Benefits Realization in eGovernment: Institutional Entrepreneurship or Just Hype?

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Abstract
As development practices of eGovernment gradually mature, there appears to be an increasing focus on documentation of innovation processes and documentation of realized benefits. Although research on benefits realization provides some guidance to these issues, there is a lack of empirical research to validate central tenets in the literature and to provide the level of detail necessary to understand the impact benefits realization practices can have on organizations. To address these issues, we carried out an in-depth longitudinal case study of a large-scale benefits realization effort in Norway. Institutional theory was used to analyze the organizational impact. Our findings show that the work with benefits realization has had considerable organizational impact that is seen as positive for the realization of benefits. However, important issues such as stakeholder engagement and governance still need to be further addressed. Our study provides new insights concerning benefits realization processes in government and a theoretical perspective that can be further developed.

1. Introduction
Investments in IT and IS are known to be risky as both needs and objectives tend to change as projects move along. This may have several reasons, e.g. improved understanding of the potential use of technology during the project process, technological advancements under ways or failure to budget for necessary organizational and staff development. The risks are reflected in the reported failure rates of IT and IS projects [2, 3].

The coupling of significant investments and high failure rates have led governments across the world to focus on actually realizing and documenting the value of IT/IS investments [4].

In Norway both government agencies and municipalities have attempted to use methods for benefits realization since around 2006 [5]. Since then, practice has matured and more and more government entities are exploring methods for benefits realization.

Although it may still be early to evaluate the usefulness of such efforts to improve the actual realization of benefits it is meaningful to analyze the organizational impact of such practice as value from IT investments generally are considered to be dependent upon organizational change [1]. Our research question is therefor: To what extent does benefits realization efforts lead to institutional change?

We investigate the issue through a longitudinal, qualitative case study of the Norwegian G2B portal Altinn (English: All-in) that has developed and implemented their own benefits realization approach.

The reminder of the article is structured as follows. First, we briefly present literature on benefits realization and institutional entrepreneurship as our analytical lens. Then, we present our research approach, describe the case in detail and analyze it according to the theory of institutional entrepreneurship. Finally, we present conclusion and implications.

2. Theory

Theory is used for two purposes in our study. First, we present literature on benefits realization and institutional entrepreneurship as our analytical lens. Then, we present our research approach, describe the case in detail and analyze it according to the theory of institutional entrepreneurship. Finally, we present conclusion and implications.

2.1 Benefits realization and management

The importance of realizing benefits from IT-investments has been acknowledged by the IS community for many years [e.g. 3, 6, 7, 19] and a strand of IS research has explicit focus on the mechanisms behind benefits realization. Our understanding of benefits realization is that IT investments are likely to benefit from a structured process of organizational change with explicit emphasis on hands on managerial involvement. Thus, in order to realize benefits it is not considered sufficient only to ensure successful projects as projects may or may not provide benefits. Benefits are often
dependent on change processes, many times resulting in deep organizational change, and the benefits need to be carefully managed throughout the lifecycle of an investment. This is consistent with what several authors refer to as benefits management but the terms benefits realization and management is seemingly used interchangeably in the literature. We use the term benefits realization in this article but our understanding is consistent with the following definition: “(t)he process of organizing and managing such that the potential benefits arising from the use of IS/IT are actually realized” [1].

Several studies and publications suggest methods and even approaches to benefits realization [1, 2, 4, 8, 9, 19]. The methods normally share a core set of processes as exemplified in Figure 1.

![Figure 1. The benefits management model [1]](image)

In response to the increasing demand from policy makers to demonstrate value from eGovernment investments, the benefits realization practice has been adopted to the eGovernment field with promising results [4, 5, 10].

However, several scholars have recently argued the need for more thorough description of methods in practical use in eGovernment efforts and analyses of actual use [10, 11]. Similar arguments have been proposed in the IS field [12] and there for a need for more studies on benefits realization practices in order to advance the field. Our study addresses this shortcoming and provides detailed descriptions of a current practice.

2.2 Institutional entrepreneurship

As the realization of benefits many times rely on organizational change, we used the theory of institutional entrepreneurship to investigate if how the benefits realization effort we studied lead to changes in involved institutions.

Theoretical accounts of institutional entrepreneurship as a strand of institutional theory can be traced back to 1988 and the work by DiMaggio [13]. More recent advancements in institutional entrepreneurship suggest a theory in the form of a phase model to explain the “process of institutional entrepreneurship from the emergence of institutional entrepreneurs to their implementation of change” [14]. The theory of institutional entrepreneurship, as depicted in Figure 2, suggests that a set of enabling conditions for institutional entrepreneurship leads to divergent change implementation that in turn results in institutional change. Battilana et al [14] propose a model of the process of institutional change. They present three different phases, and highlight challenges faced by institutional entrepreneurs who attempt to create, mobilize, and adopt action that break with existing institutions in a particular context.

The first part of the model describes the enabling conditions for institutional change. Different types of field-level conditions, as well as actors’ social position, will influence the possible emergence of institutional entrepreneurship. Economic and political crises, technological disruption, competitive discontinuity, and regulatory changes, are examples that might disturb the field-level consensus and invite the introduction of new ideas. Actors’ social position – whether they are organizations’ or individuals’ – are important because it may affect their perception of a field, as well as their access to resources needed to engage in institutional entrepreneurship [14].

The second part describes divergent change implementation. Developing a vision encompasses activities undertaken to make the case for change including sharing the vision of the need for change with followers. Mobilization of allies includes activities undertaken to gain others’ support for and acceptance of new routines [14]. Implementing change that builds on existing institutions is challenging, but even more challenging if it challenges existing institutional boundaries or stakeholder interests.

The third part of the model, institutional change is a highly complex and uncertain process and thus the outcome is difficult to predict. If one succeed in implementing divergent change it is likely that this in turn would influence the field characteristics and actor’s social position as illustrated in Figure 2.

For the purpose of this study, we use the theory to analyze to which degree the benefits realization framework developed and imposed by a unit within our case organization has lead to organizational change in a consortium of agencies.
3. Research approach

According to Yin [15], the case study method is preferred when examining contemporary events, especially when the focus is on contemporary phenomena within a real-life context. The case study’s unique strength is its ability to deal with the full variety of evidence, including documents, artifacts, interviews, and observations. For case studies, five components of research design are especially important: the study’s questions, its propositions (if any), its unit(s) of analysis, the logic linking the data to the propositions, and the criteria for interpreting the findings [15, p. 21]. In designing the case study, all of these components had to be dealt with.

This exploratory study had the following guiding research question: To what extent does benefits realization efforts lead to institutional change? As such, the unit of analysis is at an organizational level, and in this case a consortium of organizations (Altinn). Since the investigators’ goal was to explore organizational change issues rather than analytical generalizations, no propositions were developed before the study, even though the underlying assumption is that e-government interoperability should improve the ways government serves its citizens and the ways in which these citizens interact with governments. This approach was selected in order to understand the inherent complexities and the underlying constructs, in addition to debating organizational change from e-government interoperability.

Although the global assessment of electronic government is increasing, a United Nations (UN) survey indicates that the aims to which IT is put to use vary [16]. According to the UN survey, eGovernment solutions are fairly well developed in Europe, particularly in Norway which ranks third. The selection of case for the study was from cooperating government organizations in Norway. According to Stake [17], the case is of secondary interest; it plays a supportive role, facilitating our understanding of something else.

The Norwegian Altinn collaboration started in the early 2000s and was formally kicked off by the launch of the Altinn-portal in 2003. The initial mandate for the portal was to establish a single point of communication between the Norwegian government and businesses to help reduce the administrative burden. The initiative to develop Altinn came from a few central agencies: the Norwegian Tax Administration, Statistics Norway, and the Brønnøysund Register Centre (BRC). BRC, which is organized under the Ministry of Commerce, was made responsible for managing Altinn. The case offers a broad base of benefits realization management practices, suggesting that the case would be of interest and value to this study.

In-depth interviews following a semi-structured approach with questions addressing history and background, development, intervention and evaluation of the benefits realization model. Formal interviews with nine different people were carried out, as listed in Table 1 in the period between 2008 to June 2012. Most interviewees were selected from BRC, supplemented with some interviewees outside representing service owning agencies. The type of qualitative interviews that we used was one-on-one interviews [18]. The
duration of each interview was between 1/2 and 2 hours. The interviews were conducted face-to-face, and when necessary, follow-up emails were exchanged to discuss unclear data. Each interview was recorded and/or documented as soon after the interview as possible to preserve accuracy.

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Topics</th>
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<tbody>
<tr>
<td>BRC, managing director</td>
<td>Evaluation of benefits realization model</td>
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<tr>
<td>BRC, director</td>
<td>Current use of benefits realization model</td>
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<tr>
<td>BRC, former project manager</td>
<td>History and background, Future of benefits realization</td>
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<tr>
<td>BRC, former project member</td>
<td>History and background, Building, intervention and evaluation of benefits realization model</td>
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<tr>
<td>BRC, controller</td>
<td>History and background, Building, intervention and evaluation of benefits realization model, Current use and experience with benefits realization model</td>
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<tr>
<td>BRC, two account managers</td>
<td>History and background, Building, intervention and evaluation of benefits realization model, Role and practice of service planning and development</td>
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<tr>
<td>Service Owner, director</td>
<td>History and background of service, Interaction between service owner and BRC</td>
</tr>
<tr>
<td>Service Owner, senior consultant</td>
<td>History and background of service, Interaction between service owner and BRC</td>
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Table1. Overview of respondents and topics

A large number of informal conversations with people both from BRC and service owning agencies supplemented our data along with formal documentation of the benefits realization efforts at BRC.

4. Benefits realization @Altinn

The early focus for Altinn was rather technical, i.e. establishing an Internet based information portal to facilitate messaging (reporting) from industry. Altinn quickly became popular with industry users and has been considered a success by both government and industry.

The contracts with the initial systems vendor ran out in 2008, but before this an extensive strategy process was carried out to ensure continuation of Altinn. The strategy process led to a shift in focus as the involved agencies recognized that the majority of potential benefits from eGovernment required interoperability in various forms. Consequently, the new strategy provided directions for Altinn to leverage interoperability rather than just being a(nother) portal.

To comply with the mandate from the Ministry of Commerce that future developments of Altinn should be prioritized based on the socio-economic value potential and to ensure leveraging of interoperability, BRC made two important efforts.

First, it was decided that new vendor contracts should ensure modular development of Altinn and provide a service generating interface where new service owners could develop their own services using Altinn technology. This should ease the service production process and reduce parallel development in the Norwegian public sector.

Second, BRC developed an approach to benefits realization that was to be mandatory for all new services. The benefits realization approach was implemented in January 2011. An important part of the work with benefits realization was to visualize the value potential of Altinn. The visualization was done by performing socio economic analyses of a subset of services planned for Altinn. The results from the analyses suggested a net present value of about 2.6 billion USD.

The benefits realization approach developed by BRC consists of both a process model for new service owners and governance structures including organizational structures and prioritization scheme. A department within BRC, referred to as the AEI department, was made responsible for managing and facilitating benefits realization related to Altinn.

A number of structures, tools and techniques were developed to form the benefits realization framework to be used in relation to Altinn. E.g. a process model for benefits realization was developed based on an existing framework provided by the Norwegian Government Agency for Financial Management. An overview of the model is presented in Figure 3.

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We found the benefits realization model to be fairly consistent with the Benefits Management Model in Figure 1, although it is presented as a linear model and does not include mechanisms for reviewing the potential for further benefits. The bottom arrow indicates potential support benefits realization will provide for new service owners (agencies).

As mentioned, prioritization of potential new services was to be made based on potential socio-economic value. Hence, service owners wanting to develop e-services using the Altinn platform were required to develop their ideas and present a socio-economical analysis to BRC.

BRC acknowledged the heterogeneous nature of e-services and considered it unnecessary for small services to meet the same level of detailed analyses that large, complex services were subject to. Therefore, scalability options were added to support differentiation between three levels of service size and complexity as can be seen in Figure 4.
Figure 4 illustrates that prospect services in Altinn will be channeled through one of three levels of initial analysis. Level 1 applies to simple services with low development costs. Services in this category are treated administratively and put to production given that they can demonstrate an obvious value potential.

Level 2 applies to services with relatively high development costs and diverse stakeholders behind them. Services in this category are required to use BRC’s templates to carry out a pre-study and elaborate on the details of the service as shown in Figure 4. The outcomes of the pre-study are to be forwarded to the Altinn Steering council where decisions are made.

Level 3 applies to services where development costs are expected to exceed 750 million NOK (appr. $125 mill.). In these cases, the Ministry of Finance requires additional analyses to minimize risk. As in Level 2, the outcomes of the analyses are to be forwarded to the Altinn Steering council for prioritization.

The Altinn federation is growing as more and more agencies join. The expansion, combined with the ambitious plans for prioritization of new services and follow up of benefits realization, made it necessary to develop and implement a suitable governance structure.

Although the Altinn platform is administered by BRC on mandate from the Ministry of Commerce, many of the service owning agencies of the Altinn federation have their mandates from other Ministries (e.g., Ministry of Finance and Ministry of Labour) and thus exist in separate silos with separate budgets. The potential for goal conflicts is therefore evident and a fair, open and transparent governance structure critical for the continued success of the Altinn federation.

The governance structure for Altinn is illustrated in Figure 5. The Coordination unit for benefits realization, maintained by the AEI department, is the first line of contact for potential new service owners. Service proposal receive initial screening by this unit which decides if a proposal need to be directed to Step 2 or 3 (Figure 4) or if it can receive quick administrative treatment. The Coordination unit for benefits realization performs quick administrative treatment or provides support on Levels 2 or 3 depending on the route each proposal is given.

![Figure 5. Governance structure](image)

The Steering council consists of representatives of all members of the Altinn federation. BRC acts as a facilitator. The Steering council prioritizes service proposals that have passed through levels 2 or 3 for production.

Part of the motivation for deploying the benefits realization framework at Altinn was to establish and monitor the aggregated value of all services that use the Altinn infrastructure. BRC recognizes that value is created by service owners for each distinct service. Given that the majority of service owners report to different ministries than BRC, it is not obvious that

these agencies will accept to report performance data outside their own silo (Ministry). To cater for this bureaucratic obstacle and still be able to monitor the overall value delivered through Altinn, BRC developed the reporting scheme that is illustrated in Figure 6. The figure shows that each service owner is responsible for developing an annual benefit report for their service and submit this to their own ministry. Ministries then forward these reports the Ministry of Commerce who again forwards the reports to the AEI department within BRC. BRC is then able to aggregate data from the reports, monitor performance in Altinn and report

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aggregated performance data back to the Ministry of Commerce. In practice, service owners are asked to supply deviations from the socio economic analysis that served as basis for prioritization. If no deviations are reported, BRC assumes that the estimates from the original analysis are still valid. This approach is less accurate than full annual performance measurement for each service. However, full annual analyses are considered to add an un-pragmatic additional administrative burden to the service owners and therefore not required.

5. Discussion

Given the massive focus on documenting eGovernment effects and BRC’s ambitions of organizing for just that, it is interesting to analyze how effective BRC has been as an institutional entrepreneur. Benefits realization @Altinn requires institutional change not only within BRC but equally important within each service owning agency. We will therefor analyze the enabling conditions for institutional entrepreneurship, divergent change implementation and institutional change for BRC and one major service provider.

In our analysis, we consider the AEI department within BRC to be the agent of change. Thus, our unit of analysis is an organizational unit rather than an individual, which is considered a novel use of institutional theory.

5.1 Enabling conditions for institutional change

This section discusses enabling conditions based on the attributes field characteristics and actors’ social position.

5.1.1. Field characteristics. Although the various entities involved in the Altinn federation in isolation appear highly institutionalized, the Altinn federation itself seems less institutionalized. Several issues support this perspective. For instance, the recent mandate from the Ministry of Commerce to monitor benefits realization for services between government and industry requires new or additional tasks for BRC and the service owners. The mandate from the ministry in many ways echoes the political attitudes towards eGovernment in Norway; there is a need to document value for money.

Further, Altinn has recently been rebuilt using new technology. New functionality will be added to enable more interoperability and thus more sophisticated services with increased potential for benefits. As stated by a controller at AEI: “There is an increasing political awareness of the need for effective and efficient services.” The planned functionality is not yet fully implemented but will enable service owners to develop services with a much higher degree of interoperability than before.

In summary, we have found changing conditions in several areas such the objectives and organization of Altinn, possibilities for service owners and internally in BRC. These conditions should provide support for emerging institutional entrepreneurship. However, it should be noted that public organizations per se are highly institutionalized which again may hinder institutional entrepreneurship.

5.1.2. Actors’ social position. The central actor for Benefits realization @Altinn is BRC. BRC is responsible for Altinn and governs the Altinn federation. BRC’s formal position is therefor strong. The positive initiatives taken by BRC during the initiation and early years of Altinn also resulted in a strong social status where other agencies trust BRC to manage the federation in the best interest of the involved parties.

However, three issues are threatening BRC’s social position. First, several delays in the development of the new Altinn platform has resulted in delays in functionality that are critical for new services for other agencies. Consequently, a number of services are put on hold and service owners are getting impatient.

Second, BRC find themselves in a somewhat delicate position when reporting aggregated benefits delivered through Altinn. As the calculated benefit
potential is high (ca. $ 2,6 billion), both political and public interest is considerable and although BRC specifically underlines that it is the service owners that generate the benefits confusion and misunderstandings around this are common. Such misunderstandings may seem trivial, but are certainly not. The popular press contributes to the confusion by publishing superficial stories of how Altinn generates benefits worth billions without describing the contribution of service owners. Failure to crediting service owners invites at least two problems: 1) service owners are annoyed and less positive towards BRC and 2) service owners have problems when trying to get necessary funding for service development internally to implement planned services in Altinn. As stated by an executive at BRC: “Benefits realization in public sector is a challenge, especially when the costs are taken by one agency, while the benefits are taken in another agency.”

Third, no one questions BRC’s role regarding benefits realization in the inter-section between government and industry. However, their role is less obvious regarding agency-internal and citizen benefits and BRC is concerned with their legitimacy in these areas.

5.2 Divergent change implementation

5.2.1. Creation of a vision for divergent change. Considerable efforts were made by BRC to create a vision for change. The structures and processes that in sum constitute benefits realization @Altinn, as described in Section 4, are the results of a two-year effort, formalized in the form of a project. As stated by the project manager: “The project developed an infrastructure for benefits realization, a process model to be used, as well as a revised cost-benefit analysis for Altinn.” Although some aspects of the model need further elaboration and fine-tuning, the vision for the desired change was explicitly and clearly described.

5.2.2. Mobilization of allies behind the vision. The mobilization of allies is considered critical to ensure realization of vision. This is certainly the case in a complex effort such as Altinn.

Our evidence suggests that BRC has had more success in some areas than others. Internally at BRC, the vision appears to be fairly well disseminated and to a certain extent embedded in the organizational structure. A new unit within BRC, AEI, is organized around the benefits realization process (Figure 3). Staff and management in this unit are very much aware of the vision as it is reflected in their daily tasks of facilitating benefits realization for service owners.

Other agencies and service owners have been informed of the importance of the benefits realization effort. Interview with an account manager from BRC revealed mobilization of service owners: “We contact all, existing and potentially new, service providers and assists them in the process of completing the cost-benefit analysis.” Although there seem to be a general consensus that benefits realization is sensible, BRC experiences varying degree of practical support. Few, if any, service owners experience that the benefits realization process adds value to them directly. Large agencies perform similar analyses independent of Altinn and therefore experience minimal additional administrative burden caused by the benefits realization regime. Smaller agencies, often with less experience with eGovernment, report an increased administrative burden. Neither reported the benefits realization activities as directly useful for their agencies.

As mentioned earlier, BRC’s mandate is restricted to managing benefits arising in the inter-section between government and industry. BRC acknowledges this and suggests that a dialogue with another agency, Agency for Public Management and eGovernment, is established to ensure that the inter-section between government and citizens are catered for and that the general awareness of the requirements for benefits realization within eGovernment is well understood at the Ministry level in the Norwegian government. So far, this process has not yielded concrete results.

5.3 Institutional change

This section summarizes to what extent the work with benefits realization has lead to institutional change within BRC and the agencies with services in Altinn.

The benefits realization process illustrated in Figure 3 are now embedded in the organizational structure of the AEI unit within BRC. Thus, we find that there has been considerable institutional change within BRC caused by the ambition of realizing more benefits from eGovernment investments. Also, governance structures for Altinn and prioritization schemes are implemented resulting in new modes of operation.

Service owners have also been subject to institutional change, as they are now required to follow BRC’s procedures for implementing services in Altinn in terms of pre-implementation analyses and post implementation benefits reporting. Although there is cooperation, there is still away to go, as stated by a service owner: “If we want to bring up the quality of benefits realization, we need even more assistance from BRC than today.”

Finally, BRC experiences an emerging understanding of the mechanisms for benefits
realization and the importance of interoperability at government level. This understanding has yet to materialize itself in actions or organizational structures but is considered promising.

Despite the mentioned accounts of institutional change, planned changes are yet to be institutionalized on several areas. As stated by an executive at BRC: “There is an ongoing political game of who should be responsible for benefits realization.” Perhaps the most important remaining issue is to establish a potent coordination organ. The steering council is currently occupied with ensuring technical and operational stability of Altinn and has so far not been able to address prioritization of new services nor act as leverage to ensure necessary investments across ministries to ensure that potential benefits are realized. Consequently, the usefulness of the benefits realization effort is reduced for service owners.

Another remaining issue is an undisputable mandate for BRC to collect benefit reports especially regarding agency and citizen benefits.

A third important issue is to establish some form of quality assurance of estimates and benefit reports. The accuracy of up-front estimates are known to be questionable from the IS literature. The accuracy of the benefit reports is currently unknown. Hence, some form of quality assurance of both would be desirable.

Another, somewhat more minor, issue is that some service owners tend to by-pass the planning process and forward already developed services for implementation without having gone through the required planning process. It is a challenge to get both service owners and BRC to honor the proper process and further institutional change is required to further streamline operations.

6. Conclusion

Our study has shown that the AEI department’s actions as an institutional entrepreneur to promote benefits realization practice has led to institutional change especially within BRC’s own organization but also for agencies that are providing, or want to provide, services through the Altinn platform. The main institutional changes so far can be observed in the organizational structures of BRC and Altinn. As the benefits realization regime was implemented relatively recently (January 2011), we expect to see deeper and more extensive change in the years to come, both in individual agencies and in the Norwegian public sector in general.

7. Implications

Our study has implications for both theory and practice.

7.1 Implications for theory

The case used in our study illustrates added complexity of interoperability efforts that so far has not been accounted for in the benefits realization literature. This issue should be investigated further and future research should consider suggesting additions to existing benefits realization methods to cater for the added complexity.

Further, our use of institutional entrepreneurship as an analytical lens proved to be useful in analyzing the institutional impact of benefits realization efforts in interoperability efforts. Future research could study the possibilities of using elements from this theory when expanding theory on benefits realization to address issues related to implementation of such practices.

Whereas previous studies to our knowledge have used institutional theory to study how individuals act as change agents to affect institutional structures, we applied the theory to study how an organizational unit can act as a change agent with the same objective. We found this to be a useful exercise but encourage others to explore this application of the theory further in the future.

7.2 Implications for practice

Our study suggests that the processes and structures adopted in the Altinn case were positively viewed by the stakeholders and further that they had considerable institutional impact. However, we found that BRC and AEI had not been able to mobilize key stakeholder sufficiently as many were unable to grasp the usefulness of adopting the new practice.

One way of addressing this could be to engage key stakeholders in establishing a potent coordination function that would not only oversee fair and transparent governance, but also provide value to all involved stakeholders by promoting necessary further developments in the Altinn platform and by leveraging necessary investments across government so that agencies required to make investments to enable benefits not for themselves but for others would receive the required funding for this.

Several stakeholders mentioned that both benefit estimates and reports should be considered somewhat uncertain. To address, individual third parties could be engaged to assess both up-front estimates and benefit report for selected services.
Finally, the need for competence was considerable, as the benefits realization processes were considered new and unfamiliar. Therefore, organizations aspiring to implement structured approaches to benefits realization should provide support in key areas such as benefit calculations, process mapping and benefit assessments.

8. Acknowledgement

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9. References


