Issues Concerning Adoption of Benefits Management of IT Investments in Norwegian Municipalities.

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Abstract. Public spending on IT (information technology) and related organizational change forms a major market domain in the IT field. However, the public sector organizations often fail to realize the potential value of such investments. This paper suggests a research agenda to provide government, especially municipalities, with the arguments for how active benefits management can result in improved value of e-Government projects. Also, the paper outlines a research in progress for selecting and developing methodologies and practices for benefits management related to e-Government. A Delphi study on adoption issues for benefits management of IT in municipalities is outlined and the first phase with initial results is presented. Altogether the list of 46 issues was identified by the expert panel which volunteered to participate in the study. The study has potential to contribute to the discussion of IT benefits management in general and for method elaboration in particular.

Introduction

The public sector meets great challenges, as well as lucrative opportunities, of modernizing governmental services and operations for the digital era. New digital services require significant investments in information technology and, moreover, organizational development to realize benefits from the IT investments.

In Norway, the government and municipalities will continue to use in the years to come billions of Norwegian crowns of taxpayers’ money to realize new digital
services and infrastructure (eKommune 2009, 2005). However, the issue of benefits realization represents a challenge to overcome by organs such as the “Kommunenes Sentralforbund” and “Moderniseringsdepartementet (recently renamed Fornyingsdepartementet)” (eNorge 2009, 2005). Kommunenes Sentralforbundet (KS), a central organ for municipalities, has set a goal that in 2008 every municipality should document that IT projects have resulted in better services, more effective operations and resource savings (eKommune 2009, 2005). For this purpose, KS has started actions to develop methods and tools for goal-oriented benefits realization to be adopted by the municipalities. That is, the Norwegian government has launched actions to define practices of benefits management (Ward & Daniel, 2006) for the municipalities to follow.

Benefits management is “(t)he process of organizing and managing such that the potential benefits arising from the use of IS[information systems]/IT are actually realized” (Ward & Daniel, 2006, p. 36). The concept of benefits management highlights that in addition to investment justification and evaluation per se, it is necessary to establish an explicit process for ensuring that IS development initiatives really deliver the benefits intended (Ward et al., 1996).

Frameworks for benefits management have been suggested (Al-Tameem & Wheeler, 2000; Kohli & Devaraj, 2004; Ward & Daniel, 2006). For example, the “Cranfield Process model” of benefits management comprises five stages: identify and structure benefits, plan benefits realization, execute benefits plan, review and evaluate results, and establish potential for further benefits (Ward et al, 1996; Ward & Daniel, 2006). For each of the stages, more detailed procedures and techniques are suggested and illustrated in light of selected case studies (Ward & Daniel, 2006). Despite of a number of examples from benefits management resulting in systematic development of methods and tools for the field (Ward & Daniel, 2006) research in general shows that methodologies covering the full process of benefits management are not extremely spread among organizations (Lin & Pervan, 2003; Bennington & Baccarini, 2004). Especially the review of realized benefits often remains undone after the statements of potential benefits in the project appraisal phases (Lin & Pervan, 2003; McKay et al., 2003; Bennington & Baccarini, 2004). The stated desirability of benefits management in the first place is, at best, grounded on anecdotal mentions referring to an unspecified number of case studies (Kohli & Devaraj, 2004; Ward & Daniel, 2006). It is claimed that systematic benefits management helps avoid the loss of clearly achievable benefits, identify and realize more extensive benefits, reduce IT costs for some investments, cancel or re-direct projects with no benefits in sight (Kohli & Devaraj, 2004), identify essential IT functionality with regard to organizational goals, and reduce the amount of IT functionality focusing on the core required to realize the benefits (Ward & Daniel, 2006, p. 103).
A few hindrances of implementing a benefits management process in organizations have been identified as well (Bennington & Baccarini, 2004). From the viewpoint of project managers, focus on technological deliverables instead of benefits may hinder the monitoring of benefits, followed by such issues as lack of focus on the people who enjoy the benefits, lack of business awareness, lack of project manager experience, perceived lack of tools for benefits management, and the fear that change in perceived benefits may threaten the viability of the project. Reviews on realized benefits can be hindered by pressure to deliver other projects, the intangible nature of many IT benefits, perceived difficulty and costliness of benefits review (cf. also Kohli & Devaraj, 2004), and plain beliefs and cultural issues considering benefits management as unimportant in particular organizations (Bennington & Baccarini, 2004).

Although the benefits management literature has largely focused on business organizations, a few governmental organizations have been used as examples as well to highlight parts of particular benefits management frameworks (e.g. Ward & Daniel, 2006). Based on their case studies, Ward & Daniel (2006) address some differences concerning the very motivation of benefits management between business organizations and the public sector. The public sector often implements information technology due to the political pressure to meet a specific target within a given deadline, without need for using further benefits identification to justify the projects with any benefits-oriented “business case” (Ward & Daniel, 2006). However, Ward & Daniel (2006, p. 280) continue that explicit practice for benefits management in the public sector might contribute by:

- facilitating the stakeholders to share a common view of a project at hand among the many stakeholders,
- focusing on particular benefits among a plethora of potential benefits, which often can be associated with a particular IT project especially in the public sector, to see and prioritize the most important benefits,
- showing the benefits and gains to expect from a project to the stakeholders, and
- helping to identify the organizational and business changes needed from the public sector organizations more clearly in connection to IT/IS projects.

However, the above assumptions and suggestions for the rationale of benefits management in the public sector remain little validated empirically beyond a few case studies, in which the researchers have already actually started with their particular conceptual agenda for benefits management (e.g. Ward & Daniel, 2006). Moreover, the benefits management literature remains often implicit about who is the actual owner vs. customer of the benefits management process. For example, Bennington & Baccarini (2004) study project managers as the owners, whereas Ward & Daniel (2006) indicate that benefits management at best involves strategic alignment and development programs beyond the scope of particular IT projects. Finally, Kohli & Devaraj (2004) suggest a broad
involvement of various managerial stakeholders into the process in large organizations. In the public sector, in which IT utilization as such often involves a great number of heterogeneous stakeholders and complex organizational networks, we can hypothesize that the rationale for the very process of benefits management may vary among a larger number of stakeholders than in private firms.

While we do not oppose the already stated “drivers” of benefits management which have motivated development of the frameworks and processes, such as the Cranfield process (Ward et al., 1996; Ward & Daniel, 2006), we address a need for additional research on the very rationality, as well as hindrances and motivators, of adopting and implementing the benefits management process in Norwegian municipalities. On the other hand, unlike in the general-level benefits management literature, the municipalities within one country (with the above-mentioned political pressure to implement benefits management) form a more targeted domain within which the research and development results can be openly shared and utilized. Hence, it forms an attractive research opportunity in which the results may have direct implications and effects within the network of already interested organizations.

Taken the motivation, reasoning and prerequisites for our research stated above, we can now define our research question(s).

Research Question:

• How to adopt benefits management of IT investments in Norwegian municipalities?
  o What are the motivating factors to adopt benefits management in the public sector? What are the hindrances to benefits management?
  o What kind of methods and tools enhance implementation of benefits management?

Research plan

Whereas we assume that the “best” practice for managing benefits of IT investments in Norwegian public sector has not yet been documented, let alone proven, we chose a research approach which orientates towards future and innovation. For such a future-oriented process to develop a management practice, we wish to mobilize a wide ensemble of experts in the field. After development, the practice needs to be piloted and evaluated – and developed further.

Hence, we suggest a combination of research methods to facilitate proactive development of such a methodology:

1.) A Delphi study involving experts of management in the public sector to define the issues that would and should affect the selection and implementation of the benefits management process. This phase results a set of defined and prioritized criteria to be used in method selection and/or
development for benefits management. The appropriateness of the existing benefits management practices reported in the literature can be evaluated based on the criteria.

2.) If needed, design research for proactive improvement or further innovation of new benefit management practices to be piloted in the public sector.

3.) Action research for fine-tuning and improving the selected and/or developed benefit management practices in context of the partner organizations.

The first phase of the research process takes place in Spring 2006. The rest of the paper focuses on the suggested process of our planned Delphi study for defining criteria and issues related to the selection / implementation of benefits management practices in the public sector. Such a Delphi study can also provide us with data to discuss about the hypotheses and assumptions stated above. This paper describes the research method of Delphi and presents the preliminary results of the first round of the study. We will follow the process steps recommended for Delphi studies by Schmidt (1997) and Okoli & Pawlowski (2004):

Firstly, we selected experts for the study (Okoli & Pawlowski, 2004). In municipalities, the general budget responsibility resides on the shoulders of the general management (rådmenn), whereas particular IT investments mostly focus on varying domains of professional expertise (such as schools, health care, etc.) under the responsibility of professional managers of these areas. Here, we assume that at least these two stakeholders form interesting groups for future studies. A third group in this phase may consist of governmental coordination organizations with interest of digitizing the municipal services in general. We recruited 28 expert panel members from seminars organized for these stakeholders during February 2006, aiming at three separate panels for the above-mentioned stakeholder groups. The panel of the central governmental representatives included 6 members, the panel of general management included 10 members, and the panel of professional managers included 12 members.

The first phase of the actual Delphi study with the selected panel is the brainstorming of issues related to the research question (Schmidt 1997, Okoli & Pawlowski, 2004). In this phase, we treat experts as individuals. Each expert was asked to list at least 6 issues (not in any particular order, Schmidt, 1997) related to the successful implementation of benefit management practice for IT investments in the public sector. Each issue has a shorter “name”, definition, and a brief reasoning why this is important, according to the expert. The experts e-mailed their lists to the researchers, thus remaining anonymous to each other. After gathering the issues from the participants, the researchers unified the list of issues, removed exact duplicates and unified terminology. The consolidated list is sent back to experts who will give feedback to validate that the researchers have
not dropped out any issue defined by any expert in this phase and that the researchers have not misinterpreted or changed meanings of any issue defined by an expert.

The second round for the panel is to narrow down the brainstormed list to a manageable number of the most important issues. Now, we divide the experts into the three panels described above. In each panel, the experts now define e.g. max 20 issues that they consider as “most important”. For each distinct panel, the factors selected by more than 50% of the experts are retained for the next phase, ranking. (In this phase, different subpanels may have different issues selected to the list of the most important ones).

The third phase of the Delphi study aims at a consensual ranking of the relative importance of the identified issues. Each expert in each panel is asked to rank the issues of their panel, with a possibility for justifying, explaining, and commenting their rankings. The researchers then collect the rankings and assess consensus among the panellists in each panel and between the panels using the given nonparametric statistical techniques (Siegel and Castellan, 1988; Schmidt, 1997). Unless the consensus has not reached an acceptable level in the first round of ranking, the feedback is shared with every panellist and then they are asked to re-rank each list, now in light of the reasoning from each other. If needed, the step is reiterated, until the panellists reach an acceptable consensus or the consensus plateaus (i.e. the mean rankings of two successive rounds are not significantly different). The final result of this phase is a ranked list of issues related to the rationale and implementation of benefits management in the municipalities for each of the subpanels. Now, we can compare the separate panels’ rankings with each other to check whether they are significantly different thus representing genuinely different viewpoints to the benefits management process.

However, the ranked lists most importantly provide as such a basis for our further research – evaluation, selection (or development) and action on the methods and tools for benefits management to be tried out in real-life settings in municipal IT investment projects and development programs. As well, the results from the Delphi study as such provide a basis to discuss about the appropriateness of the hitherto suggested frameworks and techniques of benefits management in relation to the practitioner knowledge captured in our study. Hence, we expect either to confirm and complement, or to contradict, empirically to the hitherto rather normative research on benefits management in general – from the viewpoint of the public sector.

Preliminary results

So far, we have conducted the brainstorming phase of our research and thus have a non-ranked consolidated list of issues identified by our panellists. However, we
will present these lists here, as we can briefly discuss already some directions to which these issues seem to point our further research.

Altogether, we were able to consolidate a list of 45 issues from the panellist answers. To enhance cognition of these issues, we have grouped them further under two more general-level categories: issues related to the context and culture of benefits management and issues related to the method(s) that might facilitate adoption of explicit benefit management practices.

Table 1 lists the 17 issues (in a random alphabetical order) that the panellists identified with the culture and context required to enhance benefits management.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
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<tbody>
<tr>
<td>Awareness of benefits non-realization risk</td>
<td>Managers should be aware of the fact that IT benefits are not automatically realized without explicit management of the issue.</td>
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<tr>
<td>Change of work practice and organization</td>
<td>All should be aware that IT investments require most often changes in work and organizational routines to realize benefits.</td>
</tr>
<tr>
<td>Clarified customer(s) of benefits mgmt</td>
<td>Someone needs to be interested in the benefits to be identified and realized in the first place, and to facilitate their realization. Both in the central government and locally at the management/leader level.</td>
</tr>
<tr>
<td>Competence creation / training</td>
<td>Municipal stakeholders should get better insight and competence on the tools, practices and examples of benefits management. (E.g. cost-benefit analyses, process modelling, analysing own organization, ideas how to create benefits etc.).</td>
</tr>
<tr>
<td>Fear / resistance to change</td>
<td>The stakeholders / employees should not experience benefits management in general as a threatening phenomenon, e.g., “just a managerial control system”. This can be done by increasing understanding and e.g. through involving representatives of trade unions to the discussion how the realized benefits affect the organizing in the future.</td>
</tr>
<tr>
<td>Focus on sector-/domain specific benefits.</td>
<td>In some domains it may be easier to realize benefits from IT. Domain-specific focus is needed.</td>
</tr>
<tr>
<td>General awareness</td>
<td>Central government should show that benefits realization is a significant issue nation-wide. The purpose and motivation for the issue should be clear. Important to give accurate information about benefits realization in relation to projects and to get e.g. employees and leaders to have a positive attitude. For example, through personnel meetings and work meetings.</td>
</tr>
<tr>
<td>Individual incentives</td>
<td>In general, the organization culture should give “status” for those working effectively and efficiently and using IT thus gaining benefits.</td>
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<tr>
<td>Inter-municipal co-operation in</td>
<td>Benefit realization requires often organizational change and joint efforts of several municipalities. The greatest potential</td>
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Table 1 Cultural and contextual issues to enhance benefits management

<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
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<tbody>
<tr>
<td>Intuitive idea / purpose</td>
<td>The method should be intuitive, so that the purpose (&quot;Ка е витсени?&quot;) is immediately clear.</td>
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<tr>
<td>Accessible method</td>
<td>The method should be easily taken into use – “no need for 25 clicks”. Everyone should know where to retrieve the method. All the necessary information to use the method should be in one place.</td>
</tr>
<tr>
<td>Simple to learn</td>
<td>The method should be so simple so that it can easily taken into use by several stakeholders without great need for training or use of resources for learning. There should be no need for specific knowledge to use the method.</td>
</tr>
<tr>
<td>Simple to use</td>
<td>A municipality should be able to use the method without external help.</td>
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Table 2 lists altogether 29 method-related issues which the panellists identified to consider with regard to adoption of systematic benefits management.
<table>
<thead>
<tr>
<th>Light to use</th>
<th>The method should produce results with minimum use of resources for benefits management. The method should not feel like an additional burden.</th>
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<tbody>
<tr>
<td>Easy language</td>
<td>The method should not use unfamiliar or too technical terms. Also the results should be easily understandable. Should use the municipality’s own language. The method should be in Norwegian.</td>
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<tr>
<td>Prioritization (of what to manage)</td>
<td>Some IT investments are only “nice-to-have”, some do not even lead to benefits, or just lead to benefits too small to realize (e.g. 10% of a year’s work). Hence, in the process a need to pre-select measurement focus on projects with great potential on benefits (or those easiest to measure) to measure and realize those.</td>
</tr>
<tr>
<td>Documented benefits</td>
<td>The method should provide good support to document benefits.</td>
</tr>
<tr>
<td>Explicit responsibilities</td>
<td>Responsibilities to reach benefits from IT investments should be explicitly stated, even at the level of individual benefits. People should feel “ownership” over the method and particular benefits to be pursued.</td>
</tr>
<tr>
<td>Support for both before (as-is) and “after” analysis / modeling</td>
<td>The method should provide a status overview about the organization, to identify also “bottlenecks” and areas where improvements can be gained. IT should be seen as an integrated part of internal and external service production, i.e. organization. The method should provide understanding of both as-is situation and the benefits expected / realized in relation to that.</td>
</tr>
<tr>
<td>Identification of both qualitative and quantitative benefits</td>
<td>The method should support identification of both quantitative benefits (such as cost savings, use of working hours) and qualitative benefits (such as improved or new services).</td>
</tr>
<tr>
<td>Measurable, believable and realizable goal/benefit statements</td>
<td>The method should produce measurable and practical (empirical) results which can be used for funding and coordination of the projects. Measurement should not just be taken to measure something, but it should have significance to the organizational domain in question.</td>
</tr>
<tr>
<td>Concrete examples</td>
<td>The method should have concrete examples and benchmarks that show that someone has got documented benefits out from IT investments. Then, a clear set of practices how to do this.</td>
</tr>
<tr>
<td>Covers the project life-cycle</td>
<td>The method should be taken into use from start and used throughout the project. Not just used for evaluation afterwards.</td>
</tr>
<tr>
<td>Embedded to management and change processes</td>
<td>The method should be a natural part of a municipality’s usual management work (daily activities) related to organization development and change processes.</td>
</tr>
<tr>
<td>Ability to correct projects</td>
<td>E.g. by defining checkpoints and time frames to evaluate benefits early. The process should be used to take corrective</td>
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on-the-way (coordination) actions when regarded as necessary on the way.

Universality throughout the municipal domains The method(s) should be usable in different domains (schools, health, technical…)

Holistic view to analysis. For example, the method needs to consider investments, capital costs, training, and administration.

Risk analysis of expected benefits. The method should include risk and uncertainty factors related to expected benefits.

Alternative scenarios. The method use should bring up diverging and alternative goals, potentials, consequences and choices.

Participatory process. The system users, employees, etc. need to affect and participate in benefits identification and realization process.

Well-tested method The method should be tested that it works.

Learning of employees The method should contribute to employees’ knowledge

Benefits for varying/all stakeholders The method should cover viewpoints of different stakeholders: shopfloor benefits of workers / system users, management benefits, and (importantly!) benefits for citizens.

Informing about the results The method should include e.g. a workshop to inform about the reaped benefits largely.

Short- and long-term benefits The method should document short term (1 year) and long-term (many years) benefits.

Support for political decision-making on IT investments The political forum should be included to the benefit management process. The politicians need to see the value of IT and documented benefits. The method should provide support for this (e.g. the results should be easily understandable).

Impact analysis also for “non-beneficial” projects Some projects do not provide benefits at the municipal level (e.g. requirements from central government). Still analysis of the impacts needs to be done to see how the organization will change.

| Table 2 Method-related issues to enhance benefits management |

Discussion

Although our research is still in progress and we cannot e.g. say which of the issues above are more or less highlighted by the panellists (rather than to say just which are identified), some points for discussion can already be made.

With regard to the hindrances for benefits management implementation listed above, our panel seems to identify well the importance of contextual and cultural
issues. Focus on organizational change instead of technological delivery is well identified, as is need to focus on fair sharing of the benefits for those who create them. Awareness issues are identified and needs for continual coordination and focus also on qualitative (intangible) benefits. The method issues give then a detailed view of how the tools should look like. Moreover, the panelists identified actually all the special challenges of benefits management for the public sector (Ward & Daniel, 2006): the issues of acknowledging several stakeholders and views, focusing on important benefits, ability to present the benefits, and focus on organizational changes were visible throughout the issues.

However, perhaps the issues which have been less discussed in the previous literature are of more interest here, taken that the Delphi study could be seen as a theory-creating effort (Okoli & Pawlowski, 2004). For example, the issue of inter-organizational collaboration for reaping benefits and exchanging knowledge of benefit management issues and methods in general seems first as a more characteristic issue for the public sector than for the private sector. Municipalities do not compete with each other, so the issue of keeping the pursued benefits secret for strategic reasons does not apply to the public sector organizations. As well, the “stick, carrot, and training” requirements directed to the central government seem characteristic for the public sector as well. The central governmental organizations are seen as important facilitators, and also dominating players, which are expected to have strong forcing and consulting effect on the adoption of benefits management practices. Moreover, taken that the public interest would be considered as important, it would represent a rather unique viewpoint to the field – instead of reporting benefits to a devoted group of managers, this would represent a truly different challenge of gaining the attention of the public and reporting the benefits in a more understandable way to the media and taxpayers. At the organizational / municipal level, the issues also indicate that the managers truly have a key role in the adoption of benefit management practices. They need to be aware, gain competence and then facilitate the adoption process, incentive systems, and internal further learning about the issue. If the managers are not interested to be both the “customers” and active players of the field, true benefits management remains unlikely. (And the practices demanded by the central governments would remain as dead letters with regard to the self-development of the very units which now would be eager to report benefits outwards).

Taken, that the major part of our informants represented organizations in which benefits management has not been extensively used, we were surprised about the number of specific requirements identified for benefits management methods so that they could be taken into practice. For us, this list of method characteristics gives a practically-flavored checklist to the selection of particular techniques and tools for benefits management, which can then be tested and piloted further in the partner municipalities.
Conclusion and further research

We have presented a research plan and results from the first stage of our research-in-progress on adoption of benefits management practices and methods in the public sector of Norway. Our research continues by finishing the Delphi study process and then by subsequent in-depth studies on benefits management with particular techniques in particular municipal contexts. We expect that our Delphi results will contribute to current knowledge on benefits management issues in the public sector in general – e.g. by new issues specific to the public sector to be identified and contrasted to the issues highlighted in the previous surveys. The ranked list of the method features provides also an informed ground for method selection and elaboration for benefits management, both for our planned action research initiatives as well as for others considering the issue in the field of public administration. As such, the Delphi study process functions as learning process also for the participating experts – thus increasing a consensual vision for enhanced benefits management in and among Norwegian municipalities.

References


