

An Exploratory Approach for Benefits Management in e-Government: Insights from 48 Norwegian Government Funded Projects

Leif Skiftenes Flak
*Department of
 Information Systems
 University of Agder
 PO Box 422, 4604
 Kristiansand, Norway
 Leif.Flak@uia.no*

Tom Roar Eikebrokk
*Department of
 Information Systems
 University of Agder
 PO Box 422, 4604
 Kristiansand, Norway
 Tom.Eikebrokk@uia.no*

Willy Dertz
*Department of
 Information Systems
 University of Agder
 PO Box 422, 4604
 Kristiansand, Norway
 Willy.Dertz@uia.no*

Abstract

Efforts to improve governance and government functions through the use of information technology continue to draw considerable parts of the budgets of government agencies. To meet public and political demands for increased visibility of effects of e-Government investments, there is a trend to extend existing practices of evaluation towards more holistic management practices, commonly referred to as benefits management. However, benefits management practices and effects of such practices are poorly documented. This paper presents a particular approach to benefits management that has been developed by the Norwegian government. The technique has been applied in 48 e-Government projects and this paper presents insights from the application of the technique and discusses its' strengths and weaknesses.

1. Introduction

The considerable investments in e-Government across the world has in many ways lead to an increased focus on the performance of public agencies [1, 2]. The use of tax-payer money in order to modernize the public sector through reorganization and infusion of information technology has caused both public demand of visible improvements and consequent political pressure to demonstrate benefits. A number of national and international e-Government benchmark studies are conducted on an annual basis [3, 4], using varying indicators to assess e-Government status. The focus on performance has lead to an increased focus on

cost/benefit analyses and evaluation by public managers. However, it has been argued that such snap-shot analyses are insufficient to ensure a maximum range of benefits from e-Government projects [5]. Rather, there is a growing awareness that e-Government efforts need to be carefully managed throughout the life cycle in order to ensure successful realization of large portions of the benefits potential [1]. Such efforts are often referred to as benefits management or benefits realization [5, 6].

In general, issues related to benefits realization [7], or benefits capture [8], posit challenges both in industry and in the public sector [9]. That is, despite IT solutions delivered to organizations, the organizational impacts often remain only partially, if at all, realized [8]. Many organizations have difficulties to pre-define and anticipate the benefits, at least all the benefits, in the first place [6, 8]. Moreover, even when expected benefits can be defined up front, little attention may be paid to the post-implementation stage, after the initial justification of IT/IS projects, to maximize the effects of the project [7]. And, even if conducted, post-implementation reviews often focus on technical conformance, project management effectiveness, and other easily quantifiable issues, whereas the actual benefits delivery to the organization often remains less explicitly measured [6].

A number of frameworks and methods for *benefits management* have been suggested to meet these challenges of benefits realization, [9-11]. In the Norwegian public sector, both the central government and KS, a central organ for municipalities, now explicitly focus on benefits management. KS has set a goal that in 2008

every municipality should document that their IT projects have actually resulted in better services, more effective operations and resource savings. Additionally, the Norwegian government has launched actions to stimulate definition and adoption of benefits management practices for the municipalities to follow.

However, the above assumptions and suggestions for the rationale for benefits management in the public sector has so far received limited empirical validation, beyond a few case studies aimed at testing the researchers' conceptual pre-understanding of benefits management [e.g. [9]].

This paper provides empirical insights from a benefits management approach developed by the Norwegian Research Council (NRC) and implemented in 48 Norwegian e-Government projects. Insights from the projects are presented and discussed and benefits management approach used here are discussed in relation to other existing approaches.

2. Theory

Benefits management is defined as

“(t)he process of organizing and managing such that the potential benefits arising from the use of IS[information systems]/IT are actually realized” [9]

2.1 Approaches to IS/IT benefits realization

Proponents of benefits management suggest that in addition to investment justification and evaluation, it is necessary to establish an explicit methodology to ensure that IS development initiatives actually deliver the initially proposed, as well as emerging, benefits [7]. In a benefits management approach the pre-project measures of success are followed by a post-project review and explicitly related to business needs. While identifying the potential benefits of investments in IS/IT is important, it is not sufficient for ensuring that the anticipated benefits are actually realized [12]. In organizations, the efforts of justifying potential benefits from IT-investments are far more common than the process of ensuring that the anticipated benefits are actually realized [6, 7]. Despite this practice, there are several process models of benefits realization in the IS literature that can be used to change this practice in organizations. For example, the

“Cranfield Process model” of benefits management [7, 9] and the “Active Benefits Realization” [13] approach are process models that relate well to the above definition of benefits management.

2.1.1 Cranfield Process Model of Benefits Management

The Cranfield Process Model of Benefits Management originated as a result of a research program at the Cranfield University, aimed at developing new approaches to improve IS/IT benefits management in UK-based organizations [14]. The resulting process model, illustrated in Figure 1, gives guidelines on best practice in benefits realization.

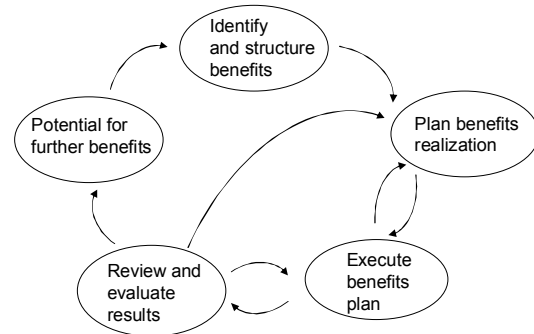


Figure 1. The Cranfield process model of benefits management ([7])

2.1.2 Active Benefits Realization Approach

The Active Benefits Realization approach (ABR) was introduced by Remenyi, Sherwood-Smith and White [13] and describes a set of seven reiterative activities in a dynamic process throughout the duration of the IT/IS investment project. The ABR approach can be characterized as a system for formative evaluation that stimulates continuous assessment and improvements in the organization's ability to formulate and agree upon requirements in the initial phase of an IS/IT investment, assess the fulfilment of these requirements as the investment project is progressing, and implement efforts in terms of a feedback loop that purports to bridge the gap between potential and realized requirements.

The ABR approach highlights the need to clearly state how the business requirements relate to the corporate financial objectives as well as project management issues. There is also a need to specify how the overall business objective translates into specific goals for all the

stakeholders that are involved in applying the information systems to deliver the business benefits.

2.2 Empirical evidence

There is scarce evidence of how these models of benefits realization are utilized and how well they stimulate benefits realization in practice. In a study of large Australian organizations Lin and Pervan [6] conclude that, despite a lack of uniformity in the use of methods across organizations, formal methods for benefits realization demonstrated their value. Still, only one third of the 69 companies surveyed reported that they used some form of formal benefits realization methodology involving pre-project identification of potential benefits followed by post-project review. As a result, 44% of the sample concluded that they had not learned from their previous unsuccessful IS/IT investments. Furthermore, Lin, Pervan and McDermid [15] documented that Australian companies who followed a benefits realization methodology had more confidence in their benefits realization practice as well as their effects to their organizations. These companies were also less prone to overstating the effects of their projects in order to get the projects approved.

In a similar empirical study of 126 small companies in the construction industry, Love and Irani [16] identified that most small and medium sized enterprises (SMEs) do not use pre-project justification in combination with post-project evaluation methods. Of these two approaches, the latter dominated. In explaining this imbalance in the use of methods Love and Irani [16] found that the SMEs perceived ex-ante justification as being broader in scope than a financial control mechanism. In contrast, the ex-post evaluation approach was seen as more appropriate as a mechanism for learning and improvement.

In spite of a number of examples from benefits management resulting in systematic development of methods and tools for the field [9], research in general shows that methodologies covering the full process of benefits management are not widely available in practice [6, 17] for either private or public contexts. 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 [9, 11].

To sum up, there is some empirical evidence to support that benefits realization methodology

will positively influence the ability to define and realize benefits from IT-investments. There is, however, a clear lack of evidence from outside of US, UK and Australia as well as studies from public organizations.

In the remaining part of the paper we will describe a Norwegian public initiative for benefits realization and explore how this approach influenced important steps in the process of benefits management.

3. Research approach

This study was initiated, and funded, by the Norwegian Research Council. In fall 2005, KSeF, the Norwegian competence centre for e-Government where two of the authors are employed, was asked to assess and evaluate the benefits management approach that had been developed and implemented for use in a particular NRC program labeled HOYKOM (see Section 4).

In order to assess the benefits management approach, KSeF was granted full access to documents that 48 Norwegian public agencies had developed as a consequence of using the benefits management approach. Such documents included a plan of expected benefits (the benefits plan) and the benefits realization plan.

Four of the projects that implemented the benefits management approach were of such character that the project manager deemed it necessary to develop several plans as these projects involved cooperation of between two and fifteen agencies. In total, the 48 projects developed 68 benefits plans.

At the same time, 24 projects had developed some form of benefits realization plans. The remaining 24 projects that still had not developed this plan were still in the project phase.

The data material for this study thus consists of 68 benefits plans from 48 projects and 24 benefits realization plans. The benefits plans were developed in MS Excel spreadsheets and contain both estimated savings figures and more qualitative input in the form of textual comments. The benefits realization plans were developed as MS Word documents from a given template.

In addition to data from the projects, the data material includes available written documentation from the development of the benefits management approach, textual project summaries of the 48 projects and several

informal conversations with the administrators of the HOYKOM program.

The absence of a well defined model behind the approach makes statistical validation somewhat misplaced and the data are therefore largely investigated through textual analysis with the objective of being able to discuss the HOYKOM approach against other documented approaches. Still, some simple statistical analyses were made in order to provide insights from the project managers' expectations of benefits in the projects.

4. A Norwegian approach to benefits management

The approach to benefits management described in this paper was developed in relation to the government innovation program HOYKOM. This section introduces HOYKOM and describes the benefits management approach developed in the program.

4.1 The HOYKOM program

In 1999, the Norwegian government established a national program, HOYKOM, to stimulate broadband development in scarcely populated areas that had so far been neglected by commercial vendors. The NRC was made responsible for administering the program. Since 1999, HOYKOM has supported closed to 500 projects with nearly \$100 million (US). When considering that HOYKOM normally contributes with 30 – 50 % of the total project budgets, HOYKOM has arguably contributed to projects worth more than \$ 200 million (US). This makes HOYKOM one of the largest sources of external funding for Norwegian local governments. The main focus of HOYKOM has been to ensure high-speed internet connection throughout Norway. However, a portion of the funding has been allocated to developing content to be distributed through broadband connection, mainly digital citizen services.

4.2 Benefits management in HOYKOM

The Norwegian government's motivation for engaging in, and stimulating to, a form of benefits management was two-fold: First, efforts to modernize the Norwegian government through e-Government efforts, drew a significant amount of tax-payer money and it was therefore important for the government to document and

communicate the benefits that resulted from e-Government investments. Documentation of effects was considered important both in order to motivate public managers to use IT to modernize their agencies and to be able to justify further investments in e-Government. Second, the minister considered the infusion of some kind of benefits management approach to be beneficial to public managers. The Norwegian public sector has, similar to many countries, a history of being budget oriented. Explicit thinking in terms of effects and benefits would thus in many ways represent a new mindset for government employees. However, the Minister of Modernization considered a form of benefits management approach to result in a higher degree of benefits from e-Government projects and at the same time lead to more visible results that could be utilized to motivate other agencies and as a political argument to continue the governments spending on e-Government. For these reasons, the then Minister of Modernization initiated contact with the program director of NRC' HOYKOM, requesting development and implementation of some form of benefits management practice for agencies that were to receive support from HOYKOM.

Hence, the board of HOYKOM developed an approach to benefits management during spring 2005. The approach was developed in collaboration with two consultancy agencies, Scandpower IT and ECON, as well as representatives from the Ministry of Modernization. As the project group identified few relevant existing practices, the benefits management approach was developed more or less from scratch and mainly through brainstorming. HOYKOM had three objectives for developing an approach to benefits management:

1. To gain experience with different kinds of benefits from public sector IT projects,
2. to identify examples of good practice from innovative projects that resulted in actual benefits and thus serve to motivate others in the ongoing efforts to modernize the Norwegian public sector and
3. to strengthen and establish an explicit focus on benefits in e-Government projects, as such a focus was considered to improve project management in general, improve commitment from the agency owning the project and eventually increase the chances of a running successful projects.

Based on these objectives, the project group responsible for developing the benefits management practice recommended a holistic approach for planning and realizing benefits. Their approach included assessments and reporting routines at four distinct project phases:

1. Before project start-up: initial cost/benefit analysis to accompany the project proposal when applying for financial support from HOYKOM,
2. during the project phase: a specific, detailed plan of expected benefits from the project. The plan is seen as an instrument for the project manager,
3. by project sign-off: When the project manager hands over the results of the project, the project owner should develop a benefits realization plan that clearly states which benefits the organization will pursue (based on the plan of expected benefits from the project manager) and how the organization intends to act to ensure that specific benefits are actually realized and
4. during the operative phase: Roughly a year into the operative phase, the project owner should assess the effects of the project and account for which and how eventual benefits were actually realized.

HOYKOM developed two forms to support these assessments: one for expected benefits, called the benefits plan (with reference to bullet point number 2), and one for benefits realization, called the benefits realization plan (with reference to bullet point number 4). No form or document was provided to assist the initial cost/benefit analysis, but applicants had the option to consult HOYKOM in the process of preparing an application for funding. Final assessment of benefits (corresponding to bullet point 4) was considered outside the scope of HOYKOM's follow up activities. However, the project owners were strongly encouraged to conduct such a follow up.

Since it was developed in early 2005, the benefits management approach has undergone two revisions. The first revision was done at the end of 2005, having piloted the approach in 17 projects. Scandpower IT was responsible for the evaluation and concluded that although the approach produced interesting results, the reporting scheme seemed too extensive. The quality of the reported data decreased towards the end of the reporting form. Scandpower IT thus recommended reducing the number of posts

in the form in order to ensure the quality of the remaining parts. The program administration consequently reduced the reporting schema from the original 36 main issues to 27 issues.

In summer 2006, another revision was made mainly to convert the reporting schema from MS Excel format that had originally been distributed by e-mail to a web-enabled version. The number of issues to be considered by the project manager remained largely unaltered, but the project manager was now able to fill out the benefits plan online.

Whereas two revisions were made to the form supporting the development of the benefits plan, no revision of the form supporting the benefits realization plan has so far been made.

The form supporting the development of the benefits plan contained three main parts. First, an introductory part guided the project manager to suggest the purpose of the project by assigning a score (0-6 Likert-type scale) to each of the following predefined objectives:

1. More effective interaction (internal),
2. new services and
3. improved services

The introductory part also included a section for the project manager to suggest the innovation degree of the project according to four categories defined by the Norwegian government (using a 0-6 point Likert-type scale):

1. Enable increased value creation for the private sector,
2. ease the administrative burden for private sector organizations,
3. result in increased innovation for public agencies (or increases the public agency's ability to innovate) and
4. lead to increased internal efficiency and effectiveness.

The second part led the project manager to point out areas where the project was expected to contribute to quantitative, or tangible, benefits. A number of predefined categories were suggested in the form, allowing the project manager to suggest costs associated with each category before and after the project or a percentage change caused by the project. The following categories appeared:

- reduction in the need for manpower caused by improved work processes,

- reduction in the running expenses of the agency,
- increased efficiency in service production,
- reduction in user costs,
- reduced cycle times in service production,
- new service covering a clearly defined need and
- project specific benefit

For each category, the project manager had the opportunity to add comments. In the original form, four predefined obstacles were outlined for each quantitative benefit and the project manager was asked to rank the obstacles on a Likert-type scale ranging from 0-6. The predefined categories of obstacles were:

- legal issues,
- technical issues,
- organizational issues and
- economic issues

In the revised version of the benefits plan, the project manager was asked to rank obstacles on the project level rather than related to specific benefits.

The third part guided the project manager in suggesting a set of qualitative benefits from the project. Also here a predefined set of categories was suggested, allowing the project manager to assign scores on a 0-6 point Likert-type scale. The predefined categories of qualitative benefits included:

- better management through improved data for decision making,
- improved utilization of competences and resources,
- increased integration with external actors in the value chain,
- increased motivation / improved work situation for employees providing service,
- more robust/secure technical infrastructure,
- increased change capabilities,
- improved user satisfaction,
- improved image of workforce / increased ability to keep employees and recruit new personnel,
- *increased ability to attract new businesses to the region,*
- *creating new business opportunities for regional knowledge organizations,*
- *reduced number of citizens moving from the region,*

- *increased participation and democracy in the local community and*
- a new service covering an assumed requirement from a specified target group

The categories in italics were removed during the first revision of the form because of poor response rates during the pilot period.

HOYKOM also provided a template for developing a benefits realization plan. As mentioned before, the benefits realization plan was meant to ensure the transfer of ownership to the benefits outlined in the benefits plan from the project manager to organization owning the project. In practice, the template for the benefits realization plan consisted of an MS Word document with four main headings:

- Project results
 - State important results of the project as mentioned in the project end report.
- Benefits to be realized
 - State the benefits the organization will actively pursue.
- Conditions
 - State important conditions for the successful realization of benefits.
- Time frame
 - Suggest when and how the above mentioned benefits are expected to be realized.

In the period 2005 to 2007, 54 projects were selected to use the benefits management approach. Projects were selected by the HOYKOM administration based on the nature of the projects. Pure infrastructure projects were excluded from the benefits management program as their effects were considered too indirect, i.e. providing the basis for establishing value creation. Of the 54 projects that were selected by the program board, 48 have used the approach to benefits management actively.

5. Insights from the 48 projects

This section presents some of the aggregated data from the 68 available benefits plans and the 24 benefits realization plans.

5.1 Data from the benefits plans

The 68 benefits plans reflect the expectations of the project managers rather than accurate calculations. In the following sub-sections, the

aggregated expectations concerning project objectives, innovation type, key hindrances, and qualitative and quantitative benefits are presented.

5.1.1 Overall project objective

The benefits plan template provided by HOYKOM, asked the project managers to state the overall objective of the project as described in Section 4.2. Figure 2 shows the distribution of average scores for overall project objectives. Here the project managers, on average, are more concerned with improving existing services and internal interaction than with developing new services.

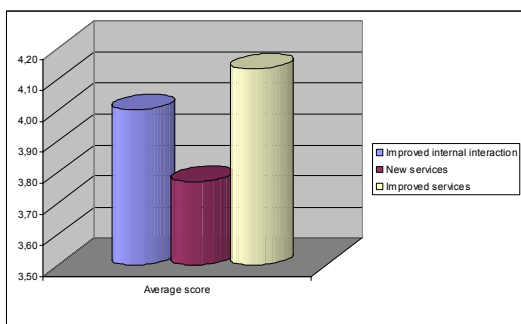


Figure 2. Average scores for overall project objective (N=68)

5.1.2 Overall innovation objectives

The Norwegian government has developed a set of four types of government innovation objectives as described in Section 4.2. The managers of the HOYKOM projects were asked to position their projects in relation to these categories. Figure 3 presents the average scores. As can be seen in Figure 3, the project managers are more concerned with innovation types directly related to internal government innovation and scores innovation types beneficial to businesses considerably lower.

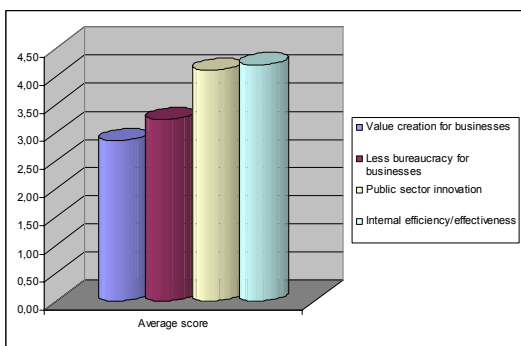


Figure 3. Average scores for overall innovation objective (N=68)

5.1.3 Key hindrances

The HOYKOM administration considers the identification of hindrances related to realizing the potential benefits of e-Government efforts an important task in order to achieve successful results. Consequently, the project managers were asked to rate four pre-defined such hindrances as described in Section 4.2. The results (see Figure 4) show that organizational issues are considered the most challenging of the four whereas legal issues were considered least problematic.

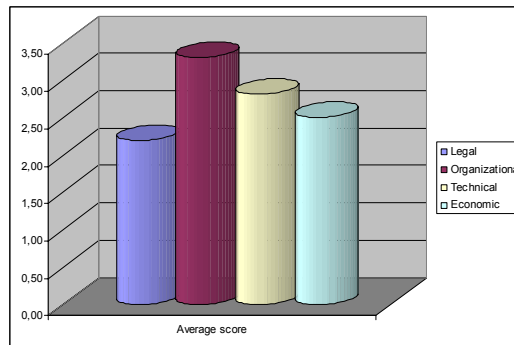


Figure 4. Average scores for key hindrances (N=68)

5.1.4 Qualitative benefits

HOYKOM considered it appropriate to suggest a number of predefined potential qualitative benefits that could occur as a result of e-Government efforts. A list of 9 such benefits was therefore included in the benefits plan template and the project managers were asked to rank these as described in Section 4.2. This list had two functions. First, it was considered helpful to the project managers that had limited experience in articulating potential qualitative benefits. Second, a predefined list could assist in developing a comparable data set that could later be used to indicate the potential benefits of new projects.

Figure 5 shows the distribution of the nine predefined potential qualitative benefits as outlined in Section 4.2. The results show that the project managers generally consider their projects to contribute to some extent to all the nine types of benefits. However, three types of benefits receive notably higher average scores than the remaining six: Improved utilization of competence and resources, more user satisfaction and new service addressing a defined need.

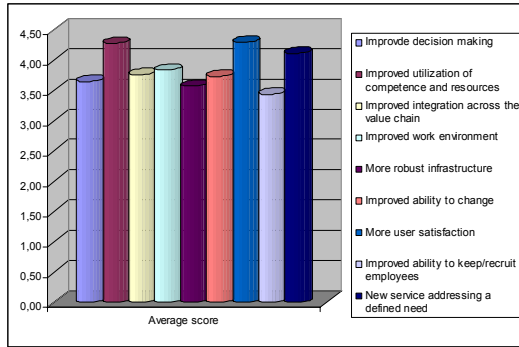


Figure 5. Average scores for qualitative benefits (N=68)

5.1.5 Quantitative benefits

The benefits plan template suggests that the project managers make predictions of quantifiable benefits from the projects. The template suggests that such predictions are outlined along seven dimensions as mentioned in Section 4.2. Here, the project managers are challenged to suggest estimates of actual reduction in person hours, cycle times, budget expenditure or a percentage change from the current state. Here, the data reported from the project managers were of uneven quality and many used the option to provide textual comments instead of estimating figures. The latter three categories in the benefits plan template were of too low quality for further data analysis. This section summarizes results and provides examples of estimated savings along the remaining four dimensions.

Reduction in the need for manpower caused by improved work processes

Forty three benefit plans included some estimate of how the project would reduce the need for manpower by introducing more effective work processes. The estimated time savings span from 2 - 75 %. The projects are widely different in nature and direct comparisons are therefore difficult. Also, when direct comparisons are possible, i.e. when two projects are addressing the same issue, the estimates differ considerably. For example, two project managers report from projects aiming to transcend from traditional mail service towards digital mail systems. One project estimates 14 % reduction in the need for manpower whereas the other expects a 70 % reduction.

Reduction in the running expenses of the agency

Forty one of the project managers expect their project to result in some reduction in operating costs. The expected savings are often related to some form of inter-agency cooperation. Several projects estimate more than 50 % reduction in software licenses and telecom costs as a result of forming cooperatives that negotiate on behalf of large numbers of users.

Also, costs associated with paper-copying and the introduction of eLearning are expected to be reduced by more than 50 % of the original cost.

Reduced cycle times in service production

Thirty three benefits plans show estimated reductions in cycle times related to service production. The estimates range from 0 % (in cases where the project manager would rather give a textual comment, than providing figures) to 75 % reduction in a project aiming to provide free legal aid mainly through establishing a digital user interface allowing citizens to interact seamlessly with different government agencies.

Reduction in user costs

Only a few project managers provided actual figures for how their project would lead to a reduction in the costs a user would experience when using a particular public service. However, examples of how digital service can reduce user costs include elimination of traveling expenses associated with physically visiting a government agency, fees for copying public documents and reduced wages as a result of having to take time off from work for visiting a government agency within office hours.

5.2 Benefits realization plans

The project owner is responsible for developing the benefits realization plan, stating which potential benefits mentioned in the benefits plan he or she will strive to realize.

A total of 24 such plans were available for analysis. The plans range considerably in size and level of detail. The most comprehensive plan consisted of 8 typed A4 pages whereas the shortest consisted only of 4 lines of text. The average plan was roughly 1.5 pages long.

In general, the plans primarily focus on stating conditions that need to be satisfied in order enable the realization of benefits. However, only a few of the plans goes beyond listing conditions and into how the agency will actually facilitate the realization of the benefits.

The majority of the plans list benefits that the agency will pursue. Also, the majority of plans include a timeframe within which particular improvements should occur. However, objectives are mostly stated as improved usability, improved service quality and improved availability of service, but the degree of expected improvement is rarely included. Also, few plans include any insights on how the agency intend to realize benefits in terms of stating if a reduction in necessary manpower should result in lay-offs or new tasks for specific persons.

6. Discussion

The HOYKOM approach to benefits management was developed as a series of brainstorming sessions. Consequently, it must be seen as an exploratory attempt to attract attention to a challenging, but nevertheless important area. It is possible to argue that the HOYKOM approach to benefits management has been an important factor in terms of stimulating public managers to explicit thinking in terms of benefits and value for money. However, as a management instrument, the HOYKOM approach shows some weaknesses.

Two issues stand out when looking at the data from the HOYKOM projects. First, the estimates concerning the actual figures of quantitative benefits were of surprisingly poor quality. The minority of project managers provided such figures. Also, in cases of similar projects, where one could expect similar estimates, estimates differed enormously. Several explanations to this finding are possible. For instance, one can imagine that the project managers are less willing to state accurate benefits when there is a strong chance that they will be held accountable for the realization of these benefits later on. Inability to realize stated benefits could reflect poorly on their efforts during an evaluation. The fact that the project managers were eager to mention potential benefits in textual form without quantifying them can be seen in support of the above potential interpretation. On the other hand, it is possible that quantifying benefits poses something near a cultural shock for government employees that are traditionally accustomed to a budget optimizing logic and return on investment logic. These issues should be further investigated in order to improve public managers' ability to estimate and quantify benefits.

The other issue that stands out from the data material produced in the 48 projects is the

generally poor quality of the contents of the benefits realization plans. These plans are suggested as an instrument for the project owner, enabling him or her to develop a roadmap outlining how particular benefits will be realized and when. Hence, this plan is a key ingredient in a benefits management approach and the generally poorly developed plans from the HOYKOM projects does represent a concern. Again, multiple explanations exist. One potential explanation can be that the project owner has been insufficiently involved in the process of defining the expected benefits early in the project and therefore experience little ownership to the identified benefits. Lack of ownership to the suggested benefits from the project may result in a somewhat indifferent attitude to the realization of the benefits. On the other hand, the low level of detail in the benefits realization plans may spring from a lack of competence regarding how to develop a useful plan. Following this line of thought, a more detailed template could result in improved quality of the benefits realization plans.

In addition, a notable distinction in the HOYKOM approach as opposed to both the Cranfield process model and the ABR approach, is somewhat missing explicit emphasis on different stakeholder interests. In the HOYKOM approach the project manager is responsible for defining the potential benefits of a project. He or she may of course include other stakeholders in this process, but explicit guidelines for stakeholder involvement are seemingly not included in the HOYKOM approach. As e-Government projects are often characterized by complex stakeholder relations, involving a variety of often competing interests, a single project manager would find him or herself in a challenging situation trying to define a set of project benefits that would satisfy all relevant stakeholders. Clearly, such efforts would be easier accomplished in a well assembled team conducting a stakeholder analysis, than by a single project manager.

7. Conclusion

This paper has described and summarized a Norwegian approach to benefits management particularly targeting e-Government efforts. Forty eight government funded projects have implemented the approach and insights from these projects are used to provide empirical insights on the usefulness of the process.

The data from the 48 projects indicate that the Norwegian benefits management approach is faced with some challenges. First, the approach is only partly successful in facilitating the development of concrete quantitative benefits estimates from the projects. Second, the process seems to be inadequate in terms of enabling the transfer of ownership of estimated benefits from a project organization to the actual project owner. Also, the Norwegian approach seems to provide less explicit focus on stakeholder involvement compared to existing approaches such as the Cranfield Process Model and the ABR model.

Nevertheless, this paper presents rich insights from a large number of projects employing a benefits management approach and thus responds to the lack of empirical studies on benefits management in the e-Government domain. The results provide extensive insights in terms of hindrances for benefits realization, examples of qualitative benefits as well as some indications of quantitative benefits.

Also, the insights from the 48 projects that have been studied indicate that cultural differences between public and private organizations should be taken into account and carefully considered when introducing benefits management in public agencies.

8. References

- [1] M. P. Gupta and D. Jana, "E-government evaluation: A framework and case study," *Government Information Quarterly*, vol. 20, pp. 365-387, 2003.
- [2] Z. Irani, P. E. D. Love, T. Elliman, S. Jones, and M. Themistocleous, "Evaluating e-government: learning from the experiences of two UK local authorities," *Information Systems Journal*, vol. 15, pp. 61-82, 2005.
- [3] United-Nations, "World Public Sector Report 2003: E-government at the Crossroads," ST/ESA/PAD/SER.E, New York 2003.
- [4] Cap Gemini Ernst & Young, "Online Availability of Public Services: How Does Europe Progress," European Commission, DG Information Society January 2003.
- [5] T. Päivarinta, W. Dertz, and L. Flak, "Issues of Adopting Benefits Management Practices of IT Investments in Municipalities: A Delphi Study in Norway," presented at HICSS 40, Big Island, Hawaii, USA, 2007.
- [6] C. Lin and G. Pervan, "The practice of IS/IT benefits management in large Australian organizations," *Information & Management*, vol. 41, pp. 13, 2003.
- [7] J. Ward, P. Taylor, and P. Bond, "Evaluation and realisation of IS/IT benefits: An empirical study of current practice," *European Journal of Information Systems*, vol. 4, pp. 214-225, 1996.
- [8] M. L. Markus, "Technochange Management: Using IT to Drive Organizational Change," *Journal of Information Technology* vol. 19, pp. 3-19, 2004.
- [9] J. Ward and E. Daniel, *Benefits Management. Delivering Value from IT Investments*. Chichester: Wiley, 2006.
- [10] A. A. Al-Tameem and F. P. Wheeler, "A Preprocess View of Information System Benefits Management and Evaluation," presented at AMCIS, Long Beach, CA, USA, 2000.
- [11] R. Kohli and S. Devaraj, "Realizing the Business Value of Information Technology Investments: An organizational Process," *MIS Quarterly Executive*, vol. 3, pp. 53-68, 2004.
- [12] J. Ward and P. Griffith, *Strategic Planning for Information Systems*. Chichester, UK: John Wiley & Sons Ltd, 1996.
- [13] D. Remenyi, M. Sherwood-Smith, and T. White, *Achieving maximum value from information systems; a process approach*. Chichester, UK: John Wiley & Sons Ltd, 1997.
- [14] J. Ward and P. Griffiths, *Strategic Planning for Information Systems*, 3rd edition ed. Chichester, UK: John Wiley and Sons Ltd, 2002.
- [15] C. Lin, G. Pervan, and D. McDermid, "IS/IT Investment Evaluation and Benefits Realization Issues in Australia," *Journal of Research and Practice in Information Technology*, vol. 37, 2005.
- [16] P. E. D. Love and Z. Irani, "An exploratory study of information technology evaluation and benefits management practices of SMEs in the construction industry," *Information & Management*, vol. 42, pp. 227-242, 2004.
- [17] P. Bennington and D. Baccarini, "Project Benefits Management in IT Projects - An Australian Perspective," *Project Management Journal*, vol. 35, pp. 20-30, 2004.