentioning of the underlying structure and the concept of maturity, i.e. the model has not been used in the way it was designed to be used.

Moreover, in order to measure differences between the Process pre- and post-assessment, the current approach was to test for an increase in relative terms (so whether there was a significant increase between the samples), rather than in absolute terms. This also has to do with the ordinal scale that was inherited form PEMM (Hammer, 2007), making it non trivial to convert it into another scale.

In terms of measurement validity, a maturity assessment tool that can be carried out by large respondent groups without having much knowledge on BPM might help to make statistically sound conclusions in terms of pre- and post-assessments.

### 8.1.3 Technical depth

This research followed a holistic approach to bridge the paradigms of BPMS and BPMM. All of the different capability factors (Rosemann et al. (2013)) and Process enablers & Enterprise capabilities (Hammer, 2007) could be fields of research on its own. The choice for the current approach was explicit, in order to oversee the entire model, but in that sense it led to a less rigorous research with respect to technical depth. When the research would have been focused on one factor within BPM-CF, it could have led to more focused outcomes.

Diving into the details of the different process & enterprise enablers and capability factors could provide a lot of interconnectivity opportunities with the BPMS field of research. When the BPMS field of research (and BPMS-vendors) decide to explicitly adopt BPMM into their models and logic, it will be important to know in great detail how a BPMS could support BPMM concepts. In that sense, BPMS and BPMM research might provide answers to one another’s problems.
8.2 Research contributions and implications

This research provides quantitative and qualitative evidence the influence of the BPMS implementations over different aspects of BPMM. The analysis over the data originating from the pre- and post-implementation assessments using PEMM shows that implementing a BPMS can lead to significant improvement on several process enablers. Next to this, the fact that a BPMS implementation has such a broad impact on a business can make it hard to structure and oversee the impact of the implementation on aspects of Business Process Management (e.g. Cummins (2014)). However, as this thesis shows, there are ways to oversee the big picture by applying a holistic BPMM model like the BPM-CF by Rosemann et al. (2013).

Moreover, this work adds to the body of knowledge related to empirical BPM research, by bridging two important fields within the BPM research, being BPMSs and BPMM. First of all, by applying an established model to measure the impact (in terms of PEMM). Secondly, by describing the drivers behind the relations between BPMS implementation and the different aspects of BPMM (in terms of BPM-CF).

One of the implications could be that a holistic BPMM model as presented by Rosemann et al. (2013) can be used to structure and incorporate the aspects a business needs to take care of, in order to fully benefit from a BPMS implementation. For practitioners both contributions can also be useful in terms of testing the added value and leveraging the full benefit of a BPMS.

Another implication for the practice concerns the BPMS vendors and companies who are planning to invest into this technology. Our research shows that such implementation projects can take into account the effects of the implementation in structuring the implementation projects. BPMM aspects that are considered to be influenced also act as enablers. Therefore, the success in addressing these aspects would also increase the likelihood that these implementation projects will succeed in delivering their intended business value.
9 References


10 Appendices

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10.1 Appendix 1: Invitation Process pre-assessment using PEMM (BE+NL)

Beste collega,

Company Name is betrokken in het Project Name waarin nieuw ontworpen processen op het gebied van Department X geïmplementeerd worden. Omdat u ervaringsdeskundige bent op het gebied van de processen X en/of Y, verzoek ik u de bijgaande vragenlijst in te vullen (voor 1 februari). Dit duurt 15-25 minuten.

Met behulp van uw visie op uw processen en taken kunnen wij mogelijkheden voor verbetering in kaart brengen. Het gaat hierbij om de situatie vóór de invoering van “BPMS”, dus ook voor het Pilotproject bij proces X. De vragenlijst is opgesteld in samenwerking met de Technische Universiteit Eindhoven (TU/e). Ik ben een onderzoeker van de TU/e en werkzaam bij Company Name.

BELANGRIJK: Dit is niet de jaarlijkse CPI Maturity assessment door het CPI Center of Excellence, ook al is er sprake van een zekere overlap.

De vragenlijst wordt verspreid onder collega’s in Duitsland, België en Nederland. Alleen ik als onderzoeker weet wie wat heeft ingevuld. De individuele antwoorden worden volledig vertrouwelijk behandeld. Data van individuele antwoorden wordt niet gedeeld met derden, ook niet binnen Company Name. Alleen samengevoegde resultaten worden anoniem gedeeld met Company Name.

De vragenlijst bestaat uit 13 pagina’s met elk 4 stellingen met betrekking tot X en/of Y. Elke stelling kan “grotendeels niet waar” (d.w.z. 0% tot 20% correct), “enigszins waar” (20-80% correct) of “grotendeels waar” zijn (80-100% correct). Tot slot is er de mogelijkheid te kiezen voor "ik weet het niet / ik kan de vraag niet goed beantwoorden".

Bij vragen over de vragenlijst en/of over het onderzoek kunt u mailen naar marijn.koops@company.com.

Alvast bedankt!

Met vriendelijke groet,
Marijn Koops

Header of first actual survey page: “Met “proces” wordt bedoeld: de reeks taken die moet worden uitgevoerd om het doel van het proces te bereiken.” An example goal is given as an indication what a process is aimed to achieve.


WICHTIGE ANMERKUNG: Trotz der Tatsache, dass die Umfrage einige Überschneidungen mit der jährlichen CPI Maturity Beurteilung vom CPI Center of Excellence hat, handelt es sich um unterschiedliche Erhebungen.

Diese Umfrage wird zeitgleich auch bei Ihren Kollegen in Deutschland, Belgien und der Niederlande stattfinden. Die individuellen Antworten werden nur von mir selbst eingesehen. Ihre ausgefüllten Fragebögen werden nicht an Dritte, einschließlich <COMPANY>, weitergegeben. Ausschließlich die Ergebnisse der Umfrage werden nach der vollständigen Auswertung an das Unternehmen weitergeleitet.

Diese Umfrage umfasst 13 Kategorien mit jeweils 4 Aussagen über die Themenbereiche <PROCESS X> und / oder <PROCESS Y>. Ihnen stehen jeweils 4 Antwortmöglichkeiten zur Auswahl; „kaum wahr“ (diese Aussage ist nicht korrekt bis 20% korrekt), „etwas wahr“ (20% bis 80% korrekt), „größtenteils wahr“ (80% bis 100% korrekt) und „Ich weiß es nicht / ich kann die Frage nicht beantworten.“

Für Fragen über die Umfrage und / oder meiner Forschung stehe ich Ihnen gerne zur Verfügung. Sie können mich per Email erreichen via: marijn.koops@company.com

Im Voraus vielen Dank für Ihre Unterstützung!

Mit freundlichen Grüßen,
Marijn Koops
## 10.3 Appendix 3: Translated Process assessments using PEMM (NL + BE)

<table>
<thead>
<tr>
<th>P-1</th>
<th>P-2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ontwerp</strong>&lt;br&gt;Doel</td>
<td>Het proces is niet end-to-end^ ingericht. Managers gebruiken de bestaande procesinrichting vooral als context om tot functionele verbeteringen van het proces te komen. ^end-to-end: van het moment dat de klant zich bij Department A meldt totdat het verzoek volledig is verwerkt bij Department B.</td>
</tr>
<tr>
<td><strong>Context</strong>&lt;br&gt;De inputs, outputs, leveranciers^ en klanten^ van het proces zijn geïdentificeerd. ^: kunnen ook interne leveranciers/klanten zijn.</td>
<td>De behoeftes van de klant zijn bekend en hierover is er overeenstemming binnen de afdeling.</td>
</tr>
<tr>
<td><strong>Documentatie</strong>&lt;br&gt;De documentatie m.b.t. de inrichting van de processen van de afdeling is vooral functioneel, maar laat ook de relaties met andere afdelingen zien die belangrijk zijn voor de afdeling.</td>
<td>Er is een end-to-end documentatie van de procesinrichting.</td>
</tr>
<tr>
<td><strong>Members</strong>&lt;br&gt;Kennis</td>
<td>Members kunnen de processen van de afdeling omschrijven, evenals de belangrijkste succesfactoren^. ^waarop succes gemeten wordt.</td>
</tr>
<tr>
<td><strong>Vaardigheden</strong></td>
<td>Members zijn vaardig in het oplossen van problemen en in procesverbeteringstechnieken.</td>
</tr>
<tr>
<td><strong>Gedrag</strong></td>
<td>Members voelen zich tot op zekere hoogte verantwoordelijk voor het proces, maar in de eerste plaats voor de eigen functie.</td>
</tr>
<tr>
<td><strong>Identiteit</strong></td>
<td>De proceseigenaar is een individu of groep die informeel de taak heeft om processen te verbeteren.</td>
</tr>
<tr>
<td><strong>Activiteiten</strong></td>
<td>De proceseigenaar brengt het proces in kaart en documenteert het, communiceert dit aan alle members en stimuleert kleinschalige verbeterprojecten.</td>
</tr>
<tr>
<td><strong>Zeggenschap</strong></td>
<td>De proceseigenaar stamt aan op procesverbeteringen, maar kan alleen functionele managers aanmoedigen tot daadwerkelijke veranderingen.</td>
</tr>
</tbody>
</table>

---

*^zoals "bedrijfsnaam voor Lean/SixSigma team"*
<table>
<thead>
<tr>
<th>Ontwerp</th>
<th>Doel</th>
<th>P-3</th>
<th>P-4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Het proces is ontworpen om in harmonie te werken met andere bedrijfsgesprekken en met IT-systemen om de prestatie van het bedrijf te optimaliseren.</td>
<td>Het proces is ontworpen om samen te werken met de processen van externe klanten en leveranciers om zo tot een optimale samenwerking te komen.</td>
<td></td>
</tr>
<tr>
<td>Context</td>
<td>De proceseigenaar en eigenaren van andere bedrijfsgesprekken die met elkaar in verbinding staan, hebben gezamenlijk prestatieverwachtingen vastgesteld. ^: de persoon die (formeel of informeel) verantwoordelijk is voor het proces en de prestaties van het proces</td>
<td>De proceseigenaar en eigenaren van externe klanten- en leveranciersprocessen die met elkaar in verbinding staan, hebben gezamenlijk prestatieverwachtingen vastgesteld.</td>
<td></td>
</tr>
<tr>
<td>Documentatie</td>
<td>De procesdocumentatie beschrijft de samenwerking met en de verwachtingen van andere afdelingen en linkt het proces aan de IT- en datasystemen van het bedrijf.</td>
<td>Een digitale representatie van de procesinrichting ondersteunt de uitvoering en het management en maakt analyse mogelijk van veranderende omgevingsfactoren en procesaanpassingen.</td>
<td></td>
</tr>
<tr>
<td>Members</td>
<td>Ken: Members zijn bekend met zowel bedrijfsmatige beginselen als met de succesfactoren van het bedrijf. Daarbij kunnen zij beschrijven hoe hun werk in relatie staat tot andere afdelingen en hoe de afdeling bijdraagt aan het succes van het bedrijf.</td>
<td>Members zijn bekend met de bedrijfsgesector en haar ontwikkelingen en kunnen beschrijven hoe de eigen werkzaamheden de samenwerking met andere bedrijven beïnvloeden.</td>
<td></td>
</tr>
<tr>
<td>Vaardigheden</td>
<td>Members zijn vaardig in het maken van bedrijfsmatige keuzes.</td>
<td>Members zijn vaardig in Change Management en het implementeren van veranderingen.</td>
<td></td>
</tr>
<tr>
<td>Gedrag</td>
<td>Members streven er naar dat de afdeling de benodigde resultaten levert om te komen tot succes op bedrijfsniveau.</td>
<td>Members signaleren dat processen zouden moeten veranderen en doen verbetervoorstellen.</td>
<td></td>
</tr>
<tr>
<td>Eigenaar</td>
<td>Identiteit</td>
<td>Het proces staat voor de eigenaar op de eerste plaats op het gebied van tijdsbesteding, focus/aandacht en persoonlijke doelen.</td>
<td>De proceseigenaar is lid van het hoogste beslisorgaan binnen het bedrijf.</td>
</tr>
<tr>
<td>Activiteiten</td>
<td>De proceseigenaar werkt samen met andere proceseigenaren binnen het bedrijf om processen te integreren met als doel de bedrijfsdoelen te behalen.</td>
<td>De proceseigenaar ontwikkelt een rolling^ strategisch plan voor het proces, draagt bij aan strategische planning op bedrijfseenheid en werkt samen met proceseigenaren van klanten en leveranciers om procesverbeteringen tussen de bedrijven te stimuleren. ^: niet voor een vaste periode, maar met regelmatige updates</td>
<td></td>
</tr>
<tr>
<td>Zeggenschap</td>
<td>De proceseigenaar beheert de IT-systemen die het proces ondersteunen en ziet toe op initiatieven waardoor het proces verandert. Heeft daarnaast enige invloed op het aanstellen van personeel, op beoordelingen en op het budget van het proces.</td>
<td>De proceseigenaar beheert het procesbudget en heeft grote invloed op het aanstellen van personeel en op beoordelingen.</td>
<td></td>
</tr>
<tr>
<td><strong>Infrastructuur</strong></td>
<td><strong>IT-systemen</strong></td>
<td>Gefragmenteerde legacy IT-systemen ondersteunen het proces. ^: gedateerde of bestaande vanuit het niet-recentie verleden</td>
<td>Een IT-systeem bestaand uit verschillende functionele componenten ondersteunt het proces.</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Human Resource-systemen</strong></td>
<td>Team Leads belonen excellent functioneren en het oplossen van problemen binnen de procescontext.</td>
<td>Het procesontwerp bepaalt zowel de roldefinities binnen het proces, als functieomschrijvingen en de competentieprofielen. Inwerken wordt gebaseerd op procesdocumentatie.</td>
<td></td>
</tr>
<tr>
<td><strong>Metingen</strong></td>
<td><strong>Definitie</strong></td>
<td>Het proces heeft enkele basis prestatie-indicatoren op het gebied van kwaliteit en kosten.</td>
<td>De afdeling heeft end-to-end prestatie-indicatoren die gebaseerd zijn op de vereisten voor de klant.</td>
</tr>
<tr>
<td><strong>Toepassing</strong></td>
<td>Managers gebruiken procesindicatoren om prestaties te monitoren, om oorzaken van problemen te herkennen en procesverbeteringen te onderbouwen.</td>
<td>Managers gebruiken deze procesindicatoren om periodes en gestelde doelen te vergelijken. En eveneens om te bepalen hoe goed klanten worden bediend en om nieuwe/aangepaste doelen vast te stellen.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Infrastructuur</strong></th>
<th><strong>IT-systemen</strong></th>
<th>Het proces wordt ondersteund door een geïntegreerd IT-systeem, waarin het proces centraal staat en de bedrijfsstandaarden worden nageleefd.</th>
<th>Een modulair IT-systeem ondersteunt het proces en voldoet aan de communicatiestandaarden binnen en buiten de sector.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human Resource-systemen</strong></td>
<td>Systemen met betrekking tot het aannemen en belonen van personeel benadrukken de doelen en resultaten van het proces, die in balans zijn met de bedrijfsdoelstellingen.</td>
<td>Systemen met betrekking tot het aannemen en belonen van personeel versterken het belang van interne en externe samenwerking, persoonlijke ontwikkeling en ontwikkeling van de organisatie.</td>
<td></td>
</tr>
<tr>
<td><strong>Metingen</strong></td>
<td><strong>Definitie</strong></td>
<td>De procesindicatoren binnen én tussen de processen zijn afgeleid van de strategische doelen van het bedrijf.</td>
<td>De procesindicatoren zijn afgeleid van doelstellingen van het bedrijf en haar strategische partners.</td>
</tr>
<tr>
<td><strong>Toepassing</strong></td>
<td>Managers tonen members indicatoren om bij te dragen aan bewustwording en motivatie. Ze gebruiken dashboards ^ gebaseerd op deze indicatoren om het proces van dag tot dag te managen. ^management-informatieschermen</td>
<td>Managers beoordelen en vernieuwen de procesindicatoren en doelstellingen regelmatig en gebruiken deze in strategische planning.</td>
<td></td>
</tr>
</tbody>
</table>
### 10.4 Appendix 4: Translated Process assessments using PEMM (DE)

<table>
<thead>
<tr>
<th>P-1</th>
<th>P-2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design</strong></td>
<td><strong>Zweck</strong></td>
</tr>
<tr>
<td><strong>Dokumentation</strong></td>
<td>Die Dokumentation des Prozesses ist in erster Linie funktional, aber die Verbindungen zwischen den beteiligten Abteilungen sind identifiziert.</td>
</tr>
<tr>
<td><strong>Mitarbeiter</strong></td>
<td><strong>Wissen</strong></td>
</tr>
<tr>
<td><strong>Fähigkeiten</strong></td>
<td>Mitarbeiter sind auf Problemlösungen und Prozessverbesserungstechniken trainiert.</td>
</tr>
<tr>
<td><strong>Verhalten</strong></td>
<td>Mitarbeiter haben eine Loyalität gegenüber dem Prozess, aber sind vielmehr ihrer Funktion verpflichtet.</td>
</tr>
<tr>
<td><strong>Owner</strong></td>
<td><strong>Identität</strong></td>
</tr>
<tr>
<td><strong>Autorität</strong></td>
<td>Der „Process Owner“ setzt sich ein für den Prozess, kann aber nur die Team Leads ermutigen, Änderungen vorzunehmen.</td>
</tr>
</tbody>
</table>
### Design

**Zweck**
Der Prozess wurde entwickelt um die Leistung des Unternehmens zu optimieren und um mit anderen Unternehmensprozessen und IT-Systemen zusammen zu passen.

**Kontext**
Der „Process Owner“ und die „Owners“ der anderen Prozesse mit denen der Prozess Schnittstellen hat, haben ihre gegenseitigen Leistungserwartungen festgestellt.

**Dokumentation**
Die Prozessdokumentation beschreibt die Schnittstellen und Erwartungen des Prozesses von und mit, anderen Prozessen und verbindet den Prozess zu den IT-Systemen des Unternehmens.

### Mitarbeiter

**Wissen**

**Fähigkeiten**
Mitarbeiter sind auf Geschäftsentscheidungen trainiert.

**Verhalten**
Mitarbeiter streben es an, sicherzustellen, dass der Prozess die benötigten Ergebnisse liefert umso die Ziele des Unternehmens zu erreichen.

### Owner

**Identität**
Der Prozess steht an erster Stelle für den „Process Owner“ hinsichtlich der Zeiteinteilung, Geist und persönliche Ziele.

**Aktivitäten**
Der „Process Owner arbeitet mit anderen „Process Ownern zusammen, um Prozesse zu integrieren und um die Ziele des Unternehmens zu erreichen.

**Autorität**
Der „Process Owner steuert die IT-Systeme, die den Prozess unterstützen und alle Projekte, die den Prozess ändern. Er hat einen gewissen Einfluss auf Beschäftigungsverträge und Auswertungen sowie das Budget des Prozesses.
<table>
<thead>
<tr>
<th>P-1</th>
<th>P-2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infrastruktur</strong></td>
<td><strong>IT-Systeme</strong></td>
</tr>
<tr>
<td><strong>Parameter</strong></td>
<td><strong>Definition</strong></td>
</tr>
<tr>
<td><strong>Verwendungen</strong></td>
<td>Teamleiter verwenden die Parameter des Prozesses um die Leistung zu verfolgen, Ursachen von fehlerhaften Leistung zu identifizieren und funktionale Verbesserungen voran zu treiben.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P-3</th>
<th>P-4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parameter</strong></td>
<td><strong>Definition</strong></td>
</tr>
<tr>
<td><strong>Verwendungen</strong></td>
<td>Teamleiter präsentieren die Parameter den Mitarbeitern, um mehr Bewusstsein und Motivation zu erreichen. Sie verwenden auf den Parametern basierte Dashboards für das day-to-day-Management des Prozesses.</td>
</tr>
</tbody>
</table>
Geachte collega, beste collega,

Aan het begin van dit jaar heeft u deelgenomen aan onze Delta-survey over <PROCESS X/PROCESS Y>. Om inzicht te krijgen in de nieuwe <BPMS>-situatie, vragen wij u om dezelfde survey in te vullen (graag uiterlijk vrijdag 27 mei), maar dan gebaseerd op uw ervaringen met (de inmiddels gelanceerde processen in) <BPMS>.

U kunt de survey vinden via: [link]

*Met het voltooien van deze survey levert u een waardevolle bijdrage aan de ontwikkeling van het <BPMS> Program en daarnaast aan het onderzoek dat ik uitvoer aan de TU/e (School of Industrial Engineering) in samenwerking met het <BPMS> Program.*

Graag benadruk ik nogmaals dat alleen ik als onderzoeker weet wie wat heeft ingevuld. De individuele antwoorden worden volledig vertrouwelijk behandeld. Data van individuele antwoorden wordt niet gedeeld met derden, ook niet binnen <COMPANY>. Alleen samengevoegde resultaten worden anoniem gedeeld met <COMPANY>.

Net als de vorige keer bestaat de vragenlijst uit 13 pagina’s met elk 4 stellingen met betrekking tot <PROCESS X/PROCESS Y>. Elke stelling kan “grotendeels niet waar” (d.w.z. 0% tot 20% correct), “enigszins waar” (20-80% correct) of “grotendeels waar” zijn (80-100% correct) zijn. Tot slot is er de mogelijkheid te kiezen voor “ik weet het niet / ik kan de vraag niet goed beantwoorden”.

Na afloop van mijn onderzoek wordt mijn verslag ook beschikbaar gesteld aan <COMPANY>, in het geval uw interesse gewekt is door de survey en de uitkomsten.

Bij vragen over de vragenlijst en/of over het onderzoek kunt u mailen naar marijn.koops@company.com.

Alvast bedankt!

Met vriendelijke groet,
Marijn Koops

Sie erreichen die Umfrage via: link

*Durch Abschluss der Umfrage werden Sie einen wertvollen Beitrag zum <BPMS> Programm leisten, ebenso werden Sie eine wichtige Unterstützung für meine Forschung in Zusammenarbeit mit den <BPMS> Programm, welcher ich zur Zeit an der Technischen Universität Eindhoven (TU/e, School of Industrial Engineering) nachgehe, sein.*


Genauso wie letztes Mal, umfasst diese Umfrage 13 Kategorien mit jeweils 4 Aussagen über die Themenbereiche <PROCESS X> und / oder <PROCESS Y>. Ihnen stehen jeweils 4 Antwortmöglichkeiten zur Auswahl; „kaum wahr“ (diese Aussage ist nicht korrekt bis 20% korrekt), „etwas wahr“ (20% bis 80% korrekt), „größtenteils wahr“ (80% bis 100% korrekt) und „Ich weiß es nicht / ich kann die Frage nicht beantworten“.

Falls Sie an den Ergebnissen meiner Forschung interessiert sind, kann ich Ihnen versichern, dass diese nach den Untersuchungen auch <COMPANY> zur Verfügung gestellt werden (in Englisch).

Für Fragen zur Umfrage und / oder meiner Forschung stehe ich Ihnen gerne zur Verfügung. Sie können mich per Email erreichen via: **marijn.koops@company.com**.

Im Voraus vielen Dank für Ihre Unterstützung!

Mit freundlichen Grüßen,
Marijn Koops
10.7 Appendix 7: Wilcoxon Signed-Rank test procedure

**Test procedure**

In order to enable a statistical analysis, all data points have been recoded the following way:

- “I don’t know” = 0
- “Largely untrue” = 1
- “Somewhat true” = 2
- “Largely true” = 3

Then for all statements adhering to process sub-enabler $X$, the scores are aggregated.

Let $n$ represent the sample size, i.e. the number of pairs. So, in total there are $2n$ data points. For all pairs $j$, with $j = 1, \ldots, n$, the measurements are referred to as $x_{1,j}$ and $x_{2,j}$, with:

- $x_{1,j}$ being the pre-test measurements
- $x_{2,j}$ being the post-test measurements

If either $x_{1,j}$ or $x_{2,j}$ has a “0” for a certain statement, the corresponding statement will be marked 0 as well; otherwise this would significantly influence the test procedure*. This could lead to cases where participants get a score of 0 for the entire sub-enabler (logically, for both pre- and post-test). These cases are denoted as SYSTEM MISSING VALUE.*

The differences are first ranked in ascending order of their absolute values. Cases with differences of 0 are not ranked and not part of test sample $N$. Ties are assigned the average rank: if two data points have a similar absolute value and their tied rank is 6, both data points receive rank $6.5 = (6+7)/2$.

Another column indicates $\text{sgn}(x_{2,i} - x_{1,i})$ with $\text{sgn}$ either being -1 or 1.

The multiplication of these columns results in a “signed rank”. These values are summed and result in a value. For a given significance level ($\alpha=0.05$) and $N$-level, the table indicates a threshold to be met in order to be able conclude a significant difference between the two samples, with the according hypotheses:

- $H_0: \mu_1 = \mu_2$, “there is no difference between the two samples”
- $H_1: \mu_1 < \mu_2$, “the mean of sample 2 is greater than sample 1”

*Not taking into account the values for several statements will have a reducing effect on Type I (finding an effect when there is no effect, (Field, 2009)), and an increasing effect on Type II errors (not able to find an effect that does exist (Field, 2009)). Although generally spoken it is more likely to get a Type II error since you limit the number of data points, in this case it is far more important to limit Type I errors, since the evaluation of the paired samples should not be based on missing values for just one of the paired data points.
10.8 Appendix 8: SPSS output of Process assessments using PEMM

10.8.1 Exact Method

Overview of exact method -> preferred when using small samples (Field, 2009)

Extra check: values for row “Asymp. Sig. (2-tailed)” in this table exactly correspond to values for “Asymptotic Significances” from page 3 onwards

<table>
<thead>
<tr>
<th>Test Statisticsa</th>
<th>Procedure</th>
<th>Context - Content</th>
<th>Docu - Context</th>
<th>Knowledge - Knowledge</th>
<th>Skill - Skill</th>
<th>Behavior - Behavior</th>
<th>Reflect - Content</th>
<th>Reflect - Context</th>
<th>Reflect - Knowledge</th>
<th>Reflect - Skill</th>
<th>Reflect - Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilcoxon Sig. (Exact)</td>
<td>0.005</td>
<td>0.337</td>
<td>0.174</td>
<td>0.221</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>0.005</td>
<td>0.005</td>
<td>0.005</td>
<td>0.005</td>
</tr>
<tr>
<td>Exact Sig. (1-tailed)</td>
<td>0.005</td>
<td>0.337</td>
<td>0.174</td>
<td>0.221</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>0.005</td>
<td>0.005</td>
<td>0.005</td>
<td>0.005</td>
</tr>
<tr>
<td>Exact Sig. (2-tailed)</td>
<td>0.005</td>
<td>0.337</td>
<td>0.174</td>
<td>0.221</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>0.005</td>
<td>0.005</td>
<td>0.005</td>
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<tr>
<td>Exact Sig. (2-tailed)</td>
<td>0.005</td>
<td>0.337</td>
<td>0.174</td>
<td>0.221</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>0.005</td>
<td>0.005</td>
<td>0.005</td>
<td>0.005</td>
</tr>
</tbody>
</table>

a) Wilcoxon signed rank test
b) Binomial distribution used

Syntax:

```plaintext
(DATASET ACTIVATE DataSet1.
NPAR TESTS
/WILCOXON=Purpose0 Context0 Docu0 Knowledge0 Skills0 Behavior0 Identity0 Activities0 Authority0
InfoSys0 HRSys0 Definition0 Uses0 WITH Purpose1 Context1 Docu1 Knowledge1 Skills1 Behavior1 Identity1 Activities1 Authority1 InfoSys1 HRSys1 Definition1 Uses1 (PAIRED)
/SIGN=Purpose0 Context0 Docu0 Knowledge0 Skills0 Behavior0 Identity0 Activities0 Authority0
InfoSys0 HRSys0 Definition0 Uses0 WITH Purpose1 Context1 Docu1 Knowledge1 Skills1 Behavior1 Identity1 Activities1 Authority1 InfoSys1 HRSys1 Definition1 Uses1 (PAIRED)
/STATISTICS DESCRIPTIVES
/MISSING ANALYSIS
/METHOD=EXACT TIMER(5).```
### Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purposo</td>
<td>15</td>
<td>7.87</td>
<td>2.059</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Contol</td>
<td>15</td>
<td>7.05</td>
<td>2.111</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Osa(9)</td>
<td>15</td>
<td>7.27</td>
<td>2.539</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
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<td>8.00</td>
<td>2.536</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Brachis</td>
<td>16</td>
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<td>2.194</td>
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</tr>
<tr>
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<td>7.33</td>
<td>1.443</td>
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<td>2.699</td>
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<td>12</td>
</tr>
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<td>1.662</td>
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<td>11</td>
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<tr>
<td>Betrasa</td>
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<td>5.27</td>
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<td>12</td>
</tr>
<tr>
<td>Ident</td>
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<td>2.60</td>
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<td>5.14</td>
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10.8.2 Method: Asymptotic significances

Design

Purpose

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Asymptotic significances are displayed. The significance level is 0.05.

*Exact significance is displayed for this test.

Statistics

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Context

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Performers

Knowledge

Skills

Hypothesis Test Summary

Documentation

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*Exact significance is displayed for this test.

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Descriptive Statistics

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Hypothesis Test Summary

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Infrastructure

Information Systems

Hypothesis Test Summary
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2. The median of z and w is equal  t (p)=  .001*  Reject the null hypothesis

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* Exact significance is displayed for this test.

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Human Resource Systems

Hypothesis Test Summary
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2. The median of z and w is equal  t (p)=  .001*  Reject the null hypothesis

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1. Missing mode exist. The smallest value is shown.
Metrics

Definition

Uses

Hypothesis Test Summary

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Hypothesis Test Summary

Null Hypothesis | Test | Sig. | Decision
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Differential | 1-2 | .211 | Fail to Reject

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Hypothesis Test Summary

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Hypothesis Test Summary

Null Hypothesis | Test | Sig. | Decision
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Differential | 1-2 | .211 | Fail to Reject

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10.9 Appendix 9: Invitation semi-structured interviews using BPM-CF

Dear ..., 

As you know, the <BPMS> Program is an ongoing program on the implementation of <BPMS> within the Contract Management Area. This program potentially influences diverse facets of the organization, such as the degree of process orientation, culture, employee ownership and empowerment.

In order to get more insight into these influences and to have a better understanding of the current status and/or future implications of this <BPMS> initiative we would like to conduct interviews with a set of stakeholders; (amongst others) end-users, Team Leads and members of the <BPMS> Program. As you are one of these stakeholders, I would like to invite you for such an interview.

By accepting the invitation and participating the interview, you will also provide valuable input and support for my Master's thesis study that I am currently pursuing at the TU/e (in the School of Industrial Engineering).

The interview is expected to take one hour. I will shortly introduce the key concepts, which will be followed by a discussion session where we will go through a structured set of questions to which you can respond with open-ended answers.

In order not to miss an important point, the interview will be recorded by using (a) standard sound recording tool/software. In order to carry out a reliable analysis on the discussions, the recordings will be transcribed and coded. The latter two will eventually be checked with you to verify and ensure the correctness. Let us stress that the recordings will be kept fully confidential and deleted after the analysis is completed.

Below is a brief summary of the concept to be discussed during the interviews.

**Concept**

The interview will revolve around 6 core elements and the influence of <BPMS> on each of these elements, which are: Culture, People, Strategic Alignment, Governance, Methods and Information Technology.

Therefore, we will discuss about how (and if) the <BPMS> Program influences these elements.

For instance, one of the questions we may go through in order to understand any potential influence of <BPMS> on “Culture” is:

**Does the BPMS implementation program help Process Performers towards the acceptance of process-orientation? If so, how?**

During the discussion, if required, I will clarify the terms and concepts (such as ‘process-orientation’) and try to put the question in context.

You do not have to prepare or read anything prior to this meeting (other than reading this message).

In case you have any questions or suggestions regarding this email/interview, please contact me via: marijn.koops@company.com

Kind regards,

Marijn Koops
Appendix 10: Semi-structured interview questions using BPM-CF

Strategic Alignment

Process Improvement Plan
How does the implementation of the BPMS fit with the enterprise-wide process improvement plan?
Do you expect this strategy to change as the BPMS matures?

Strategy and Process Capability Linkage
How does the implementation of the BPMS fit with the enterprise’s strategy? Does it change process capabilities from the pre-BPMS situation? If so, how?
Is there an effect on the link between processes and the enterprise’s strategy, caused by the BPMS? If so, how?

Process Architecture
How does the implementation of the BPMS contribute to the Enterprise Process Architecture? E.g. Identification, Documentation/Design, Model/map, Localization/variants, execution/deployment.

Process Output Measurement
How does the implementation of the BPMS contribute to the understanding of process outputs and related KPI’s?

Process Customers and Stakeholders
How did the implementation of the BPMS affect the process stakeholders? Did the implementation contribute to inter-company linkage (Customer and Supplier processes)? If so, how?

Governance

Process Management Decision Making
Did the implementation have an impact on the decision making process? If so, how? E.g. speed, agility, influence organizational reaction to process change.

Process Roles and Responsibilities
Did the implementation of the BPMS affect the definition of Process Roles and Responsibilities? If so, could you indicate how?

Process Metrics and Performance Linkage
How did the implementation of the BPMS affect the process for collecting the required metrics?
How did the implementation of the BPMS affect the link between these metrics and process criteria?

Process Management Standards
Did the implementation of the BPMS affect the management of process measures, issue resolution, reward and remuneration structures? If so, how?

Process Management Controls
How will the control of the process management standards be secured after the implementation of the BPMS?

Methods

Process Design and Modeling
Which methods are used to identify and conceptualize processes, (i.e. as-is and to-be business processes)? Is there a standard approach that is used to model the processes? Has this changed due to the implementation project of the BPMS?
Process Implementation and Execution
How are these processes implemented and converted into executed executable processes in the BPMS? How does the BPMS facilitate the methods that adhere to these principles? What role does the BPMS play in communication during the implementation phase?

Process Control and Measurement
How did the implementation of the BPMS change the way processes are controlled and measured, related to the methods of measurement, regardless of IT?

Process Improvement and Innovation
Do you think the current process improvement methods are an enabler or a constraint for the BPMS implementation project? If so, why? What is the overall satisfaction with the existing methods? Will the methods change after the BPMS is implemented? If so, in what sense?

Process Project and Program Management
In what sense does the BPMS implementation project differ from other implementation projects that run currently and from those in the past? In what sense will this implementation project influence future projects?

Information Technology
Process Design and Modeling
What process modeling tools are being used to model processes? (e.g. Visio, ARIS, etc.)

Once the BPMS is in a mature state, what will be done with process animation and process simulation? (e.g. Disco and simulation software)

Process Implementation and Execution
Regarding IT, how was the transition made from process models towards executable specifications and the subsequent workflow-based process execution?

Process Control and Measurement
Could you explain what the BPMS is able to facilitate with respect things like (semi-)automated process escalation management, exception handling, workflow mining, performance visualization, controlling based on process log files?

Process Improvement and Innovation
What is the influence of the implementation of the BPMS on the tools that are used for process improvement and innovation? E.g. agile/self-learning tools

Process Project and Program Management
Does the implementation of the BPMS have an influence on the software tools that are used for Process Projects and Process Programs Management?

People
Process Skills and Expertise
Does the implementation of the BPMS have an effect on the departmental/enterprise view on process roles and its definitions?

Does the implementation of the BPMS have an effect on the development of process-oriented skills of process performers? And of managers? If so, how?
Process Management Knowledge
Does the implementation of the BPMS lead to a better understanding of the effects that process performers have on the outcomes of the process?
Does the implementation of the BPMS lead to a better understanding of thinking in terms of customer satisfaction?

Process Education and Learning
Are there any changes in the way process-related education and learning is provided? If so, were they caused by the implementation of the BPMS?
(e.g. for individuals on their and other’s process roles; individuals on their own and interfacing processes; individuals on customer and other stakeholder expectations; stakeholder groups on process outcomes)

Process Collaboration and Communication
Do you think the BPMS contributes to the collaboration between process stakeholders? If so, could you briefly describe how this will look like?

Process Management Leaders
Do you think the implementation of the BPMS has an influence on the way people take lead, responsibility and accountability of enterprise processes? If so, could you explain why?

Culture
Responsiveness to Process Change
How did the organization react to the changes of daily business processes and activities as a consequence of the implementation of the BPMS?
Will there be an effect on the speed of successful process change after the implementation of the BPMS? If so, could you indicate an example that clearly depicts the difference?
Do you think the implementation of the BPMS will have an effect on the amount of process innovation and improvement recommendations made, accepted and successfully? If so, could you explain how and why you think this?

Process Values and Beliefs
Does the implementation of the BPMS contribute towards process thinking (see processes as the way things get done)? If so, how?
Does the implementation of the BPMS add to the enterprise’s extent to which vision, mission and value statement reflect process thinking? If so, how?

Process Attitudes and Behaviors
Does the BPMS implementation project help Process Performers towards the acceptance of process-orientation? If so, how?
Does the BPMS implementation project help the business to raise the level of trust and empowerment to achieve process outcomes? If so, how?
Does the (implementation of the) BPMS have an effect on “open and honest process communication”? If so, how?

Leadership Attention to Process
What does the company’s leadership think of process thinking?
How does the company’s senior executives see the implementation of the BPMS in relation to process thinking?

Process Management Social Networks
Does the implementation of the BPMS have an added value to Process Management Social Networks? If so, how?
Appendix 11: Transcriptions of the interviews

10.11 Change Manager

Strategic Alignment

Interviewer: How does the implementation of the BPMS fit with the enterprise-wide process improvement plan?

Change Manager: I think it already fits quite well. Some 6 years ago we did not do this at all, so operationally is was quite detached, and steering was done based on targets. Nowadays you see an increasing presence of steering based on strategic plans that eventually should have a linkage. But we are still at the beginning of cascading the strategic goals towards operational goals. With that we should also be able to arrange how we are going to steer on performance goals. When the performance differs, you should be able to link it better to a strategic level.

Interviewer: And do you think the BPMS implementation project could have a contribution on this aspect?

Change Manager: Apart from the project contributing to the strategic goals as of this moment, I think the BPMS can provide a better insight in the processes, its execution and the process performance. Next to that, it will provide an easier access from an analysis point-of-view, if we use the BPMS correctly.

Interviewer: Do you think because of the BPMS implementation project the strategy itself might change?

Change Manager: The strategy towards we are going is to lower operational cost, a higher level of automation; the BPMS will contribute for a 100%. I think the strategy will shift towards a shared-service setting, with self-service components, so yes, I think it will have an impact.

Interviewer: Does the BPMS implementation change process capabilities from the pre-BPMS situation?

Change Manager: Yes, for sure. I think we are looking much more to our processes and its optimization. Apart from that we focus on harmonization, so all countries are converging towards comparable processes because of our project. However, what is going to be hard and what you already can see during our implementation, is that we bring our message including the “process design” plus standardization and optimization efforts. In practice, the business -especially in the less mature countries- is not used to “process thinking” and try to develop their own ways and find it hard to work with the solutions we provide to them. We are working on this, but it is mainly part of the Change component. What you see is that the technique how you determine your processes, your standardization and optimization to define processes that the developers implement in the system; that part by itself will not contribute to work in process oriented way. To add, the Change component -to elevate adoption rates, to drive standardization, how we can stimulate process optimization and harmonization- will have a contribution towards process oriented thinking.

Interviewer: How does the implementation of the BPMS contribute to the enterprise process architecture?

Change Manager: Our process-oriented approach helps us to create a higher level of awareness of our processes and their execution, but the hard thing about our implementation project is that there are lot of smaller processes. The process itself could be stated as “updating or maintenance of contracts”, with all kinds of tasks like an address change, so the level of ‘a process’ is also a bit disputable. However,
it does help to focus customer to customer. Currently, sometimes we are still looking from an internal point to and internal point within our processes.

If you look to The Netherlands, they were already used to think in terms of processes. If I look towards the UK and Belgium my first impression is that they are less used to a process-oriented approach; there they think in terms of activities and optimization of activities. In those countries it will have a bigger contribution. Whereas in The Netherlands we already made many steps to start thinking from customer to customer and we are now again implementing “the BlueLean Way of Working” (operational & visual management) that just fulfills a part of the end-to-end process.

Interviewer: How did the implementation of the BPMS affect the process stakeholders?

Change Manager: It certainly has an influence on the way of working. Both in a positive and a negative way. The negative impact is that Team Leads and end-users currently have many systems to work with in parallel and we are adding even another system to it. This is partly because not every part can be done via the BPMS yet; so it is quite unclear when it can be and when it cannot be used. Also, caused by the fact that we do not sufficiently steer on this yet, people sometimes can’t see the wood for the trees since the working items are not gathered in one place. Also people might do this twice, so both in the BPMS as manually in the underlying systems, or that there might be errors or a lack of trust? That will require some investigation. Eventually, when we start using the system the way we should use it, it will have a positive contribution to the improvement of our execution of processes. Then we will be able to manage our work load better, we will be providing better insights to act upon. A lot better vision from end-to-end, and much more reliable measurements.

Interviewer: Does the implementation of the BPMS contribute towards intercompany-linkage?

Change Manager: I do think that with a system we are developing, you are able to connect to processes or systems of others, to align with the process execution of others. Whether this will actually happen; I think our company always focused on the process execution of our vendors. I do not think it will contribute to process execution of vendors themselves, but it will towards their customers. I see possibilities, but I am not certain if we will actually use them, but who knows. Especially because you’re are dealing with Contract Management. In the past we tried to align with our vendors and partners and now those processes seem to be the most complex ones, resulting in the highest amount of problems and with the highest cost, where we might/should have done things differently.

Governance

Interviewer: Did the implementation of the BPMS have an impact on the decision making process?

Change Manager: Not yet, I think. Eventually this will happen, because it will provide a lot more insight and it will enable a lot of possibilities to use data, so with those things it will help a lot. Your processes will be a lot clearer and described in a better way. I think the BPMS implementation project in a broader sense will contribute to the strategic plan (and the possibilities) to use data.

Interviewer: Did the implementation of the BPMS affect the definition of Process Roles and Responsibilities?

Change Manager: I think in the future this will happen, yes. I also think that the current roles and how they have been defined will already changes with the appearance of the BPMS. I think it will lead to a setting like “operational” and “expert” use of the system. Having everything as one activity will be a bit disordered, so I expect some changes.
However, I foresee a need for the governance. Of course we have the governance per process in all countries, but I do not know how we will arrange the governance of the BPMS for all countries together, or the total set of standard processes.

**Interviewer:** How will the Process Management Controls and Standards be secured after the implementation of the BPMS?

Change Manager: That is where we have a lot to improve within our organization. In the past this was tried in a global team, but it was dismantled, also from a cost-perspective. I think we can indirectly save by doing this properly. I think it is something we have to do, but we also have to keep supporting, maintaining and investing in as an organization. Currently there is no urgency.

Within our organization you do see a central IT-authority, that evaluates the impact on the different countries when requesting a change, but with respect to processes this has not been established. The current tendency within the company is to empower the local parts, so in that sense it would not fit with having a central authority deciding on BPMS processes.

**Interviewer:** Personally I see a role for the “BPMS” Center of Excellence, to decide which implementation to focus on, regarding budget and timeframe.

Change Manager: I agree on that, and those things we handle quite well. So the role or the Center of Excellence will be to manage budgets with respect to BPMS implementation and to make impact analysis, for instance “If I change something in Germany, would it have an impact in the US as well?”. This is arranged properly, but I do not yet see a process-related view on this. Thus far, the focus has been mostly on (the use of) the system and sometimes we forget the process-design and “the design that I want somewhere, does it really fit with the standard processes, does it really fit with the 80% development and does it really fit with the philosophy that we offer with our project”. During the previous implementation of a Contract Management system, there was an actual Process Office that focused on all the gaps and nice-to-haves and other possibilities, to ensure that the Dutch and US processes would be converged. There was no actual need for process-orientation, since they basically focused on the development of the system and it was guided by change-requests. As a consequence, this Process Office was dismantled which led to the fact that making sure whether the requirements fit within the standard process execution was no longer a priority. That is one of my concerns.

**Interviewer:** Without answering the question on behalf of you, I think the added value of such a BPMS is that it can show the business how the IT-part works and shows IT how the business works, by sowing the process as a layer on the system.

Change Manager: yes, but what you already see now, is that is can be multi-interpretatable and this can lead to confusions. On top of that, people come with all kinds of requests that solve local problems, but do not contribute to a global harmonization. What you need is people that can identify where do we need to change or where can we maintain our standard processes. My experience is that people recognize the need, so they tried to setup these kind of bodies, but these bodies also get dismantled quite soon afterwards, because it does not work, or does not contribute or is too expensive, so for all kinds of reasons. So should develop it, but also be able to maintain it. With the new approach of this system and the implementation project of working process-oriented, this body also needs to see everything from a process perspective.

**Methods**

**Interviewer:** Do you think the current process improvement methods are an enabler or a constraint for the BPMS implementation project?
Change Manager: An enabler, clearly. Well, the entire process methodology of CPI and the continuous improvement paradigm, so start small, do not want to be perfect at once, making all kinds of small improvements really fits with the Scrum methodology; developing some functionality, continue to build on this. But also the focus on developing things that contribute to either the “business” or the “customer”, rather than continuing the things we always did, including all the waste.

**Interviewer: And do you think the approach will change as the BPMS gets more mature?**

Change Manager: No, what I see in practice is that people really embrace this approach, becoming more and more part of our DNA. Also the managers start to steer based on things that are useful for the customer and eliminate things that don’t. So I think this will remain after the implementation of the BPMS.

**Interviewer: And in what way does it differ from other implementation projects that run currently or those from the past?**

Change Manager: There is a big difference because of the Scrum approach, so bringing small parts of functionalities at a time. A big difference is the business-involvement, which we really try to understand them. And a big component is that we offer after-care.

**Information Technology**

**Interviewer: What is the influence of the implementation of the BPMS on the tools that are used for process improvement and innovation?**

Change Manager: I think the way this BPMS has been designed will strengthen the methodologies that we use for process improvements, although we do not get the full use out of those possibilities yet. For instance, by thinking in terms of Value Streams together with the business, instead of setting up all kinds of requirements, but much more process-oriented thinking by focusing on value and waste identification. I think this BPMS contributes to a better use of those tooling within the business. So all kinds of activities you use to optimize your processes.

**People**

**Interviewer: People is more about the ‘hard facts’, whereas the next factor ‘Culture’ is more on the soft aspects.**

Does the implementation of the BPMS have an effect on the departmental/enterprise view on process roles and its definitions?

Change Manager: Not yet, but I do think it will have in the future.

**Interviewer: just like we discussed a bit earlier.**

Change Manager: yes

**Interviewer: Does the implementation of the BPMS has an effect on the development of process-oriented skills of process performers?**

Change Manager: In the future certainly yes, since we will go towards “standard” and “expert users”. We try to incorporate it into the Change, by realizing which parts of a process can be executed best in which part of the organization; this is also related to skills. When focusing on The Netherlands, there is a far-reaching strategy to become more customer-focus oriented through a different organizational structure, to which the BPMS will have a big contribution. I do not think the BPMS project is the trigger of this change of strategy, but it will certainly have a big contribution to enable this path, on a higher pace than without this BPMS.
Interviewer: and with respect to the process-oriented skills of managers?

Change Manager: Yes, I think so. Especially if we start using the dashboard capabilities of the BPMS we really have to think about how to steer the process and to get an end-to-end insight of the processes. I think a lot of those people are still task-oriented and are busy with ‘fire-fighting’, partly because they do not have insight in the process-execution and the use of the system and the total execution of the trajectory. I think the BPMS implementation will provide them with this insight, so in our Change efforts we have to focus on steering towards this way of working.

Interviewer: Does the implementation of the BPMS lead to a better understanding of the effects that process performers have on the outcomes of the process?

Change Manager: That totally depends on the way we design it, but according to my vision I would say yes. The way I would like to see it is to discuss on a departmental level which are the main objectives. Those objectives have to be clearly related to the strategy of the department or the organization as a whole. As a next step, you should translate these objectives into current performance, clearly showing the individual contribution of people. I think this BPMS will help us to provide this current performance, since the link to your objectives will be a lot clearer.

Interviewer: Do you think the implementation of the BPMS will lead to a better understanding of thinking in terms of customer satisfaction?

Change Manager: I don’t know, preferably yes, since we are still focused on intervals within our own company. My opinion is that we also should consider customer satisfaction, which will be a part of the Change efforts. So defining the objectives and what you should know of the customer, so that people can see a link between delivering within time and having satisfied customers. This should lead to the knowledge what actions have to be taken to improve customer satisfaction. I think this would not be a merit of the BPMS; it will certainly contribute to this point, but specifically improving of “thinking in terms of customer satisfaction” I cannot say. I would not consider it as an achievement of the BPMS implementation project. Maybe enabling the possibilities to provide self-service capabilities could be seen as a direct contribution of the BPMS implementation.

Interviewer: Do you think the BPMS implementation will lead to a different way of process learning and education?

Change Manager: Yes, though it won’t be originated by the BPMS itself. The system is easy to use, therefore training will be limited. However, the system creates insight in process performance. I think this will result in more demand for process training.

Interviewer: Do you think the BPMS contributes to the collaboration between process stakeholders? If so, could you briefly describe how this will look like?

Change Manager: Yes. It will give a lot more insight, and there will be a higher need of collaboration.

Interviewer: Do you think the implementation of the BPMS has an impact on the way people take lead, responsibility and accountability for the process?

Change Manager: I think the dashboards will provide insight in individual performance and how it contributes to the strategy and maybe trends that you can recognize. Those things will contribute to initiatives. This will not be an achievement of the BPMS implementation project only, because the BlueLean Way of Working also focuses on this, but the collaboration between these two things is very close, so I am sure the BPMS will contribute to this aspect. So not only from a technical perspective, but also the way we want to design our dashboards and how we challenge the strategy, by seeing
things not from a system-perspective but from a project-perspective, and I think that will be an important contribution.

**Culture**

*Interviewer: How did the organization react to the changes of daily business processes and activities as a consequence of the implementation of the BPMS?*

*Change Manager: At first you saw a clear resistance, because that is always the case when things are changing. Currently we still have to do with resistance, but I also see that people are willing to cooperate. And I think we are getting better and better at communicating and creating better conditions to communicate, which causes people to experience a more transparent way. This is caused by an early involvement of people, explaining certain choices and specifically explaining the way we measured things, because we never explained the importance of having proper measurements. So currently people are much more acting within their responsibilities and roles, by clearly stating expectations and creating objectives. Together we create an environment in which we discuss these objectives, on a strategic and operational level, and try to create an approachability which makes it easier to have conversations on the things they do and don’t like, or do not agree. We take them seriously in this and they are experiencing this as well.*

*Interviewer: So that clearly is about the applied approach within the project. With respect to technology, do you think it is also related to that or is it not connected to it anyhow?*

*Change Manager: Eventually yes. Currently we are still in an adoption phase; it is still not fully accepted. People see it as “yet another system to work with” or “yet another change”. Not per se an improvement.*

*Interviewer: Based on my observation, the biggest contribution to this aspect is the intuitive nature of the BPMS.*

*Change Manager: This certainly is a huge advantage yes, but on the other hand some people do not yet know how to use it correctly and also have their own interpretation on how they should use it. Now you see people start to use the same system also for other things, just to use a part of the functionality. People do not think on it process-oriented in that sense, so your measurements get biased, your workbaskets get filled with obsolete cases. Preferably we would have a better collaboration on this.*

*Interviewer: Once the BPMS is up and running, do you expect there to be an increase of the speed of successful process change?*

*Change Manager: Yes. It will give you a lot more insights, so the entire measurement and analysis part will get so much easier. So we will be much better able to identify the bottlenecks in your process. I think we are quite skilled at thinking in improvement possibilities, but we are basically ‘fire-fighting’ so the effect will not be as evident, or we are not focusing on the right fires to fight. With the use of the BPMS you will be much better able to identify the performance of different stages in your process, which will enable the analysis of your measurement data way easier, so you can zoom in on the root cause. In that way, you can start a lot earlier with the improvement part, in which we are well-skilled.*

*Interviewer: Do you think the implementation of the BPMS will lead improve the amount and speed at which successful process implementations are identified, implemented and accepted by the business?*
Change Manager: Yes, I think this is again related to the collaboration between the BlueLean Way of Working and the BPMS implementation project. This will have a big impact on this. So not just the BPMS, but certainly the BlueLean Way of Working as well.

Interviewer: Does the implementation of the BPMS have an effect on ‘process thinking’ (regard to processes as the way to do business)?

Change Manager: Yes, I think so. I think it will contribute to the understanding of end-to-end processes with the beginning and starting points. On the other hand, the business thinks in terms of activities; you have the “process-layer” and one level of abstraction lower you got the activities, so I think we should keep in mind that we consider the entire process.

Interviewer: Does the implementation of the BPMS project contribute to the enterprise’s extent to which mission, vision and value statement reflect “process thinking”?

Change Manager: Yes, I think so. In our mission and vision we really focus on our customer and how we could serve our customers best, to find a better alignment with the market and its expectations. I think the BPMS makes it easier to execute your processes, which eventually might lead to self-service components when the customer wants to. In our values we state we do everything for our customer and I think the BPMS implementation project has a clear contribution to this aspect.

Interviewer: Does the implementation of the BPMS projects help Process Performers towards the acceptance of process-orientation?

Change Manager: Yes, the combination with BlueLean Way of Working is really strong. It provides a tool to make everything visible and understandable and this perfectly supports the BlueLean Way of Working.

Interviewer: Does the implementation project help the business to raise the level of trust and empowerment to achieve process outcomes?

Change Manager: I think it will definitely make it easier. Due to process management tools, due to knowing what your individual contribution is and people will get an insight in what is expected from them. It is insightful and again this really fits with the BlueLean Way of Working, in which we will discuss what someone’s goals are and how people can contribute to the strategy. The empowerment will be a lot closer to the people.

Interviewer: When all bugs have been fixed, people will get confidence that the BPMS always does what it should do.

Change Manager: Well yes, but I think they already have this trust to a certain extent, but we also benefit from the fact that the business does not have a high expectation of new software based on their experience from previous software implementations, so that actually helps us to gain their trust with functioning software fast.

Interviewer: Related to that, in one of the current systems you have to check a certain box on a different screen for some sets of addresses.

Change Manager: Yes, those kind of things will make the BPMS it a lot easier to use.

Interviewer: Do you think the BPMS implementation project contributes to “open and honest process communication”?
Change Manager: Yes, again together with the BlueLean Way of Working. You are triggered to have the conversation about things. There is also a Cultural aspect, so to what extent are you really assessed on your performance. This is something we cannot fully influence, since it also depends on the manager. And in some countries this is not even allowed, based on legislation for instance. But on a departmental scale you can steer upon your data, to see to what extent the department contributes to the strategy.

Interviewer: How do the company’s senior executives see the implementation of the BPMS in relation to “process thinking”?

Change Manager: That is a hard question for me to answer, since I cannot answer for them. But still, I think they see a big relation to it, because they want us to have a much better linkage of our way of working with the IT-systems. I know that the Executive Board recognizes a clear need to measure the performance in terms of benchmarks. So I think they see it that way, but I do not know for sure.

Does the BPMS implementation project contribute to these Process Management Social Networks?

Change Manager: No, I see this more as a task for the CPI department. I do not think we will have a clear contribution to this. Of course, in an informal way with our improvement project. We might serve as an example for other projects. The improvements we will achieve will trigger other people and there the BPMS implementation is a part of our approach of course.
10.11.2 Developer

Strategic Alignment

Interviewer: How does the implementation of the BPMS fit with the enterprise-wide process improvement plan?

Developer: As BPMS project is concerned, one of the important strategic points for the company is to empower the customers to do some of the processes by themselves via their own portals and web applications. So removing all these manual processes to the best extent. So I think this BPMS implementation is half-way there. It is that necessary step, like optimizing the processes for Contract Management. And then create this platform, this layer on the old/traditional IT-structure, so that all these processes of empowerment can be implemented in the future. So I think, that is where the BPMS implementation stands in this whole strategy. But, I am not that into the high-level strategy is my perception

Interviewer: How does the implementation of the BPMS contribute to the Enterprise Process Architecture?

Developer: It contributes to a part of this harmonization process, because I think now there are many systems/many boxes working in a separate way, also working differently per country. So what the BPMS is doing is putting everything in the same box by creating a layer on top of it. So that the data model will be the same for all processes and countries, within a series of configurations that will be standard for all the countries. And things will still be a bit different, but everything tends to harmonize to a menu that people can select, so it contributes to that. So from that common layer, customization by country happens, so it is more like putting everything for Contract Management in the same box or at least control everything from the same box. And once it harmonized there, you can customize per process per country or whatever you need. That is the contribution of the BPMS.

Interviewer: How does the implementation of the BPMS contribute to the understanding of process outputs and related KPI’s?

Developer: Related to the previous question I think, once you have a framework for all the processes and countries, you can design a proper way of measuring, things that can be measured in every process, like touch time, timeliness and these kind of things. That allows to understand the quality of the service given to the customers. And with the BPMS we can handle things that are all spread in different back-end systems. Before it, it was hard to find an answer in one of these systems and now there is a layer on top of all these systems with which you have a more consistent way of getting this output. So I would say that it would give you a better understanding of all the processes, like a more holistic view of all the processes and data.

Interviewer: How did the implementation of the BPMS affect the process stakeholders?

Developer: For customers and business users there will be an impact on the time of processing, so the time to do a quote for example. This is going to be introduced for all the processes they are doing, so for the standard processes, like 80% of the processes variants that are “simple” it will be a reduction of processing time and also reducing the training time (note: since not all -exotic- process variants will be implemented), so it will lead to a higher quality for the end-customer and it will make the life easier for the process performers. Their expertise will be used in the 20% of the cases that are not standard that will not become an automated process. So they are going to use that time better in those aspects. And for Team Leads, they will get a more holistic view on the process, with better reporting, more awareness of what is done by their team.
Interviewer: Do you think the implementation of the BPMS will lead to (more) inter-company linkage?

Developer: As a middle-step between self-service portal and internal application, the step to allow another company’s user to manage their own contracts, that is a small step. It is a matter of access configuration. So the answer is yes, it is a needed step. A completely needed step if you want to empower them to manage their own contracts.

Interviewer: And that is also a think that brings a lot of chances and challenges I think

Developer: Yes, and you could also sell that. To manage your stuff, to access your application. That you don’t need to call or to send a mail. You don’t even need training, since it will be a very easy, intuitive application. For the 20% of things that are not common, you can always call to the experts and they will solve it.

Governance

Interviewer: Did the implementation have an impact on the decision making process?

Developer: It is not mature enough to already be the main source to cover the decisions, since only a few processes have been implemented, but I think it will be an interesting to know what happens. Because you can see problems before it is completely clear they are occurring, checking touch times, timeliness, that will improve decision making.

Interviewer: and would it have an impact on the decision making of process change?

Developer: I think it is creating awareness of how processes are made. Because when I came in last year, I would say for most of the processes, even the most experienced users did their work just because of their expertise. However, there was not a proper design. It is bringing awareness, so that will also bring opportunities to change in the right direction. So completely yes. So now were are deciding whether we have to automate and optimize processes and now we are getting to know how this was done in the past. So yes.

Interviewer: Did the implementation of the BPMS affect the definition of Process Roles and Responsibilities?

Developer: I am not that into the Team Leads of the department, so I would relate it to the previous question. It is bringing more awareness, so it will be easier to be specialized in roles, to getting to know who is needed for which action. But for me it is hard to foresee, for now at least.

Interviewer: How will the controls of Process Management Standards be secured after the implementation of the BPMS?

Developer: One year ago, the “BPMS Vendor” Center of Excellence did not exist yet, and now it does exist, because of the BPMS implementation, and it is creating the baseline for all the feature and current processes that are going to be implemented. So it is creating a baseline/framework and quality standards. So, it is growing together with the BPMS.

Methods

Interviewer: Do you think the current process improvement methods are an enabler or a constraint for the BPMS implementation project?

Developer: That is a trick question. Usually they are both at the same time. But mainly they are enablers. I would say Sales is a constraint for creating a quick process, because Sales want to give the customer what he wants. And what he wants is probably not always aligned with how our processes
would be, so that is a constraint. But there is also an enabling role, because you can create a baseline and new opportunities. It is also an opportunity to sell, so usually it is working in both ways.

**Interviewer:** And do you think the methods that will be used for process improvements will change when the BPMS is fully implemented?

**Developer:** Yes, mainly related to optimizing methodologies. Because there is a lot of documentation, and approvals that are duplicate. So these duplications happen and sometimes they happen in parallel in different departments, so why does this happen. Or sometimes you even see two ways of doing the same. And for the Program Agreement, you see 2, 3 or 5 ways of selling the same. So the harmonization we apply can be used in all these methods.

**Interviewer:** How did the implementation of the BPMS change the way processes are controlled and measured, related to the methods of measurement, regardless of IT?

**Developer:** There the framework of measurements that can be exported to different processes and countries, so then you can compare. And then you have the framework with which you can trustworthy measure the processes.

**Information Technology**

**Interviewer:** What is the influence of the BPMS implementation project on the tools that are used for process improvement and innovation?

**Developer:** The BPMS provides you a tool/window to access all the information, all the boxes on one screen, with only one log-in or UI. You can have everything somehow connected, and you have a layer that all IT projects can be seen.

**Interviewer:** Do you expect there to be a change in the tools being used for improving processes?

**Developer:** Well, there is DCO which is related to the working methodology. So, DCO is more like a tool or working methodology to develop, so DCO would be useful because it allows a better connection between the business users and the developers. It will give you more feedback in both ways, it will become more useful in a later shape.

**People**

**Interviewer:** This factor mainly is about the hard facts of people, whereas the next factor “Culture” is more on the soft side of people.

**Does the implementation of the BPMS have an effect on the departmental/enterprise view on process roles and its definitions?**

*(also answered: Does the implementation of the BPMS have an effect on the development of process-oriented skills of process performers?)*

**Developer:** Internal vision you mean? That is a bit difficult for me to understand, because it is all behind the scenes, let’s say. I would say it has an impact and I would say the BPMS implementation is a trigger of those changes. All of these kind of things are being reorganized I think, because new tools also bring new opportunities, so now everything is being reorganized because of these new tools. They try to cover all the opportunities of these new things. We will need people to be experts in certain things. It can be the same people, but there will be more focus on different. And now I am thinking about Perry Bax, like with the program agreement he is now very focused on, or Bart Philippa about the letters. Those were two things that were very distributed among the countries, the letters and the program
agreement, and now there is one person who is really becoming an expert on harmonizing this. That is the main fact.

**Interviewer:** Does the implementation of the BPMS lead to a better understanding of the effects that process performers have on the outcomes of the process?

Developer: It will have, yes. It is not going to be evident from the beginning, but it will have. You have reporting tools that you are working on as well, which will make everything more transparent and visible.

**Interviewer:** Does the implementation of the BPMS lead to a better understanding of thinking in terms of customer satisfaction?

Developer: Yes, sure. Everything is focused on that way. You have the Product Owner (Daan) always asking “why are we doing this, why are we doing that?” and coming back to the business users with the question “we have been doing this for twenty years, but why? Just, why?” So now we are implementing ways that fulfill better the needs of the customer.

**Interviewer:** Are there any changes in the way process-related education and learning is provided?

Developer: That is not a question for me to answer I think. I can give you my opinion, “are there changes” Yes, but I don’t know the details.

**Interviewer:** And if you would base it on other BPMS projects you have worked in?

Developer: Especially when there wasn’t a BPMS project, because here at this company there wasn’t developed focus on BPM, and now there is. So you can see the impact in everything related to this. So then I am thinking about communication, training and even culture. In other projects I have worked on, I would say this way of working was already there. So the way you see it here is different, because there you already saw the whole company going in that direction. Now it is changing everything, because it also depends on the starting point.

**Interviewer:** Do you think the BPMS contributes to the collaboration between process stakeholders?

Developer: Absolutely. I think that is the main source of improvement, and I am not sure how to say that because I am a developer, but the tool we are developing is going to help a lot. However, the best thing we brought is the collaborative methodology in which all the stakeholders are not only aware, but also involved in the process. This is one thing that really would influence all the projects in the future.

**Interviewer:** As just described, the methodology that includes everyone, in the design:

Developer: Well, yes, we came from a situation where it was more like “I want this kind of thing” in a traditional waterfall model, that somebody wants something and tells a designer to design it and then it goes to the developers to develop. The problem with this is that when that comes to life in this way, there is a whole distance between what we need, what we want, what we said we want, what we understand they want, what we develop and so on. This distance is getting narrower, so now we are involving everyone into the process, not just the business process or the IT-department process. But the project of everybody.

**Interviewer:** And do you think this is because of Agile/scrum, or are there also others aspects involved?

Developer: I think it is mainly the Agile way that is the biggest benefit. This BPMS is developed with those standards in order to work that way. You have seen some of the examples. I would say if you
want in that Agile/scrum way, this BPMS is one of the best ways to work that way, better than other BPMS or other software. Because it is very agile-enabled, and it is very easy to change things in front of the user.

**Interviewer:** Do you think the implementation of the BPMS has an influence on the way people take lead, responsibility and accountability of enterprise processes? If so, could you explain why?

Developer: I cannot compare with other projects within this company, but I just see that not only for this project I see that it brings a clear distinction between “people managers” and “project managers” and teams that work in parallel. And also these teams are split in teams that work in parallel. That comes to a more horizontal way of working. In that way, everyone is responsible for his work, so that is the change I see. I am not sure how people used to work in the company before our project, but I know it has changed. Because of all the troubles we saw at the first project, which was the pilot project last year.

**Interviewer:** And do you also think this can be translated to the daily business itself?

Developer: I think so, they are no longer users of the tools: they help to build it. They are involved directly, so now it’s not like you go to the shop and buy Windows 10. No, they contributed daily to the application, to create the process, to understand the process, everything that changes also has to be translated into the way of working. I think we can see that in the Ready Team, in which there are many business people. And now, in the aftercare BPMS standup meetings we perform every week now, and that is a very agile way of working, now it starts with the business.

**Culture**

**Interviewer:** How did the organization react to the changes of daily business processes and activities as a consequence of the implementation of the BPMS?

Developer: With great difficulty at the start, but that’s also a bit logical when you have been doing things for 20-30 years it is difficult, because you expect you could do the same. But we are completely changing the process and that is what is difficult. But now, what we did also was first a couple of guys trying to fight over the phone with other countries and departments and now many people are involved to allow that change. The difference is in that change, you had to gain their trust or something.

**Interviewer:** Will there be an effect on the speed of successful process change after the implementation of the BPMS?

Developer: Yes, there is. There will be a lot of lessons learned, so this was during the pilot. There we learnt people will have to be involved from the beginning; you need the people, you need the stakeholders from the very beginning. The next project (the pilot was phase 1), the main goal was to get all this knowledge from the people.

**Interviewer:** Will there be an effect on the speed of successful process change after the implementation of the BPMS?

Developer: Yes, well this BPMS software helps you to develop really quickly, so it is a perfect tool for this way of working. I am completely sure about that; it’s not the only one, but certainly the most adequate for working like this.

**Interviewer:** Do you think the implementation of the BPMS will have an effect on the amount of process innovation and improvement recommendations made, accepted and successfully?
Developer: I hope so, I hope that this project affects the quality and the opportunity to collect new needs for the business. I think everything is related: you are creating awareness of what you are doing, you are more aware of what you work with and it will create new opportunities, better opportunities to improve the process. Now you can see the whole thing from one screen.

Interviewer: Does the implementation of the BPMS contribute towards process thinking?

Developer: Yes, absolutely. So again, we pass from a “task-culture” to a “process-culture”, from “the customer needs this, so I have to perform a task to fulfill that request” towards this process, that is optimizing, give the best service to the customer.

Interviewer: And if you would compare it to other BPMN projects you worked for, would it be the same things happening?

Developer: Well, the main difference I see with other projects, is that for this company it was the first time to address this topic. So everything is new, not everyone is sure what is the impact of the process, or whom they should contact to ask. Usually when you are working in this way for 2 or 5 years, you got these questions covered and also stakeholders are not afraid of change, because they are involved in the change. So I think those are two of the most important things. Attitude towards change and expected problems/awareness of the work.

Interviewer: Does the BPMS implementation project help the business to raise the level of trust and empowerment to achieve process outcomes?

Developer: I hope so, I do not know what was the feedback from the customers, whether we are giving a better service to them, but I think for sure it will have a positive impact on that. It is a bit hard to relate it to the business, because we did not yet get back this feedback so I don’t know if we get this back from the customers, like a list of complaints and whether this has reduced. So maybe it is too soon to answer, but I hope in one or two years’ time the quality and the perception of quality from the customer will get better.

Interviewer: Does the implementation of the BPMS have an effect on “open and honest process communication”?

Developer: Absolutely. As I said before, it is important for the transparency and visibility of who is working on what, or what is the real status of something. Or failed cases and successful cases. And I think this will lead to more transparency.
Strategic Alignment

Interviewer: How does the implementation of the BPMS fit with the enterprise-wide process improvement plan?

Program Manager: In fact, it fully fits with it. Two years ago we invested a lot in knowledge on Continuous Process Improvement (CPI) within our company. One part of this was the establishment of an organization with CPI Leaders who apply strategical themes in the different countries. Next to that, CPI Experts act on those concepts within the countries or regions. Basically with the idea to improve the processes continuously. The entire concept, including the concept of Lean/SixSigma as tools for CPI, formed the basis for the BPMS Program. So first have a look at your process before you start to automate things. From that point of view, the link is quite apparent.

Interviewer: Do you expect this strategy to change as the BPMS matures?

Program Manager: Yes, that could be the case. Now we start with a lot of new things, analyzing process by process, but once we have implemented a set of processes you will reach a situation in which the focus will change towards the ‘regular’ improvements and those improvements require a different approach. In the current state we start designing “from scratch”, but as soon as you reach a state in which you have more and more process-oriented systems, the focus will be more on maintenance, refinement and some little improvements. Probably for this we will need some different ways of measuring and analyzing than what we do currently. Currently, we are often not able to measure it. This will require an increase of maturity for which a growth certainly is possible. Now our focus is more on the new processes, whereas we will gradually change towards optimizing existing processes.

Interviewer: How does the implementation of the BPMS fit with the enterprise’s strategy? Does it change process capabilities from the pre-BPMS situation? If so, how?

Program Manager: Yes, that could be the case. Now we start with a lot of new things, analyzing process by process, but once we have implemented a set of processes you will reach a situation in which the focus will change towards the ‘regular’ improvements and those improvements require a different approach. In the current state we start designing “from scratch”, but as soon as you reach a state in which you have more and more process-oriented systems, the focus will be more on maintenance, refinement and some little improvements. Probably for this we will need some different ways of measuring and analyzing than what we do currently. Currently, we are often not able to measure it. This will require an increase of maturity for which a growth certainly is possible. Now our focus is more on the new processes, whereas we will gradually change towards optimizing existing processes.

Interviewer: Is there an effect on the link between processes and the enterprise’s strategy, caused by the BPMS?

Program Manager: Yes, I think the strategy of the company is fully supported with the BPMS, and better than before the BPMS. In our Mid Term Plan it says “strengthen our processes and infrastructure to meet market demand”; if you talk about meeting market demand, in the pre-BPMS situation (in which we still are for most of the processes) we are not capable to meet “market demand”. We do not have self-service capabilities and in some cases the customer has to wait long before receiving a quote or whatever is requested. So in that light it will cause a change, also in terms of quality. We will be better able to deliver the right thing the first time, instead of a slow-moving, laborious process with a lot of errors caused during manual tasks.

Interviewer: How does the implementation of the BPMS contribute to the Enterprise Process Architecture? e.g. Identification, Documentation/Design, Model/map, Localization/variants, execution/deployment.

Program Manager: If you talk about describing and identifying process architecture, we are in an immature state. We are making some first steps; we do not have a framework in which all of our
processes are being described, other than a high-level identification that possibly are required form a compliancy perspective. What I observe is that we are creating those descriptions, step-by-step, by making Value Stream Maps. If we do it correctly and we manage to archive them properly, there will be a repository of all kinds of processes, which can be consolidated in a process architecture. These processes together will form your process architecture, then. So, I regard to our initiative as a possible start for a future process architecture that is described concisely, designed according to standards and able to be maintained.

Interviewer: How does the implementation of the BPMS contribute to the understanding of process outputs and related KPI's?

Program Manager: It has a clear contribution to this topic in such a way that many people within the company do not think in those kind of terms yet. In the past, we have not been that strong at using KPI's for management purposes. If the customer expects to get an answer within two hours, firstly we did not ever ask them about this and secondly, if we ever established a norm, we do not use it to steer upon. I think there will be the biggest challenge to communicate the message to the business. First of all, we will have to convince both the employees and the managers that this is the way forward.

Interviewer: How did the implementation of the BPMS affect the process stakeholders? Did the implementation contribute to inter-company linkage (Customer and Supplier processes)? If so, how?

Program Manager: I think in its total width, all process stakeholders are affected by the implementation, since we will totally shift our approach of doing business. For a starter, the process performer will have a different application on his screen, which is a lot more intuitive and easier to use. The manager will get a dashboard with which the manager can oversee the workload, apart from being it a totally new thing for our managers to work as such this much, other than tallying what is in the mailbox and applying “day starts”.

From an IT-perspective, both stakeholders and managers, we were never able to step up against the business; IT should deliver whatever the business requested. Now you see we step up as the business towards the business to tell ourselves “let’s focus on the things that really matter”. For IT this was an eye-opener in such a way that you can achieve added value with limited budget and limited efforts as well. Towards the customers, I think at a certain moment in time they will experience an increased speed and quality. Eventually they will be able to do some of the processes themselves. Last week I heard a nice term “prosumption”, which means the consumer (the customer) is being part of the production as well, via self-service. In the past, we had to do all kinds of things for the customer, but in the future we will enable the customer to do certain things themselves. By doing that, a share of the workload of our company will be relieved. Besides, in the current market companies actually also want to control certain things themselves.

Governance

Interviewer: Did the implementation of the BPMS have an impact on the decision making process?

Program Manager: In basis, I think it could have an impact, but that will be more with respect to the identification of “waste”. This is typically the case when analyzing the processes from a “Lean” perspective. Checks, validations and reports are potential waste categories. Those are steps within your process for which the customer will never be willing to pay. Sometimes you actually have to include such steps, but in other cases we exaggerated the amount of checks, validations, approvals and reports. From that perspective, I expect the biggest savings in terms of thinking about the process and redesigning the process, rather than just automating the process itself. You could also just automate the current process, but then it still contain the waste.
Interviewer: Did the implementation of the BPMS affect the definition of Process Roles and Responsibilities?

Program Manager: Yes, eventually it will have. The thing I observe with respect to the first processes we implemented, is that you can see a shift towards the front-office with respect to the execution of the process. In that way, customers are being served by the people that hang on the phone with them. Whereas in the past, the calls were being logged by the front-office and further processed by the back-office. Towards the future I expect there to be more and more done by the people who are calling with the customers, or arranging it via self-service by the customers themselves. So I think the processes will gradually move towards the front office, away from the back-office. In that sense, it will have an impact on the way you are organized.

Interviewer: Did the implementation of the BPMS affect the management of process measures, issue resolution, reward and remuneration structures? If so, how?

Program Manager: With the creation of the Measurement Framework, we want to measure process performance. Based on that, we try to analyze and see how the process functions. From that perspective, there are certain points/milestones in the process on which you would like to see performance.

Methods

Interviewer: Do you think the current process improvement methods are an enabler or a constraint for the BPMS implementation project?

Program Manager: Clearly an enabler. Like I already said, our organization has invested in CPI, and we trained our people with respect to knowledge and its application. Without this CPI approach, we would never had been able to reach the current level of successful implementation of the BPMS.

Interviewer: And do you think the approach will change as the BPMS gets more mature?

Program Manager: I think the essence would not be different; of course there would be some different principles applicable in terms of Lean/SixSigma. The only thing I can imagine for now is based on that fact we currently apply some basic tools for developing the processes from scratch, like a Value Stream Map. When your BPMS matures and the focus changes to maintaining your processes it would shift towards an approach in which we apply SixSigma-like techniques for which you perform statistical analyses. Then it will get a bit more complex and there the number of people within our organization with the required capabilities (i.e. BlackBelt certified people) will be a lot lower than, for instance, the number of people with a BlueLean training, who are skilled at things like Value Stream Maps. The latter are more like the basic concepts that people possess. Within this company, BlueLean training has been provided to 1 out of every 25 employees, whereas BlackBelts we have 1 per 200 employees. So we have less people that are able to perform those more complex analyses, but quite some people who are able to contribute to the basics. For now, with the new processes, those basic skills are sufficient for sure.

Interviewer: Yes, there is a lot to win with that approach for a starter.

Program Manager: The things we achieve by applying that knowledge will be the biggest win.

Interviewer: And by getting people to adopt the BlueLean concept, you will already achieve an increased level of acceptance towards this new approach of doing business.

Program Manager: Yes. Besides, Lean is a lot more accessible than SixSigma. In this company we choose not to call it Lean/SixSigma or CPI, but I think we really benefit from applying this BlueLean approach.
When we will become more mature with respect to our processes; we might have to apply SixSigma, but then the number of improvement opportunities will be a lot lower, because currently those are huge. Currently you do not have to search long before finding an improvement opportunity.

Interviewer: *And in what way does it differ from other projects that run currently or those from the past?*

Program Manager: *If you look at our pitch, we got 5 core elements of what we think we do differently than other projects. One of those is the CPI approach, to make the processes more Lean. Secondly, we steer towards harmonization: the business asks 100%, but we will only deliver the 80% that really matters. The remaining 20% we do not support, also with the mindset that building 80% will cost 20% and the other 20% will cost 80%. With that story we focus on those variants that really make a difference. As a third aspect, we try to implement a continuous improvement cycle, working with short-cycle development by focusing on the minimum viable product, so the business gets what is needs to work with it as a minimum, and adding functionalities through continuous improvements. This seems to be a better approach then starting and strive to perfection, and doing it right the first time. With the latter approach you will be likely to spend a lot more time to get a first results, and will risk missing all kinds functionalities after all. The fourth thing would be collaboration: between business and IT, but also between the different countries. We have a dedicated team, with a mix from all kinds of disciplines, all together working as one team, whereas in the past we had to pass all kinds of documentation with respect to signing approvals, requirements, functional design, technical design, testing and so on and so forth. Now you see that an ‘us-them’ perspective changed into an ‘ours’ perspective. Lastly, we have a clear vision on architecture of processes and IT, which basically states we have to abandon those big black box systems. Instead of that, we should convert towards ‘back-in-the-box’, in which you support certain capabilities with IT-solutions. Preferably those IT-solutions should be market standards which we do not want to customize too much. I think these five elements are typical for our BPMS implementation Program and also quite new to our company. One or two years ago, none of these elements was a common thing within our company. Also with CPI, we started with the manual steps and which we can get rid of. Apart from that, I always said “within this company more than 50% are depending on IT-solutions, so you should also consider those processes when looking at your processes, by also applying CPI techniques at those fields.” For some countries, it took some time to realize this, but with the Pilot study with our BPMS tool, we showed them that it worked and really adds value. So I really think these five point are things that are different compared to other projects, and also better I would say.*

*Information Technology*

Interviewer: *What is the influence of the implementation of the BPMS on the tools that are used for process improvement and innovation?*

Program Manager: *I think we are making certain steps there. We already talked about the Value Stream Mapping, but if you go one step further and talk about automating your process, you will get to the integration discussions. For instance, how you should make the integrations with the back-end systems. Recently, we added swimming lanes to our process flows, which we never did before, nor do other projects that are running currently. We come to the conclusion that those swimming lanes have added value in transferring the message. In this company we have some standard documentation guidelines, like the identification of a project starting architecture, but those never required an integration scheme, to show how different systems interact. In that sense, you really see those tools to be developing. Towards the future, I expect the use of those tooling applications to increase (both in terms of amount and quality). This leads to the fact that your project approach and project management will change as well. DCO is also a nice example. Despite the fact that I do not know it that*
well yet, I see a big potential for organizing things like Demo’s to show the business and ask “Do you mean this? Do you mean that?” in a very early stadium in which you can already have glimpse of what it is going to be. And going even further, you could continue to use the exact design that was made by the business analysts; in that way eliminating a step of transferring the message to the developers. By doing this, the development process will become more efficient. At the same time, the development process will become more and more something that is done by the business itself. For instance, in our team you see a group of business analysts, who are a mix of people from the business and people who work at the ‘front-end’ of IT, so being aware of ‘the business’ itself. What you see is that if you really use DCO, your development process will already start there.

Interviewer: In that way, your business logic that might be not that logical to external people might be easier to transfer?

Program Manager: Yes, a benefit would be that for the developers it will be a lot clearer from the start. Sometimes you see that certain elementary things that are considered to be self-evident, are not that obvious at all. At a previous employer, I had to work with a Belgian company with only French-speaking people and it was not easy to explain them how the Dutch payment system worked. Even on an input field level, which may sound quiet trivial, it went wrong. And with a tool like DCO, you are better able to prevent those kind of things.

Interviewer: Then we go to Process Project and Program Management, still within this IT-factor.

Program Manager: That is a pity (laughing). I always say Project and Program Management is too much of an IT thing. Often, people look to Project and Program Management from an IT-perspective, but I am fonder of placing the ownership of an IT-project at the business-side. If you want to change something as a business, you should manage and execute by the business itself. Usually people think “80% of projects is IT-related, so let’s place Project and Program Management at IT”. By doing that, the interaction and us versus them thinking starts there. Related to this, I think our BPMS Program is an example of having a big drive from the business itself and the Program Management is really part of the business. Within our Core-team, four people have a link with the business and two are linked to IT. So again, if you really want to achieve something as the business, you should take ownership.

Interviewer: Does the implementation of the BPMS have an influence on the tools that are being used for Process Project and Program Management.

Program Manager: To a certain extent, I do not want to relate this specifically to a BPMS. I think it is related to working in an agile-scrum way of working. So there you see a different use of software, but also with respect to our Project Management approach, we are not used to agile phases, since we used to apply an engagement phase, execution phase and a closeout phase. Whereas by working agile, you will remain in consecutive construction phases. In that sense there is a change with respect to tooling, but that is more related to the agile approach, than just the BPMS approach. On the other hand, I do not know any BPMS implementation that was done in a Waterfall approach, maybe there are some of course.

People

Interviewer: People is more about the ‘hard facts’, whereas the next factor ‘Culture’ is more on the soft aspects.

Does the implementation of the BPMS have an effect on the view of the department/enterprise on process roles and its definitions?
Program Manager: In a formal way not yet, but in an informal way already, yes. When we did our Pilot study one year ago, the management was done by a limited number of people. We created a clear structure, with a Business Analysis team with Business Analysts, a Delivery Team with Developers and Testers and a Change Management Team with people who are skilled at Business Change Management or have implementation or communication skills. And that is also how I would like to approach this question, because we have six or seven Business Analysts, but if you would look to their official function within our company, they are Solutions Design Consultants, CPI Experts or Operation Specialist. Thus far, there functional titles have not changed. They have been added to the Business Analysis Team, but kept their functions. However, within our Program the way I see them is being a Business Analyst.

I think the fragmentation of all kinds of functional titles should be reduced. Previously, within IT we had Solution Design Consultants, a Business Solutions Specialist, someone who was able to make a functional design; I think those things are closely related to Business Analysis. I would rather opt for a broader roles than specialized roles in this area. Formally it has no impact yet.

Interviewer: Does the implementation of the BPMS have an effect on the development of process-oriented skills of process performers? And of managers? If so, how?

Program Manager: Maybe not with respect to function titles, but I imagine that there will be a shift towards the front-office. Next to that, eventually we could do the job with less people because of our gain of efficiency. So if we shift our processes towards the front-office, those people have extra social skills, they really know how to communicate with the customers. In the back-office we got more administratively skilled people, who know better how to deal with numbers and such. So I think the numbers and proportions will change, mainly due to decreasing need of administrative people. This will be even more the case when we implement self-service portals. Then the number of both front- and back-office will decrease. Last week we had a guest-speaker who was talking about the expected decrease of administrative jobs due to automation, robotization and that this will lead to a decrease of almost 50% in five to ten years. And when I look what we are doing with our implementation project, you see that this will have a big impact on this as well, especially if the degree of utilization will raise. Also when we add more and more processes to the BPMS, this will have a big impact; let alone the self-service possibilities and scaling effects like a shared service center. This is directly caused to the BPMS, although the BPMS will enable us to go in such directions. What you see with another outsourcing pilot is that outsourcing/right-shoring one process for 9 countries with two business lines, actually means you outsourced 18 processes.

Interviewer: Does the implementation of the BPMS have an effect on the development of process-oriented skills of managers?

Program Manager: There will be more focus on steering on handling customer request within benchmark levels, what should have done in the past, but never did. In the past we focused on “complaints”; when a complaint arrived, we all jumped on it in order to solve it and to prevent them in the future. I consider it more like fire-fighting. Whereas now you will be able to do it right the first time within a timeframe that is agreed upon with customers. This will require a different way of management. On the other hand, if teams are self-managing, you will be better able to do it in the future. As an employee you also will be able to see the work queue and act upon it if, for example, someone is ill and there are some work items in his queue, that you take them over.

Interviewer: Do you think the implementation of the BPMS has an impact on the way people take lead, responsibility and credibility for the enterprise processes?
Program Manager: That is a hard one. When you change things it will get attention; the manager wants to know what it means for the employee, the employee wants to know what it means for himself. From that perspective, you see that people take lead to be involved, to have some influence on the development etcetera. My comment would be, let’s say once we are finished, and you do not do anything for two or three years, in what sense it will become weak; I do not know. I think this is really depending on the type of managers and employees you have. I think the important thing will be to spread the CPI awareness. The 1 out of 25 that did a BlueLean training, they have to be challenged to search for improvement; that will have a bigger impact than just the BPMS process. It would be an enabler of working in that way at least, but it will always depend on the way people behave themselves.

Interviewer: Does the implementation of the BPMS lead to a better understanding of the effects that process performers have on the outcomes of the process?

Program Manager: That is a hard question. With all due respect, some people are just pushing buttons in a certain order because they were told to do so, without realizing what they are doing. I hope that the implementation of the BPMS at least will show people which steps you are doing; that it makes sense to them, being intuitive etcetera. But the awareness of quality, now things are done incorrectly, but some people do not even realize it is going wrong. Once there is a complaint, they realize it. Generally spoken, a BPMS will always increase the quality, because you can eliminate manual steps and work process-oriented, rather than function-oriented, but I do not know if that will lead to a higher level of awareness. I cannot give a definite “yes” or “no”.

Interviewer: Do you think the implementation of the BPMS will lead to a better understanding of thinking in terms of customer satisfaction?

Program Manager: I think that understanding what the customer wants, will lead to a better understanding of how the process goes. To a certain extent yes, but I think it is mostly related to the way how you see the logic of a process.

Interviewer: Do you think the BPMS implementation will lead to a different way of process-related learning and education?

Program Manager: Not yet, other than the normal CPI developments. The only thing is that we are going to shift towards Lean Operational Management. That is more about managing the processes, rather than the execution of the processes.

Interviewer: Do you think the BPMS contributes to the collaboration between process stakeholders? If so, could you briefly describe how this will look like?

Program Manager: Yes, for sure. Actually, we already see developments on this aspect. We are able to bond Germany and The Netherlands, and Belgium and The UK will follow soon. You see conversations being ignited. Also on a management level or organizational structure, our company is divided in several areas, but now you see the Operational Manager of the one area sitting together with the ones from other areas. I think the BPMS implementation project also contributed to the fact that this interaction increases.

Interviewer: How did the organization react to the changes of daily business processes and activities as a consequence of the implementation of the BPMS?

Program Manager: In a general sense, positively, in such a way that people realize that these changes do have an actual impact. With this system people see that there are less errors, so the quality elevates.
The system support towards the end-user is better. Despite the effect that this implementation could lead to doing the same job with less people, the employees do not see this as a threat. In the contrary, they perceive the system as “wow, this is what we needed”, because the way they were doing their jobs was not the best way to do it.

**Interviewer:** So, the fact that they immediately can see how intuitive and insightful the system is, gives them a good feeling?

**Program Manager:** Yes, the fact that is an improvement, supported by the numbers.

**Interviewer:** Will there be an effect on the speed of successful process change after the implementation of the BPMS?

**Program Manager:** I think it can definitely function like an accelerator. Currently you see other things being triggered, and you get some sort of cross-fertilization on more aspects. People get enthusiastic because they see all kinds of opportunities to do their jobs even better. In that sense, it could definitely like a catalyst. Another thing though, is that the absorption capacity of employees is not inexhaustible. At a certain point, more and more changes will cause an overflow. So you should really ensure that changes settle within the business. It should not be too much, because that will drive people crazy. That could be a pitfall. Especially if you have something that has verifiable results, people want more of it, but there we have to be aware we will not lose our self.

**Interviewer:** and there the BPMS could help to make choices.

**Program Manager:** I would rather say, CPI will help you to make choices, because based on your data-analysis you make a decision on what has the highest added value. And if you can keep focusing on the minimum viable product, and making choices based on the highest added value, you will always make the right choice. Then you will also have to accept that some things will be done later or even never.

**Interviewer:** Does the implementation of the BPMS have an effect on ‘process thinking’ (regard processes as the way to do business)?

**Program Manager:** I think there is a really strong contribution to this aspect. The things we tell the business and the image we project, there is the added value. So there is a clear contribution to this. I think it is also easy to communicate among the employees about this. In the traditional world we are talking about screens and codes, but there everyone just drop out. I do not understand how all those people can work in that way. Of course, it is just a matter of learning it, but it is much more natural to work based on a process, instead of talking about a bunch of functions that eventually should deliver the same result.

**Interviewer:** so instead of gluing all kinds of tricks into one string, converting it into a process

**Program Manager:** Yes, exactly.

**Interviewer:** Does the BPMS implementation project add to the enterprise’s extent in which vision, mission and value statement reflect process thinking?

**Program Manager:** Yes, I think so. In the mission statement of our BPMS program, we say “we enable our members to deliver the customer a perfect service”, so we support our employees to achieve a perfect customer service delivery, which will lead to unburden our customers fully so they can focus on creating their own success. That last thing again is something the company rooted deeply in her own mission statement. We want to be financial partner that relieves the customer from the
financial complex aspects, so he can fully focus on his own business success. In that sense, the BPMS will contribute towards that.

*Interviewer: Do you think the implementation of the BPMS will contribute towards the level of empowerment and trust to achieve process outcomes?*

Program Manager: Yes. If I understand the question correctly, “to achieve process outcomes” is about delivering what should be delivered within the right time, with the right quality. And the BPMS will contribute to the trust that people have in achieving this. You also see this reflected by the adoption rate. Traditionally, you see that people are a bit concerned with new systems. But also with our pilot we launched last year, you saw that people did the calculation in Excel themselves to check whether the end-result was correct. Nowadays, you see the adoption rate is really high and people ask more of it, because they see what results are being delivered.

*Interviewer: Do you think the implementation of the BPMS will have an effect on “open and honest process communication”?

Program Manager: Yes, I think so. It could lead to certain sensitive matters though. In Germany, for instance, people really not want to see the names and that employees can see who is doing what. Apart from that we still have to make the first steps on dashboards and such. To be honest, I do not know where this will go in the end. However, I think there should be more open process communication, because eventually the customer will benefit from it. It does not have to lead to pointing fingers, it is mainly to know where to steer and it is not about judging. At a previous employer, at their call-center someone who was making the longest phone conversations appeared to have the highest sales-rate. So you should always be careful with numbers, but I would really advise to be open about them.

*Interviewer: What does the company’s leadership think of process thinking?*

Program Manager: Then I would have to answer for other people, but let me state it this way: our seniors within IT and my supervisors see our BPMS implementation project as a very positive approach. They are really aware of our process-oriented approach and know we focus on harmonization and applying Lean to our processes, and I think the BPMS is being mentioned as an example of doing it differently, perhaps even doing it better. So I would think they would agree to this. But again, then I am answering on behalf of them.

*Interviewer: Process Management Social Networks comprise the existence and influence of BPM communities, of practice, the use of social network techniques and the use and recognition of formal BPM Networks. Then the question:*

*Does the BPMS implementation project contribute to these Process Management Social Networks?*

Program Manager: Yes, I do think so. That is one of the things on which we are actively steering. This also is an assignment for the Change Management Team to form a certain community within Europe, to have conversations about processes together. During the demos, we invite the countries to participate. There you see, we are discussing about the processes; in Belgium they are doing it in this way, in Germany they do it that way. Let’s talk about those differences, to see what we can learn from each other, to do it differently or better. I think the BPMS implementation project acts as a booster for those kinds of communities. In the past, when a country had the opportunity to change something, usually it was something small, but now things are really changing and people see they are really forced to look outside of their own country borders and business area.
Interviewer: How does the implementation of the BPMS fit with the enterprise-wide process improvement plan?

SME (NL): If you ask me, when we talk about the strategic goals of the company, turnover is on the first spot. So that can be seen as the goal. I currently see hardly any or even no specific process-KPIs or measurements related to this goal. So the process and process improvement, with indicators towards reaching a certain state, is not really linked to the company’s goal. However, what you do see, is that one wants to convert customer requests to real-time. What you see is that our current resources and architecture are not capable of handling this, and that would be the only link towards “being strategically ready for the future”. What is said, is that “in order to reach that state, we will have to implement a BPMS platform”. But those are other drivers than the process model. So the main driver is: “the cost level has to decrease”. One way to do this is to return to a 30-year-old system, but one cannot work with this on a decent way. So the company said: let’s put a BPMS on top of this system. Then, the costs will remain lower than our current cost level. So, in order to answer your question: partly yes, because the profits have to increase, the cost level has to decrease, so let’s do this. So it is not from an enterprise-wide process improvement plan that states “cost cutting”.

Interviewer: And do you expect this strategy to change as the BPMS matures?

SME (NL): Yes, I do think so, since you see a movement within the company that comes and goes, which is called Continuous Process Improvement (CPI). This is being supported on a strategic level, but then there are reorganizations, and then it’s there, and not, and there again. So there is a subset of people, also on a tactical level, mainly within the Management of this Program, there are people that clearly are process-driven/process-minded. But also in the Steering Committee there are people who think in terms of processes and KPIs. And I think when we are able to perform process-specific measurements with the BPM System, which is step 1, I expect there to be developments towards a tight linkage to strategic goals. So yes, I certainly think the implementation of the BPMS and its implementation will have its contribution to these developments in the future.

Interviewer: How does the implementation of the BPMS contribute to the Enterprise Process Architecture?

An enterprise process architecture is the name given to the highest level of abstraction of the actual hierarchy of value-driving and enabling business processes.

SME (NL): Again, this will have a partial contribution. Mainly because “Architecture” recently defined certain domains in which the processes are carried out, or “where value is created”, sometimes people refer to these as boxes. However, these domains are still quite “functional”. For instance, there is Sales, there is Collection & Recovery; and that is a bit odd, since all perform Credit Scoring, and then people say “yes, that also is a box”. In fact, Invoicing is value-adding, credit scoring is value-adding. The boundaries of boxes are functional/ team oriented therefore sometimes capabilities are not clearly defined. However, these areas are not regarded as separate boxes. So there are functional areas, and we stated that these had to be reusable and there will be an added value of such a BPM System, covering and connecting these boxes, able to retrieve the different information needs to execute process steps, so if you ask whether will it contribute to the Enterprise Process Architecture strategy? Yes, but it could contribute much more. For instance if we would really think in terms of reusable components, like “Invoicing”, “Credit Calculation” et cetera.
**Interviewer: How does the implementation of the BPMS contribute to the understanding of process outputs and related KPI’s?**

SME (NL): It is a first step, I think this will be the first real opportunity to actually measure it, and I think people also would like to use these. It is a first step; to know what you want to measure and to start measuring it. In parallel, there is an initiative, “Blue Lean way of working”, related to operational management, by applying visual management. With such a BPM System, you see that, now the data is there it becomes a lot easier to retrieve this data. Especially if you would compare this with the 30-year-old system, which would have led to completely manual measurements, and making those visible does not work that well. And to this, it will have a clear contribution.

**Interviewer: How did the implementation of the BPMS affect the process stakeholders?**

SME (NL): In short, it has a significant contribution. To start with the managers: they will get a process that is a lot of times more efficient, and will be satisfied by the decreasing cost of ownership. The customers will be directly affected by less errors, which will lead to a higher satisfaction, since you cannot make typing error. And the people themselves do not require a 6 to 9 month training period, on the contrary, within four minutes people will master the process, because the system will lead them the way. For instance, if the manual contains 36 pages regarding the legacy-systems, and now you get only two screens, then you see that it returns to: what does really add value during the change of an address. You search the contract, then you validate it in order to prevent errors and then you submit it to the system. So you only need two screens. In the future it might get a slight enhancement with respect to UI, and in the future I see our customers performing the changes themselves. So yes, all stakeholder groups will benefit from this implementation. And it is demonstrable, since we measure it upfront and afterwards. For some processes you will see a big, significant difference. And for other processes, you will see a decrease from three to one minute, but it occurs only 500 times per year, so it will not make a big difference in terms of fte, because a small amount times a small amount will still be a small amount, so sometimes it is not only about efficiency, but also quality and ease-of-doing business, so it will have a contribution anyhow.

**Governance**

**Interviewer: Did the implementation have an impact on the decision making process?**

*The clear definition and consistent execution of related BPM decision-making processes that guide action in both anticipated and unanticipated circumstances is seen to be critical. In addition to who can make what decision, the speed of decision making and the ability to influence resource allocation and organizational reaction to process change is also important.*

SME (NL): Not yet. If you would know the Work-In-Progress for instance. But I think it has to do with the current status of the implementation project; we only finished two processes, so two out of fifty, or two of the ten most occurring processes. So, real-time decision making about workforce is not yet visible. But the capability of BPMSs, and the fact that you can learn working with it so fast, is a trigger to the strategic level to start investigating the next step, which might be a shared service center. So on a Macro-level, yes. But per process, there is not a shift with respect to shifting resources, at least as of this moment.

**Interviewer: Did the implementation of the BPMS affect the definition of Process Roles and Responsibilities?**

SME (NL): Not yet, but I do think so in the future. For example: the amount for an approval was at €X, but since there are no mistakes being made anymore, people think of raising this to a higher amount,
which would be a direct influence of the BPMS on approval levels. So in that sense, if you would ask
the same question in 6 months or after a year, I think the approval levels will be higher and that there
have been some processes that shifted to the “front-side”, so address change first went through “the
second line”, but then will go to the “first line”, by means of shifting responsibilities. This can be
regarded as a direct consequence of the BPMS implementation.

Methods

Interviewer: Do you think the current process improvement methods are an enabler or a constraint for
the BPMS implementation project?

SME (NL): Well, I think neither. From theory you could see it as a constraint, you rather improve your
process before supporting it. In practice, however, this is harder, so in that case you would see it as an
enabler, because by supporting the process you force countries to think of their own strategy. But it is
hard to say to a country, “Why don’t you convert to direct debit? Because now we are able to support
it, you should convert all your customers to direct debit”. It envelops so much more, like culture, is it
technically possible, are the customers in the particular country ready for this change, what does Risk
think of this. And in that sense, you could see it much more as an enabler, so before developing the
process you should do all those efforts, because otherwise you will never reach the full speed of
development; it is way more important on the “critical path”. So in that sense, it is an enabler of the
CPI methods, because it is easily configurable. And it is not all required to happen instantly, since you
are able to configure it quite flexible. So you could still support the “old way of working”, and with a
proper conversation you could prepare the new way of working, and when they are ready for the
transition, you convert to the new way of working.

Interviewer: And do you think the methods that will be used for process improvements will change
when the BPMS is fully implemented?

SME (NL): I think the changes will be rather in the way we “develop”, so that will ask a certain change
of the mindset of the IT-department. From thinking in terms of systems and their screens, but changing
towards thinking in terms of customers. So I hope our business and the people that will work with the
BPMS will realize that this is also a way to look at it, which will elevate their expectations. An example:
there are 5 or 8 different address types, depending on a new case or an update, so without going into
further detail, those are considerations that an operator has to make every time. But now we
incorporated this logic into the BPMS, so now they do not need to have those considerations anymore,
also since there isn’t any added value to them, whether it is a new or an updated one, because it is just
a matter of waste. It is the same thing every time, so performing a trick again and again. And now, we
put this logic in the BPM-layer, so I hope in the future they will see like “I want to have one screen with
address update, and whatever happens behind the scenes, just do what you need to do”. So, I hope
this will have an influence on the way we look to our processes.

Interviewer: In what sense does the BPMS implementation project differ from other implementation
projects that run currently and from those in the past?

SME (NL): What I really think is different, is that the business drives the decisions. In the past they
provided a big list of want-to-haves, and the IT acted in a kind of supplier-role like “You ask, we deliver”,
whereas we really look to the business value. So primarily, we put the business value. Secondly, the
project is driven by the business. Thirdly, the agile/scrum way of working is different, we are applying
it for the first time and I think the BPMS platform we are using supports this way of working, because
we can focus on a first country, to put one process live in a proper way and then the next country or
the next process, so that combination of those things, is what I think what makes this project unique.
Interviewer: so if I interpret this correctly, the BPMS platform that is being used really supports you in working in an agile/scrum way.

SME (NL): Well, it’s basically the way of development, the ownership is at the business, and the technical capabilities to work agile/scrum. And I think this combination, so far, is successful.

There is one disadvantage though: it is expensive. I think I have been quite positive so far, but one should not underestimate the cost, in terms of the total business case, and that is hard to quantify. To get agile/scrum in a solid pace per week, that will cost X euro per sprint, and that has to be put in a business case whether it’s worth the investment for a certain process. For some processes it will be clear, since they are high volume processes, but for others it might be a bit harder and then you have to see for which processes will get too expensive in terms of project/program structure. Then we would have to look what would be a proper way to do it.

Interviewer: So, for every process you would make some sort of cost-benefit analysis if I understand it correctly?

SME (NL): Yes, well if you would not have a driver to lower the Total Cost of Ownership, as one system has to be phased out now, then you would have to make a decision purely based on the business value of the process and then you see the numbers of customer request going down, there not big chunks left of hours of processing time, and then manual processing as an alternative will remain the cheapest. However, the disadvantage is the long training period which is hard to quantify, but one ideally should do that in a business case.

Interviewer: This factor mainly is about the hard facts of people, whereas the next factor “Culture” is more on the soft side of people.

Does the implementation of the BPMS have an effect on the departmental/enterprise view on process roles and its definitions?

SME (NL): I do not know whether the implementation of the BPMS has a contribution to it, but it think it is more the general shift within the financial services sector. It is getting more and more important to have skills instead of “knowledge”, it is more about thinking in terms of processes, it is all about being analytical, data-driven and if you possess those “hard facts” then you could work in the financial services sector ten years from now, but if you perform some sort of trick and need time to adapt then it will be hard to maintain your spot in the financial services sector. It is a bit of a chicken-and-egg situation; is it caused by the BPMS implementation or is it a “fact of life” because the entire environment is going into that direction. Because it is a screen with processes “behind it”, but in passed time it was the same, but now there is a pressure on margins, there is competition and we have to do the job with less people. But maybe that is rather a bit of my personal vision. If we would treat our people the same way as they do at petrochemical industry, and you don’t have the same expensive investments, since you only need a building and some desktops, that’s it.

So, it’s a hard question, and I would say: partly, since the BPMS also forces you to think in terms process steps, start and endpoint, goal, output. Anyway, there are two computers that talk to one another, so data-driven in any case; so partly, but not only. But you recognize it: if you pick last year’s plan and this year’s plan, and you pick the HR component “exercising, development, improving your skills” have gained importance, because the people acknowledge the capabilities of this platform.

Interviewer: So, the next question is related to this: Does the implementation of the BPMS have an effect on the development of process-oriented skills of process performers? And of managers?
SME (NL): Well, you can see it within our Program, because we are data-driven by taking decisions based on small business cases and those skills are being extended. The managers that have to steer and control get more and more things like what is your lead time, so that will require adaptation yes. So for both roles you see that the process performers start to realize like “first, I was the person that had to do this, and now some of those things have been automated. What will be the effect on my own position then?”. So I think that the employee, their development and the managers will require changes in this context.

Interviewer: You mentioned HR also is currently thinking about these kind of things?

SME (NL): it is more the managers who are the drivers behind this, like “everyone within the department should clearly describe his/her skills to develop in their individual development plan”. And those things are mostly about the things I just mentioned, like data-driven process, analytical, those kind of skills.

Interviewer: Does the implementation of the BPMS lead to a better understanding of the effects that process performers have on the outcomes of the process?

SME (NL): People will only see the information they require to execute their process, so there is a reduced possibility of making errors. For example: we will show them how things will be presented on an invoice. Before, this was never possible. So if you could see this draft upfront, then you will also see what will happen if you change something. In that case, you can tell the customer like “with these 10 contracts we will do this and this”, whereas with the old system you would not have seen that. So I think the answer is yes.

Secondly, we perform a check before, whether we already have the required information. In the old situation, the process performers had to think of this themselves. This caused all kinds of errors, and you could see them by having duplicates, or multiple addresses, or bank accounts or names. So by making representing things visually, which is done by the BPMS-layer like “show me everything about this customer”, or a drop-down box with all possible addresses, you prevent an addition of a second or third address, so yes indeed.

Interviewer: Does the implementation of the BPMS lead to a better understanding of thinking in terms of customer satisfaction?

SME (NL): I find it hard to already say it now, the NPS-scores are quite important, but I think those things are more a matter of the front-office of our company and to measure them there. Whether we can relate those things to the implementations of our system is yet hard to say, since we have not been live that long now. And with the NPS-score we focus too much at the “front-office” and not on the BPMS and old systems and its processes. So there is insufficient data to already say something about it.

Interviewer: Are there any changes in the way process-related education and learning is provided?

SME (NL): yes, you see that there are developments with visual management and BlueLean Way of Working, and those kind of things. But again, this does not happen because of the existence of the BPMS, but it is more a development that happens in parallel and both initiatives help each other to make certain steps and to elevate both concepts. But the platform has a clear contribution to this.

Interviewer: yes, my next question indeed was: to what extent can you relate this to the BPMS implementation?
SME (NL): partly, yes. Yes, I do not think you can do those other things manually, or makeshift solutions. So now, for the first time we are able to say: all cases are being logged, because this will provide us with proper measurements. It will help each other, it is intertwined.

Interviewer: *Do you think the BPMS contributes to the collaboration between process stakeholders?*

SME (NL): Well yes, we are currently in a “Program mode”, and you can clearly see it now. Now the business process and the business value are being shared with the developers at an earlier stage, we cooperate with the actual end-users whom are being involved. So far, we did not incorporate customers, although we would like to do this, like how would you like to experience as a customer. The managers, and for instance those of new countries really cannot wait until the new processes are being rolled-out to them, so yes that certainly is thanks to the BPMS-platform implementation.

Interviewer: *And do you also think there will be changes in terms of collaboration between process stakeholders in daily business, due to the BPMS or not?*

SME (NL): Well, I think it will be more like “this is our system and we completely adopted it”, but if you can really steer on things like SLA’s, people will not relate it to the BPMS. However, you will use those things, to fulfill your customer goals.

Interviewer: *Do you think the implementation of the BPMS has an influence on the way people take lead, responsibility and accountability of enterprise processes? If so, could you explain why?*

SME (NL): I do really believe that providing insights will create the “compelling need” for people to improve. So, if you see you do not reach your 48-hour goal, and you all said you wanted to reach this 48-goal, then you will try to improve. What I do not expect at first, is to question the 48-hour goal. At Wehkamp, if you order something before 22.00h, you will receive it the day after, so that would be 12 hours on average for instance, or even less. So why should a “simple computation” take 48 hours. For the real improvements, from 48 hours to 12 hours, there I do not think there will be a contribution. That is more a thing that should come from the market, or the NPS or the senior management that we want those things. In that case there is a possibility to apply a BPMS to enable those 12 hours and that will steer on it. But it is not the case that implementing the BPMS itself will tell you to do it in 12 hours, it’s more important to ask yourself, “why 48 hours?”, because now we build 48 hours. So the system won’t do this, unless you start to benchmark over different companies or industries, but then it will be more based on literature or the external environment that triggers you to think, you could also do it within 4 hours. Macro-wise it could help you, but within our company I do not see those discussions being triggered.

**Culture**

Interviewer: *How did the organization react to the changes of daily business processes and activities as a consequence of the implementation of the BPMS?*

SME (NL): What you see, is that the different countries and their managers are really enthusiastic about it. Surprisingly, the employees are also happy and they would like to do basically everything with the new process. They do not have to perform that many steps, they do not have to check other people’s work that much, so the ease-of-doing-business is a lot bigger. The down-side, of course, is that it will cause a cause a reduction of the workforce, but luckily we have a quite big flexible shell. That has been a constant factor at our company, having reorganizations all the time, so on that part it will not be a major risk, or pushback or friction. And the numbers point in the same direction; we have carried out a survey about the old system and the new system, and I do not know the exact numbers, but from a
scale of 5 it went from 3.something towards a 4.3, so what you see is a 8 out of 10, whereas it used to be like a 6, so this indicates that the people received it in a positive way.

*Interviewer: Will there be an effect on the speed of successful process change after the implementation of the BPMS?*

*SME (NL):* In a certain sense, yes, like I miss some information here or there, to which you will have a fast access. But on the other hand, if you see the entire process and want to convert it from a to z, it will take just as long, because you have to work with people who have to perform the work or have to make the decision. There you still see the decision making terms, the required analyses and the effort to get the final decision. So there I do not expect an increase of speed.

But what I mean with the first part, like “if there is an idle case for 30 days, can you automatically close it”, those are small improvements that can be done within the decision making authority of the product owner that can be easily accepted, or the changing the name of a certain field that will prevent errors, those are the sort of requests that you can solve quickly, but those are not the big improvements.

*Do you think the implementation of the BPMS will have an effect on the amount of process innovation and improvement recommendations made, accepted and successfully?*

*SME (NL):* This thing I certainly do think is applicable. Because what you see is a big spin-off to other projects. Because in another part of the company, they also decided to apply a BPMS platform. What you see, the self-service-portals get a big boost because of it: do you want to see all the contracts, here you get all the contracts. Do you want to do an address change, here you can do an address change, do you want an early termination, one of the biggest processes in our company, here it is. So, the spin-off of such a platform will lead to more improvement initiatives. On an operational level, no. On a tactical level, yes. And on a strategic level it already had a contribution.

*Interviewer: Does the implementation of the BPMS contribute towards process thinking?*

*SME (NL):* Yes, for sure. Without any doubt. Again, a simple example: there is the old system-thinking, with a 36 pages manual, 25 screens on 4 different places, because it is just the way it technically works. And to convert this into 2 screens, not only from a screen perspective, but the customer arrives with a request and you just apply the process-thought behind it. This will also help reducing “yes, but the system requires this or that”, because now we are going to solve those questions. Hopefully we will reach a situation that not only within the BPMS Project team people will think this way, but that our own IT and Business will not accept the old system-thinking.

*Interviewer: Does the implementation of the BPMS add to the enterprise’s extent to which vision, mission and value statement reflect process thinking?*

*SME (NL):* Yes, I hope so at least. At this moment I would say it does not, but I hope within a couple of years the words “process”, “customer” and “customer value” will be present in our mission, vision and strategy.

*Interviewer: And do you think the BPMS can have a certain influence on this?*

*SME (NL):* Then it will have its influence, yes. I am confident it will, but that might be my personal opinion, rather than having an example now. Because the driver is “Total Cost of Ownership down”, which is not really present in the mission, vision and strategy. In those things, it is way more about “why do we exist, how do we do business and what makes me special” and there is no such thing as “process”.

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Interviewer: Does the BPMS implementation project help Process Performers towards the acceptance of process-orientation?

SME (NL): Yes, we do have to overcome some resistance, but I think it will contribute towards acceptance process-orientation, customer-orientation et cetera. So, like we already said: it is the input of visual management, it provides you the tools to actually do it.

Interviewer: Does the BPMS implementation project help the business to raise the level of trust and empowerment to achieve process outcomes?

Also addressed, without asking: Does the (implementation of the) BPMS have an effect on “open and honest process communication”?

SME (NL): Yes, although the process is slow and patchy. So if you see after the first process is launched, and it is only being used for 20% of the cases, followed by an “old-fashioned” reaction like “how is this ever possible” and similar things. In that case the other party will not have enough trust to report on this in an open, collaborative manner. But eventually you see that everyone conforms to the customer-value and that people say “the customers benefit from us working in the BPMS-situation, so let’s start using it then” and now you that see the percentage increases. So, yes it has contributed to the communication. If you have a fact-based answers, you can use those facts to answer the question “why” it is like the facts say it is. And time will tell us whether it will be that open, or that people will decide not to show a certain report because results are not that well. However, I do not think that it will go that way, because at the end our goal is to serve our end-customer, and we want the NPS to go up.

Interviewer: What does the company’s leadership think of process thinking?

SME (NL): We do not have a sponsor/champion on that level. They do not really take our efforts into account into their considerations. This is partly recognizable in the fact that they reorganize the CPI-group over and over again. To them, processes are more like: just do what you have to do, and I doubt they even know something about our throughput times, or volumes, or most occurring processes.

Interviewer: And if you would look to a country-level

SME (NL): Then you would talk about a number of individuals on the level below, like Program Management level, that there are some proponents. In the countries themselves, there are certain departments that are really process-driven and client-oriented and those also achieve the biggest successes. So sooner or later, people will realize this.

Interviewer: and do you think this or other BPMS implementations within the company will contribute on this aspect?

SME (NL): Yes, but the challenge will be to control the costs. Because if we keep building and building, eventually it will have a negative effect. So just put it where it has an added value.

Interviewer: Does the implementation of the BPMS have an added value to Process Management Social Networks?

SME (NL): No, for now I don’t think so. Because, now we really do not consider any capabilities like Whatsapp, or Facebook. Within the company there is a group of people with similar views on this matters, but we did not give them a demo yet. So no, not directly.

I do see some opportunities which came from our BPMS supplier like: the BPM-layer can be connected to your webpage, or can track Facebook and Whatsapp and based on his/her preferences you can steer
the process, so in that case I would say yes. In that situation, you would be capable of using the social networks and to draw them to your web page. But we focus on the back-office processes, so we do not focus on new customers, but on existing ones. We even mainly work with B2B, so there is a lot to be overcome before social networks gain importance for our system. Maybe on the long term.
Strategic Alignment

**Interviewer:** How does the implementation of the BPMS fit with the enterprise-wide process improvement plan?

SME (DE): The BPMS implementation project fits well with the enterprise strategy, since it is focused on improving our speed, which is one of the main goals within the company globally. Also we would like to have a tailor-made business, but on the other hand to automate as much as possible, not spending our quote in quote “limited time” with the same stuff over and over again. The BPMS is going to take over the more flow-business things, the people from our business can use that time for tailor-made solutions for the customers that do not have standard requests. I think this is one of the main goals we are striving for with our BPMS implementation.

**Interviewer:** Do you think because of the BPMS implementation project the strategy itself might change?

SME (DE): I think the vision that our managers already had two or three years ago are exactly matching what we are doing with the BPMS implementation. So again, getting things as much automated as possible to enable people to spend more time on the complex cases. I think this BPMS is the fitting puzzle piece which is helping the managers to achieve their ideas.

**Interviewer:** How does the implementation of the BPMS fit with the enterprise’s process capabilities?

SME (DE): I think we still need to get used to this new kind of help the BPMS is offering us. I think we have to change our strategy there, as the people are not used to get this help from a system. They are not relying on the information it is showing, spending more time in checking in what has already has been checked. So there is still some work to do for us and for processes we need to start recognizing whether there is waste or not. From our perspective, as a team, we do not want to automate this waste, so we first have to check those processes and implement whatever is necessary. But as little as possible; so enabling as much as possible, but with the smallest amount of waste.

**Interviewer:** How does the implementation of the BPMS contribute to the enterprise process architecture?

SME (DE): I think with the resources we have within the project, in terms of people and money, we have the possibility to go to every country to request how THEY are doing their business. This project is set-up as a European-wide project and not just for The Netherlands and Germany or Belgium, but every country. I think it is very good that the processes are compared with each other, from every country and then search for the best solution. This on its turn, can be brought to the other countries. I also think this will be contributing to make the company more open to switch between countries. This is fitting very well together. Now people see it is possible to share knowledge, to exchange and analyze it and eventually putting the best solution into the BPMS.

**Interviewer:** How does the implementation of the BPMS contribute to the understanding of process outputs and related KPI’s?

SME (DE): At the moment it is pretty hard to measure what is actually the performance at the department, the BPMS can measure the Process Lead Time or also the amount of tickets we are handling in the system easily. This will help the users as well as their Team Leads and Managers to organize their business. Then they can get insights like “every 15th of a month there are more requests for Copy Invoices”, just as an example. With that knowledge they can decide to have more people available on the phone for instance. Hopefully we can get reports like this, so people can organize their
business better. The more blocks we build in the BPMS, the better, or even more than better! I think this is really supporting the people at the floor.

**Interviewer:** How did the implementation of the BPMS affect the process stakeholders?

SME (DE): Let’s start with the managers, I think the managers now are challenged to make quick decisions, but also detailed and good ones in a very short time. Because the project speed is so high that, and this is new for our company, that they are really challenged to reach the same speed as the project does. I think there still is some room for improvement, but the more information we are spreading, accompanied with our vision, the better it gets. We had a meeting with all Team Leads and people who might be affected in the upcoming weeks, and I am really interested to see what kind of thoughts they have that we triggered, and I am really curious to see what happens there. Managers really have to get used to that speed. Team Leads as well, and they are somewhat between the chairs, because they have to deliver things, they have to give us the required resources for testing and also they are responsible for daily business. And it is not that they are sitting around waiting for a project to come around the corner. They are supporting us, but they have other stuff to do as well. And the same holds for the business users and the Subject Matter Experts. They are not sitting around, waiting for a phone call; they always have something to do. And now there is a project coming around, asking them to test a new bank account change model in two weeks on a full-day basis. They have to get used to that as well. Also with respect to priority. I think it is set clear now, but still there is some discussion on what is their higher priority: supporting the project, or is it the daily business? I think there should be a mindset that they support us, so we can support them. Whatever they are telling us in a more detailed version, we can build a part that is supporting them even better. On every spot, there is still some work to do, but is affecting them all together, on different levels maybe, but everyone is affected by this implementation.

**Governance**

**Interviewer:** Did the implementation of the BPMS have an impact on the decision making process?

SME (DE): Yes, they have to be very fast. Whenever the project is coming up with a question, or a request for data, it would be nice if they deliver it on the spot. But since I am from that office, I also know how difficult it can be to get numbers out of our systems or to get an estimation of our colleagues. It like they remember their one or two bad customers from last week, but they don’t remember the hundreds of happy customers they had in the last week. They are just focusing on the two bad, and they are like “Oh, I had a bad customer as well”, so the numbers are pretty hard to get. Maybe we are solving this with the BPMS itself, but the business must be able to answer very quickly, and again this is new for our company.

**Interviewer:** So as far as I understand, “Process X” in the BPMS only supports certain process variants, but Address Change is almost fully supported. Do you see a difference with respect to the Governance and measurement of these processes as well?

SME (DE): Yes, although this also depends on number of customer requests and we did not have much Address Changes in Germany yet. Although the numbers are not that high yet, they have processes every address change in the BPMS and the colleague got very keen on challenging the system and they are trying to enter really extraordinary stuff although it is just fake, they are trying to do it, and this is nice to see they are so supportive with improving the system. There the speed can also still increase, because they are interested in every detail on the screen and wonder things like “what can I do here, and what can I do there?”, but as soon as it is more ‘relaxed’, I think we are getting to a higher speed there. Also the quality will raise, because you can change one address in three different
vendors/lessors. And in the legacy system we had to think of this manually, so quality and speed are the targets at stake.

**Interviewer:** Did the implementation of the BPMS affect the definition of Process Roles and Responsibilities?

SME (DE): Yes. This is also something that is still part of discussion, like who is responsible for creating letters, or texts. Now we are sending out an email to a part of the SMEs, part of the Team Leads, Managers, Legal or us as a project team. With the Change Management meetings we have every three weeks, this is getting clearer and clearer, but this has again to do with the fact that the whole organization is not used to quick, on the spot decisions. Normally with projects, you have like a month to deliver stuff and we are on a higher speed. Still they have to get used to that, and also to the new responsibilities, to the new roles. In the beginning, there was an Operations Specialist before, but not connected to the business. Now, everyone has to learn their and other’s responsibilities. So, there is a lot to learn, but we will get there.

**Methods**

**Interviewer:** Do you think the current process improvement methods are an enabler or a constraint for the BPMS implementation project?

SME (DE): Again, there are two sides. On the one hand, there is the question regarding CPI is really valid. Sometimes we are just doing things because we are told so, and we do not know whether there is an added value, or that there is a legal reason so it is important to have a different view on the things we are doing. The colleagues who had those trainings on CPI topics are looking to the business with different eyes and I think it is really important not to automate things that are just not needed. On the other hand it takes more time, because you have to discuss things on a very detailed level, to identify where there are things you can skip etcetera, but as we are all addicted to have the best solution for the business, it is a necessary point so it is worth spending the time looking on every detail and measure things. Of course, you might as well say that you need to be less specific, because this is a con of that method as well. But I think it is a valid point to spend time to get all those details.

**Interviewer:** And do you think the approach will change as the BPMS gets more mature?

SME (DE): Maybe they can change because of our reporting, that there is more data available. But I think the main criteria are not fully implemented yet, so you should use continuously do that part and those analyses.

**Interviewer:** And in what way does it differ from other projects that run currently or those from the past?

SME (DE): We are very fast. There were other projects, I don’t know when they started, but you would never get a solution out of them. The company spent a lot of money and time, but the solutions that were delivered after a year of two did not fit the requirements we wanted. I like this picture of a dolphin and a submarine. We are this agile dolphin coming up every week, showing what we have developed so far and the company was more used to projects staying under the waterline, coming up one year later or two. This is one of the biggest differences between our project and everything else what happened in the company in the last years.

**Interviewer:** So it is mainly the agility of this project?

SME (DE): Yes, although “Agile” is a word we all cannot hear anymore, because is it so much used. But that is the way we are doing stuff.
Interviewer: So Agile, Lean, SixSigma and those kind of terms.

SME (DE): Yes, those are all kind of phrases. But I think this need to spread throughout the company.

Interviewer: In what sense will this BPMS implementation project influence future projects?

SME (DE): Hopefully we can learn to change quicker, so I think this must be the topic for all projects going on within the company. We have to be quicker, more focused. I like the idea of dedicated people, working together. Then you can really focus and concentrate on the things you are doing. If you are shifting by working four hours daily business, four hours project, for both sides it will not be the best solution there. I think that could be one of the main topics for the upcoming projects as well.

Information Technology

Interviewer: What is the influence of the implementation of the BPMS on the tools that are used for process improvement and innovation?

SME (DE): If I am looking to our Legacy System, we do not really have big innovations with that system. But if you look at the BPMS, which requires the legacy system to be up-to-speed, so there is a connection between those two. The BPMS influences the speed of the change, because the two systems need to communicate with each other, but the legacy-system was not able to do that. Now there is a whole team taking care of that. The BPMS was the triggering project there.

Interviewer: The thing I see, is that the BPMS allows you to align the actual process with the IT-process. In that sense there is no difference anymore in theory, in practice it will be.

SME (DE): Yes, yes. The thing is, with the BPMS we have more options. The options of the legacy-system were limited; on the one hand limited by the system itself, on the other hand also by the knowledge of the users. I am not sure how many hundreds of screens the legacy-system has, but it is so complex and we have some experts, but if you are go to a country and ask “who is an expert on the legacy-system?”, no one would raise their hand, I am pretty sure, since it is so complex. So the answer “we are not able to deliver” could be based on the knowledge of the user of the legacy system, or it is really a limitation of the legacy system and maybe the company did not think of those options twenty years back from now. I think this could be the case as well.

People

Interviewer: People is more about the ‘hard facts’, whereas the next factor ‘Culture’ is more on the soft aspects.

Does the implementation of the BPMS have an effect on the view of the department on process roles and its definitions?

SME (DE): If there would be new employees at the company, they would have to spend six months on training to work with the legacy system. By using the BPMS they are really able to learn process related skills within a day or two, so we do not need to spend so much time on training. Also we can build some security checks so that the new users are not deleting a whole portfolio by pressing one wrong button. This is something the business needs to get used to as well and on the other hand it is also important that for those things we cannot automate with the BPMS there are still people available to who can do it in the legacy systems. By now there is an idea to form a new team or department called “legacy system experts”, so on the business floor everyone is working with the BPMS and whenever there is an exception or something that is not supported by the BPMS, then it will go to that department. So we might want to create a new department then and then we also have to define a clear structure who is responsible for what kind of business case. Apart from that, people are always a
bit afraid of automation, because of thoughts like “if everything is automated, I am not needed anymore” or even outsourced or whatever, so I think we really have to be careful with those things, to not stress the people more than needed.

Interviewer: Does the implementation of the BPMS have an effect on the development of process-oriented skills of managers?

SME (DE): I think the BPMS is less technical than the legacy system, because it is guiding you through the process. I am a fan of having managers that are more or less able to do the things their teams are doing, so that they have a better understanding like when there is an issue popping up, that they can easily relate it to what is going on, whose responsibility it is. So we have to also train the managers, so they get used to it as well. I now there are managers that are not familiar with the legacy system, because maybe they just stepped in or switched from another department. I think with the BPMS it is easier to step into the world of the employees and we have to take them along, so not only the users.

Interviewer: Does the implementation of the BPMS lead to a better understanding of the effects that process performers have on the outcomes of the process?

SME (DE): Yes, they have a better understanding. But maybe the new users are not learning to work with the legacy system anymore. So they do not know the connection between our old system and the new one. I am not sure if this is really needed, but I see that there are those discussions going on the German floor. If a new person should learn to work with the legacy system. On the one hand I think, when the BPMS supports almost every business case, why should a person learn the legacy system then? Unless that person would like to become an expert on the legacy system... But the understanding of a process is very easy with the BPMS, because the system is leading you. I think it will help people to understand the meaning and the logic behind it earlier than if they would have to learn it by using the legacy system.

Interviewer: Do you think the implementation of the BPMS will lead to a better understanding of thinking in terms of customer satisfaction?

SME (DE): I think when it comes to customer satisfaction, it depends more or less on the individual person which is sitting in front of the system. To give an example: when the customer is calling and asking “when does this contract end?”. One person would answer March 1, next year. And the conversation would end, and the question has been solved. But a more experienced user might do more. If I relate it to myself: I try to “read the subtitles”, if the customer asks the same question I also think of things like “what is the term of the contract, what things do I need to get it canceled, what happens to the object, is the customer able to buy it or not, will it be returned to the dealer, do we need to return the object or will there be a transport company to do that?” There are more and more questions behind this “what is the end date of the contract?”. I think this is something you can more or less provide with a system if you are building up a screen on which those informative things are presented on one spot, so that the person who is answering the phone could just easily read those things out loud to the customer, but on the other hand it is a kind of individual thing. We can support it on a technical side, like a screen on which everything is visible with one view, but is the person reading it out or not? This is an individual thing whether you do it or not.

Interviewer: so you could consider the BPMS as an enabler of this thing, but...

SME (DE): If it is really used that depends on the individual. You can achieve this with training, or with a good selection of new employees which are joining the department and you can make it easier: if you would like to answer those questions now (with the legacy system), you would have to spend ten
minutes going to ten screens. That is why I can understand if people are not searching for all those
details and just answer the quick question as it raised. On the other hand, you could be over processing
as well, because you got one question and gave 10 answers. There we still need to find the right
mixture of answering the questions that are in the subtitles and on the other hand do not over process.
The BPMS can be supportive there, but it also depends on the people.

Interviewer: Are there any changes in the way process-related education and learning is provided?

SME (DE): I have the experience that some colleagues are more interested in having some kind of
manual as in written stuff, on the other hand we are trying to explain them that a manual is not needed
if the system is so logical as we would like the BPMS to be. But there are still some requesting a thing
they can have in their hands. I am not sure who is reading a manual when they are buying a new car.
Do people do that? I am interested in it because I am interested in them, but some things are just
coming naturally, by experience. I think we are able to build the BPMS like that, but the people have
to learn to rely on those things and have to get used to that intuitive behavior in systems. I think this
needs to be changed there; it could also be a cultural thing, but let’s see where this is leading to.

Interviewer: Do you think the BPMS contributes to the collaboration between process stakeholders? If
so, could you briefly describe how this will look like?

SME (DE): Yes, they really have to get in touch to get all the requirements we are asking for. When I
am requesting we would like to send out by email, this must be discussed with legal as well and with
the business and if it is not on the Contract Administration it could be Collections and Recovery as well,
because a customer may be changing between the responsibilities from Contract Management and
Collections and Recovery for different weeks, that could be the case. So they really have to get in touch
with each other and decide what the thing we would like to send out is and what kind of process we
would like to have in place. I think we are, again, challenging them to collaborate and to discuss a lot.
I have always hoped for some kind of “unique answer” for those discussions, sometimes this is
possible, but there are also cases where there are different opinions of doing things. At least we are
starting these kind of conversations by raising still many questions on processes and those kind of
things.

Interviewer: Do you think, when the system is being fully used in the business, it will enhance the
collaboration?

SME (DE): With the old system sometimes there are screens or fields I cannot work on because it is not
my responsibility and I do not have the required role in the system, because I did not have the training
on that background, so that is not a bad thing. But there are also processes for which it is not really
separated between departments, so that you really have to work closely with each other. And I think
with the BPMS, once we have more processes available there, it would be clearer where a process
would start and where it would end. On the other hand the system is leading towards the process, so
that even new people could do complex things, because there is a guidance and maybe a security
control in the background. Then, this could be really helpful, but again we have to be really careful to
see where this is leading to.

Interviewer: Do you think the implementation of the BPMS has an influence on the way people take
lead, responsibility and accountability of enterprise processes? If so, could you explain why?

SME (DE): I am always a fan of people “taking the lead”, because I easily for responsible for many things
even if it is not my business. But this again depends on the type of the employee. But I feel that the
people who are supporting the testing for example, are really feeling responsible: they are interested,
they are not fighting our message, but they are spreading the visions we have. They feel that they contribute to something really big, something that will change the company’s way of doing business. I think the BPMS project is so fast and delivering solutions or things that are visible that they really can feel proud. If people are proud of what they are doing, I think it is just a very small step to also feel responsible for the success. I think this is already visible at the floor, and they are happy with that. I think the BPMS implementation project is a nice platform to communicate. They are using it to think about so many things. It is really nice to see that they are really supportive, so that is nice!

Culture

Interviewer: How did the organization react to the changes of daily business processes and activities as a consequence of the implementation of the BPMS?

SME (DE): Again I think this is something cultural. If I compare the German people to the Dutch they are more hesitant, not trusting that much in new stuff. Also the people that have been working at this company for a longer period have experienced projects starting up very enthusiastic and then they have never heard from it again. But on the other hand, especially the new people are interested in how they can influence and contribute to the project. I think this really is a cultural thing; when it comes to different countries, people act different. I think Germany is a country where you really have to convince people with facts and numbers then they are jumping on the train. But before, they would like to have more distance there.

Interviewer: Once the BPMS is up and running, do you expect there to be an increase of the speed of successful process change?

SME (DE): Hopefully it is. I hope we will have the IT-support there when the BPMS is up and running, so that you can easily change things that we develop this year or next year or whatever. I think this also relates to the IT-side and if we have the possibility there, the people will be requesting more changes. At the moment there are like some 150 requests for changes in the legacy system and they were sent in months and years ago, so some people are a bit frustrated because they have raised a question or an incident but they never get an answer. Simply because there is no money or resources available or there is a reason why we cannot handle. If we can show the people it is easy to change something in our systems then they would be more interested and would feel more responsible for getting changes done.

Interviewer: Does the implementation of the BPMS have an effect on ‘process thinking’ (regard to processes as the way to do business)?

SME (DE): Yes, I think this is the mindset our company is requesting from our employees, but if it is so difficult to get a change, people are balancing the effort versus the improvement and just think “it is not worth it”. They are trying to handle the task with the possibilities that are there, because they would spend for instance a hundred hours to get a tiny little thing solved. They are not putting it on a higher priority to get this solved but they can handle it differently by creating work-arounds there. Hopefully this can be improved by making this easier for them.

Interviewer: Does the BPMS implementation project help the business to raise the level of trust and empowerment to achieve process outcomes?

SME (DE): As mentioned before, I think is something growing slowly. At the moment people are checking what the BPMS does in the legacy system. As soon as we are in delivering a stable platform the people are trusting us or the system more and more. But this is something that will take a lot of time, also depending on the culture. Maybe this will be easier with new people, because they do not
compare it. But the people that worked with the legacy system will be comparing those systems against each other. This is natural maybe, I also think they need to open up and start to trust in what we are doing. That we are there to help them.

*Interviewer: Do you think the implementation of the BPMS will have an effect on “open and honest process communication”?*

*SME (DE):* Hopefully. Sometimes there are people who are just knowing parts of processes. There are processes that cover different departments, so everyone knows their part. But not only themselves but in general it is very important to know what something is leading towards to. If I would not know the goal of the company I could do a good job, but I am looking on just one puzzle piece instead of the whole picture. It is like working between those lines, but without seeing the bigger picture I think you do not get it then.

*Interviewer: And do you think the BPMS will help people to see the bigger picture?*

*SME (DE):* I think it starts earlier, by raising the questions about the processes when we are collecting the requirements. Then we are showing them how broad the field is to get an answer. It is the same here with us on the floor (the BPMS team, red.); you could give an easy answer “yes” or “no”, but with answering with yes or no, mentioning exceptions and other things stepping into your discussion and then you are ending up somewhere far, far away. And this is good, because you are exchanging more information then, and triggering discussions but it is also making the scope bigger and bigger. But I think it is really necessary to understand what other departments are doing, what other colleagues are doing and that you learn from each other. It is causing more costs maybe, or you need to spend more time, but I think it is worth it to understand the whole picture.

*Interviewer: What does the company’s leadership think of process thinking? (i.e. the German leadership)*

*SME (DE):* I know that our Operations Manager is very interested in those kind of things. He recently gave a very interesting presentation. He is foresaw those things like three years ago, and now he has the BPMS platform to achieve his thoughts. This was amazing to see, I loved his presentation. Because then it was 2013 and he had a vision and now three years later there is a tool in place to achieve all those things. Then the BPMS implementation project came up and he was the first one to jump onto this project. Like now, they are giving up one full time employee to the project. I am really happy and proud that they are supporting this project so good. I think they have read the sign and they see how important it is to make this change possible. Also thinking about those processes to get them changed and this on a very high speed level.

*Interviewer: Process Management Social Networks comprise the existence and influence of BPM communities, practice, the use of social network techniques and the use and recognition of formal BPM Networks, you could relate this to CPI within the company. Then the question:*

*Does the BPMS implementation project contribute to these Process Management Social Networks?*

*SME (DE):* I think we can learn from the behavior of people in those kind of networks, and I think it is also is not a shame to copy good solutions. I think there is a possibility to search for employees within the company that have a stronger connection with serving the customer, why not use something like LinkedIn or something the company is offering. Of course this has to be a company decision on a higher level, but if this is working with other platform, why not use it as well? I am not sure if every country is in favor of those self-service portals, but if we can make it quick and easy, why not use the benefits that are there from, I don’t know, Facebook of LinkedIn or whatever they are called. I know that our
BPMS project’s Communication Manager would have an open ear to those kind of directions, so hopefully we can bring them into our project as well there. I am not sure if we should copy everything that is in the market, but if there are facts speaking clearly to us copy them to our project.
User (NL): We just had two projects (processes), being Address Change and <PROCESS X>, and although
I did not participate in the process X, what I see that people respond positively to it. Because, in terms
of the system, it is a lot easier to process the requests. Do you mean an answer like this?

Interviewer: Well, yes, but also related to the approach.

User (NL): Okay, well, we started with some meetings on things like “How do we execute the processes
in the existing situation?”, gathering the requirements, how the business functions, how the system
functions and they elaborated it in a certain way. With those things in mind, they started to build the
BPMS and I think it was a well-thought approach. You could see that they learnt a lot from the pilot
project with <PROCESS X>, so they involved the people from the start by discussing the existing
situation and how it will be. The BPMS from this vendor is really able to work that way.

Interviewer: And does that really differ from other process improvement projects?

User (NL): The process improvements that I contributed to, never were with another software system;
we have seen some improvements on our current system, when it was already there. We cooperated
with the Quality Center, but never with an extra or new system.

Interviewer: So this project is a lot wider scope than with other project that ran the past years?

User (NL): Well, in the past they also tried to do the same things. But then the system limited the
options to improve the system as it was, keeping in mind what the system could and could not do. But
in this case, the BPMS is put on top of this system which will enable a lot of other things. And I have to
say, the approach to determine what the BPMS has to be able to do and how it has to connect with
the underlying systems was really balanced to my opinion.

Interviewer: Do you think this will be a step towards a new way of doing projects within the business?

User (NL): Yes, I do think so. Also because we regularly have those Sprints that include us as the users
in an early stage, way before the actual testing. We also contribute to the definition of the workflow
models and then you get a lot more involved yourself in an active role. And also with respect to the
next process, you already know they have certain questions so they are already working on it which is
a positive thing.

Interviewer: How did the implementation of the BPMS affect the process stakeholders?

User (NL): Well, I do not really think our customers are aware of the system we use for our processes
as of this moment, because we execute those behind the scenes. And an Address Change via an online
request we could already do quite fast. So the customer will not really experience that much of a
difference, but here at the office it will affect us a lot. Step by step we introduced the system to the
department and when we showed them what is possible with the system we really had a ‘wow!’
experience by seeing how intuitively the system works.

Interviewer: Did the implementation of the BPMS have an impact on the decision making process?

User (NL): With the BPMS project we realized that there already had been made certain choices for
things like the landing page (starting screen), before we got involved. So at the beginning, this could have been a little bit better by involving the right departments from the start. For instance, related to the options for searching for a certain customer; the first process focuses on a contract level, but our process is focused at account or customer level, so a level of abstraction higher. Upfront, we also told these kind of things, I cannot really give another example now. But those things which had already been decided, that is a pity when you realize something is missing in that way. Now we had to add it, before it went live for testing and acceptance. I do not know whether it would have been already possible by then, in a sense like “this is the basis and we will have to manage it with that”. But that is something we discussed with the Team Leads already.

Interviewer: Yes, well I was not involved yet by then, but I think it will have something to do with it being a pilot project, focused at proving the technical capabilities and from that point onwards continue with other processes, but this clearly is a nice example of a lesson learned.

User (NL): Yes, a basis was made, but the thing was whether the right people have been consulted, in order to say “can everyone work with this?”. So, the first team that started working with it, will they possess all the knowledge that is needed for future processes and sub departments.

Interviewer: Did the implementation of the BPMS affect the definition of Process Roles and Responsibilities?

User (NL): Within Address Change it is still possible to process the request by only one person, albeit by using only one system. In some cases we had to work in two systems and now the BPMS will process the changes in those systems for you. Previously you had to know where you had to check certain boxes and to fill in which particular fields and switch to other menus, but now that is not needed anymore. With respect to responsibilities you do not really experience differences compared to the previous situation, because everyone within our sub-department can do an address change. With a process like <PROCESS X> you have to go through all kinds of screens and there are certain validations required, but with Address Change this is not really the case if you talk about responsibilities.

Interviewer: Could you indicate how this has changed with respect to the Early Terminations process?

User (NL): I cannot really say anything about that particular process. With respect to authorization that process has several roles, but our Address Change only has one address. I know the other process has three or four roles, with different levels of authorization. I think this is not applicable to Address Change. Although you are changing customer data, these changes do not apply to financial components of the customer. So that does not hold for Address Changes.

10.11.7 Methods

Interviewer: Do you think the current process improvement methods are an enabler or a constraint for the BPMS implementation project?

User (NL): If I have to relate it to the moment we started with the project; how every person was given a certain task and who is responsible for what, I would definitely call it an enabler.

Interviewer: And do you think the approach will be used for other projects as well, that it could become like a standard approach?

User (NL): I think it should definitely be considered, because it makes it very clear where you are, what direction are we going, which information do we already have, whom do we still need. And with some of those things we also worked together with Germany, where they visited us or we visited them. Then you get an interesting interaction like “You are doing it this way, we do it that way”, because they work
with one system and we mostly with another system. Then you become a real sparring partner, also because I worked with their system in the past. Then you get nice sparring conversations, discussions and you inspire one another in ways like “you could also do it this way”. So this method is fine.

**Interviewer:** And in what way does is differ from other projects that run currently or those from the past?

User (NL): The implementation of our current/old system was very different. It was not done it that way. There were several improvements that you would like to achieve, but everything had to be built by a group of stakeholders and they ran some test cases by the Quality Center and that was the thing you had to use. And now I got the idea we have been involved in a much earlier stage.

**Interviewer:** And do you think there is also a difference in the sense that you could already see how it would look eventually?

User (NL): Well, yes we have a weekly meeting with the requirements and the relation with the IT and Business and there you get a clear idea of where we are, this is how we developed it so far, this is what we can show you.

**Information Technology**

**Interviewer:** What is the influence of the implementation of the BPMS on the tools that are used for process improvement and innovation?

User (NL): With this BPMS they can already show you what it looks like with the demos and that is a useful thing, but apart from that is hard to say.

With Bank Account changes, they are already asking us questions like “how does it work with the letters and the SEPA mandates”. So there you can see they already started with the next process now.

**Interviewer:** but it is not visible yet.

User (NL): No, you cannot see it yet.

**People**

**Interviewer:** People is more about the ‘hard facts’, whereas the next factor ‘Culture’ is more on the soft aspects.

Does the implementation of the BPMS have an effect on the development of process-oriented skills of process performers?

User (NL): It has become a lot easier to focus on what you have to change. Previously, people really had to be aware on “never skipping any step”, and now it became a lot easier, since you do not have to think of forgetting certain steps. Since we have not been working with the system for very long and we first want to get some confidence that the system does what it should do, also because it does not yet support all types of cases fully. We are still checking whether the BPMS changes all the fields in a proper way, so for now we want to be sure that the BPMS does not skip some steps; and so far it works as desired most of the times. But yes, it makes it easier for the employees and previously they had to change it there and there and there and there. Sometimes you even had to switch roles to process everything properly. The BPMS will guide you all the way and that will also help new people to learn new people what to do. And this process could be one of the things that they can learn immediately, so the training efforts will be a lot less because it gets easier.

**Interviewer:** Does the implementation of the BPMS has an influence on the process-related skills of process performers?
User (NL): It became so easy and intuitive, that you do not need to explain the entire structure of the system. Of course you will show the logic behind it, so people will not just do some trick. When you show it, people will see like you are now working on this data and by applying a change it will be processed in this system, but also in that system.

Interviewer: And related to the process skills of the managers/team leads?

User (NL): No, I do not think so. They are not the ones who have to work with the system themselves. At a certain point in time, they will realize that they can do all the work with less people, because the tasks take less time.

Interviewer: Does the implementation of the BPMS lead to a better understanding of the effects that process performers have on the outcomes of the process?

User (NL): For new people when they are trained, it is an important difference whether they learn “to perform a trick” or actually know what they are doing.

With Address Change you can immediately see whether you are doing it correctly, since you can easily see what the different steps of the process are, since it is a small process without financial data; it is only about comparing the address to what it should be. With the BPMS you change it from A to B; we check whether the BPMS did it correctly. If so, you’re ready.

For <PROCESS X> this is harder, so I assume it will have a bigger effect on this. There you really have to understand how you compute such a termination and where those values are showed. That kind of knowledge or background is not required for an Address Change.

Interviewer: And also there it will be the case that you need to get some trust in the system first.

User (NL): Yes, exactly.

Interviewer: Do you think the implementation of the BPMS will lead to a better understanding of thinking in customer terms?

User (NL): I am not sure whether it will have a significant influence on this aspect. For Address Change at least it is not really related to the technology. But I cannot really call it a definite yes or no.

Interviewer: Are there any changes in the way process-related education and learning is provided?

User (NL): Yes, because the BPMS you almost immediately shows what you have changed. Next to that, it works very intuitively. With the old system you have to search where to apply the changes and you need to know the program’s structure for that. The BPMS works really naturally, it shows you what the customer wants and nothing more, it is very intuitive. It is even used for other purposes, for instance to look up a customer’s Chamber of Commerce number, we prefer to use the BPMS because it pops up immediately. With the old system, you had to go through a set of tabs to reach that information. So those are some small things where we think, we better use the BPMS, because it is way faster for this kind of information, so a nice bycatch of the BPMS implementation.

Interviewer: Do you think the BPMS contributes to the collaboration between process stakeholders? If so, could you briefly describe how this will look like?

User (NL): No, I do not think it will change in that sense. Here again, before you had to execute this process alone as well and there is not much discussion on an address change. For the other process it is hard to tell, because I have not worked with that process in the BPMS.
Interviewer: Do you think the implementation of the BPMS has an influence on the way people take lead, responsibility and accountability of enterprise processes? If so, could you explain why?

User (NL): Before the implementation of the BPMS, the company already started with Lean Operational Management training. As a result there have been several projects on process improvement. Sometimes it was something very simple, but with the new bank account change up-to-come we will use the BPMS. That process will be a lot more complex, with all the SEPA mandates, and I think there will be a big improvement potential. Because a customer preferably gets its bank account changed and informed on that change within a short period of time. In that process maybe there will be even more changes that we did not think of yet, and I think it will have an influence on those things. But at the moment, everyone starts to be more aware of those Lean concepts. People are actively coached to think about those things, either system-related or something relatively simple at our department, so the awareness is there for sure. But like I said, this was already developing before the BPMS, focusing on “waste”. The BPMS could be a nice way to recognize the problems and to build a solution.

Culture

Interviewer: How did the organization react to the changes of daily business processes and activities as a consequence of the implementation of the BPMS?

User (NL): As far as I can tell for my department, when we taught our colleagues to work with the system one-by-one, there were really enthusiastic and said things like “this is what we want” or “this is what we need”. One of the reasons were the batch-runs you had to work with, but also the fact that the BPMS already shows you the end-result really caused a “wow” reaction. Previously you had to wait for one of the runs to see whether the changes were made successfully, so that will have an impact on the flow of the requests with respect to speed and quality checks and such. In that way you can spread the load.

Interviewer: Does the implementation of the BPMS have an effect on ‘process thinking’ (regard to processes as the way to do business)?

User (NL): For Address Change it is a rather clear process, but for other processes it is hard to say. For Bank Account Change, linking all the different tasks of all the different stakeholders will become easier to oversee. It will still be important to ensure that people know what they are doing and what the consequences will be; if you are using direct debit at a customer, you really have to make sure you collect it from the right account, so the awareness should remain. People should not think too easy of what they are working; it is also important to have people who know what all the different parts of the process are. The fact that several screens will be reduced to one or two functional screens, which is a nice way of working. You only have to focus on the thing itself instead of finding the right screens.

Interviewer: Does the BPMS implementation project help the business to raise the level of trust and empowerment to achieve process outcomes?

User (NL): At the moment (one month after launch) we are still in the process of getting familiar with the BPMS and starting to rely on the BPMS. Eventually we should be able to trust that the system does what you think it will do, but for some special cases it does not at the moment. There we also realized the BPMS itself worked as it should work, but the underlying systems contained some problems.

With the old system you sometimes had to checkmark some boxes in order to change a certain address field in a correct way. Once the bugs have been solved, do you think people it will raise the level of trust?
User (NL): Yes, that will rise gradually then. In the future you will not know any better than this BPMS, so the trust will certainly be there.

*Interviewer: What does the company’s leadership think of process thinking?*

User (NL): I think they will manage their subordinates in order to arrange the things that need to be done. But I cannot really say what they think. I know that there are lot of initiatives going on, led by people on management levels between the leadership and me. And they will present their results, but the company leadership will not really work on those things in their daily business. If the outcomes are as desired, they will regard to it as something positive I think. And with a project as big as this BPMS implementation they will definitely be aware of the progress I think.
Interviewer: How does the implementation of the BPMS fit with the enterprise-wide process improvement plan?

User: I think it has a big impact. If I would relate it to the activities we have been doing recently, focusing on Address Change, it is already a big improvement for us. This means we can work much more efficient. Previously, we had to use different systems to process an Address Change and because of the BPMS it would work in such a way that we only have to press some buttons and then it is done. So with respect to process improvements I see some big advantages.

Interviewer: And do you think that because of the BPMS implementation the way of improving processes will change throughout the company?

User: I think so, yes. The thing is, with this implementation you have to analyze your processes first to improve them. First we analyze how it works in the current situation and then we start looking how the things have to run if you can use this BPMS. So, logically this will lead towards analyzing all of the departments so might improve all processes. And I think this could lead to big improvement possibilities, I am sure of that. And efficiency.

Interviewer: How does the implementation of the BPMS change process from the pre-BPMS situation?

User: When I would relate it to the process improvement, I would refer to the analysis that has to be done in advance, because that enables the process improvement. For us it will get a lot simpler with the system, but before this it is important that everything is analyzed to take it into account.

Interviewer: How does the implementation of the BPMS contribute to the understanding of process outputs and related KPI’s?

User: A lot faster. The systems that we use for Address Changes will all become one system, and this will happen to other processes as well. It has been built in such a way that we start to trust the system in such a way that we do not have to wait anymore. Also because you do not need any batch-runs anymore to see certain changes in the system. In the future we do not have to wait for those things anymore, and then we can see the system processes the things correctly and we assume that things work properly. So, this will cause that things like throughput times will improve a lot. So it will become a lot faster and easier to execute.

Interviewer: And do you also think this will lead to a better understanding of the outputs, for instance for new people?

User: Yes, I think so. You will always have a link with the old systems, so that is something you would still have to learn. But generally speaking, you would be working on it for 2 minutes, instead of 10, you would only need a couple of screens, nothing more, so I think this will help a lot with that.

Interviewer: How did the implementation of the BPMS affect the process stakeholders?

User: That’s basically the same story, because it will form the backbone of our most influencing processes. So because of that, it will have a big impact on our department. And if you would extend that to the customer, they will clearly see a difference because we can help them a lot faster. The faster you can process a request in the system, the faster the customer is helped. And of course this will affect our Team Leads as well. They will see will be able to do our jobs faster and that we will have more time to pick up other things.
Interviewer: Did the implementation of the BPMS have an impact on the decision making process?

User: So you mean upfront? That we put more emphasis on something?

Interviewer: Yes, for instance on speed, or flexibility.

User: Well, in case of this BPMS, actually I do not now, because I joined this project later. So the analytical part of this process was not done together with me. So what the exact focus was and so on, I cannot say for the implemented process. But with our new process to be implemented, I do see a clear focus on things like Lead Times and the “ease-of-doing-business”, so the least possible manual actions and letting the system do more. With that in mind, the focus is on what things are time consuming, so those things we try to implement in the system and we try to improve such things.

Interviewer: And based on the daily use of the system, do you see a difference with respect to decision making?

User: With respect to Address Changes, no. Address Change is a relatively small change, although it took a lot of effort to implement, the change for the user is relatively small.

Interviewer: The impact was mainly “under water” then?

User: Well, it was also because we were working with the legacy system, and that is a system that was not really a success with the integration part, but for Address Change it was just one person who did the work, so with respect to Address Change I do not see a real big change.

Interviewer: Did the implementation of the BPMS affect the definition of Process Roles and Responsibilities?

User: Well yes, there have been created some new roles if you could put it that way. For Address Change, we started with two people from our department. Then logically, we will be the people who further deploy it within our department; automatically you will become the source of information for all kinds of questions, while previously you weren’t.

Interviewer: in some kind of Expert User role.

User: Something like that yes, which also sounds logical since we have spent quite some time on testing, so you will have some more knowledge of the BPMS. Gradually we are deploying it within our team, which more or less results in becoming some kind of Expert User.

Interviewer: How did the implementation of the BPMS affect the process for collecting the required metrics? (e.g. lead times)

User: I think we can use the system to track how long an Address Change works. Previously, with our two separate systems, you already knew it would take longer because you had to put in into both systems. And now with one system, logically resulting in an improvement of the lead time, but I think you can make an analysis on the process to serve the customer with one system. With the new system I think you get a lot of information on those kind of things.

Interviewer: Methods is all about the methods that are used to improve your processes, so regardless of the software you use for it.

Do you think the current process improvement methods are an enabler or a constraint for the BPMS implementation project?
User: so our current process methods. Well, I do not think it is something that blocks the development. Because you also work together with several people to analyze the process. Since we already work with the process, you could get some sort of “tunnel vision”, but with other people who look at it from a fresh, new perspective you get “open questions” and I think this is an important combination. Then you ask yourself: are certain steps really required or not, so I think this method leads to a more efficient way of working.

Interviewer: so you would really put it as an enabler then?

User: Yes

Interviewer: Do you think there has been a clear change of the process improvement methods?

User: Well, at first we really stuck with our work-instructions and started from there, and I cannot really say like this and this had a big impact on the success, but now we really see that the process is analyzed thoroughly, by indicating the things we really have to do and the things we could quit. And that I see as a big improvement.

Interviewer: And do you think there will be a change in future processes to be implemented, for example based on lessons learned?

User: Yes, I think so. This was the first project I was part of internally, so for me it was also a new thing. Now I have seen how things will be like in the eventual situation, will lead to different questions during the development of the second process, simply because you are more experienced with it. So personally I would do some things differently, but I think our approach in general will be more or less the same.

Interviewer: In what sense does the BPMS implementation project differ from other implementation projects that run currently and from those in the past?

User: Currently we are doing two projects in parallel, and I do sense a difference with respect to the approach. I have the idea that this project’s approach is a lot broader, maybe also because it is a big project on itself, with full support towards the business which I regard to as a positive thing. The way choices are being made; the clarity and the communication are good in that sense. That is a clear difference with another project we are running. And I think it is important to continue working this way.

Interviewer: Do you think certain aspects of the implementation project can be useful for other projects?

User: Yes, currently we are working on the ‘after-care’ of the implementation and there we have a weekly, first a daily, standup meeting in which we discuss the defects, what is being done and how we do feel about it. And I think this is an important thing to apply in other projects. Because usually when a project finishes and everything has been implemented, than it is done. And then everyone goes back to his own, whereas now I think we benefit from keeping this link and to see how we think of it as the business and how the project thinks it is, with explanations and to see how things could be improved. In that way the support is better. But to be honest, I do not have a lot things to compare it to because we do not run that many projects.

Information Technology

Interviewer: What is the influence of the implementation of the BPMS on the tools that are used for process improvement and innovation?
User: The big improvement here is that we have one system in which we can do the process.

Interviewer: And do you think having one system will also make it easier to improve the processes?

User: Yes, I think so. For now it might be a bit hard to already give an example, but the fact that you only need a small amount of actions instead of the numerous amount of screens that we currently have to go through to process a change. And I think that less screens will give you a better idea what is going on, but to actually indicate a process improvement I don’t know. I think the relatively circuituous process we had towards the new state already will be the biggest improvement, but if you would have to change something to a process with only three steps, it will be hard to eliminate something perhaps. But maybe that has to do with the fact that we only having been working with the system for a short period of time. Maybe after half a year we would conclude things like: maybe we should have done certain things in a different way, or better or something.

People

Interviewer: People is more about the ‘hard facts’, whereas the next factor ‘Culture’ is more on the soft aspects.

Does the implementation of the BPMS have an effect on the development of process-oriented skills of process performers?

User: It has an effect on the required skills, but to be honest, the process has become some much easier that the employee does not have to do much to change an address. You do not require many skills to execute the process, so it will be relatively easy. The Address Change process is also not that cumbersome, but of course there has been a big impact on this process because you do not need all those screens anymore. Within 5 minutes you know what to do. But it is hard for me to give an exact answer.

Interviewer: Does the implementation of the BPMS lead to a better understanding of the effects that process performers have on the outcomes of the process?

User: Well, that is not really the case, for Address Change at least. Because before, for this process you also had to process a request and you had to see whether the change was processed by the system correctly, so your result would still remain the same. So the BPMS this not lead to a better understanding of it. For this process it just became easier. It is not a really complex thing.

Interviewer: And if you would have to relate it to other processes?

User: Yes, for more complex processes you will get a better overview of the whole process. Terminations has got more insight, but I do not have worked with that yet, so I cannot really say. For now I only worked with the Address Change, and it did not change that much.

Interviewer: Are there any changes in the way process-related education and learning is provided?

User: Yes, for sure. Because we now only use one system, I would only have to explain you two or three screens instead of working in three systems and explaining which boxes have to be checked and all kind of related things.

Interviewer: Do you think the BPMS contributes to the collaboration between process stakeholders? If so, could you briefly describe how this will look like?

User: No, nothing different compared to before. For this process the change is not that big, although it was a big project, but I think the collaboration will not change that much for this process. On the other hand, it is a new system. So the link with the project team is a lot shorter, because small errors
will always appear. That link will definitely be shorter. But otherwise, there will not change that much. Maybe the complex processes will change.

Interviewer: Do you think the implementation of the BPMS has an influence on the way people take lead, responsibility and accountability of enterprise processes? If so, could you explain why?

User: Yes I do think so, because everyone has a new look at the processes. And because there is a new layer on top of the old systems in which you execute the process, people are really eager to see what happens under the hood, so they check in the old systems what the BPMS did. This leads to quite critical questions like “why are we doing this or that?” which triggers us to think: what could we do to simplify or improve the process and why are we doing certain steps, because during the analysis phase you will never cover the full 100%. So also the level of initiative will raise.

Culture

Interviewer: How did the organization react to the changes of daily business processes and activities as a consequence of the implementation of the BPMS?

User: Principally, people react very positively: making a change became so much easier that we need way less time to process a request. And since we are running this project for a couple of months now, also next to another project, our business sometimes experienced a higher work pressure because we had less people who could run the daily business. So when such a process takes a lot less time to execute in the new system, people really welcome the new way of working. So our team reacted quite positively. At first, we wanted to see which way the cat jumps, because it is something new and with every change people are a bit skeptical, but once you show how the system works and how it processes things automatically people get enthusiastic.

Interviewer: Will there be an effect on the speed of successful process change after the implementation of the BPMS? If so, could you indicate an example that clearly depicts the difference?

User: Well, I think with the implementation project as a whole, the purpose is to improve our processes, and to keep looking to our processes once they have been implemented. For example, you explain to your colleagues how everything works, which immediately leads to questions that could lead to process improvements. Whether it goes faster, depends on what kind of change. When we need to improve something that has to be changed in the BPMS, I think it will take a bit longer, because other processes will be implemented now as well. So when we have a suggestion for improvement once the process has been changed, I do not know how fast this will be implemented, so that is something I do not know. But on the other hand, looking at the process itself (apart from the implementation) will increase.

Interviewer: Do you think the implementation of the BPMS will have an effect on the amount of process innovation and improvement recommendations made, accepted and successfully? If so, could you explain how and why you think this?

User: With respect to suggestions I do think so, because people will think of all kinds of ways to improve, like the previous question, but with respect to implementation and execution I cannot say, because you might depend on what the system can and cannot do.

Interviewer: So you still need to see how things will show.

User: Exactly. By now, we almost trained everyone how to execute an address change, so as from now people will completely do it themselves, which will also lead to more questions like “how does this work” or “how does the system process that” and “this is weird”.
Interviewer: But that would have been the same case for the launch of any system?

User: Exactly, because you cannot say to people like “We are going to work in this way as from now. Good luck, see for yourself”. And I think, for every process to be implemented, we should do it the way I described before.

Interviewer: Does the implementation of the BPMS contribute towards process thinking (see processes as the way things get done)? If so, how?

User: For me personally, yes. How I like to function, is to finish my stuff as soon as possible. Logically, at first you will just do some kind of “trick”, without actually thinking of how processes could be improved. I think if the system guides you and shows you what the different steps are, that it will change the way you look to the things you do, and forces you to think “okay, what else can we do”.

Interviewer: Again, I understand that maybe for Address Change you already executed the whole chain of steps

User: Yes, but also for other processes it is good to see what things are involved and with that in mind you might think of things to be improved.

Interviewer: What you said about, doing some kind of “trick” I like as an example.

User: Yes, but often that is how it goes. That you do not know or understand the underlying concepts. Once you know them, and for me, now that is the case with Address Change: the developers explained me things like: “If you do this, you see the changes there and there” and once you get why the system works in a certain way, you really get it and see whether or not you could improve the process. So you do change towards “understanding the process”.

Interviewer: Does the BPMS implementation project help Process Performers towards the acceptance of process-orientation?

User: I cannot give a clear yes or no to that, because it also depends on how people react to the system. But an increased level of process orientation, I cannot say. There is no specific trigger that forces people towards process-orientation. But Address Change nothing really happens in that perspective, because we have been responsible for the entire execution of the process before as well.

With Bank Account Changes, which we are working on now, there you will have the Finance Department and the Customer Service Desk who are also a part of the process and there you will have a complete overview of the process which will be helpful, but that will be finished after your deadline so unfortunately we cannot help you with that.

Interviewer: Does the BPMS implementation project help the business to raise the level of trust and empowerment to achieve process outcomes?

User: Yes I do think so. At first, I would say no because we have to check and validate everything, so as of that moment people will be kind of skeptical. But I also think that is important since you want to fix all defects and errors. After that we will need to make sure that we can trust the system and due to the extra explanation by executing the process in the BPMS and directly showing what happens in the underlying systems, people will start to trust the BPMS and will say “the BPMS clearly is a real improvement”. So I think in time it will lead to a level of trust. After the fixing of the defects people will realize how intuitive the system works and how many cumbersome tasks the BPMS will do for you. And once it works the way it should work, the trust will come.
Interviewer: Does the (implementation of the) BPMS have an effect on “open and honest process communication”? If so, how?

User: Yes, I think so. I think a certain degree of transparency is important for improving the process. And also for developing the BPMS it is important to know everything about the process, so transparency is quite important in that sense.

Interviewer: And do you think, once the BPMS is “up and running”, it will lead to a certain level of transparency in daily business?

User: Well, yeah. With Address Change, there is not a lot to show; there are three entries to fill, so it cannot be that hard. So for this process I do not think so. In the case of the pilot process [a lot more complex], I do think there will be more transparency, since you have to take all kinds of things into account that will be clearly visible. With respect to Address Change, maybe in time things could change but on the short term, no.

Interviewer: What does the company’s leadership think of process thinking?

User: I think they mainly care in a sense that we should take care of our processes correctly. But I do not think they really think of something like Address Change on a daily base. And I think it matters to them “how much can the BPMS do and what would be the impact on the amount of fte”.
10.12 Appendix 12: OLTP/OLAP Enterprise I.T. Architecture

Adapted from Tangient LLC (2016)