E-Government Stakeholder Analysis and Management Based on Stakeholder Interactions and Resource Dependencies

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Abstract
Project stakeholders – those of IT projects in general as well as those of e-government projects in particular – have considerable influence on the perceived project success. Thus, understanding and managing stakeholder behavior is of great importance. So far, stakeholder theory is used to describe specific aspects of stakeholder influence. However, it cannot explain the distribution of stakeholder influence or the mutual influence stakeholders have on each other. By adding a resource dependency perspective, this research gap can be closed and effective stakeholder management measures can be derived. Based on a case study of an e-government project, the aligned concepts are applied using the dynamic network diagram technique. As a result, dependencies, governance mechanisms, dependency power and securing mechanisms are discussed as enhancements to existing concepts and methods. Finally, implications towards future research and practice of stakeholder analysis and management are derived.

1. Introduction\(^1\)

Many e-government projects are not successful in the achievement of their goals [25, 31]. One important factor for the achievement of project goals is the degree of stakeholder involvement [24]. Thus, understanding and effectively managing stakeholder behavior and involvement are of great importance for project success. So far, stakeholder theory [13] has been widely used to measure stakeholder influence in terms of power, urgency and legitimacy [27]. It addresses the complexity of issues affecting citizens and private organizations [7]. However, existing analysis and management approaches provide insights neither on the origin of these influencing factors nor on the mutual influences and dependencies between stakeholders [7-9, 18, 26].

Missing insights on mutual influences and dependencies during interactions are an important issue in stakeholder management. For example, stakeholders having a strong lobby can affect a project by exerting influence on further stakeholders. In consequence, the specific requirements of these strong lobby stakeholders will be considered as especially important.

Without a thorough understanding of stakeholder behavior and their mutual influence, effective measures for stakeholder management cannot be designed. In order to understand the influence between stakeholders during interactions, areas of independency and interdependency [19] need to be determined. Mutual dependencies [28] need to be further mirrored by the exchanged resources [23]. Consequently, the incorporation of resource exchange is a prerequisite towards analysis and management of stakeholders.

Our paper presents an approach towards stakeholder management based on the understanding of resources exchanged during interactions. We address the above stated issues through an alignment of concepts from both stakeholder theory [13] and resource dependence theory [28]. We apply these concepts within a case study of a German e-government project. This case study shows how stakeholders relate to each other in a network of mutual dependencies and interact on multiple occasions. The concepts applied in the case study are operationalized based on constructs of the dynamic network diagram technique [36]. For this purpose, our approach addresses the following questions:

- What aspects of the resource dependencies between e-government stakeholders and public administration are important for analyzing and understanding stakeholder interactions?
- Which implications for stakeholder management can be derived based on interactions from a resource dependency perspective?
The remainder of this paper is structured as follows: First, we give an overview over the applied theories and the dependency network diagram technique. In a next step, we align these theories in the context of e-government. We show that a resource exchange perspective offers insights towards the analysis of existing dependencies, governance mechanisms and dependency power of the actors involved. Further, securing mechanisms are presented towards stakeholder management based on the resources exchanged. Next, we describe the methodology applied; we give background information and present the findings of the case study. We analyze and discuss our findings towards their contribution to stakeholder analysis and management. Finally, we conclude on implications for management and give directions for future research.

2. Theoretical framework

2.1. Stakeholder theory

Stakeholders are defined as “any group or individual who can affect or is affected by the achievement of the organization’s objectives” [13]. Thus, managers need to consider stakeholder activities and relations [13] and understand “the relationships among the various groups of actors in and around the organization” [26]. Consequently, stakeholder theory develops an understanding of the types of stakeholder influence as well as how organizations could respond to those influences [29].

Multiple – macro and micro – perspectives are presented in information systems management [22] and in the e-government field towards stakeholder theory application [32]. For structuring the various aspects of stakeholder theory, multiple classification dimensions exist in extant literature. In order to focus on concepts in accordance to the aims of our study, we choose two dimensions of stakeholder theory literature. On the one hand, stakeholder theory is explored from a normative (e.g. philosophical or moral guidelines), an instrumental (e.g. identification of certain phenomena) and a descriptive (e.g. descriptions and explanations based on empirics) aspect [11]. We refer to this distinction as the first classification dimension of structuring stakeholder theory literature.

On the other hand, a further classification dimension in the context of stakeholder theory describes three perspectives: (i) a conceptual, (ii) an organizational and (iii) a stakeholder perspective [34]. This dimension is developed with acknowledgement of a shift from an organizational-centric towards a “network-based, relational […] view” of engagement between an organization and its stakeholders [3]. Hence, the conceptual perspective incorporates studies in which different concepts are combined with stakeholder theory in order to explore the theory application in terms of “stakeholder relation management” [34]. The organizational perspective focuses on the description of organizational “characteristics and managerial behaviors” [34] in regard to stakeholders. It identifies the interdependency between stakeholder management and the achievement of organizational objectives [11, 34]. In parallel to the organizational perspective, the stakeholder perspective includes “recipes for stakeholders”, i.e. illustrates means in detail for how stakeholders can effectively interact with organizations [34]. This classification based on perspectives can be seen as the second classification dimension of structuring stakeholder theory literature. We note that although interactions between stakeholders and an organization are the topic of study in this perspective, mutual interactions between stakeholders are not considered.

Taking the first and the second classification dimension into account, we note a combination of an instrumental aspect theory from the stakeholder and organizational perspectives [27, 34]. The general stakeholder definition is brought in conjunction with the relevance of the stakeholders involved. The aim is explaining stakeholder salience, i.e. who and what should count and managers should pay attention to [27]. The combination suggests a managerial perception of three classification attributes of stakeholders within a relation with an organization:

- **power**: “a party to a relationship has power, to the extent it has or can gain access to coercive, utilitarian, or normative means, to impose its will in the relationship” [27].
- **legitimacy**: “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” [27, 35].
- **urgency**: “[t]he degree to which stakeholder claims call for immediate action” [27].

Beyond this classification of stakeholders as a means for identification and management, there is a variety of further methods discussed in literature [7, 9]. These methods operationalize the classification concepts. A general categorization thereof incorporates two phases: an analysis phase and a management phase [1]. Detailed steps involved in the stakeholder analysis phase include [39]: (i) stakeholder **identification**, (ii) **interests determination** and (iii) **evaluation**. The management phase is based on implications derived during the analysis of e.g. stakeholder salience [27].
Although a large number of methods exists, “linking stakeholder identification and analysis techniques with stakeholder influence techniques” [7] is seen as understated and is addressed as an area for future research [7]. There is a paucity of research towards stakeholder analysis and management which takes interactions and exchanged resources into account. Consequently, resource dependencies and mutual interactions between stakeholders are not considered in detail.

2.2. Resource dependency theory

The understanding of an organization’s or an actor’s behavior should be based on the analysis of the context it takes place within [28]. Dependency is understood as “the product of the importance of a given input or output to the organization and the extent to which it is controlled by [...]” actors [28]. Consequently, the dependency between different actors and an organization measures the degree to which “these [actors] must be taken into account [...]” and to which “they will be perceived as important [...]” [28]. As a result, management actions and decisions are influenced by the criticality and importance of a resource. This provides the basis for an explanation of organizational behavior [28]. The explanation focuses on interactions between social actors (e.g. persons, groups or organizations) in terms of exchanged resources (e.g. physical, human, organizational or financial [17]).

As a means of analysis of organizational forms, resource dependency theory offers major advantages in regard to social and power aspects. A basis thereof are three critical factors which are applied to the determination of dependencies between actors: (i) the importance of a resource in regard to the “continued operation and survival” of the actor, (ii) the “discretion over the resource allocation and use” and (iii) the extent to which resource alternatives exist [28]. In regard to these factors, management implications are based on the possession of or the access to a resource.

As an enhancement of these factors for management actions, the following dimensions need to be considered: (i) the type of resources involved, (ii) the degree of and (iii) the type of dependency as well as (iv) the resource securing mechanisms [17]. The securing mechanisms are discussed as a means of managerial actions in terms of: (i) incorporation: “forming internal and external coalition to secure resources” [17]; (ii) avoidance: “altering the purpose or structure of the organization to increase alternatives” [17]; (iii) adaptation: “changing the external context or by adapt to the premises by an independent organization” [17].

Still, issues of management actions have not been analyzed in more detail due to the complexity of dependencies [6]. The application of dependency modelling techniques, like dependency network diagrams, is an approach towards those issues [6, 36].

2.3. Dependency Network Diagrams

A dependency network diagram allows for an explicit definition of and focus on interdependencies between actors [36]. The modelling approach is built upon resource dependency theory. In terms of theoretical basis and logical completeness, it is suited best to depict dependencies [2].

![Figure 1. Diagram constructs](image)

The constructs borrowed from resource dependency theory are operationalized in a dependency network diagram [36] as follows (cf. figure 1): Each actor is described by his role R and goals (G1,...,Gn) which in turn are accomplished by activities (A1,..,An). In regard to the existing dependency, a dependent role R1 is considered dependent on another independent role R2, if the accomplishment of its goals is not only dependent on its own actions, but also on the actions of the independent role R2. The dependency is depicted by an arrow starting at the dependent role R1 and pointing at the independent role R2. Further, the dependency is controlled by a mechanism (e.g. a contract) noted as governance control.

Expanding the initial application area of the dependency network diagram [36], the method is considered suitable for application in the examination of inter-organizational collaborations [6, 37]. Thus, the dependency network diagram is extended by two additional concepts: The concept of power is operationalized as “the control over a resource” (cf. figure 2, depicted as a circle) [38]. The power balance P can be predominately asymmetric (denoted as A), when “it is difficult for the [dependent] role to find an easy replacement for the resource-providing role but not vice versa” [38]. On the contrary, the power
balance P is predominantly symmetric (denoted as S), when “there are alternative sources available from which a needed activity or resource can be obtained” [38]. The concept of secondary dependency addresses goals to be achieved by a role through actions outside the interaction context with another role [38]. This type of dependency is depicted by a dashed arrow (cf. figure 2). The meaning of the direction of an arrow is still linked to the dependency, as described above.

![Diagram](image)

**Figure 2. Diagram extension constructs**

Taking reference of this dependency network diagram extension, we propose a further area of dependency network diagrams application: towards insights in e-government stakeholder analysis and management.

## 3. Integration of concepts

A focus on resource dependencies in stakeholder interactions has not been set in extant literature, although a few theoretical concepts have been integrated. For example, stakeholder theory is argued to allow studying relationships as a “complex phenomenon” [15]. Unsurprisingly, a pertinent interest in stakeholder theory application towards managerial decision-making in the context of public administrations is present [4, 5, 12, 30, 32, 33]. Stakeholder salience changes, for example, are studied during the different phases of an e-government project showing how the attitude of a stakeholder group reflects its influence [5]. In another example, stakeholders are grouped based on their perception of the e-government project of study [4], which represents a similar approach to the study by Wolfe and Putler [39]. Still, there has been no focus on stakeholder analysis or management implications based on interactions and resources exchanged.

Since stakeholders possess resources, like political support [10], their importance is acknowledged “in defining and shaping goals” in public administrations [21]. Hence, resource dependency theory is argued to explain the relative importance of stakeholders [20] and to emphasize the aim of effective use of resources in the public sector [21]. The importance in terms of influence is often derived from stakeholder power [27]. Still, the origin of this power as well as the dependencies between stakeholders during interactions have not been topics of research so far [7-9, 18, 26].

We suggest understanding stakeholder influence based on interactions and resource dependencies towards stakeholder management. Therefore, we integrate resource dependency theory concepts and dynamic network diagrams’ constructs in stakeholder analysis and management phases [1, 39] as follows: We consider a set (cf. table 1) of concepts and constructs (roles, activities, goals) as a basis towards stakeholder analysis. Based on this set, we enhance the understanding on stakeholder influence and incorporate resource securing mechanisms towards stakeholder management.

In terms of stakeholder analysis, we propose an integration of concepts and constructs - derived from resource dependency theory and dependency network diagrams - during stakeholder identification, interests determination and evaluation. The identification of stakeholders is operationalized through the assignment of roles, activities and resources exchanged between all actors. The exchanged resources illustrate the interaction between actors (stakeholders, public administrations). Interest determination refers to considering goals, dependencies, dependency directions as well as secondary dependencies. The dependencies between actors offer a representation of the directions of influence between the actors in a particular context. If secondary dependencies are considered, influence outside the specific context can also be analyzed. During the stakeholder evaluation, dependency power and governance mechanisms should be determined. A differentiation between asymmetric and symmetric dependency power supports the analysis of potential managerial strategies towards a control of resources. Analyzing governance mechanisms allows for an overview of the boundaries of managerial action.

In terms of stakeholder management, based on the conducted stakeholder analysis, existing approaches can be enhanced through the incorporation of resource

| Table 1. Application of resource dependency concepts to stakeholder analysis and management |
|---------------------------------|---------------------------------|------------------|
| Stakeholder theory | analysis | management |
| identification | roles, activities | Goals | securing mechanisms: incorporation, avoidance and adaption |
| interests determination | dependencies and their directions, secondary dependencies | dependency power, governance mechanisms |
| evaluation | | |
| | | |

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<th>Resource dependency theory and dynamic network diagrams</th>
<th>consider as a basis</th>
<th>enhance understanding</th>
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<td>exchanged resources</td>
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securing mechanisms that build upon the concept of dependency power. Securing mechanisms allow for management of each stakeholder based on a set of governance mechanisms. Furthermore, possible impact on further interacting stakeholders can be estimated through secondary dependencies.

4. Methodology

4.1. Data capture and analysis

We chose a case study approach [40], since (i) our study was exploratory and (ii) it was linked to a contemporary project. This project started in 2012 and was about to deploy an e-government solution in a productive environment. Thus, we had little control on the project and its environment. As a format, we chose an instrumental case study [11]. Our decision was instructed by the goal to gain insights and an understanding towards stakeholder involvement in e-government projects in Germany by studying one particular project.

All interviews were based on a semi-structured questionnaire. The preliminary identification of actors took place with domain experts and project members. In order to supplement the information achieved in these interviews, we used data from official public websites that describe particular aspects of the project. In order to understand and analyze the interactions and dependencies between actors (actors include in our case the public administration as well as its stakeholders), interviews were conducted with each actor identified.

The interviews were conducted on the basis of a protocol, in which first of all a short text summarized the goals and the methods of the study. The questions in the protocol focused on the following five themes: (i) an introduction including a description of roles, responsibilities and tasks of the interviewee, (ii) a view on influence and importance of stakeholders involved in the project, (iii) changes from a general and individual perspective resulting from the project rollout, (iv) possible benefits and chances / threats thereof, (v) possible disadvantages / risks and means to encounter and manage them. We conducted a total of 27 interviews at personal meetings or by phone from January 2014 to May 2014. All interviews were audio recorded and transcribed.

Afterwards, we analyzed the data using a coding scheme. This coding scheme was derived from the structure of the protocol. The coding and data analysis was done using the analysis tool Dedoose. In order to guarantee reliability and validity, the data was analyzed by two independent coders.

4.2. Case study background

In general, tax filing in Germany is situated at the federal state level. The sixteen states are cooperating in developing and running the electronic tax filing system. Thus, a large number of different internal and external decision-makers is involved. Further, the internal decision-makers are located on different levels, e.g. federal, state or regional level.

The exemplary project aims at developing a pre-filed tax system by upgrading the existing system. Hence, functions are developed to provide tax data to taxpayers and to load this data automatically into a system. The development of the functions of the pre-filed tax system started in 2012. The upgraded system is available for citizens since January 2014. It can be used either free of charge via a web portal provided by the department of finance or via a commercial software product. Since this project has many internal and external stakeholders who can influence the project’s success, it gives the possibility to analyze stakeholders’ interactions in a complex e-government project.

5. The German public pre-filed tax system

Analyzing the interviews, we identified 16 actors, i.e. stakeholders, related to the project. These stakeholders could be assigned to five categories (presented in [14]). Due to space limitations, we chose an exemplary situation with interactions between the project staff and further stakeholders. Therefore, we focus on five actors who interact and exchange resources (cf. table 2). Through the exclusion of further stakeholders, it may be possible that we miss influences from an excluded stakeholder.

We present interactions between the project staff (as the organization responsible for the system development) and four further stakeholders, namely software companies, target users of the system, deputies and the governance board IT. Each actor is represented through his role, activities and goals. The set of six dependencies based on exchanged resources as well as governance mechanisms are depicted in figure 3. Two of those dependencies have been recognized as secondary dependencies and are depicted as dashed arrows. Further, dependencies are described according to the power of control as symmetric (denoted as S) or asymmetric (denoted as A).

The governance board IT sets the e-government strategy and decides upon its operationalization. The board commissions the project (activity A1 of the governance board IT), gives directives and provides funds (activity A2 of the governance board IT). Funds are seen as the critical resource in the relationship
between the governance board IT and the project staff. They are needed to implement the system (dependency 1 “funds”) so that the project is fulfilled in time, in budget and in quality (goal G1 of the governance board IT). The application criterion for budget is the commission to implement the e-government system. The power control between these two stakeholders is asymmetric, since the project staff cannot acquire the resource elsewhere. The governance control is realized through directives between the actors.

Software companies develop products for the target users (activity A1 of software companies). For this purpose, the software companies need information about the system’s interfaces. Further, they inform the project staff about requirements regarding interfaces so that their products can integrate the tax filing solution (activity A2 of software companies). The dependency is modeled based on information (dependency 2 “information”) and is controlled by “standardized interfaces”. The software companies depend on the project staff in terms of information about the interfaces towards the integration of the tax filing system. Software companies pursue their goals of software integration, profit maximization (goal G1 of software companies) and increase of customer (i.e. target users) satisfaction (goal G2 of software companies). The interaction is symmetric, since both actors discuss a common ground for development. Besides, the use of the tax filing system by software companies is not obligatory. The project staff does not aim at implementing all requirements as well.

Since software companies sell their products to customers, there is a secondary dependency (dependency 6 “funds”) upon the target users. This dependency is outside the interaction context of the project. Software companies govern the dependency by contracts aiming at profit maximization (goal G1 of software companies). The power of control is asymmetric, since there is a number of software companies involved competing for a limited amount of customers’ funds.

The project staff is dependent on the deputies. The dependency (dependency 3 “information”) is modeled as the project staff being dependent on the deputies regarding information about real-life requirements in practice. The information is needed in order to design the system towards efficiency and ease of use (goal G1 of project staff), helping target users to file a tax return. The power balance is symmetric, as the project staff can gather the required information via a web-based forum or even allow for direct feedback through the system. Since both actors are part of the public administration, the governance control is again realized through directives.

Target users aim at filing a tax return in an efficient way (goal G1 of target users). Therefore, they can use the system developed by the project staff. Hence, the project staff depends on the usage of the system by the target users. The project staff provides information about the systems to the target users via different channels, e.g. via published official announcements or via the web site of the system. The dependency (dependency 4 “usage”) is modeled as the project staff being the dependent actor upon target users. This is the case, as supporting and enhancing an effective and efficient tax filing by the target users is seen as a goal of the project staff. If the target users do not use the system, the project will not be declared successful. The target users can instead abandon the system, since legal constraints are set towards tax filing in general, but do not prescribe technical aspects. Consequently, the public agency, in which the project staff resides, will not increase its reputation (goal G2 of the project staff). The power exercised by the target users is asymmetric, as there is no alternative usage scenario.

At the same time, the target users interact with the deputies in case of problems or questions regarding tax filing. Therefore, the target users can contact the deputies, who, in turn, can help to solve problems or answer requests (goal G1 of the deputies). The secondary dependency (dependency 5 “information”) between these two roles is outside the project context, since it is not triggered by the project itself. Target users can contact deputies on multiple occasions regarding tax filing. The deputies underlie legal constraints regarding tax duties of the citizens and

### Table 2. Details on the actors identified and the interviewees within the case study

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<tr>
<th>Actors</th>
<th>Details</th>
<th>Interviewees</th>
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<td>Project staff public administration</td>
<td>Project management, business logic designers and external developers implementing the system.</td>
<td>Project managers and business logic designers</td>
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<td>Software companies stakeholder group</td>
<td>They develop solutions for customers and, in particular, “target users” based on the system.</td>
<td>Management, technical implementation, support</td>
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<td>Target users stakeholder group</td>
<td>They are seen by the project staff as “most valuable”, ultimate future users of the system.</td>
<td>Citizens with different age, sex and educational background</td>
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<td>Deputies stakeholder group</td>
<td>They have impact and exert control on non-technical decisions, partly driven by target users.</td>
<td>Deputies working at federal, state and regional level</td>
</tr>
<tr>
<td>Governance board IT stakeholder group</td>
<td>The board aligns and controls the implementation of the German e-government strategy.</td>
<td>Board members involved in multiple e-government projects</td>
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their position in the public administration. Still, the target users can also obtain information through different channels; hence, the power balance is considered symmetric.

Further, the following securing mechanisms are applied:

- **incorporation**: (i) The project staff aims at a close cooperation with the deputies in order to allow a fast integration of the project’s outcomes in their processes. (ii) The target users’ requirements, expectations and system usage are crucial for the project’s success. Therefore, their feedback is incorporated by using e.g. different communication channels or via a pre-test run of the system.

- **avoidance**: the project staff aims at avoiding the use of resources controlled by a single software company, as this might impose asymmetric dependencies from a single private organization.

- **adaptation**: the project staff can only adapt to the power of the governance board IT, since it has no further means of control due to the structure of the organization.

6. Discussion

A resource dependency perspective on stakeholder interactions allows for a more detailed analysis and understanding of the stakeholders involved, which in turn allows for comprehensive stakeholder management. The presented resource dependency perspective considers dependencies between actors, governance mechanisms, dependency power and securing mechanisms. The understanding of stakeholders involved and their interactions allows for a novel approach to stakeholder management based on the control of stakeholder power through resource securing mechanisms.

During stakeholder analysis, a resource exchange perspective gives the possibility to analyze interactions between stakeholders in more detail. Without a resource dependency perspective, the interactions between stakeholders and the project staff can be considered similar. Such a consideration might pose an impediment towards further analysis, since interactions are different in nature. A resource dependency perspective addresses this issue since the analysis of exchanged resources offers insights into the interests and goals of both actors during an interaction. Consequently, it explains why an interaction takes place in various ways.

As a further enrichment to stakeholder analysis, the dependencies between the actors describe the direction of resources exchanged during interactions. Analyzing dependencies allows for a detailed representation of the way a stakeholder “affects” or “is affected by” the objectives set by the organization [13]. For example, according to dependency 4 (cf. figure 3), the project staff might suppose that target users are dependent on the tax pre-filing system. Without a description of the direction, the project staff can be considered dependent on the target users in terms of public reputation improvement. However, since target users aim at efficient tax filing, they should be persuaded of the system’s advantages. If this is not the case, they can ignore the system, since they are not dependent on it. As a result, the project staff will not achieve its goal of reputation improvement. Hence, the direction of the dependency
adds the missing information to a stakeholder analysis.

Besides, we estimate secondary dependencies (dependency 5 and 6, cf. figure 3) as valuable for stakeholder analysis. We notice that software companies are dependent on target users (dependency 6) and target users are dependent on deputies (dependency 5). A first impression might be that there is no direct influence on the system and on the project staff based on those two dependencies. However, a more detailed analysis allows for the following considerations: First, if the deputies do not provide the information needed for an efficient usage of the system, the systems’ use by target users might be hindered. Second, if the target users do not purchase the products of the software companies, the latter will not be able to maximize their profit. As a result, software companies might be forced to gain more power over the project staff in order to implement their requirements.

Specifying the dependencies between actors during a stakeholder analysis, we distinguish between symmetric and asymmetric dependency power. For example, in dependency 4 (cf. figure 3) the power is asymmetric, i.e. the target users’ power over the project staff and its goals is greater than vice versa. This is the case, since the project staff has no alternative provider of the resource “usage”. Further, it has no possibility to force the usage of the system, since the “legal constraints” as governance mechanism do not force the target users to use the system. The example shows the importance of the type of power during a stakeholder analysis, especially in terms of managerial actions towards the control of resources.

The distinction between symmetric and asymmetric dependency power further presents the basis of inter-and intra-organizational relations during stakeholder analysis. Thus, information considering linkages and exchanges is gained towards the incorporation of specific requirements [19]. For example, a prioritization of stakeholder requests can be based on the type of power. Hence, the governance board IT and the target users should be considered with highest priority (dependency 1 and 4, cf. figure 3). Whereas the governance board IT presents a stakeholder from an intra-organizational perspective, the target users represent an actor with strong influence from an inter-organizational perspective. In consequence, areas of independency and interdependency [19] can be derived during stakeholder analysis.

A stakeholder analysis based on governance mechanisms offers information about the leverage of an actor in a dependency. Without a notion of control in a dependency, an actor might not be able to determine the “acceptable actions” in order to fulfill a dependency [36]. For example, there is a symmetric dependency between software companies and the project staff, as they exchange information (dependency 2, cf. figure 3). If the governance mechanism “standardized interfaces” is not provided, both actors need to interact more intensively to reach their goals. This intensity is given by the fact that a number of software companies with different requirements send their requests to the project staff. Thus, this might lead to a more ineffective management of a dependency without a definition of common acceptable actions.

Based on the analysis described above, a novel approach emerges towards understanding stakeholder interactions and deriving implications for stakeholder management through the introduction of resource securing mechanisms. For example, the project staff currently aims at avoiding the software companies in order to reduce their influence. This securing mechanism can be derived upon dependency 2 (cf. figure 3), since the software companies are dependent on the project staff. Besides, the project staff is part of a public administration and is limited in its actions towards non-public organizations. Still, this might lead to a problem, as shown by dependency 6. Based on this secondary dependency, the power of the software companies grows due to their importance for target users. Consequently, the project staff should aim at avoiding the resources controlled by a single software company, but not software companies in general.

A further analysis implication to stakeholder management can be derived from the resource dependency perspective on the interactions between the project staff, the deputies and the target users (cf. dependencies 3, 4 and 5 in figure 3). Since the usage of the system is prone to failure if the target users do not have the required information, deputies’ power has to be reconsidered. In case of dissatisfaction of the deputies with features of the system, the target users will much likely receive negative information about those features. Since the dissatisfaction of the deputies might have a different background (e.g. too much additional effort through new features, little or no perceived value gain), a much closer incorporation as a resource securing mechanism is required.

7. Conclusion and outlook

Our paper illustrates the importance of a resource dependency perspective for analyzing and managing e-government stakeholders. Therefore, we showed
that concepts of stakeholder and resource dependency theory can be incorporated in the context of the e-government domain. Further, we highlighted that a resource dependency perspective offers insights towards analysis of existing dependencies, governance mechanisms and dependency power of the actors involved. In addition, securing mechanisms are presented as a means of stakeholder management based on the resources exchanged. By presenting the findings of our case study, we demonstrated how a resource dependency perspective can provide for a much deeper understanding and support determining strategies regarding stakeholder management. Besides, we showed that the resource dependency perspective can be operationalized for stakeholder theory using the dynamic network diagram technique.

Hence, we derive three implications for theory and practice. First, our research agenda combines two strands of future research development regarding stakeholder theory: (i) the discussion of new ideas and frameworks for (public) organizations’ management as well as (ii) the application of methods borrowed from other theoretical fields. We combine stakeholder theory with resource dependency theory. Second, using alignment of concepts, we aim at boosting “knowledge-building and academic legitimacy” in the e-government research domain [16]. Further, our findings can also be transferred to project management in the private sector. Third, we present an alignment of stakeholder and resource dependency theory concepts applicable in practice. We operationalize the latter based on the dynamic network diagram technique. Thus, our approach to analysis and management of stakeholders in an e-government project should be of value to both researchers and practitioners.

Future research could include empirical validation of the approach proposed in a number of projects inside and outside the e-government domain as well as in different project settings (e.g. several federal levels or countries). The evaluation could include the analysis of the applicability as well as the enhancement towards managerial implications such as concrete means to approach stakeholders [7] as well as more effective management measures. Finally, the dependency network diagram technique can be further adapted to stakeholder theory by adding constructs for legitimacy and urgency.

8. References


