Post-Project Benefits Management in Large Organizations – Insights of a Qualitative Study

Completed Research Paper

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Abstract

In the last decades, corporate investments in IT constantly increased and became a substantial part of business investments. Thus, researchers have sought to understand the effects of these investments and the practices that lead to more effective investment into IT. One stream of this research focuses on explicitly managing benefits. It links into IT investment appraisals as well as into IT project management with an emphasis on the latter. Extant research of benefits management focuses on the benefits-driven chartering and execution of IT projects. Thus, this research does not address benefits-related effects of the usage phase of IT investments, foregoing the opportunity of managing benefits based on the realization planned and emerging work practices over time. Against this background, this paper aims to identify the current state of benefits management and derives implications for post-project benefits management based on a qualitative study with eleven IT executives (mostly CIOs).

Keywords: Business benefits, CIO, IS project management, IT Business Value, IT portfolio management, Qualitative research
Post-Project Benefits Management in Large Organizations

Introduction

In the last decades, corporate investments in IT constantly increased and became a substantial part of business investments. In 2010, the amount of IT investments has reached 3.6 trillion $ and an estimation for 2012 of 4.5 trillion $, globally (WITSA 2010). Thus, researchers have sought to understand the effects of these investments as well as the practices that lead to more effective investment into IT. One stream of this research explicitly focuses on managing benefits associated with IT investments (Ahlemann et al. 2013; Ashurst 2015; Balta et al. 2015; Bradley 2010; Doherty et al. 2012; Markus 2004; Serra and Kunc 2015; Ward and Daniel 2013). This research on benefits management focuses on practices that reach from IT investment appraisals into IT project management. Surprisingly, despite this scholarly effort studies consistently report shortcomings in IT benefits realization (Bradley 2010).

Empirical evidence suggests that there is a significant time lack between IS implementation and benefits realization (Brynjolfsson and Hitt 1998; Marchand et al. 2000; Markus 2004; Orlikowski 1996). Similarly, studies show that benefits are only generated if the introduction of new or changed IT is complemented with organizational change (Brynjolfsson and Hitt 1998). This is also recognized in literature on IT-enabled Transformation that emphasizes that capture of benefits is a critical post-project activity (Markus 2004). Moreover, some benefits can result from emergent change that can yield unintended negative or positive effects (Orlikowski 1996). However, while literature proposes first attempts to realize benefits in the post-project phase, there are no studies that explicitly focus on post-project benefits realization in practice. Extant studies with a more general benefits management focus only provide limited evidence on post-project benefits realization activities. Therefore, this is the first study that explicitly focusses on post-project benefits management.

Despite this empirical evidence, success of IT projects is still predominately evaluated against the magic triangle of project management – budget, time, and quality – and not against the realized benefits (Joosten et al. 2014; Nelson and Morris 2014; Petter et al. 2012; Smithson and Hirschheim 1998). This is mirrored in the academic literature that tends to focus on early identification of benefits of projects and the management of such benefits during the execution (Bradley 2010; Braun et al. 2009; Hesselmann and Kunal 2014; Maes et al. 2012; Ward and Daniel 2012).

Less attention has been so far directed towards the management of benefits in the post-project phase, with the notable exception of Ashurst et al. (2008). Moreover, little is known about actual management practices in post-project benefits management as there is dearth of empirical studies with regard explicitly to this phase of benefits management. Therefore, we focus on benefits realization and explication as part of IT-enabled transformation. By doing so, this study is the first that explicitly seeks to understand post-project benefits management. Thus, current research does not sufficiently address benefits-related effects of the usage phase of IT investments, foregoing the opportunity of managing benefits based on the realization planned and emerging work practices over time. This research gap is underscored by Marchand et al., who posit that 80 % of an investments value is realized during the actual utilization in daily business (Marchand et al. 2000). Against this background, this paper aims to identify the current state of benefits management with an organization-wide focus and derives implications for post-project benefits management based on a qualitative study with eleven IT executives (mostly CIOs) in large organizations.

While our research interest focuses on post-project benefits management, we recognize a strong interdependence of post-project activities with all preceding project activities, as pointedly argued by Markus (2004) for the technoculture lifecycle. Thus, we seek to investigate activities related to benefits management prior to, and during the project as a precursor of understanding post-project benefits management.

The remainder of the paper is structured as follows. In the next section, relevant theoretical foundations are introduced. After that, the research methodology is transparently described and the actual collection and analysis of the data is shown. After that, results are derived from the data and discussed with a focus on recent approaches of benefits management, shortcomings of this practice, and the derivation of implications for practice as well as scholars. The paper closes with a conclusion to summarize the findings and gives an outlook for scholars as well as practitioners.
Theoretical Foundation

Benefits Management

Benefits management gained broader scholarly attention during the mid-1990s through a study conducted in Great Britain (Ward et al. 1996). In this well cited study the term benefits management is defined as „the process of organizing and managing such that potential benefits arising from the use of IT are actually realized“ (Ward et al. 1996). Despite this encompassing definition without an explicit focus on projects and project management, literature on benefits management assumes it consistently. Based on the findings and the lack of methodological support for benefits management the Cranfield Benefits Management Model (figure 1) was derived. It is well accepted and a starting point for various research approaches on benefits management (Ashurst et al. 2008; Eckartz et al. 2012; Ward et al. 1996). It consists of five phases starting with the identification and structuration of benefits (1). Relationships between functionalities and arising benefits should be identified in this phase. Moreover, ownerships and responsibilities for each benefit have to be defined. The results of this phase should be integrated into a business case. After that the realization of benefits (2) is planned. Major outcome of this phase is a finalized business case and detailed descriptions of each benefit. This should include measures as well as agreed responsibilities to be able to manage benefits later on. The third phase describes the execution of the benefits plan (3). This is done during the runtime of the project. The main task in this phase is to monitor the progress of the realization of benefits and to act if issues occur and unplanned events happen. After completion of a project the results have to be reviewed and evaluated (4) to determine if benefits have been achieved. Furthermore, this phase helps to identify benefits that were only partially realized or could not be realized at all. Based on this information it is possible to take action. This also refers to unexpected benefits. Lastly, potential for further benefits has to be established (5). During this phase further benefits should be identified to take them into consideration for future projects. This phase is implicitly grounded after the adoption of the project’s results is completed which relates to the time lag between introduction and the actual realization of benefits in the operation.

Fig. 1. Cranfield Benefits Management Model (Ward and Daniel 2006)

Besides the latter phase of the Cranfield Benefits Management Model, there are other suggestions for realizing benefits of IT investments in the post-project phase. These approaches emphasize the realization of planned benefits by way of changing organizational work practices (Ashurst 2011; Ashurst et al. 2008; Bradley 2010; Breese et al. 2015; Melton et al. 2011). Most of these approaches suggest tracking benefits realization according to predefined measures, e.g. through conducting a post-project benefits review (Melton et al. 2011). Others suggest an ongoing management of planned benefits by linking it to general
performance management functions (Melton et al. 2011) or establishing ownership for continued benefits exploitation (Ashurst et al. 2008).

In addition to the Cranfield Benefits Management Model, Ward and Daniel established the Benefits Dependency Network as a tool to visualize and analyze the interdependencies between benefits (Peppard et al. 2000; Ward and Daniel 2006). Despite these scholarly efforts, the application of benefits management remained insufficient and lead to more practitioner-driven approaches (Ashurst 2015; Bradley 2010; Jenner 2012; Melton et al. 2011). All in all, the diffusion of a formalized benefits management is still slow (Ward et al. 2007b). In a recent literature review on benefits management from a project perspective (Braun et al. 2009) one reason becomes visible. The study shows that in post-project phases there is no method or concept established to support emerging benefits as well as identified but unrealized benefits. This is contradictory to empirical evidence that suggests that organizational change has an emerging character (Brynjolfsson and Hitt 1998; Markus 2004; Upton and Staats 2008).

According to this, three important aspects of post-project benefits management can be identified. Firstly, post-project benefits management builds on benefits-related activities before and during the project. Secondly, the realization and exploitation of benefits only materializes once the output of the project is used in an organization. Thus, post-project benefits management significantly outlasts the project and needs to be embedded into the usage phase. Lastly, benefits from IT hinge on effecting organizational changes that improve the performance of the organization. Considering these three aspects, benefits management should be conceptualized as an integral part of a wider transformational framework that focuses on improving organizational performance with IT. This phenomenon is convincingly summarized in the technochange framework that can be seen as the broader context of technochange.

**Technochange**

Technochange focuses on “[...] using IT strategically to drive organizational performance improvements [...]” (Markus 2004, p. 4, emphasis in the original). While projects are pivotal phase in the technochange framework, Markus extends this view to those activities before and after the projects that are essential for effecting organizational improvements, namely the chartering phase prior to the project and the post-project phases of shakedown and benefits capture (Markus 2004). In doing so, technochange emphasizes the shortcomings of a project’s understanding of being solely views as an IT project or an organizational development project. Technochange projects, by contrast, inextricably link technology and organizational change (Markus 2004). Unsurprisingly, most projects can be seen as technochange projects because on the one hand, typical IT projects like implementation of software require organizational changes in terms of workflows and trainings for employees. On the other hand, business projects as well require changes in the corporate IT. Due to this character of technochange projects they embody a huge risk of misalignment because the IT part of the project is often seen as given and therefore, does not fit the organizational change intended (Markus 2004). To align both perspectives on a technochange project, the framework implements an integrated view on technological and organizational aspects of a project to ensure that both parts jointly affect an organization. Moreover, from a benefits management perspective technochange incorporates highly relevant effects as the time gap between the implementation and realization of beneficial effects.

Technochange thus provides a conceptual framework for understanding benefits management in the context of transforming organizations with IT. The technochange lifecycle emphasizes pre-project activities as well as post-project activities that are critical for realizing desired improvements in organizational performance, as shown in Table . We summarize the key lifecycle activities according to Markus (2004) and explicate the link to benefits management: Firstly, the chartering phase describes the initiation of a project from a first idea that is developed to a project proposal. Here, the organization needs to understand the high-level benefits that could accrue from the project. Based on such an assessment, the project may receive approval and funding. The following project phase describes the actual project that develops a technochange solution. Typical activities are the allocation of resources according to a project plan, the development of the IT solution, and in conjunction the planning of the organizational change. Additionally, the formal introduction of the solution and user trainings is subsumed in this phase. Shakedown is the phase in which the organizational changes take place and the adaptation of the solution begins. The project results should be analyzed to identify problems and rework technological and organizational issues. Lastly, the benefit capture phase describes the realization and
exploitation of a project’s benefits. It is also the phase where the solution should be continuously improved to raise the benefits. Especially, emerging benefits are focused in this phase to improve operations based in the user’s experiences (Markus 2004).

<table>
<thead>
<tr>
<th>Phase</th>
<th>Chartering</th>
<th>Project</th>
<th>Shakedown</th>
<th>Benefit Capture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motto</td>
<td>‘Ideas to Dollars’</td>
<td>‘Dollars to Solution’</td>
<td>‘Solution to Usage’</td>
<td>‘Usage to Dollars’</td>
</tr>
<tr>
<td>Description</td>
<td>Phase during which the technochange idea is proposed, approved, and funded</td>
<td>Phase during which the technochange solution is developed and technology is acquired or built; ends when technochange starts up or ‘goes live’</td>
<td>Phase during which the organization starts operating in a new way with technology and the organization troubleshoots problems associated with technology and new processes; the goal of the phase is ‘normal operations’</td>
<td>Phase during which the organization systematically derives benefits from the new way of working; may involve continuous improvements, ‘upgrades’, and ‘conversions’ of various kinds</td>
</tr>
</tbody>
</table>

**Table 1. Phases of the technochange lifecycle (Markus 2004)**

Markus and Tanis highlight the dependencies of the activities across all phases of the lifecycle. In particular, they introduce the notion of exported problems (Markus and Tanis 2000). Exported problems are issues that remain unresolved in the phase in which these problems originated. Due to changing management responsibility for each technochange phase, such unresolved problems are likely to be undetected by responsible managers in the succeeding phase. Markus (2004) illustrates that such exported problems can have substantial negative impact on technochange success and, by implication, on benefits realization and exploitation. Thus, successful post-project benefits realization not only requires an effective information flow about expected benefits but also an information flow about potential project-induced risks for benefits realization across the entire technochange lifecycle.

**Methodology, Data Collection and Analysis**

While the study’s main aim is to understand current practices post-project benefits management activities of large organizations, the dependencies on these activities on prior phases led us to the adoption of the technochange lifecycle as a guiding framework for our data collection and analysis. Within the interviews we took an organization-wide focus to ensure an encompassing view on the organizations. Due to the exploratory character of the study, semi-structured interviews were utilized to gain insights into current practice of benefits management in large organizations (Myers 2013; Myers and Newman 2007). The guideline for the interviews was inspired by the technochange lifecycle and its phases as well as by research on benefits management. Before conducting the interviews, a group of six experienced academics and consultants evaluated and refined the guidelines during a workshop.

All interviewees were briefly introduced to the technochange lifecycle. Then, the interview guideline consisted of seven open questions to enable the interviewees to relate to their individual organizational context. Following the introduction of the technochange lifecycle the interviewees were asked to respond to pick and illustrate a recent example of a technochange project in their own organization. While specifically emphasizing the chartering and post-project benefits capture, the open nature of the question and the initial comprehensive technochange project example led the interviewees to discuss benefit related activities and measures across the entire lifecycle. This strengthens the assumption that all phases are highly related.

Each interview lasted between 60 and 90 minutes and was conducted by two to four researchers. All but two interviews were conducted in presence at the interviewee’s office. The selected interviewees were eleven top-level managers with a strong background in IT as well as business. All interviewees have had long-term experience in project management and have taken responsibility for at least a large part of their corporate IT. The sample represents six different industries. Regarding the size of the companies, the
sample includes companies with 3,000 to over 500,000 employees and revenues in 2013 of at least 400 Mio. €. An overview of the participants is given in table 2.

<table>
<thead>
<tr>
<th>ID</th>
<th>Role</th>
<th>Industry</th>
<th>Revenue</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>CIO</td>
<td>Retail</td>
<td>7.158 Mio. €</td>
<td>2.978</td>
</tr>
<tr>
<td>B</td>
<td>CIO</td>
<td>Transportation &amp; Logistics</td>
<td>39.119 Mio. €</td>
<td>30.6919</td>
</tr>
<tr>
<td>C</td>
<td>COO</td>
<td>Finance</td>
<td>Unspecified</td>
<td>Unspecified</td>
</tr>
<tr>
<td>D</td>
<td>CIO</td>
<td>Transportation &amp; Logistics</td>
<td>4.180 Mio. €</td>
<td>19.927</td>
</tr>
<tr>
<td>E</td>
<td>CIO</td>
<td>Transportation &amp; Logistics</td>
<td>424 Mio. €</td>
<td>4.836</td>
</tr>
<tr>
<td>F</td>
<td>CIO</td>
<td>Transportation &amp; Logistics</td>
<td>Unspecified</td>
<td>Unspecified</td>
</tr>
<tr>
<td>G</td>
<td>Vice-CIO</td>
<td>Automotive</td>
<td>197.007 Mio. €</td>
<td>572.800</td>
</tr>
<tr>
<td>H</td>
<td>CIO</td>
<td>Transportation &amp; Logistics</td>
<td>20.929 Mio. CHF</td>
<td>62.744</td>
</tr>
<tr>
<td>I</td>
<td>CIO</td>
<td>Energy</td>
<td>122.450 Mio. €</td>
<td>62.239</td>
</tr>
<tr>
<td>J</td>
<td>Director</td>
<td>Public Services</td>
<td>Unspecified</td>
<td>Unspecified</td>
</tr>
<tr>
<td>K</td>
<td>Senior Manager</td>
<td>Finance</td>
<td>1.800 Mio. €</td>
<td>3000</td>
</tr>
</tbody>
</table>

Table 2. Profile of Interviewees

After the data collection, each interview was transcribed. The resulting qualitative data was analyzed with the help of the qualitative content analysis that was incorporated by two independent researchers (Flick 1992; Mayring 2010). Therefore, codes were derived deductively based on the technochange lifecycle and the guideline. After the analysis of the first five interviews the codes were inductively revised to take the gained experience in the research area into consideration. Two researchers who did the coding independently ensured the intercoder reliability of the data analysis. The results of the coding were stable and therefore, the reliability of the analysis is proven.

Results

Like in other studies before, our results show that in all cases benefits are considered during the chartering of projects (Breese et al. 2015; Maes 2014; Ward et al. 2007a). All interviewees incorporate business cases to deal with project appraisals in a structured way. Those business cases include a statement on benefits of a project. Moreover, eight companies have a project portfolio management process to foster structured decisions on future projects. Three cases are noteworthy because the project portfolio management process is embedded in the IT department and manages over 90 % of their corporate projects. All cases differ concerning the frequency of decisions from continuous planning to annual planning. Interestingly, only in one case a commitment to the benefits in terms of accountability is mandatory. Lastly, one company established competence center to catalyze subject-specific idea generation, i.e. data-driven business development, considering recent and future demand of the organization.

During the project phase four different approaches can be observed. Firstly, four companies start to use agile methods for projects to involve the customer or user of the projects’ results during the whole development. By utilizing agile methods organizations seek to ensure the realization of benefits due to the integration of users and customers. Moreover, it bears the possibility to continuously identify not anticipated benefits. This practice is mainly applied in small projects to gain experience with these methods and to identify potentials for future utilization in larger projects. In one case, agile methods are mentioned as promising in complex settings with changing demands, but nevertheless, the duration of these projects is short and the budgets low. Secondly, one case organization uses a continuous demand management process for long-term projects to control the benefits during the lifecycle and to be able to include new benefits that occur while the project advances. By doing so, the organization can handle the
realization of benefits even after projects are closed, and therefore, the demand management is independent from individual projects. It focusses on specific IT services and business issues that are engaging in an ongoing dialogue with the business side. Thirdly, an organization explicitly strives for continuity in the project team and continuous accountability during the project. Hereby, the risk of exported problems is minimized because there is no advantage in delaying issues. Lastly, an independent project insurance group accompanies large projects in one case organization. This group is attending all meetings of the steering committee and aims for an independent assessment of the project’s risks. As an independent instance in the project organization the project assurance group is mediating conflicts and obliged to report directly to the CIO. Therefore, this organizational unit can help to ensure successful projects that imply organizational change.

The utilization of methods to manage benefits during the shakedown phase is even patchier than the project phase. Three case organizations use project reports to reflect on the course of the project. The focus of these reports varies from an overall assessment of the budget, time, and quality to a focus on benefits and why these are not realized. However, all methods take a retrospective view on the project with the goal of organizational learning for the future and do not strive for an improvement of the project analyzed. Another case organization evaluates the results of the project during the shakedown by user assessments that can lead to new projects to improve the results. Similarly but without a structured process, another case organization reacts on user issues with requests for change or new projects. Lastly, a case organization established an honest project handover between the accountable project lead and the prospective accountable employee of the business unit. When these two parties meet all issues and shortcomings of the project should be openly addressed. Thus enabling the business unit to adjust current practice and to decide about further actions required to realize potential benefits.

Methodological support in the benefit capture phase is fragmentary. Only one organization monitors the realization of benefits after the shakedown phase in a structured way. Based on reports on the use of a new solution the actual development is compared to the anticipate development. This monitoring results in change requests that lead to the realization of new benefits during operation or by small follow-up projects. However, this monitoring is unique in the organization due to the character of the project that aims for the development of a new customer segment. Four case companies evaluate the project’s results with a time gap of three to twelve months. Controlling the anticipated benefits based on monetary parameters mainly drives this assessment. One case company assesses the realization of benefits by informal talks to the business unit assuming that issues with the results would be communicated. Lastly, two organizations have or plan to have a strict benefits collection based on the business case. By doing that the budgets of the ordering party are rigorously cut by the amount of savings that had to be exactly stated in the business case. The results of the eleven interviews are summarized in table 3.

<table>
<thead>
<tr>
<th>Chartering</th>
<th>Project</th>
<th>Shakedown</th>
<th>Benefit Capture</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>• Project portfolio management process</td>
<td>• First small agile projects to gain</td>
<td>• Evaluation of the benefits after 6 (standard) or 12 months by project lead, project sponsor, and controller.</td>
</tr>
<tr>
<td></td>
<td>with scoring mechanism to evaluate ideas</td>
<td>experience</td>
<td>• Future plans: Strict benefit collection in terms of budget reductions according to the previously stated benefits is discussed</td>
</tr>
<tr>
<td></td>
<td>• Bimonthly decision making</td>
<td>• Independent risk</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If a project scored good enough a</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>business case is developed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>• Well defined project portfolio management process with business cases as the main</td>
<td>• Based on the initial efficiency calculation, the benefits are assessed and collected after the</td>
<td></td>
</tr>
</tbody>
</table>

**Table 3:** Methodological Support in Post-Project Benefits Management
<table>
<thead>
<tr>
<th></th>
<th>Chartering</th>
<th>Project</th>
<th>Shakedown</th>
<th>Benefit Capture</th>
</tr>
</thead>
<tbody>
<tr>
<td>document to approve projects</td>
<td>assessment</td>
<td></td>
<td>project is completed</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>• Project portfolio management process that includes IT as well as business projects</td>
<td>• Handover between project lead and team lead. Honest assessment of the project’s state and issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Development of a business case if the idea fits into the scenario</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>• Project portfolio management process on an annual basis</td>
<td></td>
<td>• After large projects reviews can be done or after 6 months there are meetings to assess if the solution “feels” beneficial.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Business case</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>• Business case is the main document to initiate projects</td>
<td></td>
<td>• Sometimes monitoring of anticipated development</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• New benefits are realized in new projects / next releases</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>• Project portfolio management process</td>
<td>• Follow-up tasks are defined during the formal closure of a project, based on the assumption that 20% of anticipated features and benefits are not realized</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Large Projects are initiated with prototypes to gain business commitment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Decisions based on Business cases</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>• Project portfolio management process</td>
<td>• Agile projects; especially in complex settings successful</td>
<td>• User assessments</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Business case</td>
<td>• Continuous demand management during the project to gain more benefits; decisions by the change advisory board</td>
<td>• 3 months after shakedown a benefit assessment takes place</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chartering

- Definition of benefits and their measurement
- Benefit commitment as part of the business case
- Continuous planning and reporting

Project

- Agile methods are utilized basically customer interface projects with short duration (2 days)
- Continuity in accountability; only minor changes in project team

Shakedown

- Minor improvements are realized within change request otherwise a new project is initiated
- Business review compares results after rollout with business case. If necessary gap analysis

Benefit Capture

Table 3. Results of the interviews

Discussion

Approaches to managing benefits

The consistent use of benefits management methods during the chartering phase is not mirrored in later phases of the technochange lifecycle. Benefits management at the end and after the project is at best patchy across organizations. During the chartering phase it is broadly accepted that business cases are utilized to propose benefits (Maes 2014). Furthermore, all case organizations have implemented a project portfolio management process to enable structured decisions on projects and portfolios to align their impact to the business or IT strategy.
Significant differences begin to show with regard to benefit management in the project phase. Two methods are mentioned in the study. One firm uses a project assurance approach. This entails a continual auditing process during the execution of the project that is independent from regular project leadership and able to report directly to senior management. The aim is to identify and monitor risks according to the realization of benefits. Another approach is the adoption of agile project methods. Those methods suggest short cycles of interaction between the project team and customers or business units (Wixom et al. 2013). This constant feedback seeks to deliver results that are useful to customers and thus helps to realize expected and new benefits.

After the project phase, one organization used an honest project handover. After the project phase, one organization used an honest handover. This entails a thorough assessment of a project’s results. Following, an open communication of the solution, shortcomings, and potential functionalities that can be beneficial are discussed. The goal is to enable an ongoing improvement of the project results. This requires an organization to accept the explicit communication of addressed shortcomings and unresolved issues of a project. Besides, such practice can help business units to adjust expectations on projects results by knowing issues that can be dealt with in an improvement during the usage phase. Thus, potential reservations concerning the projects results can be reduced. Another more formalized approach towards a structured handover is the post mortem analysis. On the one hand, it enforces to state possible deficits and on the other hand, helps an organization to learn from past projects.

As these results show, during the shakedown phase only very few organizations try to adjust the projects’ results with minor, timely changes that could help to adapt organizational change and to enhance already partially realized benefits. It is common practice to initiate follow-up projects to deal with unresolved issues. This assumes that a contemporaneous realization of these follow-up projects is reasonable. Yet, the results show that continuous approval of project appraisals is not possible according to cyclic planning of projects. Thus, the shortcomings of a project can only be resolved with a remarkable time lag. This also assumes that resources are available and that it is prioritized higher than regular project proposals. Consequently, it cannot be assured that issues on a projects’ result raised after the formal closure can be resolved contemporarily.

The state of practice is particularly patchy with regard to ongoing benefits capture, the last phase of the technochange lifecycle. A few organizations use loosely structured benefit reports to track if the results meet the requirements of the users and deliver expected benefits. In some cases this is done after a period of up to twelve months to ensure that the adoption is completed. In general, those reports lack a comparable metric to evaluate the benefits captured. Moreover, the aim of those reports is mainly to learn from the formally closed projects. The most rigorous method, namely benefit collection, are utilized by two organizations to monitor the business case consequently. Benefit collection drives organizations to measure actual performance against the targets of the original business case, delivering a validated estimation of a project’s effect on the business. However, experts comment that original benefit targets may have become (partially) irrelevant by the time of benefit collection given the dynamics of larger organizations and an extended time-span between chartering and benefits collection.

Two of the organizations try to enhance the realization of benefits by establishing overlapping organizational structures to manage benefits throughout the technochange lifecycle. One organization introduced permanent competence center for the implementation and improvement of a specific enterprise-wide information system. The competence center can identify, monitor, and foster benefits not just for a single project but within all projects and activities related to the system. Another organization used competence centers to drive all projects related to specific areas of IT innovation, i.e. data-driven business development, to bundle knowledge and to strengthen project appraisals. In addition, the CIO of a third organization argued that benefits management is embedded in an ongoing demand management process that also served as key liaison between business and IT in this organization. This demand management process governed the ongoing benefits-informed dialogue about IT demands between specific business units and their associated demand managers in the IT organization. An overview of the methods used in the phases is given in figure 2.
Fig. 2. Tools utilized to capture benefits

All organizations share the understanding that the overall responsibility of technochange projects has to be embedded in the business unit because this is where the results are utilized. Moreover, it is well understood that co-ownership of business and IT during the project is helpful, but only very few exceptional cases understand co-ownership in terms of benefits capture. According to the lack of structured methods to accompany the benefit capture phase the chance to lever potential benefits is low. It seems like emerging benefits can only be realized if a benefit is identified by accident and a follow-up project can timely be realized.

Towards effective post-project benefits management

Based on the results of the analysis, three main shortcomings of current benefits management practices can be identified that affect post-project benefits management. Despite our focus on post-project benefits management, it is crucial to consider all phases of the technochange lifecycle. Without this broad perspective, it is not possible to derive implications for post-project management. Even, if benefits are well described during the chartering phase, a discontinued management of benefits during the project can negatively affect post-project benefits management. For example, the transformational nature of technochange projects can lead to long durations of project. With increasing duration of a project, the business context and need may change, requiring adjusting projected benefits during the projects. Similarly, project-specific risks such as scope cuts can inhibit the realization of originally planned benefits. Thus, the focus of the identified shortcomings and implications is broader than only on post-project benefits management. The main shortcomings identified are the changing and unclear responsibility (1) for ongoing benefits management, the management of benefits during the project phase (2), and the lack of proactive approaches (3) during shakedown and benefit capture.

Responsibility (1): The study points to a responsibility problem for benefits management, as responsibilities for managing benefits across the technochange lifecycle are changing and sometimes unclear management. In the beginning, there is evident managerial responsibility for the planning and committing to benefits in the business case. During the project and the shakedown phase, the responsibility is often delegated and subject to change. In the post-project phase the responsibility is handed over to the business units. This changing responsibility may blur accountability for benefits
realization and exploitation, only aggravated by exported problems that facilitate shifting blame for unrealized benefits to someone else.

However, all organizations strive to establish a clear responsibility of the initiating top-level management or business unit for managing benefits in technochange projects. Some organizations even assign responsibilities for specific planned benefits to individual business stakeholders. This is similar to creating benefits realization plans as proposed by Ward and Daniel (Ward and Daniel 2012). The intention of this practice is to define who is tasked with realizing benefits both during and after the project. Yet, our analysis indicates that in practice this responsibility is at risk to become blurry after the chartering phase. Continuity in responsibility may be difficult to maintain because of transient governance structures of projects and the dynamics of (large) organizations.

Organizations thus need to work out ways to establish a continual management of benefits outlasting individual projects despite these inhibitors (I1). One way is to embed benefits management in regular processes or organizational functions at the interface of business and IT, such as several organizations did with their demand management processes or competence centers. Moreover, continuous improvement processes should be adapted to specifically focus on IT-related benefits to realize emergent effects during the usage phase.

Another way is to institute a responsibility for scheduled instances of benefit assessments. Even if an organization lacks a continuous and detailed management responsibility for benefits realization across the lifecycle, such assessments can prompt a renewed assignment of such responsibilities during or after a project based on a current account of the state of benefits realization.

Management during project phase (2): Our study shows that during the project phase the management of benefits is not consequently done. Given a dynamic environment, this lack of focus leads to an inferior realization of benefits. A promising approach to deal with this shortcoming is to integrate users in an iterative development process to improve the fit of the anticipated solution. By doing so, benefits can be validated during this phase.

The results clearly show that all organizations are aware of benefits and understand the need to clearly identify, define, and monitor them. It can be observed that all organizations utilize methods throughout the chartering phase to ensure that the investments into projects are beneficial and follow a stringent business logic. This is done by well-understood practices like business cases and portfolio management. These incorporate benefits systematically. Moreover, responsibilities are defined and measures to manage benefits are partially established. Based on this general understanding of benefits and their importance, it is very revealing to study the following phases of the technochange lifecycle. During the project phase, the management of benefits is increasingly out of focus as organizations emphasize project management with regard to time, budget, and functionalities.

None of the organizations applied specific benefits management methods from extant literature. Additionally, methodological support gets less specific over the course of a project. Given the aforementioned dynamics, the realization of benefits gets aggravated. Only five organizations try to manage benefits during the project phase, albeit without considering any specific published benefits management methods. Four cases show that agile project methods are seen as a way to foster benefit realization. Agile methods allow for a continual identification and management of benefits throughout a project due to the iterative delivery of results as well as ongoing integration of users and/or customers. These findings show that despite scholarly efforts and a high awareness in practice, benefits management does not yet fulfill its full potential in organizations. In this phase, a broadened integration of users could help to enhance the project teams understanding of work practice and consequently emphasize benefits during this phase. Even more, an iterative development approach could result in a more beneficial implementation of needed functionalities (I2). As of now, functionalities are not evaluated regarding potential benefits added. Moreover, an iterative development process during the project phase can improve the appropriateness of a solution. A method that some companies try to utilize is agile approaches to gain more insights into users in dynamic circumstances. Such approaches could implement a benefit view through a broadening of user stories with benefits explicitly addressed in these stories. In doing so, user stories could be a tool to ensure that not only functionalities are implemented by users' demand but also benefits are utilized to prioritize the progress of a project. Moreover, the utilization of
agile methods bears the potential to decrease the time lag between transition and the occurrence of a project’s effects on work practice.

*Lack of proactive approaches at the end of the technochange lifecycle (3)*: After the project phase, the results of the study show that organizations are aware of benefits and reviewing them. Nonetheless, the focus of the activities lies on organizational learning for future projects and changes. No approaches are taken to embed a proactive management of benefits during these phases. By doing so, organizations could ensure the realization of anticipated benefits that could change during the course of a project. Additionally, emerging effects could be identified and used to realize further benefits. This should be done in a timely manner.

Interestingly, many organizations utilize some approach for benefits management during the shakedown or benefit capture phase. This fact underlines the importance of benefits and the relevance in organizations. However, the methods utilized mainly focus on the post-hoc reflection of projects to capture lessons learned and often do not incorporate benefit management methods. Current approaches taken by organizations try to support organizational learning through monitoring and evaluation after a project is formally closed. This retrospective character is useful and needed to improve project management and avoid failures in future projects.

However, a retrospective approach does not provide guidance for improving benefits realization or even the exploitation of new or emergent benefits. This requires an action-oriented approach during the transition and especially early usage phases (I3). By monitoring anticipated benefits it is possible to track and foster the realization of benefits. Based on the experience of the users, actions like additional trainings or adaptations in routines can be realized to ensure the capturing of planned benefits as well as the discovery of new benefits. Only one organization has a structured and timely way to handle emerging benefits in the shakedown phase by encouraging benefits-related change requests.

Many interviewees are aware of the time-lag between implementing a technochange and benefits capture. By instituting assessments, some organizations seek to keep track of benefits realization. These retrospective approaches, however, generally do not foster the identification of emergent new and benefits are missing. Following this argumentation, benefits management practice should thus seek to assess unrealized planned benefits as well as identifying new and emerging benefits in the post-project phase (I4). None of the organization seem to have specific methods or tools to deal with unintended effects or new or emergent benefits of a technochange solution. Most critically, this implies that organizations need to find ways to enable timely follow-up actions for benefit realization and exploitation in the post-project phases (I5). Only one organization in our study uses a systematic way to identify emerging benefits and initiate timely technochange activities in the usage phase for benefits exploitation. Such timely action is inhibited in many organizations as new technochange activity could require a new technochange project that requires long-winding planning and approval processes, leading to missed opportunities or significant time-lags for capturing benefits.

As the results clearly show, many organizations lack consistent practices to manage benefits in the post-project phase. This phase encompasses the shakedown where the projects results are transitioned to productive use and the benefits capture phase. Those are crucial for benefits realization because here the results are implemented in the business for effecting performance improvements. Due to the lack of structured possibilities to deal with users’ experience and emerging potential benefits, current practice misses the opportunity to gain more benefits. The survey of current practices thus can help to assess individual organizations and their practices especially in this crucial phase. It also shows that in practice some promising project independent approaches were utilized to manage benefits that have not been sufficiently captured in research on benefits management. Even more, the study shows that there seems to be a need for embedded methods of benefits management that are well aligned to already used methods to lower the burden of implementing new activities that on the first hand seem to be even more organizational overhead. Based on these findings, the derived implications for post-project benefits capture are shown in table 4.
Conclusion

This paper seeks to gain insights into current practice of large organizations on benefits management and to give implications to improve this practice especially in the post-project phase. Therefore, a qualitative study with eleven top management interviewees (mainly CIOs) was conducted to assess the application of structured methods and tools to manage benefits and to identify shortcomings of it. The results clearly show that the organizations are well aware of benefits. They understand the need to clearly identify, define, and monitor them. Moreover, responsibilities for benefits are established in most organizations during the chartering phase. Hence, established methods like business cases and project portfolio management are state of the art and are used to deal with benefits. Despite this general awareness, the methodological support of benefits management decreases after the chartering phase. Although, all companies utilize methods in the shakedown and benefit capture phase, these methods are only meant to be supportive to the organizational learning processes by collecting lessons learned and to evaluate the results of a project. None of the methods help to realize benefits. Furthermore, the emergent character of organizational change is not considered. As a result, potential emerging benefits cannot be managed in a structured way. This also implies that timely improvements on solutions can rarely be realized with follow-up projects.

Based on these findings, five implications are derived to strengthen the realization of benefits in the post-project phase. It is considered, that these implications lead to a more user-focused management of benefits with the goal to improve solutions during the usage phase while taking user experiences into account. By doing so, the large amount of time after the formal introduction of a solution to realize benefits and the emergent character of organizational change is taken into account (Brynjolfsson and Hitt 1998; Marchand et al. 2000; Markus 2004; Orlikowski 1996).

These results are limited due to the industry bias on transportation and logistics with five out of eleven case companies from this industry. Moreover, all participating organizations are located in Germany, Austria, or Switzerland. Nevertheless, the results are in line with the findings of Ward et al. regarding the awareness of benefits (Ward et al. 2007a).

Based on these findings, several implications for practitioners as well as scholars occur. Current benefits management practice insufficiently handles the post-project phases. Despite the knowledge of the time gap between the closure of a project and the occurrence of the effects of an organizational change, organizations do not realize potential improvements or benefits due to the lack of flexibility in the post-project phase. Moreover, co-ownership could help organizations to align business units and IT in terms of benefit capture to improve the overall performance of the organization.

Future research should analyze the few methods applied in detail to get a better understanding of the shortcomings and barriers that impede a structured benefit realization. Such in-depths studies can identify weaknesses and could help to improve current methods or lead to new approaches of benefits management. Additionally, it is promising to explore the business side's perspective on post-project benefits management, because the actual realization takes place in the business units. Therefore, insights of the counterparts of CIOs could enrich further research and help to reduce barriers. Moreover, it is

<table>
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<tr>
<th>Phase</th>
<th>Implication</th>
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<tbody>
<tr>
<td>General</td>
<td>Enforce continuity regarding management of benefits that outlasts projects (I1)</td>
</tr>
<tr>
<td>Project</td>
<td>Integration of users and iterative development to gain better understanding of work practice to improve solution fit (I2)</td>
</tr>
<tr>
<td>Post-project</td>
<td>Accompany transition and early usage phases with an ongoing action-oriented approach instead of only a retrospective one (I3)</td>
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<tr>
<td></td>
<td>Identify emergent benefits after the transition is completed and regular work practice is achieved (I4)</td>
</tr>
<tr>
<td></td>
<td>Establish ways to deal with improvements through timely follow-ups (I5)</td>
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</tbody>
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Table 4. Implications for benefits management practice
promising to broaden the view on benefits management and to seek to integrate post-project benefits management in encompassing processes like project portfolio management. This could possibly lead to a benefits management that is detached from single projects and their limitedness regarding time. Thus, more structured methods could be applied to handle emergent potential benefits as well as to adjust project results in a timely and more flexible way.

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