Towards an improved understanding of project stakeholder landscapes

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Received 19 November 2015; received in revised form 14 August 2016; accepted 21 August 2016

Abstract

Understanding stakeholders, their influences and devising engagement strategies based on the analyses of stakeholder landscapes has become one of the key capabilities within project-based firms. Based on a systematic literature review of the project stakeholder management literature, we develop a conceptual framework for characterizing and classifying project stakeholder landscapes. The framework synthesizes four key dimensions of project stakeholder landscapes and their various sub-factors: complexity (element and relationship complexity), uncertainty, dynamism and the institutional context. The developed framework will provide both academics and practitioners with a shared language to make sense of what types of stakeholder landscapes exist, to categorize projects based on their stakeholder environments and to start evaluating what types of implications different types of landscapes have on stakeholder management and project management in general.

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Keywords: Project stakeholder landscapes; Stakeholder management; Stakeholder theory; Complexity; Uncertainty; Dynamism; Institutional context

1. Introduction

The disposal of nuclear waste in deep geological repositories is an increasingly popular topic around the globe. In the United States, the funding from a widely debated Yucca Mountain nuclear repository project was recently withdrawn. How is this possible after so many resources and so much energy were dedicated to the development and shaping of the megaproject for decades? In its analysis of what is called Yucca Mountain failure, the Blue Ribbon Commission on America’s Nuclear Future suggests the simplification of the complex stakeholder environment of the project consisting of a multitude of stakeholders with converging interests. Similarly, the literature on large engineering and infrastructure projects suggests that the social complexity of these projects, associated particularly with the number of, variety of and relationships among project stakeholders is a key managerial challenge (Flyvbjerg, 2014; Mok et al., 2014). Anecdotal accounts and emerging research from new product development and internal development project contexts (e.g., Beringer et al., 2012) also discuss the challenges that projects have faced when interacting within their rugged or foggy stakeholder contexts. There are also projects that successfully meet their stakeholder demands and perform exceptionally within their supportive stakeholder landscapes. But how exactly can project stakeholder landscapes be conceptualized and what are their key dimensions?

Despite the rich, extensive and multidisciplinary research on project stakeholder management (Cleland, 1986; Eskerod et al., 2015), in our view, prior research has paid very limited attention for conceptualizing and understanding better and more holistically the nature of different types of project stakeholder environments, their pivotal characteristics, key dimensions and implications for project management. Instead, much research effort has been devoted to the development of conceptual tools, conventional techniques and theoretical frameworks to analyze the attributes of single stakeholders and dyadic relationships between the project and its stakeholders (e.g., Bourne and Walker, 2005; Olander and Landin, 2005; Winch, 2004). More
recent research on project stakeholder management has also addressed empirically the behavioral strategies of stakeholders (Aaltonen et al., 2008; Beringer et al., 2013) and the corresponding dynamic responses of project organizations over the project life-cycle (e.g., Missonier and Loufrani-Fedida, 2014; Tryggestad et al., 2013; Vaagaasar, 2011). However, also within this stream of research much of the focus has been devoted to single stakeholders and their independent influences instead of systematically addressing and capturing the impacts from entire stakeholder environments. Consequently, there is room for synthesizing the different fragmented pieces of project stakeholder knowledge into a more holistic analysis framework that would provide a more complete understanding of the concept of project stakeholder environment and its key dimensions. More importantly, while the concept of project stakeholder environment has been treated highly superficially and without operationalization in project stakeholder research (Aaltonen, 2010), this holds true also for the more general stream of stakeholder research. There the dominant mode to approach stakeholder environments has been through the hub-and-spoke model (Freeman, 1984) that emphasizes the management of single, independent stakeholders (Neville and Menguc, 2006).

In this study we conceptualize project stakeholder environment through the concept of project stakeholder landscape. Our aim is to contribute to project stakeholder research through proposing and conceptualizing a novel concept of project stakeholder landscape and to develop a framework for characterizing, analyzing and classifying project stakeholder landscapes. Based on the above, the following research question has been formulated: How can project stakeholder landscape be conceptualized and what are its key dimensions? To answer the research question a systematic literature review is conducted: we integrate the fragmented findings and frameworks of project stakeholders from previous pieces of literature into an umbrella typology that may help scholars in making sense of a project’s stakeholder landscape and to support project managers to evaluate the stakeholder landscapes of their projects and adjust their management approaches accordingly. In this study, the project stakeholder landscape is considered to cover both the internal and external stakeholder environment of the project. Internal stakeholders are the stakeholders that are formally members of the project coalition and, hence, usually support the project (Winch, 2004). They are often referred to as primary stakeholders (Cleland, 1998) or business actors (Cova and Salle, 2005). Such stakeholders have a formal, official or contractual relationship with the organization. External project stakeholders, in turn, are not formal members of the project coalition but may affect or be affected by the project. Such groups are often referred to as non-business stakeholders (Cova and Salle, 2005) or secondary stakeholders (Clarkson, 1995).

The study is grounded on contingency thinking of project management (Bosch-Rekvelt et al., 2011; Geraldi et al., 2011; Maylor et al., 2008; Shenhar, 2001; Shenhar and Dvir, 1996; Vidal and Marle, 2008). It therefore adopts the perspective that different projects face different types of stakeholder landscapes and that management methods should be adapted to take into account the characteristics of the stakeholder landscape. Although there is growing evidence on the role and influence of different types of project stakeholder environments in, e.g., project strategy formation (Arto, 2008a, 2008b, 2008c; Vuori et al., 2013), the most prominent contingency models for project management (Shenhar, 2001; Shenhar and Dvir, 1996; Shenhar and Dvir, 2007) tend to highlight the effects of internal and technical factors, thus downplaying the influences from the stakeholder environment (Geraldi et al., 2011; Jensen et al., 2006). Hence, we extend the contingency thinking, and particularly recently emerged complexity thinking of project management, by focusing on the stakeholder perspective: we review systematically existing project stakeholder management literature to identify salient dimensions and sub-factors that characterize stakeholder landscapes and therefore affect the way projects should be managed. By developing the comprehensive framework, we may also start theorizing about how the identified key dimensions relate to the challenge of managing project stakeholders.

The paper is organized as follows. We begin by providing a short introduction into general stakeholder thinking and stakeholder thinking in projects in particular, in order to build an understanding of the key concepts and to motivate our research on project stakeholder landscapes. Next, the methodology concerning the building of the conceptual framework is presented. We then synthesize our findings into a comprehensive multi-dimensional framework of project stakeholder landscapes. This is followed by discussion section and conclusions with areas for further research.

2. Introduction to project stakeholder thinking

Understanding stakeholders, their influences and devising engagement strategies based on analyses has become one of the key capabilities within project-based firms (Morris, 2013; PMI, 2013). The basic idea of stakeholder theory is that an organization has relationships with many constituent groups and that it can engender and maintain the support of these groups by considering and balancing their relevant interests (Freeman, 1984; Jones and Wicks, 1999). Overall, a central purpose of stakeholder theory is to enable managers to understand and, subsequently, manage stakeholders more strategically. Stakeholder management is at the very heart of project management: projects as temporary endeavors affect and are influenced by a number of diverse organizations or individuals and are very much reliant on their contributions, skills and capabilities. Freeman’s landmark book (1984) on the strategic management of stakeholders was followed by Cleland’s (1986) nascent work on project stakeholder management, where he attempted to fit the central ideas of stakeholder management to the context of temporary organizations. Over the years, the stakeholder theory stream has evolved into a legitimized organization theory, building very much on the foundational ideas of Freeman and other strategy scholars. Central contributions within the field of academic stakeholder theory literature include, among others, the stakeholder salience framework by Mitchell et al. (1997); Frooman’s (1999) categorization of stakeholder influence strategies, Rowley’s (1997) work on stakeholder networks and firms’ response strategies, Savage et al. (1991) work on stakeholder management strategies, stakeholder lifecycle models by Jawahar and McLaughlin (2001) and research.
on stakeholder mobilization strategies (Rowley and Moldoveanu, 2003). Criticism and shortcomings of stakeholder theory have been discussed and debated primarily from philosophical standpoints. Fassin (2008), in turn, has addressed his critique to the hub-and-spoke stakeholder model itself, introduced originally by Freeman (1984), and on how it addresses the organization’s stakeholder environment. According to him the shortcomings of the model deal with the following areas that are relevant aspects for understanding stakeholder landscapes more holistically: heterogeneity within stakeholders, multiple inclusion of stakeholders, the variability in the dependence among stakeholders, the variability in salience, the multiple linkages and the network model of stakeholders.

After Cleland’s (1986) seminal work, project management research community and practitioners have been adopting rather slowly the theoretical ideas and insights from general stakeholder management despite the acknowledged relevance of the subject for project success (Achterkamp and Vos, 2008; Jepsen and Eskerod, 2009; Yang et al., 2011). Stakeholder management did not receive its legitimized status as a best practice knowledge area in the Project Management Body of Knowledge until 2013. The majority of project stakeholder research has focused on the development of different types of tools and frameworks for assessing the attributes and characteristics of stakeholders (Olander and Landin, 2005; Bourne and Walker, 2005). In addition, debates on the precise and correct definitions of project stakeholders have been ongoing (Achterkamp and Vos, 2008; Eskerod et al., 2015). The current consensus perception is following Freeman’s (1984) original work and views project stakeholders as organizations or individuals who can somehow affect the achievement of the project’s objectives or are affected by the achievement of the project’s objectives (PMI, 2013). This definition includes a broad range of actors, such as customers, suppliers, employees, regulatory authorities, local communities and unions, as legitimate stakeholders. More recently, research interest has shifted from tool orientation to the way stakeholder management is actually carried out in practice in a wider environment and in how the theoretical ideas and frameworks stemming from the general stakeholder research can be utilized in building the understanding of stakeholder management in temporary project contexts (Eskerod et al., 2015). Consequently, research on project stakeholders is currently divided into distinct, fragmented and diffused research streams that address definitions, tools and stakeholders’ characteristics, stakeholders’ behavioral influences and stakeholder management strategies. These are all relevant vantage points for understanding the characteristics of project stakeholder landscapes better.

3. Methodology

The conceptual framework synthesizing the key dimensions and sub-dimensions of project stakeholder landscapes was developed based on an analytic, detailed and systematic study of the literature. The analysis proceeded in two stages: In the first stage of the framework development, the initial key dimensions of project stakeholder landscapes were identified based on multiple sources from general stakeholder theory, project stakeholder research and extant project complexity frameworks. In the second stage, a more specific method of systematic literature review (Kitchenham et al., 2010; Tranfield et al., 2003) was used in order to validate and elaborate the key dimensions and to identify the sub-factors related to each of the key dimension from the project stakeholder management literature. As such, the purpose of a systematic literature review can be seen to provide collective insights through syntheses and analyses of research on particular areas (Tranfield et al., 2003). Systematic literature reviews have been used extensively as a means to aggregate knowledge about a certain topic or research question, to develop evidence-based practices, or to construct frameworks in different disciplines of science such as medical science and sociology. The quality and outcome of the review process of literature is improved, as transparent and reproducible procedure is applied (Tranfield et al., 2003). Within the field of management studies systematic literature reviews have appeared in many leading journals (e.g. Crossan and Apaydin, 2010) and within the area of project management as well (e.g. Bakker, 2010; Geraldi et al., 2011).

In the first stage of the framework development the focus was on identifying the initial key dimensions of the framework under development. This process was based on a synthesis of insights from stakeholder theory, a detailed study of project management research related to stakeholders and to projects’ environments, our own empirical experience and knowledge and conceptual frameworks of project complexity, particularly those by Geraldi et al. (2011); Bosch-Rekveldt et al. (2011) and Ramasesh and Browning (2014). In addition to pure stakeholder research, we found the use of these project complexity frameworks to be relevant since they build on extensive and systematic literature reviews and, unlike many other project complexity frameworks, also address the organizational actors in posing project complexity. This phase of the research relied on more subjective approach, but, as such, supported our subsequent systematic literature review in focusing our efforts and in utilizing relevant knowledge and papers within the field. Based on this analysis, we synthesized that the characteristics of the stakeholder landscape can be captured with four central key dimensions: complexity, uncertainty, dynamism and the institutional context.

As our next step in the framework development, we engaged in a systematic literature review (Kitchenham et al., 2010) on project stakeholder management to identify, position and categorize prior research on project stakeholder management to the four identified key dimensions. Based on the systematic review, the sub-factors of each dimension were further elaborated, and the initial construct of the framework with four key dimensions was validated. Systematic literature reviews follow a structured approach for analyzing and categorizing literature to enable replication. Systematic literature review does not rely on subjective data collection methodologies, but uses a predefined selection algorithm (Tranfield et al., 2003). After the articles have been selected for review, data analysis may proceed in multiple ways. In this study, our aim was the conceptual consolidation of stakeholder research for the purpose of creating a framework that synthesizes the dimensions and aspects of stakeholder landscape currently present in literature. We decided to use descriptive
methods and qualitative analysis techniques in our analysis of results, instead of statistical methods that can also be applied in systematic literature reviews. Data synthesis – in this case the project stakeholder landscape framework – that produces new knowledge based on systematic and thorough data collection and analysis, is the value-adding outcome of our systematic literature review.

In our case, the systematic literature review was conducted as follows. We chose to limit our sources to three leading peer-reviewed journals on project management, *International Journal of Project Management (IJPM)*, *Project Management Journal (PMJ)* and *International Journal of Managing Projects in Business (IJMPiB)* that are likely to have the highest impact in the research field. These sources were considered to capture validated knowledge and research on project stakeholders in the field of project management. Field-specific journals were deliberately left out at this point. The literature search covered papers published in IJPM from the years 1995–2015 (January), in PMJ from 1997 to 2015 (January) and in IJMPiB (January) from 2008 to 2015 (January), covering hence all years available in the databases at the time of research. Forthcoming papers were also included in the sample. Taking into account the widespread and varied use of the term stakeholder and the plurality of the meanings embedded in it, we decided to employ a very general selection requirement for the initial pool of studies to maximize the initial sample. The basic keyword used for search was ‘stakeholder’ and its derivatives (i.e. stakeholder*).

The sample selection was done through the following procedures.

1. During the first stages of the analysis, all of the papers containing stakeholder (whole text) were searched. This initial search procedure ensured that any article that would have even a single mention of a ‘stakeholder’ or its derivates in the text would be identified and returned 801 papers in IJPM, 141 papers in PMJ and 224 papers in IJMPiB. The initial sample was carefully reviewed and considered to contain an overly broad category of papers of which the majority did not focus on project stakeholders, and the search was then limited to papers that had stakeholder in their title, abstract or keywords. These were considered to be articles that would clearly address, contribute to and discuss project stakeholder management. This search returned 125 papers in IJPM, 41 in PMJ and 46 in IJMPiB. These papers were considered eligible and formed the paper sample that was reviewed further.

2. A structured excel database consisting of a total of 212 papers was created. During this stage of the analysis, the paper abstracts were reviewed by a single reviewer to determine the content of the paper in terms of stakeholders and whether the paper would be included in the final sample. In this process, all papers that were considered to be out of the scope of project stakeholder research stream were excluded. Many of these papers used the word stakeholder in their abstract, just to refer to the actors of the project, but the paper itself was clearly focused and addressing other issues, such as cost management. In this process, the number of papers was reduced significantly. We found a total of 35 papers in IJPM, 14 in PMJ and 14 in IJMPiB that were considered to be of relevance for our analysis.

3. During the next step, we reviewed the contents of all 63 papers by reading them carefully through, to be able to synthesize their content in terms of stakeholder management. In this process, 8 more papers were eliminated because their stakeholder content was not considered to provide the required insight on the stakeholder landscape and its dimensions. These papers were from project success research stream and focused on different stakeholders’ perceptions of project success.

4. Next, we engaged in analyzing the content of the 55 papers that focused particularly on how various characteristics of the project stakeholder landscape were described. The procedures of qualitative content analysis were followed. In our analysis of the papers, we focused particularly on whether and how complexity, uncertainty, dynamism and the institutional context were taken into account in the papers, but we kept our analysis open for characteristics that might not fit into these categories. During this analysis stage the contents of the papers were content analyzed to identify and find indicators of each of the key dimensions and find empirical examples to be able to describe the rather abstract concepts through real-life experiences. Based on this work, we were able to classify all our findings into the four key categories and identify a set of sub-factors to each of the key dimensions. In general, the papers addressed stakeholders and their management in diverse ways. The majority of the papers discussed the identification, management or conflicting expectations of stakeholders. In addition, aspects related to stakeholder dynamism were mentioned frequently, although their analysis was not typically conducted systematically. Uncertainty with regard to stakeholder mobilization and action was also addressed in a number of the papers, while clearly less focus was placed on the institutional context and its implications for project management. Altogether, four review papers were found. *Table 1* (Appendix 1) shows the content of our sample and the results of the qualitative analysis and categorizations.

5. After the classification and identification of sub-factors other relevant sources on project stakeholder management, such as books, conference papers and research in the general stakeholder management area, were used to support the discussions of each of the dimensions and complete the development of our typology. This procedure was relevant for eliminating the disadvantage inherent in a systematic literature review i.e. that of leading to the omission of books and book chapters from the search. Additionally, research related to project complexity was used to deepen our analysis. However, we want to emphasize that the key dimensions and indicators in each dimension are based on project stakeholder-related literature, and additional material was used only to provide more in-depth viewpoints in the discussion.

4. Results: development of the conceptual framework

In the first stage of the framework development the focus was on identifying the key dimensions of project stakeholder landscapes based on a synthesis of insights from stakeholder
theory, a detailed study of project management research related to stakeholders and to projects’ environments, our own empirical experience and knowledge and conceptual frameworks of project complexity, particularly those by Geraldii et al. (2011); Bosch-Rekveldt et al. (2011) and Ramasesh and Browning (2014). Based on a systematic literature review of the complexities of projects, Geraldii et al. (2011) provide a typology of existing work on project complexity and divide project complexity into five dimensions: structural, uncertainty, dynamics, pace, and socio-political complexity. In addition, they elaborate further the contents and indicators of each of the dimensions. Bosch-Rekveldt et al. (2011) suggest three dimensions of complexity that are particularly relevant in large engineering projects: technical, organizational and environmental complexity. In turn, Ramasesh and Browning (2014) conceptualize the project complexity construct as consisting of two key constituents, project element complexity and relational complexity, which are determined by diverse sub-factors. By systematically comparing and relating these three frameworks to our findings from general stakeholder research and project stakeholder research, we synthesized that the characteristics of the stakeholder landscape can be captured with four central key dimensions: complexity (including stakeholder element and stakeholder relationship complexity), uncertainty, dynamism and the institutional context. During the second stage a systematic literature review of project stakeholder research was conducted to validate and elaborate the identified key dimensions and to identify their sub-factors.

The complete framework of project stakeholder landscapes with key dimensions and their sub-factors was formulated based on the analysis and classification. Fig. 1 presents the overall model of the framework, detailing the sub-factors constituting four of the main dimensions. A more detailed framework with all the references that emerged from the systematic literature review of the final paper sample is presented in Appendix 1.

In the following, the dimensions and the sub-factors of each dimension as well as their implications for stakeholder management are discussed in more detail based on both general research on stakeholders and the results of the systematic literature review.

5. Complexity

Complexity theory equips us with ideas and frameworks for identifying and modeling the sources of complexity, and it helps us in understanding the behavior of complex systems. The concept of complexity has been defined in numerous different ways in the extensive body of literature and studied in a variety of different contexts. The popularized and common use of the concept further complicates the understanding of the concept (Geraldii et al., 2011). Simon’s (1962) work on the architecture of complexity is one of the foundational pieces of literature with regard to system complexity, defining complexity as the set of interrelated elements. Within the field of operations management, Jacobs and Swink (2011) provide extensive coverage of different definitions of complexity, asserting that complexity is a state manifested by the multiplicity, diversity and interrelatedness of system elements. The more widely acknowledged notions of structural complexity include three attributes: number of components, variety and interdependence (Choi et al., 2001). Ramasesh and Browning (2014) recently presented a conceptual framework for understanding factors that influence knowable unknown unknowns in projects and divide complexity into a construct with two key constituents: element complexity, determined by the number, variety, internal complexity and lack of robustness of project elements, and relationship complexity, determined by the number, variety, criticality, patterns, internal complexity and externality of relationships among project elements. In line with the division of Ramasesh and Browning (2014), we divide the complexity dimension into element complexity, i.e., stakeholder element complexity and stakeholder relationship complexity.

- Stakeholder element complexity
- Number of project stakeholders
- Variety of project stakeholders and their goals
- Stakeholders’ internal complexity

- Stakeholder relationship complexity
- Number of relationships among stakeholders
- Variety of relationships
- Patterns of relationships
- Relationships’ internal complexity
- External stakeholder relationships

- Lack of information related to stakeholders and their relationships
- Project management’s experience with respect to stakeholders and stakeholder analysis
- Analyzability of the stakeholder environment
- Ambiguous information concerning stakeholders

- Changes in stakeholders’ attributes
- Changes in stakeholders’ position
- Changes in relationships among stakeholders
- Emergent stakeholders and relationships
- Changes in appropriate ways of engaging stakeholders
- Changes in stakeholders’ influence strategies

- Stakeholders’ local embeddedness
- Legitimized structures and processes for stakeholder engagement
- The nature of stakeholders’ legitimized influence strategies
- Multiplicity of institutional environments
- Complexity of the stakeholders’ interpretation process

Fig. 1. Key dimensions of project stakeholder landscape.
5.1. Stakeholder element complexity

The stakeholder complexity dimension considers stakeholders as the elements of the stakeholder system. Based on the systematic literature review, the stakeholder element complexity construct was synthesized to include the number of project stakeholders, variety of project stakeholders and their goals and stakeholders’ internal complexity.

The first sub-factor of it is the number of project stakeholders. The influence of the number of elements has been discussed by, for example, Gerald et al. (2011); Jacobs and Swink (2011); Choi et al. (2001) and Artto et al. (2008a, 2008b, 2008c). It is generally recognized in the complexity literature and also in stakeholder literature that a system with a greater number of elements (stakeholders) is more complex and will make stakeholder management more challenging. The general stakeholder literature also confirms that the multiplicity of stakeholders (a number and variety of stakeholders) contributes to the challenge of managing stakeholders (Oliver, 1991). Hence, as the number of stakeholders within the project landscape increases, so do the time, resources, coordination costs and effort required by project management to engage stakeholders, to balance acts between their needs, and to decide which of the stakeholders will be included in engagement efforts and which stakeholders will be dismissed. In addition, the great number of stakeholders makes it harder to recognize all central stakeholders and possible outcomes. With regard to the number of stakeholders, the number of opponent stakeholders (Winch, 2004), in particular, can be considered essential in terms of the challenge of managing stakeholders. In our sample very few articles discuss explicitly the influence of the number of stakeholders on project management: only Artto et al. (2008a, 2008b, 2008c) and Martinsuo and Lehtonen (2009) bring up the number of strong stakeholders as a distinct attribute that affects the way a projects’ strategy and autonomy are formed. However, the sub-factor of the number of project stakeholders is implicitly present in the research addressing the mapping of stakeholders, stakeholder maps, matrices or models (e.g., Bourne and Walker; Yang et al., 2014) as well as in the referencing to the conflicting goals of multiple stakeholders (e.g., McKenna and Metcalfe, 2013).

The second sub-factor, the variety of project stakeholders and their goals, is related to the differences in stakeholders’ attributes, backgrounds and goals. The impacts of all stakeholders are not equal even though stakeholders in basic models are oftentimes depicted in the same size and shape (Donaldson and Preston, 1995). Mitchell et al.’s (1997) well-known salience framework, consisting of attributes of power, legitimacy and urgency, provides a model for describing stakeholders’ attributes and analyzing differences between them. Furthermore, the differences in the institutional backgrounds of stakeholders pose requirements for the managers to adjust their stakeholder management approaches accordingly (Orr and Scott, 2008). In terms of the challenge of managing stakeholders, the variety of goals with respect to the system-level goals of the project become crucial. As the stakeholders’ goals become more fundamentally divergent from those of the project, the management of stakeholders becomes more challenging, particularly if such groups have power and legitimacy in their environment (Freeman, 1984). The variety of stakeholders and their goals is a constantly discussed theme within project stakeholder management research: Research on complex and conflicting stakeholder requirements and claims (McKenna and Metcalfe, 2013; Li et al., 2011; Sutterfield et al., 2006), on the identification and modeling stakeholders’ claims and requirements (Bourne and Walker, 2006; Bourne and Walker, 2008; Yang et al., 2014), and on stakeholders’ attributes and positions (Aaltonen et al., 2008; Eskerod and Vaagaas, 2014; Yang et al., 2014) and heterogeneity (Zeng et al., 2015) provides accounts on the variety of needs. However, the balancing processes with regard to stakeholders’ expectations and goals have been only limitedly addressed and have not been addressed in a particularly concrete and systematic manner (Chang et al., 2013). Studies that provide tools for classifying stakeholders also highlight the importance of identifying and addressing the concerns of most salient and critical stakeholders (e.g., Aaltonen et al., 2008).

The third sub-factor, stakeholders’ internal complexity, relates to the multiplicity of goals and diversity within a single stakeholder organization. The members within a stakeholder group may also have multiple interests which creates intra-stakeholder heterogeneity. Recent findings from Ackermann and Eden (2011) within the field of general stakeholder theory resonate with the internal complexity aspect and indicate that there might be fundamentally different claims and views on an issue within one stakeholder organization. Wolfe and Butler (2002) argue that priorities within role-based stakeholder groups are rarely homogeneous. As differences and heterogeneity increase, the management of stakeholders becomes more challenging. Few articles in our project stakeholder management research sample bring up stakeholders’ internal complexity. Based on an in-depth longitudinal case study, Eskerod and Vaagaas (2014) discuss the internal nuances and struggles within an organization regarding how the stakeholder relationship management is thought to be approached. By analyzing a complex delivery project to China, Aaltonen et al. (2010) portray detailed accounts of struggles within a single organization between local Chinese project members and members located at the headquarters concerning how to manage a local stakeholder conflict in China.

5.2. Stakeholder relationship complexity

Based on the systematic literature review, the stakeholder relationship complexity construct was synthesized to include the number, variety, patterns and internal complexity of stakeholder relationships. In addition, we distinguished the complexity of external stakeholder relationship as a different sub-element, due to the cruciality and importance of external stakeholder relationships in projects. In general, the construct of stakeholder relationship complexity is closely tied to the characteristics of the project’s network of relationships. Rowley’s (1997) work on stakeholder
networks and their properties has been one of the landmark studies on network properties within the general stakeholder theory literature stream. In his study, which draws from social network theory, stakeholder network density and the centrality of the focal organization are identified as factors that have an effect on the stakeholder management strategies of the focal organization. Today, an increasing amount of research efforts within the project management community have been directed to understanding better how the characteristics of project stakeholder networks actually influence stakeholder management.

The number of relationships among stakeholders deals with the interconnectedness of stakeholders. In traditional hub-and-spoke stakeholder models it is not actually usual to draw links between stakeholders (Waxenberger and Spence, 2003). Complexity theory maintains that as the number of relationships among stakeholders increases, so do interaction and the unpredictability of the system. In line with complexity theory, Rowley’s (1997) insight is that as the stakeholder network becomes denser i.e. the number of ties in the network that link stakeholders together, it becomes more challenging for the focal organization to resist pressures from stakeholders due to the visible and shared expectations of stakeholders. In such situations, stakeholders are also more likely to form coalitions because they do not have to bear the cost of establishing the relationships. However, in projects, the crucial question is also whether the goals within the stakeholder network are aligned with those of the project. If they are divergent, the denser network makes it more challenging to manage stakeholders. If the dense network is formed by the alliance partners of the focal organization with aligned goals, the density of the network may also support the focal organization and decrease the challenge of managing stakeholders (Aaltonen et al., 2010). Miller and Hobbs (2006) also discovered that project structures that involve many participants in networks of interdependent relations are more vulnerable to exogenous emergent risks related to stakeholder behavior. Hence, we can conclude that the increased number of stakeholder relationships contributes to the challenge of managing stakeholders. Few articles on project stakeholder interactions and particularly on their number exist, which is also brought up in articles that review project stakeholder research (e.g., Yang et al., 2011). In their study of stakeholder management in construction megaprojects Mok et al. (2014) highlight the importance of considering the implications of the interconnectedness of stakeholders for stakeholder management. Research has also proposed that the interactions of stakeholders influence the way focal project organizations attempt to manage stakeholders (De Schepper et al., 2014).

The variety of relationships increases the challenge of managing stakeholders. For example, a project with five stakeholders with similar types of relationships is easier to manage than a project with a variety of different types of stakeholder relationships and requirements for different types of relationship management strategies and actions. Some of these relationships may, for example, be critical, strategic and long-term and hence require careful attention. In our sample, for example, Artto et al. (2008a, 2008b, 2008c) discuss the risks that arise from different types of subcontractor relationships and that may have a significant effect on business performance. In their empirical analysis of an IT project and a construction project, Bourne and Walker (2006) illuminate how different types of relationships with different types of requirements may require significant engagement investments from the project management.

Patterns of relationships among stakeholders also play a central role in the characterization of stakeholder landscapes. Rowley (1997) discusses the centrality of focal organizations, which can be calculated as the number of ties per one stakeholder. Stakeholders with a high number of connections are central actors that can typically exert a significant influence over the network. The existence of central stakeholders, particularly with diverging goals from those of the project, increases the challenge of stakeholder management due to the risk of the influence of such stakeholders (Rowley, 1997) or because of the risk that stakeholder roles in such positions may be removed. Stakeholder theory has also identified the influence of coalitions and cliques within the stakeholder network for management (Rowley and Moldoveanu, 2003). In practice, the existence of stakeholder cliques makes it more challenging for the focal project to control the stakeholder network. The analyzed articles discuss patterns of relationships occasionally. For instance, both Beringer et al. (2012) and Yang et al. (2011) argue that stakeholders’ complex interactions and coalitions need to be taken into account in project portfolio management processes. In the general stakeholder research stream, both Frooman (1999) and Hendry (2005) addressed the formation of coalitions and cliques while discussing stakeholders’ influence strategies.

Relationships’ internal complexity relates to the complex relationships among project organization and single stakeholders. One dyadic relationship between the project and the stakeholder that features, e.g., high institutional and cultural distance (Ruuska et al., 2009), challenging co-operation (Vaagaaasar, 2011) or strong controversies (Artto et al., 2008a, 2008b, 2008c) can generate many more challenging stakeholder management situations than several rather simple stakeholder relationships.

External stakeholder relationships are a project’s relationships with external stakeholders, i.e., those stakeholders that are not part of the project coalition but are affected by the project or can affect it. External stakeholder relationships are discussed regularly in project stakeholder management research. In particular, large and complex projects are subject to the effects of a wider socio-political environment and the demands and pressures stemming from external stakeholders such as community groups, local residents, landowners, environmentalists, regulatory agencies, and local and national governments (Aaltonen et al., 2008; Aarseth et al., 2013; Flyvbjerg, 2014). Recently, for instance, Sällinen et al. (2011, 2013) discussed the role of government stakeholders in nuclear power plant projects. Research evidence has also indicated that a project’s exposure to the host country’s institutional influences, through external local stakeholder relationships, may simultaneously help root the project to the local institutional context but also
generate unexpected events in international projects (Aaltonen et al., 2008; Floricel and Miller, 2001; Orr and Scott, 2008).

6. Uncertainty

Uncertainty has been defined in numerous ways in the literature. Within complexity theory, uncertainty relates to the current and future states of the elements that form the system and to the interaction between the elements (Geraldi et al., 2011). Uncertainty is a central element in the project risk management literature, where it is tightly coupled to the concept of risk (Ward and Chapman, 2008). A recent discussion within project risk management has focused on, among other themes, the level of unpredictability, including variation, unforeseen uncertainty and unforeseen uncertainty (Loch et al., 2006).

The fact that the stakeholder landscape’s state is emergent and the interactions are more or less unpredictable creates a situation for project managers in which there is a gap between the amount of information required for decision-making and what is actually available. This gap links to the common definition of uncertainty within organizational theory as a lack of information or a lack of agreement over the current and future situation (Geraldi et al., 2011). From this perspective, the uncertainty of the stakeholder landscape can be understood as the emergent nature of the stakeholder system, unpredictable interactions between stakeholders and the lack of information that managers face with regard to stakeholders’ attributes, behaviors and interactions. Indeed, uncertainty has been described as one of the key challenges with regard to project stakeholder management. There are accounts of the challenges of collecting relevant stakeholder information and identifying key stakeholders (Jepsen and Eskerod, 2009; Mok et al., 2014; Yuan, 2013; Yang et al., 2014), emergent stakeholders and their behaviors (Aaltonen, 2011), uncertainty related to stakeholders’ requirements (Tang and Shen, 2013), unpredictable interactions between stakeholders (Floricel and Miller, 2001) and descriptions of the ambiguous nature of stakeholder-related information (Aaltonen, 2011).

In addition, we identified in our analysis the experience of the project manager with regard to stakeholders as one important determinant of the degree of uncertainty (Aaltonen, 2011; Maylor et al., 2008). For instance, by analyzing project managers’ sensemaking with regard to their stakeholder landscape, Aaltonen (2011) asserts that project managers’ experience on stakeholder conflicts contributes to the way sensemaking processes are carried out. Indeed, Mitchell et al. (1997) argue that managerial characteristics are an important factor in stakeholder management because managers vary greatly, for example, in their environmental scanning practices and values. Hence, the experience of working with stakeholders and analyzing the stakeholder environment decreases uncertainty (Jepsen and Eskerod, 2009); it is probable that active approaches towards the stakeholder environment also contribute to the availability of information on each stakeholder. Indeed, the process of stakeholder analysis (identification and classification of stakeholders) can be understood as a highly effective way to reduce uncertainty related to the stakeholder landscape.

However, empirical studies have shown that the gathering of stakeholder environment-related information is challenging in practice and that managers do not always believe in the usefulness of the collected information (Jepsen and Eskerod, 2009). Empirical research has also acknowledged the difficulties for an organization to draw boundaries during the process of stakeholder identification (Achterkamp and Vos, 2008); the human limitations concerning the existing methods and tools for identifying stakeholders (Jepsen and Eskerod, 2009) and difficulties associated with the dynamic and uncertain nature of the stakeholder environment make environmental analysis more challenging (Olander and Landin, 2005; Yang et al., 2011). Furthermore, in some specific institutional environments, the overall visibility to the stakeholder landscape may be extremely low, hence restricting the analyzability of the stakeholder environment that has also been addressed in project stakeholder management research (Aaltonen, 2011; Jepsen and Eskerod, 2009). In an empirical analysis of four international engineering projects, Aaltonen (2011) shows how project stakeholder environments vary with regard to their analyzability from visible stakeholder environments to blurred ones. In this study, particularly the role of project managements’ beliefs about the analyzability of the environment and their general intrusiveness and orientation towards the stakeholder environment was seen to play an important role in how projects actually collect and process stakeholder-related information.

Based on our analysis, uncertainty can also be related to the ambiguous information concerning stakeholders, meaning that there are various interpretations of the stakeholder landscape within the project organization (Walker et al., 2014). Furthermore, the level of knowledge, resources and capabilities of the stakeholders to make themselves heard and engaged contributes to the uncertainty element. Walker et al. (2014) suggest that ambiguity with regard to stakeholders’ objectives and claims can be reduced by the use of rich pictures. Stakeholders can also create ambiguity through their own actions for example by using double standards in their operations and communications: Martin (2015) reports how powerful groups can use a variety of tactics to reduce awareness and concern about their own actions while raising the alarm about others.

7. Dynamism

Within systems theory, dynamism can be understood as the system’s propensity to change or as volatility. Dynamism is a fundamental property of complex systems and an important and acknowledged element of project stakeholder environments (Artto et al., 2008a, 2008b, 2008c; Aaltonen et al., 2015). However, both Geraldi et al. (2011) and Ramasesh and Browning (2014) note that despite being widely discussed and debated, dynamism is a poorly understood concept, and its attributes are not well characterized in the literature.

Scholars within stakeholder theory and project stakeholder management fields have called for an increased empirical and
Theoretical understanding of stakeholder dynamism and its elements (Yang et al., 2011). Aaltonen et al. (2015) conceptualized stakeholder dynamism as the changes in stakeholders’ attributes or position towards the project. For instance, Olander and Landin (2005) provide an insightful analysis on the changes in stakeholders’ interests and power over the project lifecycle. Vaagaaar (2011) and Missonier and Loufrani-Fedida (2014) show, through in-depth empirical case studies, how stakeholder relationship dynamics affect project execution, and De Schepper et al. (2014) provide and in-depth account of how a PPP setup significantly reinforces stakeholder dynamics.

In projects, dynamism can also be featured through the emergence of completely new stakeholder groups or new or changed relationships among stakeholders that has also been brought up by project management scholars (Missonier and Loufrani-Fedida, 2014; Sage et al., 2011). Tryggestad et al. (2013) showed, in their fascinating case study on a construction project, how frogs emerged as a salient new stakeholder group during the project lifecycle. Stakeholder dynamism is also visible in the changes in terms of appropriate ways of engaging stakeholders, which may be introduced by, for example, new laws, new regulations and demands. In their studies on unexpected events on projects Orr and Scott (2008) discuss how the attitudes within the local environment in terms of appropriate ways of engaging stakeholders may change significantly over the project lifecycle.

In addition to the characterizations of stakeholder dynamism, the drivers of it have also been discussed in the project stakeholder management literature. In particular, stakeholder influence strategies (Aaltonen et al., 2008; Beringer et al., 2013), focal projects’ stakeholder management strategies (Aaltonen and Sivonen, 2009; Savage et al., 1991) and projects’ contextual factors have been identified as salient drivers of stakeholder dynamism. Furthermore, by adopting the stakeholder mobilization theory’s perspective (Rowley and Moldoveanu, 2003), the urgency of the claims for stakeholders and the potential of stakeholders to mobilize and use influence strategies to change their position become important (Aaltonen and Kujala, 2010; Beringer et al., 2013; Purvis et al., 2015). The intensity of the influence strategies used by stakeholders and the changes in the stakeholders’ influence strategies used, i.e., influence behavior, can also be considered as key elements of the dynamism dimension that has been discussed in project stakeholder management research. For instance, Aaltonen and Kujala (2010) show through a single case study how stakeholder’s influence strategies may suddenly change from more passive strategies to intense influence strategies as new stakeholder coalitions are born. The literature on social movements also constantly addresses the dynamics of diverse stakeholder organizations’ influence strategies as well as the dynamics of stakeholder organizations themselves. For instance Szulecki et al. (2015) discusses the mobilization and emergence of environmental issues within environmental movements as well as highlights the dynamics of influence strategies enacted by the movements. Dynamism can also be considered to be tightly related to how stakeholders’ concerns are actually taken into account, engaged and shaped (Miller and Lessard, 2001) by the project management. Research provides empirical examples of project cases in which stakeholders have mobilized due to the ineffective engagement of stakeholders, e.g., informing about project decisions too late. Here, the experience of project management from stakeholder engagement becomes important: More experienced managers may provide stabilizing elements with regard to the stakeholder environment. The project lifecycle stage also has a significant influence on the dynamism of the stakeholder landscape (Zeng et al., 2015): Typically, the early front-end phase is most turbulent as the stakeholders attempt to shape their position within the constituting network (Morris, 2013).

8. Institutional context

Projects’ interaction with their institutional contexts significantly influences the way projects are managed (e.g., Orr and Scott, 2008). Although the institutional environment poses demands and influences on the project organization to which it needs to respond, projects may also proactively attempt to shape their institutional contexts (Miller and Lessard, 2001). Scott (1995) divides the institutional environment into three pillars: a set of regulatory, normative and cognitive elements. With respect to our literature analysis on stakeholder landscapes, institutional context dimension can be understood through the sub-factors of stakeholders’ local embeddedness, formal or informal legitimized structures and processes for engaging stakeholders, the types of stakeholder behaviors and influence strategies viewed as acceptable, the multiplicity of institutional environments, and the complexity of the interpretation process.

The connectedness of the project’s stakeholders with the other actors in the institutional environment that are out of the sphere of the project’s direct control may also influence the project execution. The concept of stakeholders’ local embeddedness, referring to the number and content of the relationships between the project’s stakeholders and the local actors, has been suggested as a measure to understand institutional influence through local stakeholders in projects (Orr and Scott, 2008). In our sample only one article addresses stakeholders’ local embeddedness. By empirically studying three international engineering delivery projects, Aaltonen et al. (2010) show how the connectedness of key stakeholders to third parties, such as strong local political groups or environmental NGOs, may in some cases support the legitimacy of the project through additional institutional resources and knowledge. However, stakeholders’ local embeddedness may simultaneously pose significant uncertainties for the project, particularly in situations where actors in the institutional environment that are not directly related to the project, but have power over its stakeholders, attempt to promote their own objectives, agendas and goals in the minds of the stakeholders they can control.

The existence of formal or informal legitimized structures and processes for engaging stakeholders has also been brought up in the project stakeholder management literature as a salient characteristic of the institutional context (e.g. Aaltonen, 2013).
For example, mandatory social impact assessments in large projects or formal change-request procedures in NPD projects provide a legitimized process for engaging stakeholders and a channel for informing stakeholders. For instance, Sallinen et al. (2011) discuss the regulatory role of authorities in the building of the nuclear power plant and the accepted processes and interaction through which governmental stakeholders should be engaged in the project. In turn, institutional environments that lack structures and governance models for effectively engaging stakeholders or have multiple and changing processes for stakeholder engagement can be considered more complex (Shiferaw et al., 2012).

Institutional environments may also vary with regard to what types of stakeholder behaviors and influence strategies are viewed as acceptable. For example, in some country environments, subcontractors' strikes may be viewed as a legitimized means of influencing the customer, whereas in other country environments, such practices would be highly judged (Aaltonen, 2013; Soudain et al., 2009). The multiplicity of institutional environments of a project is also a relevant factor. Large, international projects typically face multiple countries' institutional environments or different institutional environments within one country. For example, pipeline projects are excellent examples of projects that physically cross a number of different countries, each with their own set of regulative, cognitive and normative characteristics in terms of stakeholder behavior and engagement (Orr and Scott, 2008). Within these projects, project management has to understand and take into account the different rules, regulations, permission procedures and expectations of stakeholders between the different regions in its operations (Mok et al., 2014). Finally, based on our analysis, we suggest that factors related to the complexity of stakeholders' interpretation process by which the stakeholders make sense and build their perception of the project and its stakeholder management may also have implications for the challenge of managing stakeholders (Aaltonen, 2013; Aarseth et al., 2013; Boonstra, 2006). This interpretation process is highly sociopolitical, cognitive and complex in nature. The stakeholder demands and structure of the institutional environment are typically country, field or organization specific and therefore vary across environments (Kostova and Zaheer, 1999).

9. Discussion

Our aim in this study was to conceptualize stakeholder landscape and to develop understanding of its key characteristics through synthesis and consolidation of a large body of knowledge on project stakeholder management. Based on our analysis we can conceptualize stakeholder landscapes to consist of all organizations and individuals that can affect or are affected by a project and of relationships among these organizations and individuals. Our findings also show how stakeholder landscapes can be characterized through the dimensions of complexity (element and relationship), uncertainty, dynamism and institutional context and the various sub-factors of each of the dimensions. These key findings fill a gap and make the primary contribution to project stakeholder management research, since prior literature has paid very limited attention to systematically defining stakeholder environments, their designs and key characteristics. Even though there has been substantial growth in the research on and interest in project stakeholder management (Littau et al., 2010; Mok et al., 2014; Yang et al., 2011), this research has offered insights, suitable tools and frameworks for analyzing primarily the element and stakeholder relationship complexity dimensions of our framework. The value of our novel conceptualization of project stakeholder landscapes and umbrella framework for project stakeholder scholars is that it integrates and consolidates different theoretical approaches, research and concepts inherent in project stakeholder research into a theoretically grounded and multi-dimensional framework of project stakeholder landscape. This understanding is the necessary first step for scholars to be able to operationalize and later measure the characteristics of project stakeholder landscapes, build landscape typologies in different contexts and start theorizing on how projects and companies strategize in practice with regard to their stakeholders in different kinds of contexts (Aaltonen et al., 2015; Vaagaasar and Eskerod, 2014). We also believe that our stakeholder landscape framework, when developed forward, may provide important insights and complementary knowledge to the understanding of stakeholder contexts within the general stakeholder research stream (Fassin, 2008), where the concept of stakeholder environment has been widely neglected. In addition, our framework may provide novel perspectives and ideas for how to systematically address and conceptualize the interplay of projects with their environments (Arto et al., 2008a, 2008b, 2008c) also outside the field of project stakeholder management research.

Furthermore, the framework and its identified key dimensions bring up various interesting insights and areas that have not been combined explicitly in previous project stakeholder studies. The systematic literature review revealed that in particular, the dimensions of uncertainty, dynamism and institutional context in our framework have been largely underrepresented in previous accounts of project stakeholder management, while much of the focus has been addressed to stakeholders’ characteristics and goals (Achterkamp and Vos, 2008; Littau et al., 2010; Mok et al., 2014; Yang et al., 2011). The identified sub-factors in the uncertainty element of the stakeholder landscape challenge the existing rationalized stakeholder analysis approaches and call for making sense and understanding stakeholders’ and their behaviors from multiple perspectives. The dynamism dimension, in turn, highlights the temporal and transitory nature of stakeholder landscapes that is in constant flux. Therefore, the profile of each element will change over time as the project proceeds throughout its lifecycle (Geraldi and Aldbrecht, 2007). Furthermore, although dynamism is frequently used as a “magic word” in project stakeholder research, apparently very few studies have attempted to conceptualize it properly. Our identification of the key factors associated with stakeholder dynamics, hence, also responds to the recent calls for research on this area of stakeholder research (Aaltonen et al., 2015; De Scheppper et al., 2014). Finally, our framework also modestly
contributes to stakeholder research by making more explicit the connection of the institutional context and its conceptualization with stakeholder related phenomena — an area which has been largely neglected in prior research. The multiplicity of institutional environments concerning the legitimized and expected processes for engaging stakeholders (Orr and Scott, 2008) is a highly relevant challenge in today’s multi-organizational and multi-cultural projects. However, we do not currently have an adequate understanding of how project organizations actually respond to the conflicting procedural requirements, i.e. institutional complexity when organizing their stakeholder management.

Combining the dimensions of complexity, uncertainty, dynamism and institutional context into a single stakeholder landscape framework offers the potential to explicitly start addressing the interconnections of the dimensions. In other words, not only do projects represent a combination of these dimensions, but the dimensions are also highly interdependent. For instance, a high degree of element and relationship complexity may lead to increased levels of dynamism: e.g. stakeholders’ capacity to form coalitions with each other is associated with changes in their attributes and position. In addition, increased levels of stakeholder dynamism may decrease the analyzability of the stakeholder landscape, and, hence contribute to increased levels of stakeholder landscape uncertainty. Furthermore, the increased complexity of the institutional context may be associated with increased levels of stakeholder landscape uncertainty. For example, when the level of stakeholders’ local embeddedness increases it becomes more challenging for the managers to foresee and anticipate local stakeholders’ behaviors. Clearly more work is needed looking at the interdependencies in the future.

The developed framework also contributes to the increasing stream of studies that are defining, conceptualizing, synthesizing and making sense of project complexity and its implications for project management (Bosch-Rekveldt et al., 2011; Gerald and Adlbrecht, 2007; Gerald et al., 2011; Maylor et al., 2008; Shenhar, 2001; Shenhar and Dvir, 1996; Vidal and Marle, 2008). Although resonating with many of the previous findings on project complexity, the distinctive feature of our framework is that it is tightly focused on the characteristics of the project stakeholder landscape. As such, our framework provides an extended portrayal of particularly project stakeholder related complexities that complements prior project complexity research.

10. Conclusions

As today’s projects navigate in increasingly complex stakeholder landscapes, understanding their salient key dimensions and diagnosing challenges that stakeholders may pose is vital for scholars and practitioners. As an answer to our research question we conceptualize stakeholder landscapes to consist of all organizations and individuals that can affect or are affected by a project and of relationships among these organizations and individuals. In addition, as a result of our systematic literature review we suggest that the key dimensions of project stakeholder landscapes are complexity (element and relationship), uncertainty, dynamism and institutional context and the various sub-factors of each of the dimensions. The conceptualization of project stakeholder landscape and the developed integrative framework with four key dimensions will provide project management academics and practitioners with a shared model to make sense of what types of project stakeholder landscapes exist, to categorize projects based on their stakeholder landscapes and to start evaluating what kinds of implications different types of landscapes have for managing both stakeholders and projects. The primary contribution of this study is made to project stakeholder management research through introducing and conceptualizing the concept of project stakeholder landscape and through synthesizing, elaborating and developing further research on a project’s stakeholder environment. In addition to filling a gap in the project stakeholder management literature, our analysis brings up key gaps and areas for further research on project stakeholder management. The most promising avenues include research that would take into account managerial cognition and its role in managing uncertainty inherent in stakeholder landscapes, research that would produce in-depth empirical examinations on project stakeholder dynamics, and research that would increase our knowledge of how the institutional complexity of the stakeholder landscape is interpreted, addressed and managed in different types of projects.

10.1. Managerial implications

In practice, the developed framework can be utilized by managers to analyze, assess and identify their projects and to categorize them based on their stakeholder landscape features. Furthermore, applying the developed framework to the analysis of a project provides managers with a starting point for assessing what types of challenges the different dimensions may pose for a project and what types of managerial approaches would be most appropriate. Clearly, the four dimensions of the framework have the propensity to increase the challenge of managing stakeholders and may also explain the probability of stakeholder conflicts in projects. For example, as the degree of stakeholder complexity increases, it becomes more challenging for the project management to build win-win solutions and balance between stakeholders’ claims, which, in turn, may increase the probability of stakeholder conflicts. We believe that the developed framework could be particularly valuable in the evaluation of the stakeholder landscape during the early front-end phases of projects, when many far-reaching strategic decisions concerning the objectives, processes and organizing of the project need to be made (Aaltonen et al., 2015). Initial assessments of stakeholder landscapes at this point would support managers when making decisions on the engagement of stakeholders, on the potential shaping activities related to the stakeholder landscape and on the overall strategy of the project (Arto et al., 2008a, 2008b, 2008c). Naturally, the stakeholder landscape framework can also be used to support project stakeholder analysis work and stakeholder related decision making throughout the whole project lifecycle. We believe that the framework would be
particularly useful and valuable for managers, when used as a tool for the identification of transition points of the project stakeholder landscape profiles during the project life-cycle. Paying more attention to the transition periods would support project managers in their attempts to be more proactive towards stakeholders (Turkulainen et al., 2015).

The framework also supports managers in project-based firms in the overall decision making concerning the design, organizing and resourcing of projects. First, by categorizing projects based on the challenges that their stakeholder landscape poses, project-based organizations can allocate right types of project personnel resources to projects. A project with a highly complex stakeholder landscape may require extra resources and competence development in terms of stakeholder management activities and a heavyweight project manager with experience in various types of stakeholder and engagement processes (Bosch-Rekveldt et al., 2009; Gerald, et al., 2011; Remington and Pollack, 2007; Thomas and Mengel, 2008). Furthermore, project stakeholder management processes may be tailored and adapted based on the assessment results: For instance, projects with complicated stakeholder landscapes may require a more intensive and detailed focus on stakeholder identification, analysis and engagement in comparison with projects with simpler landscapes. In line with complexity theory, chaotic stakeholder landscapes, however, would not benefit from detailed approaches; in such environments simple rules have been found to be more effective to deal with the emergent phenomena. Different project performance indicators and success criteria may also be used in projects with different types of stakeholder landscapes.

10.2. Limitations and areas for further research

This study has some key limitations. Using systematic literature review as a method of analyzing and searching literature in order to build conceptual understanding and framework has naturally disadvantages. The employed method results in a sample where the data for the analysis contain diverse ontological and epistemological starting points. Moreover, the developed framework is not suggested to present a complete and exhaustive list of all factors relevant in characterizing project stakeholder landscapes, but because it is based on a systematic literature review, it is focused on the findings from existing studies. Furthermore, we purposefully decided to limit the sample to three leading project management journals which may have omitted some key contributions on project stakeholder landscapes in field-specific journals such as construction management journals. A further aspect is that the degree of the operationalizability of the presented sub-factors is also currently varying: It is rather straightforward to measure the number of stakeholder organizations, but it is more challenging to start measuring precisely, for instance, the complexity of the interpretation processes of stakeholders. Further work is clearly needed with the operationalization of the constructs to be able to profile and measure stakeholder landscapes in future work.

Obviously, there is a need to examine and validate the framework in practice in focused future empirical work. Evidently, engaging in data collection based on the dimensions and applying the framework in real-life projects would provide us with better insights on the applicability of the framework, on the practical needs and requirements for developing the conceptualization of factors, and on the potential new sub-factors that are missing. The empirical work would also equip us with better capabilities to start forming different types of stakeholder landscape profiles and typologies determined by the combinatory profiles of different dimensions. This could, for example, first be done by analyzing selected case projects from the perspective of how their managers and members perceive and interpret the salient characteristics of their stakeholder landscapes in practice, and how the developed conceptual framework fits with their ideas on stakeholder landscapes. Further analysis of how different projects and their managers actually address stakeholder landscape complexities in practice and make decisions related to them would also offer grounds for theorizing about the appropriate managerial responses in different types of stakeholder landscapes. Ideally in this kind of research the actual decision making processes would be closely observed and the research design would employ ethnographic methods. Conducting empirical work in different project contexts, such as delivery projects, new product development projects, and organizational change projects in different industries, would also shed light on the peculiarities and implications of different project types and industries on project landscape characteristics. Ideally, the developed framework will allow us in later stages to connect knowledge and research results that have accumulated in different environments, such as engineering, information technology and new product development projects and to start theorizing on the effects of the stakeholder environment on various project-related phenomena.

In addition to forthcoming empirical inquiries, we are aware of the potential pathways for deepening and extending our systematic literature analysis. The categorizing and coding of the literature could also be extended by including evidence, indicators and ideas from prior studies regarding what types of managerial approaches have been and could be employed for managing stakeholder landscapes in different empirical and theoretical studies included in our sample. Furthermore, widening the systematic literature analysis approach to include the general stakeholder literature would make our examination even more convincing. Taken together, the framework equips us with a starting point to start reflecting and theorizing on how the key dimensions are associated with the challenge of managing stakeholders, stakeholder conflicts and unexpected events and on the way managers should manage stakeholders effectively in different types of landscapes. Different types of project typologies and profiling of projects may also be developed based on the four key dimensions.

A number of other areas for further research on project stakeholder management emerged from our analysis. By using the analysis framework during the different stages of the project lifecycle, we could start to understand how stakeholder landscape
profiles and patterns change and evolve during the project and how managers actually make sense of and accommodate these changes. Second, as mentioned above, the framework provides us with relevant characteristics of project stakeholder environments that can help us determine what criteria managers particularly emphasize when making deliberate choices on project structures and how managers attempt to shape their stakeholder landscapes into simpler ones. Third, because almost all projects are currently implemented in some type of inter-organizational setting, there is a need to examine how stakeholder landscapes are assessed and negotiated in interactions of many focal project organizations that jointly form the core of the whole project. Finally, the interaction patterns of the different dimensions of the framework should be on the research agenda. We also believe that our framework may support scholars in identifying what types of dimensions and factors they should take into account when conducting empirical research on project stakeholder management and in characterizing their case environments: Indeed, the current challenge of theorizing on extant project stakeholder management research is that different studies tend to bring up random facts about the project stakeholder context where the research is conducted.

Appendix 1

Table 1

<table>
<thead>
<tr>
<th>Complexity (element complexity)</th>
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</thead>
<tbody>
<tr>
<td>• Number of project stakeholders</td>
<td>Arto et al., 2008a; Arto et al., 2008b; Davies and Mackenzie, 2014; Martinsuo and Lehtonen, 2009;</td>
</tr>
<tr>
<td>• Variety of project stakeholders and their goals</td>
<td>Achterkamp and Vos, 2008; Bourne and Walker, 2006; Bourne and Walker, 2008; Chang et al., 2013; El-Gohary et al., 2006; Eskerod and Huemann, 2013; Li et al., 2011; Locatelli et al., 2014; Maylor et al., 2008; Mok et al., 2014; Pérez et al., 2010; Soudain et al., 2009; Van Os et al., 2015; Walley, 2013; Yang, 2014; Yang et al., 2014; Zeng et al., 2015;</td>
</tr>
<tr>
<td>• Stakeholders’ internal complexity</td>
<td>Aaltonen et al., 2010; Eskerod and Vaagaasar, 2014; Legris and Collerette, 2006; Sutterfield et al., 2006</td>
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<tr>
<th>Complexity (relationship complexity)</th>
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<tbody>
<tr>
<td>• Number of relationships among stakeholders</td>
<td>Aaltonen and Sivonen, 2009; Aaltonen et al., 2010; De Schepper et al., 2014; Maylor et al., 2008; Mok et al., 2014; Yang, 2014; Yang et al., 2011</td>
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<tr>
<td>• Variety of relationships</td>
<td>Aaltonen et al., 2010; Aaltonen and Sivonen, 2010; Bourne and Walker, 2006; Bourne and Walker, 2008; Maylor et al., 2008; Soudain et al. 2009; Yuan, 2013</td>
</tr>
<tr>
<td>• Patterns of relationships</td>
<td>Aaltonen et al., 2008; Beringer et al., 2012; Yang et al., 2011</td>
</tr>
<tr>
<td>• Relationships’ internal complexity</td>
<td>Arto et al., 2008a, 2008b, 2008c; Soudain et al. 2009; Vaagaasar, 2011</td>
</tr>
<tr>
<td>• External stakeholder relationships</td>
<td>Aaltonen et al., 2008; Aarseth et al., 2013; Davies and Mackenzie, 2014; Sallinen et al., 2011; Sallinen et al., 2013</td>
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<th>Uncertainty</th>
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<td>• Lack of information related to stakeholders and their relationships</td>
<td>Aaltonen, 2011; Jepsen and Eskerod, 2009; Mok et al., 2014; Tang and Shen, 2013; Turner and Zolin, 2012; Yang et al., 2014; Yuan, 2013</td>
</tr>
<tr>
<td>• Project management’s experience with respect to stakeholders and stakeholder analysis</td>
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</tr>
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<td>• Analyzability of the stakeholder environment</td>
<td>Aaltonen, 2011; Bourne, 2008; Jepsen and Eskerod, 2009; Maylor et al., 2008</td>
</tr>
<tr>
<td>• Ambiguous information concerning stakeholders</td>
<td>Aaltonen, 2011; Jepsen and Eskerod, 2009</td>
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<tr>
<th>Dynamism</th>
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<tr>
<td>• Changes in stakeholders’ attributes</td>
<td>Bourne and Walker, 2006; Maylor et al., 2008; Olander and Landin, 2005</td>
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<tr>
<td>• Changes in stakeholders’ position</td>
<td>Boonstra, 2006; De Schepper et al., 2014; Missionier and Loufrani-Dedida, 2014; Tryggestad et al., 2013; Zeng et al., 2015</td>
</tr>
<tr>
<td>• Changes in relationships among stakeholders</td>
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</tr>
<tr>
<td>• Emergent stakeholders and relationships</td>
<td>Missionier and Loufrani-Fedida, 2014; Tryggestad et al., 2013; Sage et al., 2011</td>
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<tr>
<td>• Changes in appropriate ways of engaging stakeholders</td>
<td>Aaltonen et al., 2008; Aaltonen, 2013</td>
</tr>
<tr>
<td>• Changes in stakeholders’ influence strategies</td>
<td>Aaltonen et al., 2008; Beringer et al., 2013; Purvis et al., 2015</td>
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<tr>
<th>Institutional context</th>
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<tr>
<td>• Stakeholders’ local embeddedness</td>
<td>Aaltonen et al., 2010; De Schepper et al., 2014; Shiferaw et al., 2012; Zeng et al., 2015</td>
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<td>• Legitimized structures and processes for stakeholder engagement</td>
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<td>• The nature of stakeholders’ legitimized influence strategies</td>
<td>Aaltonen, 2013; Soudain et al., 2009</td>
</tr>
<tr>
<td>• Multiplicity of institutional environments</td>
<td>Aaltonen, 2013; Mok et al., 2014; Yuan, 2013</td>
</tr>
<tr>
<td>• Complexity of stakeholders’ interpretation process</td>
<td>Aaltonen, 2013; Aarseth et al., 2013; Boonstra, 2006</td>
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