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A complexity perspective on project stakeholder management

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A complexity perspective on project stakeholder management

Abstract
Managing stakeholders is an essential part of complex project organizing. Stakeholder management is a key activity for creating value to project stakeholders and ensuring successful project delivery. However, previous research suggests that stakeholder management is challenging due to project complexity. While stakeholder management and project complexity are vastly researched themes in the field of project management, the intersection of stakeholder management and project complexity has received less attention, especially regarding how project complexity influences stakeholder management. The purpose of this chapter is to apply a complexity of projects perspective and use its three dimensions, structural, socio-political, and emergent complexity, as a framework to discuss how project complexity influences stakeholder management. The chapter provides insights into the main challenges but also shares opportunities in taking a complexity perspective on managing project stakeholders. We conclude with future research ideas, including suggestions for potential research questions and theoretical perspectives to be mobilized forward.

Keywords: Stakeholder management; Complexity; Complexity of projects; Stakeholder engagement; Stakeholder theory; Complex projects

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1. Introduction

Managing project stakeholders, meaning organizations, groups, and individuals who can influence projects’ activities or be influenced by them, is the key for ensuring projects’ value creation and performance (Winch, 2017). However, stakeholder management is challenging in complex projects (Ramasesh and Browning, 2014). For example, project stakeholders often have conflicting interests and diverging views about complex projects’ value creating activities and project managers find it difficult to include, balance and act upon the stakeholders’ diverse views, needs and requirements to ensure that complex projects create value to stakeholders without compromising projects’ performance (Davis, 2014). In addition to practical experiences, research has shown that managing project stakeholders in a value-adding manner is very challenging, due to e.g., frequent stakeholder conflicts (Winch, 2004).

While researchers and practitioners have identified that project complexity influences stakeholder management activities, there is less understanding on how project complexity influences stakeholder management. To this end, this chapter reviews previous project stakeholder research from a complexity perspective and enriches complex project research by discussing how complexity influences stakeholder management. Acknowledging that complexity has been defined in various ways (see e.g., Whitty and Maylor, 2009), we adopt the complexity of projects perspective (Geraldi et al., 2011) and empirically validated framework by Maylor and Turner (2017), which divides complexity into three dimensions: structural, socio-political, and emergent complexity. Structural complexity means the complexity associated with the many different interdependent and interacting parts, organizations, systems, and components that make up a project (Hobday, 2000). In turn, emergent complexity relates to the complexity stemming from a project’s uncertainty and dynamism (Maylor and Turner, 2017). Lastly, socio-political complexity deals with the complexity stemming from the social and political aspects of the organizational environment (Maylor et al., 2013).

The next section briefly introduces stakeholder theory and stakeholder management in complex projects. After that, we analyze stakeholder management from the complexity of projects perspective by engaging in a narrative review and focusing on how the three dimensions influence stakeholder management in complex projects. We then discuss the findings and develop future research ideas including suggestions for research questions and theoretical perspectives to be mobilized forward.
2. Stakeholder management in complex projects

Stakeholder management is rooted in strategic management and stakeholder theory, stemming from Freeman’s (1984) seminal work: “Strategic Management: A Stakeholder Approach”. But the principle of stakeholder management has also a long tradition in project management (Cleland, 1986). For example, the task of liaising with groups outside of project organization can be tracked back into the late 1950’s, where stakeholder management is considered as project manager’s task and responsibility (Gaddis, 1959). Stakeholder theory argues that the primary purpose of any organization is to create value for its stakeholders (Phillips et al., 2019, p. 3). There exists a plethora of stakeholders subject to empirical and contextual considerations (Miles, 2017). For example, classification to internal-external stakeholders (Parmar et al., 2010), which is often used in the context of complex projects due to the organizational design that allows distinguishing those actors external and internal to a project organization. Internal stakeholders are considered those who have a formal, official, or contractual link to an organization (Savage et al., 1991), such as contractors and clients in complex projects. In turn, external stakeholders are those who do not have a formal, official, or contractual link to an organization but may affect or be affected by it (Eesley and Lenox, 2006), like non-governmental organizations and communities in complex projects.

There are two main approaches to stakeholder management, managing of and managing for stakeholders (Freeman et al., 2007). These two represent the opposite ends of a continuum, being differentiated by the way they perceive and consider stakeholders, their value-orientation, and the challenges that come with adopting the approach. The two approaches are summarized in Table 1.
Table 1. Two approaches to stakeholder management (after Huemann et al., 2016, pp. 189-190).

<table>
<thead>
<tr>
<th></th>
<th>Managing OF project stakeholders</th>
<th>Managing FOR project stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitude towards stakeholders</strong></td>
<td>Stakeholders are considered as obstacles or mere instruments for achieving project outcomes</td>
<td>Stakeholders are seen as a source of value creation and ideas that are required to complete the project successfully</td>
</tr>
<tr>
<td><strong>Value-orientation</strong></td>
<td>Economic value drives stakeholder management</td>
<td>Balancing social, environmental, and economic interests of different stakeholders</td>
</tr>
<tr>
<td></td>
<td>Focus on short-term benefits</td>
<td>Balancing both short- and long-term benefits</td>
</tr>
<tr>
<td></td>
<td>Focus on reducing complexity</td>
<td>Balancing building up and increasing complexity</td>
</tr>
<tr>
<td></td>
<td>Lack of ethical consideration (manipulative orientation)</td>
<td>Includes ethical consideration, fairness, transparency, and participation</td>
</tr>
<tr>
<td><strong>Perception of stakeholder conflicts</strong></td>
<td>Conflicts are inherently a negative issue and should be avoided completely to safeguard project from disturbances</td>
<td>Conflicts are natural, unavoidable and enable negotiations with stakeholders to improve project's value creation</td>
</tr>
<tr>
<td><strong>Breadth of stakeholder management</strong></td>
<td>Only the most relevant project stakeholders are considered, often meaning internal stakeholders that have decision rights in a project</td>
<td>All possible project stakeholders and their interests are acknowledged</td>
</tr>
<tr>
<td></td>
<td>Stakeholders (especially external) are ignored and excluded from the project whenever possible</td>
<td>Stakeholders are engaged in projects and enfranchised as co-creators to develop project outcomes that yield value to a plethora of stakeholders</td>
</tr>
<tr>
<td><strong>Challenges related to project organizing</strong></td>
<td>Can lead to under ambitious project outcomes: may fulfill project performance indicators but does not maximize value creation to stakeholders in a sustainable manner</td>
<td>Including a wide range of stakeholders can overload projects, may lead to slow decision-making processes, too ambitious scope, culs-de-sac and even project cancellation</td>
</tr>
</tbody>
</table>

The ‘managing for stakeholders’ approach is considered more challenging to implement than ‘managing of stakeholders’ because increasing the number of stakeholders in project activities complicates decision-making and following Ashby’s law on variety (1961) that only variety can be absorbed by variety, it also reflects on project complexity itself. The previous means that project managers must understand the project complexity they have to deal with (Huemann et al., 2016), as well as the impacts that their stakeholder management decisions might carry. Successful stakeholder management therefore calls for a transparent understanding of the complexity of a project and its environment as well as the adequate structures to deal with them. The ‘managing for stakeholders’ approach can be crystallized in the concept of stakeholder engagement that focuses on value creation with stakeholders and inclusion of stakeholders in organizational activities in a positive manner (Greenwood, 2007).

Stakeholder management has been studied extensively in complex project literature (see, e.g., Winch, 2017, 2004). Although single studies often focus on specific issues of stakeholder management, a generic, continuous management process consisting of four main phases can be defined. The first phase includes identifying project stakeholders, collecting relevant data of them, and analyzing the data
and stakeholders, for example, by using different stakeholder management tools and frameworks (Aaltonen, 2011). The second phase focuses on planning different stakeholder management activities (Eskerod and Huemann, 2014) and dividing appropriate roles and responsibilities for stakeholder management based on the first phase analysis (Lehtinen and Aaltonen, 2020). In the third phase, the different stakeholder management activities, including higher-level strategies like persuasion strategy (Ninan et al., 2019) and concrete practices like seminars and workshops (Eskerod et al., 2015) are implemented. The fourth phase includes monitoring the implemented activities and their impact on stakeholders, gathering feedback and additional data on stakeholders, and then adjusting the management activities to better fit prevalent context and purposes (De Schepper et al., 2014).

3. Complexity perspective on project stakeholder management

3.1 Structural complexity and stakeholder management

Structural complexity covers the broad organization consisting of several interacting and specialized stakeholders located within different places (Maylor et al., 2008). This dimension also draws attention to the many interconnected project activities that stakeholders must complete to develop projects’ end-product (Chapman and Hyland, 2004), and the urgency and time criticality of such project activities (Geraldi et al., 2011). Regarding structural complexity, we identified two key issues that influence stakeholder management.

The first issue in this dimension relates to the fact that complex projects involve many interdependent stakeholders whose involvement intensity fluctuates (Maylor et al., 2008). The more there are diverse stakeholders with different and even conflicting requirements and interests, the more challenging it typically becomes for complex projects’ managers to include, balance and act upon the differing needs and claims (Eskerod and Vaagaasar, 2014). But on the other hand, there can exist opportunities in the diversity of stakeholders and their valuable inputs. For example, different inputs can facilitate co-creating innovative ideas and solutions that would not be possible otherwise (Lehtinen et al., 2019b). Hence, having a project constellation with aligned stakeholders can facilitate stakeholder management but may require sacrifices regarding innovation outcomes.
The second issue relates to high-paced coordination of tasks and activities that complicates stakeholder management (Müller and Turner, 2007). For example, the project organization of a complex project consists of multiple autonomous internal stakeholders that are required to work together toward a shared project goal for a limited time (Jones and Lichtenstein, 2008), but these internal stakeholders can respond very differently to each other’s and external stakeholders’ interests because they can have competing priorities and different views about the project (Aaltonen et al., 2015). The previous means that project organizations may have troubles in planning appropriate stakeholder management activities and dividing appropriate roles and responsibilities for stakeholder management.

3.2 Emergent complexity and stakeholder management

Emergent complexity covers the dynamism and uncertainty of project activities (Maylor and Turner, 2017). Dynamism grasps changes in the stakeholder landscape and amendments in the coordination of project activities (Geraldi et al., 2011). In turn, uncertainty means the lack of knowledge related to the current and future states of the project and its stakeholders, and (un)availability of information needed for implementing project activities (Maylor et al., 2008). Regarding emergent complexity, we identified two key issues that influence stakeholder management.

The first issue relates to the uncertainty of stakeholders’ goals and behaviors and particularly, stakeholders’ unclear, emergent, and changing expectations and needs that have been associated with the unpredictability of projects in prior research (Ramasesh and Browning, 2014). The previous holds especially in the early stages of complex projects where projects are typically characterized by ambiguous, contrasting, fluctuating and unexpected stakeholder requirements as the overall project goals are yet to be formulated and negotiated with stakeholders (Martinsuo et al., 2019b). Embracing this uncertainty and addressing the changing needs well and in an agile manner, can, however, improve the value creation of complex projects as more of the stakeholder demands can be incorporated into the project’s value proposition, meaning that the project has potential to create more value for stakeholders once completed (Lehtinen et al., 2019a). However, there can be a lack or ambiguity of knowledge regarding stakeholders which indicates that a project organization can have real difficulties in identifying relevant stakeholders or understanding their interests, expectations, and claims (Missonier
and Loufrani-Fedida, 2014). The previous also means that a project organization may not know all stakeholders’ previous experiences with complex projects or whether some stakeholders even understand the implications of the project (Maylor et al., 2008). The lack of knowledge regarding stakeholders might make the project organization to devise and implement inappropriate stakeholder management activities leading to stakeholder conflicts.

The second issue relates to the dynamic organizational boundaries of complex projects (Bakker et al., 2016), which indicates that stakeholders unexpectedly and autonomously come and go during the project’s lifecycle (Maylor et al., 2013), complicating timely stakeholder management activities. The dynamism also implies that stakeholders’ attributes may change during the project. For example, a previously unidentified stakeholder may become unexpectedly prominent (Maylor and Turner, 2017), complicating timely stakeholder management activities.

3.3 Socio-political complexity and stakeholder management

Socio-political complexity deals with the challenging and unpredictable issues related to social and political aspects of projects’ stakeholder landscape and organizational setting (Maylor and Turner, 2017). This complexity calls for sensitiveness from the complex project organization to be able to interpret the signals and potential warning signs from the stakeholder environment. Regarding socio-political complexity, we identified one main issue that influences stakeholder management.

The issue relates to stakeholders’ heterogeneity: stakeholders’ different interests, expectations, planning horizons, goals, objectives, and claims that may be in conflict or aligned (Geraldi et al., 2011). The heterogeneity of stakeholders complicates project organization’s stakeholder management (Whitty and Maylor, 2009) because project organization and stakeholders must work together toward the shared project objective for a limited time with scarce resources regardless of their different interests and goals (Jones and Lichtenstein, 2008). For example, project organization and stakeholders can react in very different ways to other actors’ needs and claims because of their divergent goals and priorities (Aaltonen et al., 2015). Socio-political complexity is especially a relevant challenge for stakeholder management in projects with strong public sector involvement (Samset and Volden, 2016). Public sector involvement and related politics can increase the heterogeneity and even plurality of the stakeholder landscape (e.g.,
conflicting, and even arbitrary interests from governmental actors and authorities who also often possess power to influence projects), leading to difficulties in managing different stakeholders (Flyvbjerg, 2014).

Despite the challenges imposed by socio-political complexity, it can also provide opportunities for stakeholder management. For example, successfully including various stakeholders’ perspectives and institutional logics can equip the project organization with diverse knowledge bases that can positively contribute to project’s value creation and performance (Morris and Geraldi, 2011). The previous also indicates that a project organization can develop capabilities to manage various institutional environments, facilitating stakeholder management and project’s value creation activities. Adopting the above ‘pluralistic view’ to stakeholder management that encourages participation from divergent stakeholders can be very challenging, but it may enhance the social acceptability of a project.

4. Discussion and future research

The analysis indicated that the three types of complexity impose mainly challenges but also some opportunities for managing complex projects’ stakeholders. The identified challenges are potential reasons for why project organizations tend to favor the ‘managing of stakeholders’ approach. This approach is very limited in how it includes different stakeholders, helping to avoid several challenges. But, this approach cannot really enable the opportunities. In turn, the identified opportunities suggest reasons for why project organizations may adopt the ‘managing for stakeholders’ approach. However, concurrently a project organization cannot avoid the challenges but must deal with them. Thus, it seems that there is a dilemma in adopting either one of the two approaches. We have summarized the findings in Table 2.
Table 2. Summary of how structural, emergent, and socio-political complexity influence stakeholder management in complex projects.

<table>
<thead>
<tr>
<th>Challenges: reasons for adopting ‘managing of stakeholders’ approach</th>
<th>Structural complexity</th>
<th>Emergent complexity</th>
<th>Socio-political complexity</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Several heterogeneous and autonomous stakeholders</td>
<td>✓ Unavailability of knowledge concerning stakeholders and their attributes</td>
<td>✓ Heterogeneous and even pluralistic stakeholders required to work together toward the shared project goal, despite divergent attributes</td>
<td></td>
</tr>
<tr>
<td>✓ The involvement intensity of stakeholders fluctuates over time</td>
<td>✓ Problems in identifying relevant stakeholders</td>
<td>✓ Project organization and stakeholders can respond very differently to each other’s requirements because of competing priorities</td>
<td></td>
</tr>
<tr>
<td>✓ High-paced coordination of project activities among heterogeneous stakeholders</td>
<td>✓ Dynamic organizational boundaries</td>
<td>✓ Unpredictable, heterogeneous, and even pluralistic stakeholder landscape and organizational setting</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities: reasons for adopting ‘managing for stakeholders’ approach</th>
<th>Structural complexity</th>
<th>Emergent complexity</th>
<th>Socio-political complexity</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Engaging heterogeneous stakeholders can facilitate co-creating innovations, solutions, and value</td>
<td>✓ Embracing dynamic and uncertain stakeholder landscape ensures the agility of project organization in responding to changing stakeholder needs, facilitating value creation</td>
<td>✓ Utilizing stakeholders’ different perspectives and institutional logics equips project with diverse knowledge bases and with the capability to manage various institutional environments better</td>
<td></td>
</tr>
</tbody>
</table>

4.1 Challenges and opportunities imposed by project complexity on stakeholder management

Table 2 shows that the three complexity dimensions pose several challenges for stakeholder management. The challenges for stakeholder management emerging from project complexity have been documented rather well in prior literature, even though, they have maybe not been synthesized according to the three dimensions systematically. There are also some studies that have examined, at least implicitly, how to deal with and respond to these challenges and create value for stakeholders, see, e.g., (Maylor and Turner, 2017). For instance, the developed stakeholder management tools and understanding related to, e.g., dynamic stakeholder identification, dynamic stakeholder management practices and strategies, and joint organizing solutions among stakeholders, likely account well for the identified challenges that require dynamic stakeholder management over project lifecycle. So, there might be potential in engaging in a systematic literature review to develop more structured theory around the solutions related to the complexity challenges that could then be elaborated via empirical research. We consider that it might be beneficial to bridge value (co-)creation research (Martinsuo et
al., 2019a) with project complexity and stakeholder management literature to better understand the management implications of the complexity dimensions for value creation with stakeholders.

Based on the above, we suggest future researchers to examine how to tackle complexity, and the three dimensions, to ensure successful stakeholder management and value creation. Potential research questions include: What do we know about complexity management related to stakeholders in complex projects? How do project organizations manage complexity for successful stakeholder management? How does project complexity influence value creation?

Our analysis also identified that complexity does not only have negative influences for stakeholder management, but it can also offer opportunities that benefit stakeholder management or project. For example, embracing the three complexities through the ‘managing for stakeholders’ approach may offer opportunities such as new innovations and solutions, agility to respond to changing needs in projects, and development of knowledge base and capabilities for various institutional environments that can yield benefits related to project’s value creation and performance. In the ‘managing for stakeholders’ approach, a project organization’s attitude towards stakeholders, value-orientation, perception of stakeholder conflicts, and breadth of stakeholder engagement (see Table 1) seem well-equipped for achieving such benefits. For instance, relying on the ‘managing for stakeholders’ approach could facilitate unifying conflicting stakeholder interests through the inclusion of different stakeholders’ perspectives from the early stages of a project and ensure the realization of benefits. Adopting the ‘managing for stakeholders’ approach has an impact on designing a project organization and including plenty of stakeholders’ representatives, thus increasing the project’s complexity to unlock its benefits. The result is thus paradoxical in the sense that a project organization would increase complexity to deal with complexity. But there may also be compromises or sacrifices, because the ‘managing for stakeholders’ approach requires a lot of resources, (e.g., specific organizational roles to address stakeholder related issues) and is time-consuming. In practice, project organizations oftentimes underestimate the time and resources the ‘managing for stakeholders’ approach will take, and there may be losses/sacrifices that even outweigh the benefits. Also, there might be first the need to make the complexity visible and embrace it, and then define the project organization diverse enough to be able to handle the challenges and opportunities arising.
On the other hand, the ‘managing of stakeholders’ approach may be more suited to avoid complexities, because a project organization’s attitude towards stakeholders, value-orientation, perception of stakeholder conflicts, and breadth of stakeholder engagement in this approach (see Table 1) focus on reducing complexity. However, adopting this approach comes with the cost of not being able to harness the opportunities imposed by complexity, meaning that it can be difficult to create value with stakeholders. Thus, in order to avoid many of the challenges and utilize the opportunities, a trade-off emerges where a project organization must continuously balance between ‘managing of’ and ‘for stakeholders’ approaches to decrease and increase complexity timely (Lehtinen et al., 2019a). The trade-off implies a vicious cycle where the choice of stakeholder management approach influences project complexity that in turn influences subsequent stakeholder management activities.

Our analysis and above discussion imply that the previous literature seems to be more focused on the challenges than benefits or opportunities imposed by the complexity dimensions. Hence, we suggest future research to focus on how complexity, and the three complexity dimensions, can be harnessed for opportunities and benefits in stakeholder management to enable improved project performance and value creation. Research on benefit management (Zwikael et al., 2018) could be useful in understanding and studying this phenomenon. Potential research questions include: What kinds of opportunities and benefits does complexity pose for stakeholder management in complex projects? What kinds of organizational designs are required for embracing the opportunities and benefits of complexity for stakeholder management? How does complexity facilitate successful/effective stakeholder management in complex projects?

4.2 Theories to study the influence of project complexity on stakeholder management

We observed that the three complexity dimensions pose different requirements for stakeholder management. For example, emergent complexity can demand dynamic and flexible stakeholder management, structural complexity may require a decentralized structure such as a network or a heterarchy, and socio-political complexity can necessitate understanding the institutional context of stakeholder management. Therefore, the following theoretical perspectives may be useful to better understand stakeholder management and how to deal with the three complexities.
Regarding emergent complexity, dynamic systems theories (Daniel and Daniel, 2022) could offer concepts and understanding to study project organizations as nonlinear dynamic systems and thus better understand requirements for dynamic stakeholder management. Regarding structural complexity, research on inter-organizational relationships and governance (Zheng et al., 2008), organizational design (Puranam, 2018), and transaction cost economics could provide a variety of perspectives for understanding the required network/heterarchy structures that facilitate dealing with structural complexity. Regarding socio-political complexity, institutional theory, institutional logics, and institutional complexity (Winch and Mayorena-Sanchez, 2020) could help understand the divergent attributes of stakeholders and thus better deal with socio-political complexity.

4.3 Research limitations

There are at least the three following limitations to our analysis that provide additional ideas for future research. First, we addressed the relationship of each complexity dimension to stakeholder management separately. However, the implications of the different complexity dimensions are, assumably, not straightforward but there may be tensions or synergies that need to be understood to be able to devise and enact the most suitable managerial responses. Therefore, we propose researchers study the interdependencies and relationships of the three complexity dimensions and how such relationships need to be understood and managed for better stakeholder management. Potential research questions include: What kinds of relationships the three complexity dimensions have and how do these contribute to stakeholder management in complex projects?

Second, we approached stakeholder management as an activity. To develop a more fine-grained understanding, we suggest approaching stakeholder management as a process and study how the complexity dimensions influence each process phase of stakeholder management as described in section 2. Also, we did not specify the complex project context or stakeholders in the relationships between complexity dimensions and stakeholder management, which are required to be defined especially in empirical research for developing more accurate understanding.

Third, the three dimensions represent one school of thought and there exists many other perspectives on complexity (Browning, 2022). Taking use of other views on complexity can provide
additional insights that help draw a more complete picture of how complexity influences stakeholder management. Thus, future researchers could approach complexity from other perspectives and schools of thought and investigate how complexity from these other perspectives influence stakeholder management.

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