

# Why Realization Mismatches Expectations of e-Government Project Benefits? Towards Benefit Realization Planning

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**Abstract.** The effective management of stakeholders' benefits is crucial for the success of e-government projects. This success can be expressed as the match between realized project benefits and their anticipation by stakeholders according to their expectations. Unfortunately, recent studies report that there is often a mismatch between realized and expected benefits. Hence, understanding the reason for this mismatch would be of value for theory and practice. Guided by stakeholder and resource dependency theory, we aim at explaining this mismatch. Therefore, benefit aspects to be considered during realization planning are derived from literature. Based on these aspects, we interpret four types of benefits in a study of an e-government project in a German public administration: project guiding, endangered, questioned and out-of-focus benefits. We suggest that a mismatch between realized and expected benefits results from issues concerning particular benefit types and provide conjectures for effective management in practice.

**Keywords:** Benefits management · Benefit realization planning · Benefit realization typology · Stakeholder management

## 1 Introduction

In order to achieve project success, management traditionally focuses on reaching the project goals by deciding upon the aspects time, budget and quality. However, past research has recognized a number of limitations of this decision approach [1], since the realization of project benefits is often neglected [2, 3]. This is especially the case in the context of information systems (IS), as - irrespective of the perceived project success according to the level reached of each of the three aspects - many IS projects fail to realize expected benefits [4, 5]. Particularly in the e-government domain, this is an important issue, since perceived project success depends upon the involvement of numerous stakeholders [6] who anticipate divergent benefits.

Benefits management offers a number of methods for achieving anticipated project benefits [7]. A benefit is understood as “an advantage on behalf of a particular stakeholder or group of stakeholders” and its management as “(t)he process of organizing and managing such that the potential benefits arising from the use of IS/IT are actually realized” [5]. Especially the focus on stakeholders can be considered superior to traditional approaches to project management, as examples of benefits management show in the e-government practice [8–10].

Despite the intensive development of benefits management in both academia and practice<sup>1</sup> [8, 9, 11–13], planning the realization of benefits expected by project stakeholders is still an existing research gap [14]. This research gap can be described as a missing link between the identification of stakeholders’ benefits and the corresponding benefit realization planning towards successful projects [5, 12, 15]. For example regarding an e-government project, project sponsors (e.g. a governance board) define and prioritize a set of rather generic benefits that have to be planned and realized by a project management team, taking inadequately the perspective of stakeholders (e.g. different groups of citizens and private organizations) and their expectations into account. Consequently, they consider only to a rather limited extent the perspective of these stakeholders in terms of benefit’s importance.

In order to close this research gap, we derive a set of aspects for categorizing benefits and synthesize a benefit typology for realization planning. Therefore, we take into account (i) the **perspective of stakeholders** who anticipate project benefits and serve as a basis for identification of **expected benefits** and (ii) the **perspective of the project team** (sponsors, management, developers) responsible for the **realized benefits**. In consideration of both perspectives, we derive aspects from literature and interpret different types of benefits based on a case study of an e-government project in a German public administration. Based on the overall objective to provide an answer for the mismatch between realized and expected benefits of e-government projects, we address the following research questions (RQ):

- RQ1: What aspects should be considered as a basis of the realization planning of e-government project benefits?
- RQ2: What are managerial implications for benefit realization planning in e-government projects?

The remainder of this paper is structured as follows. First, a theoretical framework for the analysis of aspects is derived from literature. Next, findings of the case study are presented. Based on these findings, we synthesize a benefit typology for realization planning and discuss this typology. Finally, the paper concludes with implications to theory and practice and an outline of future research.

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<sup>1</sup> E.g. in practice present in project management methodologies such as PMBoK, PRINCE2, etc.

## 2 Theoretical Framework

### 2.1 Perspective of the Stakeholders of an e-Government Project

An approach to tackle the value of an e-government project is to study the distribution of its benefits, i.e. to observe the stakeholder-based value distribution [16]. Therefore, stakeholders need to be managed [17]. Stakeholders are defined as “any group or individual who can affect or is affected by the achievement of the organization’s objectives” [17]. Stakeholder activities need to be considered [17] and the relationships between stakeholders need to be understood by managers [18]. Consequently, stakeholder theory develops an understanding of the types of stakeholder influence and corresponding organization’s responses towards project success, since stakeholders have **expectations** regarding the benefits of an e-government project.

We focus on the concept of stakeholder salience [19]. This concept combines the stakeholder definition with the relevance of the involved stakeholders based on the attributes power, legitimacy and urgency. The aim is explaining stakeholder salience, i.e. who and what should count and managers should pay attention to [19]. Consequently, project managers should focus on benefits perceived by stakeholders in conjunction with their salience. Thus, the concept of stakeholder salience is of high importance for the determination of benefits.

Besides, stakeholders can influence each other through various interactions. These interactions are based on the exchange of resources like budget or information. In order to obtain a deeper understanding of this stakeholder influence and corresponding organization’s actions, we recognize the importance of resource dependencies [20]. A resource dependency is defined as “the product of the importance of a given input or output to the organization and the extent to which it is controlled by [...]” stakeholders. It measures the degree to which stakeholders need to be considered due to their perceived importance for project success [20]. For example, in the context of an e-government project, the project team within the public administration interacts with multiple (internal and external) stakeholders and creates a number of dependencies. As a consequence, the public administration influences its stakeholders and vice versa. Moreover, dependencies might exist between stakeholders. This leads to a network of dependencies, which should be considered when studying the distribution of stakeholder value [21].

Frooman [23] argues that stakeholders can influence an organization through their resource relationships with it. Thus, their influence results not only from their attributes, but also from power as attribute of their dependencies, i.e. a dependency results from the control over a resource [20]. Consequently, stakeholder salience and resource dependencies are aspects of the **stakeholder influence** on an e-government project. Moreover, stakeholders have a particular interest in a benefit according to their expectations. Thus, their interest should be considered as well when analyzing stakeholder influence regarding a particular benefit (cf. Table 1).

**Table 1.** The concept of stakeholder influence and its dimensions

Concept	Dimensions (with examples and corresponding sources)
Stake-holder influence	<ul style="list-style-type: none"> <li>• Interest (e.g. claim, concern, objective, issue, problem, expectation, attitude, impact of interest, perceived importance, threat potential) [22–29]</li> <li>• Resource dependency (e.g. resource availability, coalition, power in relationship, network position, action in a particular process) [23, 30–32]</li> <li>• Salience (e.g. power, urgency, manager/stakeholder perspective) [19, 26, 33]</li> </ul>

## 2.2 Perspective of the Project Team of an e-Government Project

From a project team perspective, the distribution of benefits among stakeholders considers the management of these benefits, i.e. the organizing and guiding of benefits towards their effective **realization**. In particular, benefits management involves a five step cyclic process [4, 5]: (i) benefit identification and classification (with intense stakeholder involvement), (ii) benefit realization planning, (iii) execution of the benefit realization plan, (iv) benefit realization evaluation and (v) identification of further benefits.

Although our focus is put on the first two steps, we acknowledge that benefit realization depends upon the availability of resources assigned to a project. Hence resource dependencies have to be considered [12]. Building upon the concept of resource dependencies [20], the resource-based view develops an understanding of organizations' key resources upon which the realization of the organizational strategy depends [34]. In the case of benefits management in an e-government project, the resource-based view allows to focus on a set of decisive resources for the realization of the expected project benefits.

Building upon the existing understanding of benefits management in theory and practice (cf. Table 2), the concept of **benefit realization capability** is defined as “an organizational capability that has the express purpose of ensuring that investments made in IT consistently generate value, through the enactment of a number of distinct, yet complementary, competences” [12]. For an organization, there are a number of underpinnings (e.g. knowledge, skills, experience and behaviors) of the practices that define specific competencies for benefit realization, while the latter enact the benefit realization capability [12].

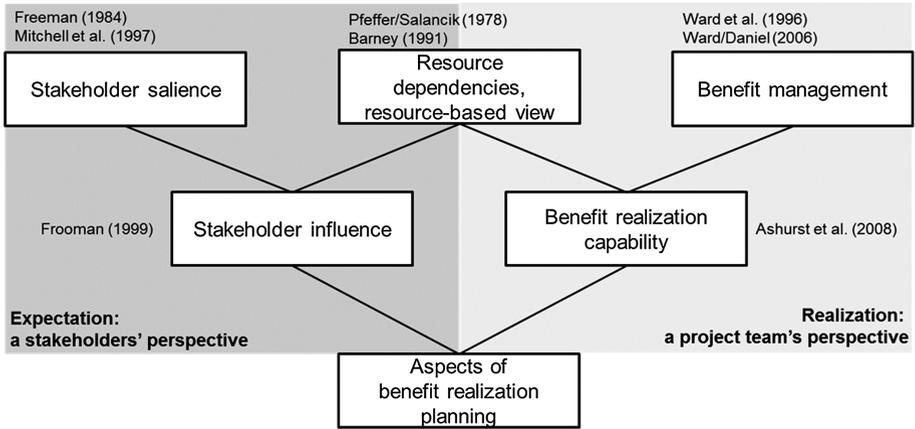
## 2.3 Integration of Perspectives and Concepts

This section integrates the concept of stakeholder influence and benefit realization capability as follows. First, as suggested by the definition of a benefit [5], stakeholders advance from and influence the outcomes of an e-government project. Consequently, their perspective should be considered during benefit identification, prioritization and

**Table 2.** The concept of benefit realization capability and its dimensions

Concept	Dimensions (with examples and corresponding sources)
Benefit realization capability	<ul style="list-style-type: none"> <li>• Competence (e.g. planning, delivery, review, exploitation) [12, 35, 36]</li> <li>• Organization (e.g. culture, readiness, link to business strategies, strategic governance, ownership/accountability) [37–39]</li> <li>• Practice (e.g. ways of doing things, timing) [12, 36, 38]</li> <li>• Resource availability (e.g. knowledge, skills, experience, behaviors, budget, top management support) [12, 36–39]</li> </ul>

realization planning [12, 23]. Second, the project team (e.g. project sponsors and management team) should be considered, since they decide upon project outcomes and build the capability required for benefit realization [12, 13]. Third, the interactions of both perspectives should be considered, i.e. the overlapping of benefits considered important by stakeholders including their corresponding means to influence the project as well as the response by the project management to this influence. As a result, we recognize a theoretical framework for aspects of benefit realization planning that is built upon concepts found in literature (cf. Figure 1).



**Fig. 1.** Theoretical framework for analysis based on aspects of benefit realization planning

### 3 Case Study

#### 3.1 Research Approach and Case Background

Since we do not construct our research based on a predefined theory but apply theory “as an initial guide to design and data collection” [40], we conduct an interpretative

research of the phenomena of interest [41] based on a case study [42]. Hence, we apply an initial theoretical framework – that we derived from literature – for analysis in the iterative research process. We choose both aspects of benefit realization planning as a basis for primary data sampling in a case study of an e-government project in German public administration. Consequently, we interpret a possible explanation of the mismatch between realized and expected benefits in the project under study.

The project under study aims at developing a pre-filed tax system called VaSt by upgrading the existing system. The project has heterogeneous target groups (cf. [43]) and is built with the aid of third parties (e.g. companies, consultants). Hence, it is characterized by a huge number of stakeholders with different expectations and benefits. The first version of the VaSt system was deployed in January 2014. Hence, the project management team was able to recall benefit identification and realization.

We organized a workshop for the project management team in February 2015 in order to present the theoretical framework for analysis and to report a set of benefits expected by stakeholders that were identified in previous studies in the project VaSt. Moreover, we conducted semi-structured interviews with each of the six participants after the workshop. The participants have the following roles in the project: project manager (I1), deputy project manager (I2), multi project manager (I3), program manager (I4), a system deputy (I5) and developer (I6). The interviews took 28 min in average. Topics of the interviews were the aspects of benefit realization planning and how they were applied in the project context. All interviews were conducted by two interviewers, recorded and transcribed. Afterwards, the interviews were coded by two researchers independently. In case of differences of the results of the interpretation process, the differences were discussed by the authors.

### 3.2 Types of Benefits – Findings from the Case Study

Different levels of stakeholder influence, of importance of a benefit according to the stakeholder expectations and of benefit realization capability are involved in the planning of benefit realization. Besides, according to the interviewees, the stakeholder influence is conjunct with importance of a benefit for the particular stakeholder. Hence, both are considered in a combination as an aspect that is considered when planning the benefit realization. Moreover, if multiple non-influential stakeholders recognize a benefit as important, their influence is cumulated. Table 3 shows the different types of benefits (labeled by the paper authors) identified during the case study.

**Project Guiding Benefits** Are associated with a high level of stakeholder influence and a high realization capability. An example for such a benefit from the case study is the “*reduction of overhead*” (e.g. I1, I3). All stakeholders mentioned this benefit as important and the required realization capability is given, since this benefit is one of the main project goals. Hence, this benefit is realized during the project.

**Table 3.** Types of benefits

Label	Stakeholders' perspective	Project team's perspective
Project guiding benefits	<b>Benefits</b> of influential stakeholders or benefits with high importance for multiple stakeholders	<b>Realizable</b> by the project team since defined in the scope of project goals
Endangered benefits	<b>Benefits</b> of influential stakeholders or benefits with high importance for multiple non-influential stakeholders	<b>Not realizable</b> by the project team due to insufficient capabilities
Questioned benefits	<b>Benefits</b> of non-influential stakeholders or benefits with a low importance for stakeholders or benefits which are not anticipated	<b>Perceived</b> and realizable by the project as an innovation towards future stakeholder expectations
Out-of-focus benefits	<b>Benefits</b> of non-influential stakeholders or benefits with a low importance for influential stakeholders	<b>Not realizable</b> by the project team due to insufficient capabilities

**Endangered Benefits** Are associated with a high level of stakeholder influence, while the level of realization capability is low. An example for such a benefit mentioned by the interviewees is “*simplification through data completeness*” (e.g. I5) as well as “*simplification through an authorization database*” (e.g. I6). Stakeholders with a strong lobby and high influence on the project recognized these benefits as important or multiple non-influential stakeholders recognize these benefits and thus their influence is cumulated. However, the project team is not able to realize them, since the data providers could not be integrated as required (in the case of “*simplification through data completeness*”) and since resources were missing (in the case of “*simplification through an authorization database*”).

**Questioned Benefits** Are associated with a low level of stakeholder influence, while the level of the corresponding realization capability is high. The interviewees mentioned the “*flexibility through mobile device interface*” (e.g. I3) and the “*flexibility through guaranteed 24 h availability*” (e.g. I1, I4) as examples for this type of benefits. These benefits were not seen as important by stakeholders. However, the project team suggests that the benefits would be expected by stakeholders in the future.

Finally, the interviewees mentioned that benefits could be associated with a low level of stakeholder influence and realization capability. These benefits can be seen as rather unimportant for (influential) stakeholders. Thus, we apply the label **out-of-focus benefits**. An example for such a benefit is “*unified authentication*” (e.g. I5).

### 4 Benefit Typology for Realization Planning – a Synthesis

Referring to the work by Doty and Glick [44] on typologies, we interpret the existence of four ideal types of benefits (cf. Figure 2). Each benefit can be assigned to one of the four ideal types according to the value levels of its realization planning aspects, since the types are mutually exclusive and collectively exhaustive. We further interpret the aspects to be considered in planning benefit realization as answers by the project team to the following questions: (i) What is the level of stakeholder influence conjunct with the stakeholders’ perceived importance of an expected benefit? (ii) What is the level of the capability required by the project team to realize the benefit?

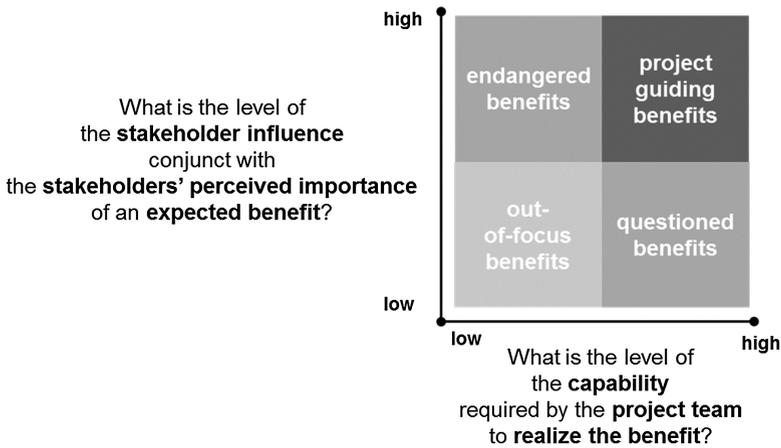


Fig. 2. A benefit typology for realization planning

The two aspects stakeholder influence and perceived importance of an expected benefit are combined above, as they both represent integral parts of the stakeholders’ perspective. Hence, benefits can be allocated by considering the stakeholders’ perspective on a benefit (by answering the first question, i.e. the y axis) and the perspective of the project team (by answering the second question, i.e. the x axis). The level of each aspect can be set to low or high. Those levels can be determined directly (by e.g. interviewing and analyzing the stakeholder perception) or estimated based on the perception of the project management.

### 5 Discussion

An explanation of the mismatch between realized and expected benefits is derived based on the aspects of benefit realization planning. Therefore, we discuss the two research questions by interpreting the aspects and the benefit typology towards implications for management of e-government projects.

Regarding RQ1, the first aspect sets the level of **stakeholder influence** conjunct with the perceived **importance of a benefit** by a stakeholder (cf. Figure 2, y axis). Hence,

it presents the perspective of a stakeholder on the e-government project by shedding light on the stakeholder's expectations. However, both the influence of a stakeholder and the importance of a benefit for a particular stakeholder can change over time [45], e.g. urgency can augment due to an external event. Consequently, the determination of the level on the y axis is not static, but depends on the point in time of determination. Besides, the determination of stakeholder influence is conjunct with the subjective perception of the project team. If stakeholder influence is estimated based e.g. on the attributes power, legitimacy and urgency [19], the project team prioritizes the stakeholders by determining the level of stakeholder influence. In order to achieve a rather objective determination of stakeholder influence, we suggest that the determination should be done by several project members independently or by a third party through interviews with stakeholder representatives.

The second aspect sets the level of the benefit realization capability required by the project team (cf. Figure 2, x axis). This level of capability is influenced by the availability of resources (e.g. time, budget and staff), the teams' competence or the current practice in the organization. If the level of the benefit realization capability is low, the project team can try to acquire missing resources. This requires an intense coordination with the project sponsor, so that the e-government project is not only successful in meeting the stakeholders' expectations, but also in finishing the project in time, in budget and in quality.

Regarding RQ2, we derive two managerial implications for benefit realization planning in e-government projects based on the benefit typology. First, **project guiding benefits** are linked with the project goals. Thus, they need to be realized. These benefits are commonly listed in the project specification. In order to meet the project goals, the project team, project sponsor and further stakeholders should agree upon them. **Out-of-focus benefits** can be seen as contrasting to the project guiding benefits. They are not important for stakeholders and not linked to the project goals. However, the relevance of these benefits can be increased due to a change in the importance of stakeholders. Hence, these benefits should not be ignored. Instead, the observation of these benefits should be integrated in the project management.

Second, endangered as well as questioned benefits should be paid attention to by e-government project managers. The existence of **endangered benefits** indicates that an e-government project might be perceived as less successful. Even more, a project can be perceived as a failure when a greater number of endangered benefits are not realized – even if the project is finished in time, in budget and in quality. Since the project success is linked to the stakeholders' expectations, the threshold between success and failure in terms of endangered benefits should be actively managed. **Questioned benefits** are innovative benefits according to the project team. However, stakeholders do not follow this perception of the project team. They perceive these benefits as unimpressive or do not address them as benefits at all. Hence, in order to make these benefits valuable for the stakeholders, communication between the potential stakeholders and the project team needs to take place. Through communication (e.g. marketing), these benefits can be perceived by stakeholders and their interest can be adjusted.

Based on the aspects and managerial implications, we derive the following explanation of the **mismatch between realized and expected benefits** in e-government

projects. Project guiding benefits are the project goals which need to be achieved during the project. The achievement of these benefits is the basis for project success. Thus, their realization should be monitored, otherwise a mismatch would emerge. Endangered and questioned benefits should be in the focus of the benefit realization management by the project team, since benefits of these types bear a higher risk potential and need to be negotiated or communicated. If a finished project still has a number of endangered benefits, there will be much likely a great mismatch between realized and expected benefits. If a number of questioned benefits exist, the project team might be obliged to account for a perceived waste of resources that could be used instead in realizing benefits important for stakeholders.

Since the importance of a benefit for a stakeholder could be estimated wrong (e.g. the benefit is classified as out-of-focus or questioned benefit – instead of an endangered or project guiding benefit), we conjecture the following regarding benefit realization planning towards project success, i.e. towards managing the match between realized and expected benefits in e-government projects:

- **conjecture 1:** the typology presented should be applied at the very beginning or even before the project has started. In that case, project sponsors would be able to prioritize a set of benefits and to allow for the development of the required realization capability by the project team.
- **conjecture 2:** benefits should be discussed with influential stakeholders at the beginning of an e-government project. This could help to avoid wrong expectations and to diminish possible conflicts.
- **conjecture 3:** the benefits assigned to each ideal type should be reviewed on a regular basis, since the levels of each benefit along the both axes could change.
- **conjecture 4:** the project management should try to negotiate with the stakeholders about endangered benefits and communicate the criticality before the project or as soon as possible during each project phase.

## 6 Conclusion

Whereas literature analyzes the identification and classification of stakeholders and their benefits regarding e-government projects in detail, the planning of benefit realization is an under-researched field. In order to close this research gap, we apply a theory-based analytical framework of aspects of benefit realization planning to a case study in a German public administration. We identify aspects for benefit realization as follows: (i) the stakeholder influence conjunct with the stakeholders' perception of a benefit's importance as well as (ii) the capability of the project team to realize a benefit. Based on these aspects, we present a benefit realization typology which allows for classifying benefits. The typology serves as a basis for effective benefits management and provides an explanation of the mismatch between realized and expected benefits.

Future research includes the application of the benefits typology along the complete lifecycle of an e-government project, since stakeholders salience could change with time passing [45]. Moreover, the typology should be applied in a number of case studies in order to reflect and validate the variability of benefit types.

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