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Abstract:

Stakeholder analysis is a methodology that can provide valuable insights about a phenomenon. Information systems and information technology researchers have utilized stakeholder analysis to understand and learn from successes, failures, and other aspects of IS/IT initiatives. In this tutorial, we provide guidelines for conducting a stakeholder analysis currently missing in the IS/IT discipline despite being called for a long time. For our analysis, we review and combine studies from within the IS/IT discipline with work in organizational and strategic management and public policy. Our guidelines start with determining who the stakeholders are related to a phenomenon and what key concerns these stakeholders have about the phenomenon. In the next step, we relate stakeholders to one another and across the key concerns and point out how to identify possible coalitions. Last, we describe how to apply these findings to determine strategies for managing stakeholders or build theory around a phenomenon and its concerns. These final steps can be used to make policy recommendations, provide guidance for IS/IT-related initiatives, or present constructs and relationships that can be tested by future researchers. We demonstrate the applicability of our guidelines with a case study about broadband availability in rural North Carolina.

Keywords: Stakeholder Analysis, Tutorial, Methodology, Policy, Theory Building, Internet Broadband, North Carolina.

[Department statements, if appropriate, will be added by the editors. Teaching cases and panel reports will have a statement, which is also added by the editors.]

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1 Introduction

Many actors are involved in the conceptualization, analysis, design, development, deployment, usage, and maintenance of information systems and information technology. Commonly referred to as stakeholders, the actors include collaborative and competing voices from a variety of individuals, groups, and organizational entities who have direct or indirect ties to the information system throughout the lifetime of a project (Lyytinen & Hirschheim, 1987). The same is true for initiatives and policies that govern IS/IT in organizations and in the public domain (King & Kraemer, 2019).

Each impacted individual, group, and organizational entity can interact with the system, technology, project, or policy as well as with each other, contributing to its success or failure. Success or failure are typically determined based on how well the resulting change compares with expectations. The broader the impact and the larger the number of actors, the more complex the network of interactions and the less certain the outcome of the anticipated change tends to be. This is especially true when anticipated change is substantial and impacted parties have differing interests that don't naturally align (Lyytinen & Hirschheim, 1987).

IS and IT managers and policy makers need guidelines to navigate the landscape of the various actors and actor groups if they want their initiatives to be successful. Stakeholder analysis has a broad area of application, as it seeks to identify and understand the perspectives of actors and actor groups with shared values and common interests that relate to and are impacted by a project, initiative, or policy (Donaldson & Preston, 1995; Freeman, 1984; Mitchell et al., 1997). Proponents emphasize the need to identify and consider multiple perspectives to understand better, anticipate, and manage successes and failures and to shape information systems, projects, organizational structures, policies, and theories. Prior research has provided important foundations for stakeholder analysis. For example, Pouloudi et al. (2016) presented five succinct principles related to stakeholder identification, while Feldman et al. (2011) specified ways to identify stakeholder key concerns. To our knowledge, however, no well-defined guidelines exist that can aid an IS/IT manager, policy maker, or researcher through a complete stakeholder analysis from the identification of stakeholders and key concerns to stakeholder management and theory building.

The current paper addresses the need for more concrete guidelines for stakeholder analysis in IS/IT. We describe a series of steps that can be applied broadly, including in a complex public setting related to IS/IT policy and within organizations in the context of IS/IT projects. Our proposed guidelines support managers and policy makers in charge of IS/IT projects and policies and researchers seeking to develop stakeholder-related theories.

In the following sections, we first review stakeholder analysis in the disciplines of organizational and strategic management, public policy, and IS/IT to take inventory of roadmaps for stakeholder analysis developed elsewhere (section 2). We then describe a four-step method to identify stakeholders, understand key concerns, map stakeholders to concerns, and present implications for management and theory development (section 3). In section 4, we apply the method to the issue of broadband internet availability in rural North Carolina that might be viewed as a "failed project" because it has been proposed and supported many times, has received billions of dollars from various sources, but has not been completed based on witness statements included in grant applications (NCDIT, 2019), information included in FCC maps (FCC National Broadband Map, 2022) and recent survey data (Broadband Infrastructure Office, 2020). After identifying stakeholders and key concerns and mapping the stakeholders with respect to the key concerns, we point out recommendations for policy making and theory development. Section 5 ends the paper with conclusions.

2 Background and Literature Review

2.1 Classifications of Stakeholder Analyses

What is the purpose of stakeholder analysis? According to Donaldson & Preston (1995), the stakeholder perspective views a corporation as an organizational entity through which numerous and diverse participants accomplish multiple, and not always entirely congruent, purposes. The authors distinguish between three perspectives, namely descriptive, instrumental, and normative:

1. The normative perspective of stakeholder theory seeks to provide guidance to managers based on moral or philosophical principles, pointing out the need to consider the viewpoints of different stakeholder groups for ethical reasons.
2. The descriptive perspective of stakeholder theory "reflects and explains past, present, and future states of affairs of corporations and their stakeholders" (Donaldson & Preston, 1995, p. 71). Descriptions can help explore new areas and to help generate explanatory and predictive propositions.
3. The instrumental perspective of stakeholder theory provides "a connection between stakeholder approaches and commonly desired objectives such as profitability" (Donaldson & Preston, 1995, p. 71). Implied is the need for corporate management to induce constructive contributions from their stakeholders to accomplish their own desired goals.

All three perspectives have been applied in the discipline of IS/IT (Bailur, 2007; Flak & Rose, 2005) (see also Table 2). Scholars of information and communications technology for development (ICT4D) have used primarily normative and descriptive approaches to understand the success factors of ICT4D projects (Bailur, 2007; Chipidza & Leidner, 2017; Sæbø & Thapa, 2012). Descriptive approaches have been applied to understand the complex relationships in specific areas of interest related to IS/IT management, such as the use of IS to determine disability benefits (Feldman et al., 2011), health data management (Pouloudi et al., 2016), and security breaches (Hovav & Gray, 2014). Descriptive approaches have also been applied to IS/IT-related policy, for example, to promote electronic commerce (Papazafeiropoulou & Pouloudi, 2000) and broadband adoption (Choudrie et al., 2003). The instrumental approach intends to improve the success of IS management initiatives, including IS projects (Lyytinen & Hirschheim, 1987), but has been applied less frequently in the IS/IT discipline.

To develop guidelines for how to apply the instrumental approach to stakeholder analysis in IS/IT, we look to the organizational management literature for relevant examples. For instance, Varvasovszky and Brugha demonstrated the broad applicability of the instrumental approach when they laid out a set of interrelated questions to be considered before undertaking a stakeholder analysis and classifying stakeholders: "What are the purpose and time-dimensions of interest? What are the timeframe and resources available? In what contexts and at what level (e.g., ranging from the global to the local) will it be undertaken?" (Varvasovszky & Brugha, 2000, p. 338). Varvasovszky and Brugha (2000) further presented key dimensions of instrumental stakeholder analysis:

- Purpose: ranges from policy analysis and project evaluation to policy and project implementation, management, and policy development, as well as project planning to understand and influence future directions and decision-making.
- Focus: ranges from "retrospective" to "prospective": a retrospective dimension is required when stakeholder analysis is used as a tool to analyze a policy or evaluate a past or current project, while a prospective dimension supports project planning and outlying future policy directions.
- Interest: ranges from "process" to "objective" to "goal." Stakeholder analysis can be used to understand the roles of stakeholders "in the evolution of the policy context and processes", facilitate "the implementation of projects, specific decisions or organizational objectives" and manage "stakeholders and identifying opportunities to mobilize their support for a particular goal" (Varvasovszky & Brugha, 2000, p. 338).
- Scope: ranges from "narrow" to "broad": The scope is broad where "a wide range of actors needs to be considered, especially where the policy context is complex, and there is no clearly defined policy direction" (Varvasovszky & Brugha, 2000, p. 339). The scope can also be broad with a strong retrospective dimension "with the aim of understanding the roles of stakeholders in the evolution of the policy context and processes" (Varvasovszky & Brugha, 2000, p. 338). The analysis can be narrower when the interest is more goal-oriented, for example, to facilitate the implementation of a specific policy or project.
- Time frame: long-term – rapid – short-term – medium-term: "Depending on the aim of the analysis and the resources available, [the analysis] may be conducted over a short period of time to a few months" (Varvasovszky & Brugha, 2000, p. 339); "A longer-term and more considered analysis is feasible in a retrospective study without an immediate pragmatic goal" (Varvasovszky & Brugha, 2000, p. 340).
- Stage: historical analysis, pre-implementation, planning, and development.

In project management, for instance,

> *"stakeholder analysis is used to increase the chances of project success through informing their design, preparation and implementation; or as part of an evaluation, during or after project completion. Organizational wellbeing is of less importance than in health management, in that project personnel come together in a temporary alliance which focuses on, and is time-bound by, the life of the project. The results of the analyses can be used to develop project logical frames and are useful in identifying assumptions on which the success or failure of project outcomes depend. A stakeholder analysis to facilitate project implementation is frequently a less complex and time-consuming endeavor than when used to analyze policies"* (Varvasovszky & Brugha, 2000, p. 339).

In the following, we take a closer look at how stakeholder analysis has been applied in organizational and strategic management and public policy as well as in the IS/IT discipline.

2.2 Stakeholder Analysis in Management and Public Policy

Organizational and strategic management scholars have provided theory-grounded foundations for stakeholder analysis (Donaldson & Preston, 1995; Freeman, 1984; Mitchell et al., 1997) that are widely applied and referred to. Detailed best practices for stakeholder analysis are available to support strategic management (Freeman, 1984) and various areas of public policy development, including energy- and health-related policy decisions (Babiuch & Farhar, 1994; Brugha & Varvasovszky, 2000; Schmeer, 2000; Varvasovszky & Brugha, 2000). The latter all apply an instrumental approach to stakeholder theory intended to enable successful projects and policy initiatives.

Stakeholder analysis has been labeled a pragmatic approach "to understanding who stands to win and who stands to lose from a variety of options" (Flicker, 2014, p. 2). According to Babiuch & Farhar (1994), the unit of analysis in stakeholder analysis is a stakeholder group defined as "social entities which are identified in relation to their domains of interest in the proposed action" (Babiuch & Farhar, 1994, p. 26). Freeman (1984) defined a stakeholder as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984, p. 46). Similarly, Newton et al. (1982) defined stakeholders as "all those claimants inside and outside of the organizations who have a vested interest in the problem and its solution" (Newton et al., 1982, p. 43), whereby interest refers to anything that furthers a stakeholder's advantage that derives from a group's position in the organization and from associated rewards and power bases. As a result of a thorough theory-based analysis, Mitchell et al. (1997) identified stakeholders based on the three characteristics of power, legitimacy, and urgency. Some stakeholders can have shared interests and thus form coalitions (Lyytinen & Hirschheim, 1987).

Table 1 summarizes the content, purpose, and suggested steps for stakeholder analyses to support organizational and strategic management and public policy in the energy and health sectors. All the examples listed apply an instrumental approach (Donaldson & Preston, 1995) to provide guidelines for managers and public policy makers.

Table 1. Stakeholder Analysis in Management and Public Policy Literature

Study	Context and purpose	Suggested steps for analysis

Babiuch & Farhar (1994)	• Energy policy (instrumental).
	• Handbook of how to conduct a stakeholder analysis prior to a policy decision. The purpose is to understand the potential impacts of policy initiatives by government entities. Guidelines to help make policy decisions that are effective and have better chances of being successful.
		• Stakeholders and key concerns identification
		  • Preliminary analysis (e.g., review the relevant literature; assess the likely impacts of the proposed action; systematically identify the stakeholder groups; expand the impact assessment; present mitigation recommendations).
		• Mapping
		  • Canvas stakeholders and reanalysis (e.g., review the literature relevant to the proposed action; identify the likely impacts of the proposed action; identify stakeholder groups in relation to the proposed action; examine existing government linkages with stakeholder groups; obtain stakeholder input about the proposed action; present recommendations for mitigating the adverse effects of the proposed action; public involvement and reanalysis).

		• Implementation • Decision maker evaluation and decision; implementation and observation of effects.

Freeman (1984)	• Strategic management (normative, descriptive, instrumental).
	• A business can be understood as a system that creates value for stakeholders. To be successful, business strategy should be built around the relationships with key stakeholders.
		• Identify stakeholders:
		  • Understand who the stakeholders are.
		• Mapping and implementation:
		  • Understand the organizational processes to manage the organization's stakeholder relationships and whether these processes fit with the stakeholder map.
		  • Understand transactions among the organization and its stakeholders and assess fit with stakeholder map and organizational processes.

Schmeer (2000)	• Health policy (instrumental).
	• Policy makers who plan to implement health-related policies that might be controversial. Outlines how to systematically gather and analyze qualitative information to determine whose interests should be considered and how.
		• Plan the process; select and define a policy.
		• Identify key stakeholders.
		• Mapping:
		  • Collect and record information; fill in and analyze a stakeholder table.
		• Implementation:
		  • Develop and present power and leadership analysis results, stakeholder positions, knowledge data, key alliances, other results and conclusions, and recommended strategies.

Varvasovszky & Brugha (2000)	• Health policy (instrumental).
	• How to generate knowledge about actors (individuals or organizations) to understand their behaviors, intentions, interrelations, and interests; and to assess the influence and resources they bring to bear on decision-making or implementation processes.
		• Identify stakeholders and key concerns:
		  • Preliminary phase of analysis: aim and time dimension of the analysis; context; level of analysis.
		  • Identify and approach stakeholders; select data collection methods and collect data; organize and analyze data; present outputs.
		• Mapping and implementation:
		  • Identify the optimal strategies for managing other stakeholders; identify current and future opportunities and threats and how best to handle them.

The concrete steps included in the stakeholder analyses in the disciplines of organizational and strategic management and public policy vary in line with the goals and purposes of each study. There is overlap, however. We, therefore, propose to apply the following four steps (Flicker, 2014): (1) identification of stakeholders; (2) identification of key concerns; (3) mapping of stakeholders to key concerns and identification of possible coalitions; and (4) development of strategies to manage stakeholders or theory development. In the next section, we turn our attention to the role of stakeholder analysis in the context of IS/IT and review how and to what extent the four steps have been applied and adapted.

2.3 Stakeholder Analysis in IS/IT

As pointed out earlier, the importance of stakeholders for IS/IT-related success has long been recognized by researchers across the discipline, whereby all three perspectives have been applied: normative, descriptive, and instrumental (Donaldson & Preston, 1995), albeit not to equal degrees.

One manifestation of the attention to stakeholders that applies an instrumental perspective is the call to acknowledge the interests and motivations of individuals and groups that are affected by an IS, especially before it is developed and implemented in an organization (Grover et al., 1988; Lyytinen & Hirschheim, 1987). Representatives are scholars of the socio-technical perspective of IS/IT who seek to understand the requirements of IS/IT and IS/IT projects and recommend not to "treat all users as a monolithic group". Instead, understanding and actively managing stakeholder interests can help improve the success of IS/IT projects. It is notable, however, that the list of authors who have followed the call and applied an instrumental perspective to stakeholder analysis in IS/IT is rather short (Table 2).

Considerably more IS/IT scholars have applied a descriptive perspective to stakeholder analysis to better understand the requirements of specific IS, for example, to manage disability benefits (Feldman et al., 2011), health information (Pouloudi et al., 2016), or drug use (Pouloudi & Whitley, 1997); IS management implications, for example of a security breach (Hovav & Gray, 2014); and the objectives of the IS discipline

itself (Looney et al., 2014). Someh et al. (2019) applied a normative perspective to stakeholder analysis to review ethical issues related to big data analytics.

Scholars interested in the success of information and communications technologies for development (ICT4D) have also applied stakeholder analysis, primarily following normative and descriptive approaches. Bailur (2007) applied stakeholder theory to study ICT4D projects, specifically telecenters, while Sæbø and Thapa (2012) explored the role of stakeholders and their influence on the scalability of ICT4D projects. Chipidza and Leidner (2019) discussed the relationship between stakeholder perspectives and measuring success in ICT4D projects, paying special attention to the power dynamics among stakeholders, particularly donors and beneficiaries.

Beyond business organizations, stakeholder analysis has been used to analyze issues related to IS/IT policy, including the introduction and adoption of e-government (Flak & Rose, 2005), e-commerce (Papazafeiropoulou & Pouloudi, 2000), and broadband (Choudrie et al., 2003). In this context, stakeholder analysis has been applied primarily in a descriptive way with some instrumental elements, as it is used as a lens to identify stakeholder groups that a governmental decision-making unit interacts with. The broader purpose of the research is to support IS/IT-related government policy (e-government, e-commerce, broadband) by more appropriately identifying and describing the relationships between the governing unit and the individual stakeholder groups.

In conclusion, the importance and difficulty of acknowledging and managing stakeholder perspectives are emphasized by many IS/IT scholars, but the issue is not always addressed systematically. To identify stakeholders and key concerns, authors often rely on their background knowledge or other sources that are not further explained or justified (Table 2). Still, some authors provide specific guidelines for parts of stakeholder analysis. For example, the three commonly used perspectives of stakeholder analysis (normative, descriptive, instrumental) (Donaldson & Preston, 1995; Mitchell et al., 1997) are acknowledged by Flak and Rose (2005); guidelines for identifying stakeholders are provided by Bailur (2007), Lyytinen and Hirschheim (1987), Pouloudi et al. (2016), and Pouloudi and Whitley (1997); characteristics of stakeholder perspectives (power, legitimacy, urgency) (Mitchell et al., 1997) and their relevance are applied by Someh et al. (2019). Saebø and Thapa (2012) provide guidelines for systematically identifying key concepts in line with commonly used methods for qualitative data collection and analysis (Klein & Myers, 1999). Bailur (2007), Chipidza and Leidner (2019), and Pouloudi et al. (2016) provide guidelines for mapping issues to stakeholder interests, while Bailur (2007) described high-level strategies for stakeholder management.

Table 2 summarizes previous studies in IS/IT that have used stakeholder analysis. We note that the perspectives applied are mostly descriptive and normative. Few authors apply an instrumental approach to stakeholder analysis in the context of IS/IT. Further, we find that while several guidelines for stakeholder analysis exist in the IS/IT literature, they are somewhat scattered and rarely the primary focus of a research study. The study by Pouloudi et al. (2016) is noteworthy because the authors are very methodical in their application of stakeholder analysis, albeit in the specific context of the requirements of a health IS. To our knowledge, no systematic approach has been developed that focuses primarily on IS/IT-related stakeholder analysis and covers all the core aspects systematically, including stakeholder identification, identification of key concerns, stakeholder mapping, and resulting implications for management or theory development.

Table 2. Selected Studies Describing Stakeholder-Related Research in IS/IT

Study	Context and purpose	Stakeholder analysis steps	Comments
Bailur (2007)	• Normative, descriptive, instrumental. • Analyzes telecenters in a developing country. • Comprehensive review of stakeholder theory and stakeholder analysis.	SI: ◐ IKC: ○ SM: ◐ SMG: ◐	• Key concerns are pre-defined. • No guidelines/process for a full stakeholder analysis.
Chipidza & Leidner (2019)	• Normative, descriptive. • High-level, theory-development approach to explore how success is measured in ITC4D projects. • Investigates stakeholder power dynamics.	SI: ○ IKC: ○ SM: ● SMG: ◐	• Focus on two pre-determined stakeholders: Donors and beneficiaries. • No process for labeling axes in SM and only one example of SM given. • No guidelines/process for a full

			stakeholder analysis.
Choudrie et al. (2003)	• Descriptive. • Investigates "how the strategies pursued by a government acting as a key stakeholder affected the diffusion of a new technology" (p. 281) based on innovation diffusion and stakeholder theories.	SI: ○ IKC: ○ SM: ◐ SMG: ○	• SI and IKC pre-defined (taken from other papers). • No guidelines/process for a full stakeholder analysis.
Feldman et al. (2011)	• Descriptive. • Role of IS/IT in supporting decisions concerning disability benefits. • Multimethod, multilevel approach that includes case analysis and semi-structured interviews.	SI: ◐ IKC: ● SM: ◐ SMG: ◐	• No process given for SI. • IKC only presented as coding themes from interviews. • Incomplete description of processes for a full stakeholder analysis.
Flak & Rose, (2005)	• All three perspectives (normative, descriptive, instrumental). • Meta-analysis of the potential and why and how stakeholder analysis and theory (e.g., Freeman, 1984) could be applied in IS/IT • Focus on e-government.	SI: ○ IKC: ○ SM: ○ SMG: ○	• Not a specific application of stakeholder analysis, therefore no SI, IKC, SM, or SMG performed. • No guidelines/process for a full stakeholder analysis.
Grover et al. (1988)	• Instrumental. • Reasons for successes and failures of management information systems (MIS) projects. • Focus on how stakeholder interests vary and can affect goals and success of projects.	SI: ◐ IKC: ◐ SM: ○ SMG: ○	• No theoretical basis provided for IKC. • No guidelines/process for a full stakeholder analysis.
Hovav & Gray (2014)	• Descriptive. • Effects of an information security breach on various entities. • Event study methodology to analyze post-attack market reactions.	SI: ○ IKC: ○ SM: ○ SMG: ◐	• No guidelines/process for a full stakeholder analysis
Looney et al. (2014)	• Descriptive. • Recap of a panel discussion at the International Conference on Information Systems (ICIS). • Review of stakeholders in the IS field, their interests, and relationships.	SI: ◐ IKC: ○ SM: ◐ SMG: ◐	• Summary of thoughts from top scholars, no formal interviews or collection of data. • No guidelines/process for a full stakeholder analysis.
Lyytinen & Hirschheim (1987)	• Instrumental. • Focus on types and causes of IS/IT failure. • Emphasis on use of the stakeholder concept to understand IS/IT project outcomes.	SI: ◐ IKC: ◐ SM: ○ SMG: ○	• Incomplete description of processes for a full stakeholder analysis.
Papaza-feiropoulou & Pouloudi (2000)	• Descriptive. • Focus on government's role in improving e-commerce adoption.	SI: ◐ IKC: ◐ SM: ● SMG: ○	• No guidelines/process for a full stakeholder analysis.
Pouloudi et al. (2016)	• Descriptive. • Systematic stakeholder identification process for drug use management systems in the UK. • Focus on how to identify stakeholders and perceptions of stakeholders in drug use management in the UK.	SI: ● IKC: ◐ SM: ● SMG: ○	• Process for SM is a categorization. • Incomplete description of process for a full stakeholder analysis.
Pouloudi & Whitley (1997)	• Descriptive. • Focus on the perspectives of the interested parties in inter-organizational systems. • Identify gaps in the literature of not properly identifying stakeholders or using	SI: ● IKC: ○ SM: ○ SMG: ○	• Focus only on SI. • No guidelines/process for a full stakeholder analysis.

	a generic list that may not be adequate.		
Sæbø & Thapa (2012)	• Normative, descriptive. • Role of stakeholders and their influence on the scalability of ICT4D projects.	SI: ◐ IKC: ○ SM: ○ SMG: ○	• No guidelines/process for a full stakeholder analysis.
Someh et al. (2019)	• Normative. • Key ethical issues in big data analytics and relationships between stakeholders. • Utilize stakeholder theory and discourse ethics. • Delphi study used for IKC.	SI: ○ IKC: ◐ SM: ◐ SMG: ◐	• No guidelines/process for a full stakeholder analysis.
Notes: SI = Stakeholder Identification; IKC = Identification of Key Concerns; SM = Stakeholder Mapping; SMG = Stakeholder Management; ◉ = Discussed and Process Given; ◐ = Discussed But No Process Given; ○ = Not Discussed			

3 Guide to Conducting Stakeholder Analysis

While some of the guidelines for stakeholder analysis that are presented in the literature are domain-specific (many outside of IS/IT) and the level of detail that is provided differs, there are commonalities. At the core of all stakeholder analyses is the quest to understand the perspectives of the individuals and groups that are most impacted by the proposed project, policy, or issue at hand (also referred to as phenomenon), the concerns of each stakeholder, and each stakeholder's level of interest and influence (Mitchell et al., 1997). While studies that seek to explain past developments often rely on a descriptive approach, authors who seek to translate the insights into proposed action and provide guidelines for projects or policies typically use an instrumental approach (Donaldson & Preston, 1995). We find that despite a long-standing call for action (Lyytinen & Hirschheim, 1987), the instrumental approach appears to be the exception in IS/IT, where authors more often apply descriptive and normative approaches.

In our tutorial, we focus on the following four steps: (1) identify stakeholders; (2) identify key concerns; (3) map stakeholders to key concerns and identify possible coalitions; and (4) develop strategies to manage stakeholders and develop theories (Flicker, 2014). In practice, an iterative approach will have to be applied in most cases that include several rounds and refinements of the results. The identification of stakeholders and key concerns can be particularly difficult to separate; which one to perform and concentrate on first is often a matter of preference.

3.1 Identifying Stakeholders

To identify stakeholders, the concept of a stakeholder needs to be specified. What are stakeholders? As Mitchell et al. (1997) point out in the context of organizational management, there is a "maddening variety of signals" related to stakeholder identification: Stakeholders have been "identified as primary or secondary stakeholders; as owners and non-owners of the firm; as owners of capital or owners of less tangible assets; as actors or those acted upon; as those existing in a voluntary or an involuntary relationship with the firm as dependents of the firm; as risk-takers or influencers; and as legal principals to whom agent-managers bear a fiduciary duty" (Mitchell et al., 1997, pp. 853–854). Mitchell et al. (1997) also emphasize the tension between broad definitions of stakeholders that are based on the notion that "virtually anyone can affect or be affected by an organization's actions" and the pragmatic reality that "managers simply cannot attend to all actual or potential claims" and need guidelines to prioritize managerial attention (p. 854). A broad definition that is widely used is Freeman's (1984) view of stakeholders as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984, p. 46). In fact, Mitchell et al. used Freeman's (1984) definition as a starting point for their analysis and proposed that:

> *"classes of stakeholders can be identified by their possession of one, two, or three of the following attributes: (1) the stakeholder's* power *to influence the firm, (2) the* legitimacy *of the stakeholder's relationship with the firm, and (3) the* urgency *of the stakeholder's claim on the firm"* (Mitchell et al., 1997, p. 854, emphases in the text).

The three main stakeholder attributes are defined as follows (Mitchell et al., 1997, p. 869):

- Power: A relationship among social actors in which one social actor, A, can get another social actor, B, to do something that B would not have otherwise done. Bases include coercive, utilitarian, and normative.
- Legitimacy: A generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions. Bases include individual, organizational, and societal.
- Urgency: The degree to which stakeholder claims call for immediate attention. Bases include time sensitivity and criticality.

Salience, meaning "the degree to which managers give priority to competing stakeholder claims", depends on the relative strengths and combinations of the three attributes, whereby three important assumptions are made, namely that the stakeholder attributes are variable (not steady state), that they are socially constructed (not objective) reality, and that consciousness and willful exercise may or may not be present". Mitchell et al. further suggest a "dynamic model … that permits the explicit recognition of situational uniqueness and managerial perception to explain how managers prioritize stakeholder relationships" (Mitchell et al., 1997, p. 854).

While developed in the context of strategic and organizational management, Freeman's (1984) and Mitchell et al.'s (1997) definitions of stakeholders have informed the concept applied in other disciplines, including public policy and IS/IT (Pouloudi et al., 2016). Table 3 provides a summary.

Table 3. Stakeholder Definitions

Study	Context	Definition of stakeholders
Babiuch & Farhar (1994)	Energy policy planning	"organizations, groups, and aggregates of individuals" that are "affected by, or perceiving themselves to be affected by, a proposed governmental action" (p. 2).
Bailur2007)	ICT4D on telecenter projects	"those who affect or are affected by a project or organization" (p. 67).
Brugha & Varvasovszky (2000)	Health policy	Relevant actors, including individuals, groups, and organizations "who have an interest (stake) and the potential to influence the actions and aims of an organization, project, or policy direction" (p. 239) and that need to be managed as part of management and policy development.
Chipidza & Leidner (2019)	ICT4D projects in Africa and Asia	Dominant versus non-dominant stakeholders based on the power that a stakeholder has over resources and information.
Choudrie et al. (2003)	Broadband technology	Key players affected by the government's attempt to achieve diffusion of the technology innovation.
Feldman et al. (2011)	Health information systems	Main actor groups involved in the process of determining disability benefits.
Flak & Rose (2005)	E-government	Three perspectives of stakeholder theory (normative, descriptive, and instrumental) (Donaldson & Preston, 1995).
Flicker (2014)	Action research	"groups, entities or individuals who are important to hear from when making a decision because they (could) have the power to sway the outcome and may be affected by it" (p. 2).
Grover et al. (1988)	Information systems development projects	Players in the games between IS users, managers, and programmers that can determine project success.
Hovav & Gray (2014)	Information systems security	Key players with interests in a system; active stakeholders affect the system; passive stakeholders are affected by the system. Interest can be temporary/transitional.
Looney et al. (2014)	Impediments in the IS field	"any group or individual who can affect or is affected by the achievement of an organization, institution, or, in this case, a field's objectives" (p. 1176).
Lyytinen & Hirschheim (1987)	Information systems development projects	"a group of people … sharing a pool of values that define what the desirable features of an IS are and how they should be obtained" (p. 261).
Papazafeiropoulou & Pouloudi (2000)	Electronic commerce-related policy	"players and interest groups that take part in the internet-based electronic marketplace, including global customers, trading partners, electronic commerce experts, information technology vendors, Internet providers, competitors, government, trusted parties, etc." (p. 5).
Pouloudi et al. (2016)	Health information systems	"individuals, groups, organizations, or institutions who can affect or be affected by an information system" (p. 110). In addition to IS users, managers, and programmers, IS stakeholders also include other

		groups and individuals, "such as policy makers, activists, government agencies, professional and membership organizations, and others".
Pouloudi & Whitley (1997)	Inter-organizational systems	"individuals, groups organizations who take part in a system development process" and stakeholders who include "these participants together with any other individuals, groups or organizations whose actions can influence or be influenced by the development and use of the system whether directly or indirectly" (p. 2).
Sæbø & Thapa (2012)	Scalability of ICT4D projects	Stakeholder saliency based on the combination of power, urgency, and legitimacy (Mitchell et al., 1997).
Schmeer (2000)	Public health-related policy	"actors (persons or organizations) with a vested interest in the policy being promoted" (p. 4).
Someh et al. (2019)	Big data analytics	"any group or individual who can affect or be affected by big data analytics" (p. 721); characterized by power, legitimacy, and urgency.
Varvasovszky & Brugha (2000)	Health policy	"actors who have an interest in the issue under consideration, who are affected by the issue, or who – because of their position – have or could have an active or passive influence on the decision-making and implementation process" (p. 341).

Throughout the rest of the paper, we apply a broad definition and refer to stakeholders as individuals, groups, organizations, or institutions that can affect or be affected by and have an interest in an information system, IS/IT project, or IS/IT-related policy. Stakeholders are characterized by power, legitimacy, and urgency (Mitchell et al., 1997), each ranging from low to high with respect to key concerns related to the phenomenon at hand. Power is also sometimes referred to as influence (Gavin & Pinder, 1998; Overseas Development Administration, 1995; Schmeer, 2000; Varvasovszky & Brugha, 2000), while urgency is closely related to the level of interest (Freeman, 1984; Schmeer, 2000; Varvasovszky & Brugha, 2000). Table 4 lists additional characteristics that should be helpful for stakeholder identification.

Table 4. Stakeholder Characteristics

Characteristic	Description and range	Example references
Direction of impact	Impacted by an action or project versus able to impact (each stakeholder can be either or both); related to power and legitimacy.	Gavin & Pinder (1998); Lyytinen & Hirschheim (1987); Overseas Development Administration (1995); Pouloudi & Whitley (1997); Sæbø & Thapa (2012); Schmeer (2000); Varvasovszky & Brugha (2000)
Level of interest	Active (interested) versus passive (not involved or interested); related to urgency.	Freeman (1984); Sæbø & Thapa (2012); Schmeer (2000; Varvasovszky & Brugha (2000)
Role and depth of impact	Direct versus indirect; internal within the organization versus external.	Freeman (1984); Hovav & Gray (2014); Lyytinen & Hirschheim (1987)
Permanence	Interest is intrinsic (permanent) versus transient (dynamic).	Hovav & Gray (2014); Pouloudi et al. (2016)
Availability	Available for direct interaction and source of first-hand data (interviews, observations, Delphi-studies, written statements, etc.) versus the need to rely on secondary data or third-party information (e.g., experts about a topic, news articles, government data).	Babiuch & Farhar (1994); Bailur (2007); Schmeer (2000); Someh et al. (2019)
Granularity	Individuals versus larger collectives: organizations, society; local, regional, state, national, inter-/multinational, global.	Babiuch & Farhar (1994); Lyytinen & Hirschheim (1987); Someh et al. (2019)
Anonymity	Generic groups versus specific ("named") individuals or organizations.	Bailur (2007) Hovav & Gray (2014); Sæbø & Thapa (2012)
Timing	Impact in the past (often the focus of a descriptive approach) versus assessment intended for future action (often the focus of normative and instrumental approaches).	Hovav & Gray (2014); Schmeer (2000)
Specificity/ Generalization	Focus on a specific topic (e.g., implementation of specific health policy, named telecenter) versus general interest in a field (e.g., disability determination).	Feldman et al. (2011); Sæbø & Thapa (2012)
Structure	Network of stakeholders (e.g., related to health IT) versus "hub & spoke" model with a focus on one actor and their relationship with actual/potential stakeholders (e.g., the	Choudrie et al. (2003); Papazafeiropoulou & Pouloudi (2000); Pouloudi et al. (2016)

	national government wanting to implement an e-commerce or broadband policy).	
Completeness	The research question warrants the need to identify a comprehensive list versus allowing a focus on selected groups or representatives.	Chipidza & Leidner (2017); Feldman et al. (2011); Schmeer (2000)

Scholars applying the instrumental approach to stakeholder analysis (Donaldson & Preston, 1995) typically emphasize the importance of identifying stakeholder groups comprehensively. For example, according to Babiuch and Farhar, "if any stakeholder groups are omitted from the analysis, the findings will be incomplete and inaccurate [and decision makers] would not be able to rely on the results. The stakeholder identification process should ensure that the analysts identify all stakeholder groups affected by the proposed action. This requires the use of systematic stakeholder identification techniques in the identification process" (Babiuch & Farhar, 1994, p. 22). Bailur (2007) ascribed the mixed success of a telecenter project in India at least partially to the lack of thorough identification and involvement of all relevant stakeholder groups. Babiuch and Farhar (1994) also emphasized the close relation between stakeholders and the "impacts" of the proposed actions. In their stakeholder analysis methodologies resource book, they proposed assessing the impacts before identifying specific stakeholder groups but included several rounds of "reassessment" in the recommended set of steps.

Far fewer studies provide specific guidelines on how to identify stakeholders than definitions of what stakeholders are. Guidelines range from "start with the most discernable informants and use a snowball approach to grow the list" (Flicker, 2014, p. 2) to much more elaborate approaches. "Identifying stakeholders is a complex process, particularly in the case of large-scale and long-term information systems programs" (Pouloudi et al., 2016, p. 110). In addition to determining who the stakeholders are (stakeholder identification), the form of interaction needs to be considered: How will the stakeholder interests be assessed: directly or via secondary sources, such as expert analysis? For either source, will we rely on direct testimony, such as personal interviews, or also include indirect information retrieved, for example, from websites, reports, and other documents? In any case, when identifying stakeholders, it must be clear what criteria are used and how and why certain parties are identified as stakeholders (Pouloudi et al., 2016). Pouloudi and colleagues provided a set of research-based principles that can serve as guidelines and which are reproduced in Table 5 (Pouloudi et al., 2016; Pouloudi & Whitley, 1997):

Table 5. Principles and Methodological Implications for Stakeholder Identification (Pouloudi et al., 2016, pp. 114-116)

Stakeholder principles	Methodological implications for interpretive stakeholder identification and analysis
1. The set and number of stakeholders are context and time-dependent; predefined lists can only be used as a starting point for identifying stakeholders in a new empirical setting.	• Use relevant literature to identify stakeholder groups to target initially. • Identify additional stakeholders when collecting empirical material (incremental/snowball approach). • Adopt a longitudinal approach. • Review and update the set of relevant stakeholders as the research unfolds, new stakeholders appear, or new research in the area gets underway.
2. Stakeholders may have multiple roles, which is particularly relevant in an IS development setting.	• Consider stakeholder membership in different (professional, social) groups; note that membership in different groups may entail a conflict in vested interests. • Explore how (and why) stakeholders relate to the IS studied.
3. Different stakeholders (even in the same "stakeholder group") may have different values and perspectives, which may be explicit, implicit, or hidden.	• Adopt an interpretive stance in eliciting and interpreting stakeholder viewpoints. • Invite stakeholders to comment on who shares/challenges their views. • Acknowledge the interests that others attribute to the stakeholders. • Explore how different stakeholder groups are represented (representation bodies are an additional stakeholder and may develop a separate agenda for the group they represent) and whether this representation is considered legitimate.
4. Stakeholder roles, perspectives, and alliances may change over time.	• Adopt a longitudinal approach. • Ask stakeholders about how the phenomenon studied, and the related perceptions have evolved.
5. Stakeholder relations and power matter in the shifts in	• Ask stakeholders to identify other relevant stakeholders and investigate why they consider them as such, what role they play and why.

their roles, perceptions, and alliances.	• Discuss if and why these change over time. • Identify debates and arguments for (and against) specific issues related to the phenomenon studied. • Interpret this data with an eye for alliances and histories (see the previous principle). • Explore why the particular stakeholder opinions and interests are reported.

For instrumental stakeholder analysis, meaning stakeholder analysis to support and enable IS/IT management, IS/IT project management, or IS/IT policy making, we recommend striving for comprehensive stakeholder identification, subject to practical considerations and economic constraints (Schmeer, 2000). For descriptive and normative approaches to stakeholder analysis, the level of comprehensiveness sought should be guided by relevance with respect to the research questions.

Mitchell et al.'s (1997) characteristics of power, legitimacy, and urgency (interest) are useful to assess the relevance and importance of individual stakeholders and stakeholder groups and to prioritize consideration and interaction efforts, as we will point out later (sections 3.3 and 3.4).

Given the close link between stakeholders and stakeholder interests, we suggest applying an iterative approach and alternating between identifying and refining stakeholders and stakeholder concerns (section 3.2), possibly supplemented by continuous mapping of stakeholders and concerns (Babiuch & Farhar, 1994; Bailur, 2007; Varvasovszky & Brugha, 2000) (section 3.3).

For practical purposes, we also recommend limiting the number of stakeholder groups that are considered for further analysis to 7+/-2 (Miller, 1956). In most cases, this limitation requires the categorization of individuals or groups of individuals into higher-level groups, possibly over several rounds of identification, assessment, and reassessment. Where more groups are identified, the selection of 7+/-2 groups should be guided by relevance to the objective at hand, which we discuss in more detail in section 3.3 when we map stakeholders to key concerns.

As practical guidelines, most situations will allow for initial identification of obvious players, be it based on the personal experience of the researchers, communication with subject matter experts and impacted parties, or publications, such as news and research articles, consultant and government reports, conference presentations, and online and social media content. Babiuch and Farhar (1994) distinguish between self-identification and staff-identification. Self-identification includes asking individuals, groups, and organizations to step forward and inform project managers and analysts about their interest in the proposed action. Helpful tools include media presentations and public meetings. Staff-identification relies primarily on the officials and analysts that are affiliated with the system, project, or policy in question to identify individuals or organizations based on personal contacts, lists, and reference material on possible associations and the analysis of historical documents, demographics, and geographical data. The recommendation is to use more than one technique to ensure comprehensive identification while acknowledging possible overlaps.

Primary sources of data may include personal conversations, email exchanges, and semi-structured interviews with people knowledgeable about the issue. In addition to the identification of stakeholders by analysts and staff, Babiuch and Farhar (1994) suggest asking people and groups to come forward and self-identify as stakeholders.

Secondary data can be obtained by reviewing websites, blogs, podcasts, webinars, government reports, meeting minutes, bills and legislations, and research papers. Purposeful sampling is recommended to select "information-rich cases" and conduct an "in-depth study" when access to resources is limited (Patton, 2002). Babiuch and Farhar (1994) also emphasize the practical relevance of consulting with subject matter experts who are knowledgeable in the field. Experts can help in identifying preliminary information about the impacts of a proposed action as well as the stakeholder groups that are impacted. In some cases, for example, when resources or time are limited or for other practical reasons, input from experts may be sufficient for analysis and, thus, replace direct interaction with stakeholder groups. It should be noted, though, that impacts may be perceived differently by experts and stakeholder groups, so ideally, both experts and stakeholders should be used as sources.

Following the initial identification of stakeholders, an iterative snowball approach will help the researchers and analysts identify additional groups. Candidates for stakeholders and stakeholder groups include

individuals, for-profit/non-profit organizations, parts of organizations, such as departments or work groups, and public organizations/government, all at different levels: local, regional, national, and international.

Applying the principles of grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1990), we suggest that data collection, data analysis, and theorizing steps are interdependent. Therefore, collecting and analyzing data should alternate throughout the process. In the beginning, new data sources facilitate the discovery of new stakeholders and stakeholder groups. As data analysis advances, additional data are added that further contribute to the assessment, elaboration, and consolidation of the initial categories. Data collection is continued until theoretical saturation is achieved, meaning that new data only confirm the established stakeholders and stakeholder groups (Ryan & Bernard, 2003).

3.2 Identifying Key Concerns Related to a Phenomenon

The second step of stakeholder analysis is concerned with identifying the key concerns of the stakeholders related to a phenomenon of interest. This step can be conducted after stakeholder identification (section 3.1) or at the same time.

The management and public policy literature provides practical guidelines to describe a phenomenon and identify related stakeholder concerns, often in the context of an instrumental approach to stakeholder analysis. For instance, when stakeholder analysis is used as an organizational management tool, the phenomenon under study is the organization itself, and stakeholder analysis facilitates the implementation of organizational objectives: "The organization – rather than a specific venture – is the focus of the analysis" (Brugha & Varvasovszky, 2000, p. 242). Therefore, the goal of stakeholder analysis is "to facilitate the implementation of specific decisions" related to a project or an issue inside an organization (Brugha & Varvasovszky, 2000, p. 239). In this case, "the usual starting point is defining the goal and identifying the issues of interest or different aspects of the project to be implemented" (Brugha & Varvasovszky, 2000, p. 243). Once the key issues and components of a program have been determined, "stakeholder analysis is used to identify who will be concerned by or affected by these issues, followed by an assessment of their levels of interest and influence" (Brugha & Varvasovszky, 2000, p. 243).

Stakeholder analysis can be used either to study "the implementation of a specific pre-determined policy" or to evaluate "the feasibility of different policy options and directions" (Brugha & Varvasovszky, 2000, p. 244). The scope of the analysis ranges from a retrospective dimension "to understand the policy context and processes; to working towards a more immediate, often well-defined and focused policy implementation goal" to prospectively "outlining more long-term and broadly focused policy directions" (Brugha & Varvasovszky, 2000, p. 244).

Schmeer (2000) applies stakeholder analysis in the context of health policy implementation and recommends that for "a stakeholder analysis to be useful, it must be focused on a specific policy or issue". "Once a policy is chosen for the stakeholder analysis, the working group should work with policymakers to define the main ideas and concepts. The basic ideas, not the details of the policy, will need to be explained to the stakeholders later in the process, and simple, concise definitions will be required" (Schmeer, 2000, p. 5). However, when analyzing complex issues, especially for policy analysis, it is essential to identify different possible components of a policy. "In conducting policy analysis, the first step is to identify the different components of the policy issue or problem. Stakeholder analysis can then be used to map the positions of the actors in relation to the issue, as well as to each other" (Varvasovszky & Brugha, 2000, p. 341).

To provide a specific example, Varvasovszky and Brugha (2000) discuss the use of stakeholder analysis to assess the feasibility of alcohol policy options in Hungary. To begin the analysis, analysts must become familiar with the phenomenon at a basic level, possibly after reviewing secondary sources, such as reports, white papers, or research studies, so that they can build an initial list of critical components of a program or policy. The initial list of components will then help to identify stakeholders as well as concerns iteratively: "The different components help identify relevant national organizations and individuals ... unlike in the more stable context of health management or in a local development project, important actors may emerge at a late stage" (Varvasovszky & Brugha, 2000, p. 341). For practical reasons, it is also important to identify stakeholder concerns related to each component at a higher level, which is typically also done iteratively: "In policy analysis, especially where the issues are complex or involve a range of national and international actors, the identification of stakeholders [and their concerns] is often a protracted and iterative process". "Qualitative approaches are essential so as to preclude premature focusing on a limited number of aspects of the issue, to the neglect of others which may emerge during the process of data

collection and analysis" (Varvasovszky & Brugha, 2000, p. 341). Stakeholders are then mapped based on their involvement with each component of the policy implementation.

Babiuch and Farhar also advocate for stakeholder analysis to understand and support a government's decision to implement a proposed policy: "When government officials decide on a potential course of action ..., they should ideally go through a process that takes into account the advantages and disadvantages that the action may bring to various groups" (Babiuch & Farhar, 1994, p. 4). Systematic stakeholder analysis can help with "defining problems, clarifying the issues involved in policy/project planning, and understanding high priority analysis topics" (Babiuch & Farhar, 1994, p. 14). The authors further suggest identifying key concerns based on the effects of a proposed action on stakeholders, whereby they distinguish between direct impacts (first-order stakeholders) and indirect impacts (second- and third-order stakeholders), and propose three phases of analysis:

- Phase one: "analysts obtain preliminary information about the impacts of the proposed action by reviewing primary and secondary materials and consulting with experts knowledgeable about the field. If resources do not permit further analysis, or if results are so overwhelmingly negative that it appears sensible to abandon the proposed action, decision-makers may decide to halt the analysis in this first phase" (Babiuch & Farhar, 1994, p. 22).
- Phase two: "analysts involve representatives of the stakeholder groups in the analysis process itself. These representatives furnish information directly about their perceptions of the proposed action, their attitudes toward it, their beliefs about its impacts on their interests, and their ideas about mitigating any adverse impacts that they might perceive" (Babiuch & Farhar, 1994, p. 23).
- Phase three: involves "stakeholders and members of the public – decision-makers and analysts openly obtain input about a proposed action from interested and affected parties" (Babiuch & Farhar, 1994, p. 46). Identifying the impacts of the government decision on different stakeholder groups can help maximize positive impacts and mitigate adverse effects.

In the IS/IT literature, there are few studies that provide practical guidelines on how to identify stakeholder concerns related to a phenomenon. The key concerns are often pre-defined, at least initially, based on the knowledge of the researchers. For example, Feldman et al. (2011) examine the role of health IT in supporting decisions concerning disability benefits. The authors start out with a pre-defined set of key concerns, then gather data and perform analysis to identify topics and themes within the key areas. A variety of sources are utilized, including interviews, case studies, and case analyses, to gain insights into the perspectives of the stakeholder groups. The authors then apply standard qualitative analysis methods to identify themes and linkages between the themes.

In the context of IS/IT projects, development, and use, Lyytinen and Hirschheim (1987) identify sixteen classes of problems and failures. As a result of their analysis, the authors present a complex system of interrelated factors to be considered in a comprehensive analysis of stakeholders and their interests. However, the analysis is based on the authors' knowledge of the field, and they provide limited guidance on how to identify stakeholder groups and interests. Similarly, Grover et al. (1988) focus on the success and failure of IS development and implementation in organizations. Their study is positioned in the larger context of resistance to IS/IT. The authors regard the process of IS development and implementation as a "highly political process where users and developers may be more concerned about furthering their self-interests than about contributing to their organization" (Grover et al., 1988, p. 145), and they view the political process as a system of games, "having players, rules, a scoring method, and winners and losers" (Grover et al., 1988, p. 147). While they distinguish between twelve types of games grouped into four categories, they do not provide guidelines on how to identify stakeholders or their interests.

In the context of IS/IT policy, Papazafeiropoulou and Pouloudi (2000) investigate the role of governments in the implementation of a national e-commerce strategy. The authors use a pre-defined list of concerns and barriers to e-commerce adoption based on a review of the literature and analysis of available e-commerce policies to understand stakeholder concerns and their roles regarding each of the government strategies. Choudrie et al. (2003) apply a similar list of key concerns when they investigate the government's role in the diffusion of broadband technology.

For health IS/IT, Pouloudi et al. use "interpretive" stakeholder analysis to study the development and implementation of "a large-scale, government-funded IT program over an extended period" (Pouloudi et al., 2016, p. 126). The authors identify stakeholder concerns and note how stakeholder views could

change over time: “we focused on showing how diverse views among different stakeholder groups are likely to interrelate and fluctuate over time depending on many factors, including political, professional, cost, and technical imperatives” (Pouloudi et al., 2016, p. 118) and "we make sense of and compare stakeholder positions at a certain point in time and depict simply how stakeholder engagement and perceptions may shift over time" (Pouloudi et al., 2016, p. 122). To identify the stakeholders and their perspectives, the authors conduct a series of interviews over a 15-year period and utilize secondary sources to support their interviews, including government reports and websites, independent reports (auditor reports), hospital reports, newspaper articles, practitioner journals, mailing lists, and websites of patient representation groups. The authors emphasize the importance of secondary sources because it is typically impossible to interview every stakeholder on a large-scale (national, in their case) issue. In their interviews, Pouloudi et al. inquire about the stakeholder views on “the system/network implementation, the networks’ development and evolution, and the networks’ impact and related issues, efficiencies and inefficiencies, and successes and failures" (Pouloudi et al., 2016, p. 116). The analysis is based on “multiple stakeholders’ roles and perceptions and their entangled interrelations and intertwined agendas rather than individual stakeholders’ priorities, stakes, and preferences” (Pouloudi et al., 2016, p. 117). According to Pouloudi et al. (2016), stakeholder analysis can lead to a more nuanced understanding of the situation of interest and a politically sensitized approach to IS/IT implementation. The authors categorize stakeholders into groups and map their positions based on two dimensions. To demonstrate the development of concerns over time, the mapping is presented at different phases of the IS/IT evolution.

Someh et al. (2019) conduct a Delphi study to identify, assess, and rank-order stakeholder concerns related to ethics in big data analytics, whereby the stakeholder groups are pre-defined as individuals, organizations, and society. The Delphi study is performed in three rounds that consist of "1) brainstorming, 2) concept refinement, and 3) validation" (Someh et al., 2019, p. 723). In addition, Someh et al. use the Gioia method (Gioia et al., 2012) to combine data-driven concept formation (induction) with input from researchers and existing literature (abduction) to develop concepts that best explain a particular phenomenon:

- Develop first- order categories from the data using induction “by adhering to participants’ terms and wording” (Someh et al., 2019, p. 722).
- Reduce the first-order categories to more abstract second-order themes “by acting as knowledgeable agents and using researcher-centric concepts” and by “focusing on the deep structure underlying the first-order categories and the similarities and differences between them” (Someh et al., 2019, p. 722).
- Categorize the second-order themes and created aggregated dimensions.

Someh et al. (2019) subsequently review the identified concerns and propose balanced interactions between the stakeholder groups. In another study, Looney et al. (2014) utilize stakeholder analysis to better understand the phenomenon of credibility in the IS/IT research discipline. The "stake" here is the IS/IT discipline as “an integration of resource, market, and socio-political forces” (Looney et al., 2014, p. 1177). The authors suggest that stakeholder concerns may "vary over time based on environmental factors" (Looney et al., 2014, p. 1177) and define stakeholder concerns as "how each stakeholder affects the IS discipline, as well as how the discipline can effectively manage the stakeholder"(Looney et al., 2014, p. 1177). Concerns are determined based on a panel discussion and a survey of IS scholars, but no additional guidelines are provided.

In their ICT4D study of telecenter projects, Bailur (2007) pre-identify the main issues around telecenters by reviewing the literature but do not provide specific guidelines for identification. Chipidza and Leidner (2019) review the ICT4D literature and categorize the main concerns and "challenges" for each part of the ICT4D projects value chain, which includes "chartering and implementation, use, diffusion, immediate project outcomes, and long-term impacts of ICT interventions on development" (Chipidza & Leidner, 2019, p. 147).

Based on the review of the literature, Table 6 lists practical guidelines to identify key concerns related to a phenomenon when conducting stakeholder analysis in the IS/IT field.

Table 6. Summary of Steps for Identifying Key Concerns Related to a Phenomenon

Key concerns are related to a phenomenon, such as an IS/IT project or policy, at different phases of the process, including planning, development, implementation, management, or evaluation.
1. Before we start and depending on the complexity of the phenomenon at hand,

a. focus on a specific problem,
b. identify components of a problem if analyzing a complex phenomenon, for example, in the context of IS/IT policy.

2. Develop an initial understanding of the phenomenon at hand (or its components) and identify the stakeholders' initial set of key concerns.
   - While researchers analyze the primary and secondary data sources used to identify the stakeholder groups, they may also note terms and themes addressed and discussed related to the stakeholder concerns regarding implementing a policy or a project. The question is which stakeholder groups will be concerned with or affected by a phenomenon (or its components). In line with Mitchell et al.'s (1997) stakeholder characteristics, the focus should be on stakeholder power, legitimacy, and urgency concerns. The process resembles *in vivo* coding of indigenous categories used in grounded theory (Strauss, 1987; Strauss & Corbin, 1990).
   - In addition, when identifying the effects of a proposed action on stakeholders, determine whether there is a direct impact (first-order stakeholders) or indirect impact (second and third-order stakeholders) (Babiuch & Farhar, 1994).
3. Apply an iterative thematic coding approach to categorize the identified concerns into a set of higher-level concerns. The general rule of thumb is to have 7±2 broad themes (Miller, 1956).
   The task is like identifying qualitative data analysis themes (Ryan & Bernard, 2003). Several techniques exist, including analysis of words, a careful reading of larger blocks of texts, intentional analysis of linguistic features, and physical manipulation of text. While categorizing the concerns identified initially into higher-level concerns, the analyst may notice that some concerns apply to multiple stakeholder groups.

Potential sources of data:

- Primary sources, e.g., interviews with representatives of the stakeholder groups.
- Secondary sources, e.g., reviewing of literature, reports, meeting minutes, etc. The secondary sources are specifically crucial in stakeholder analysis as it might be difficult, if not impossible, to interview every stakeholder for a large-scale phenomenon.
- Researchers' knowledge and familiarity with the phenomenon.
- Consulting with experts knowledgeable about the field, e.g., working with policy makers to define the main ideas and concepts of the policy in case of IS/IT policy.

Note: stakeholder views can change over time (Pouloudi et al., 2016).

Similar to section 3.1 and based on the principles of grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1990), we suggest that data collection, data analysis, and theorizing steps are interdependent. The next section describes the process of mapping the main stakeholders and key concerns related to a phenomenon.

3.3 Mapping Stakeholder Positions in Relation to Key Concerns

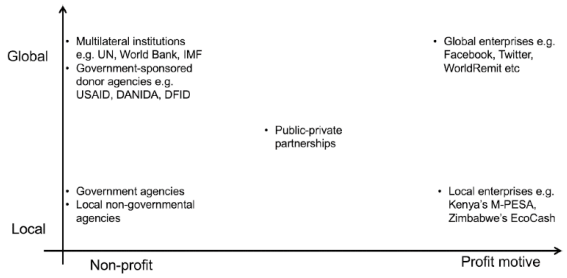
After identifying the main stakeholders (section 3.1) and key concerns related to a phenomenon (section 3.2), we now focus on combining the results of both steps to map the positions of each stakeholder group with respect to the key concerns. To be useful, the information gathered in the previous steps needs to be analyzed and presented in line with the purpose of the research endeavor, typically in the form of charts, tables, or matrices. In other words, the goal of mapping is to "develop clear comparisons among the different stakeholders and concisely present this information" (Schmeer, 2000, p. 2-15). An important benefit of stakeholder analysis results from developing a thorough understanding of the intersection between stakeholders and key concerns. More specifically, the analysis can help to categorize stakeholders with respect to each other and in relation to key concerns, identify existing and possible coalitions, and track changes over time. The analysis also lays the foundation for strategic stakeholder management, an important aspect of the instrumental perspective of stakeholder analysis.

In the following, we present examples of how IS/IT researchers have mapped or related stakeholders and key concerns as part of stakeholder analysis, as well as examples from outside the IS/IT discipline. We then provide guidelines (1) to identify potential coalitions and (2) to categorize stakeholder groups for strategic stakeholder management. To start, Figure 1 provides an overview of the mapping examples that we refer to in the discussion that follows.

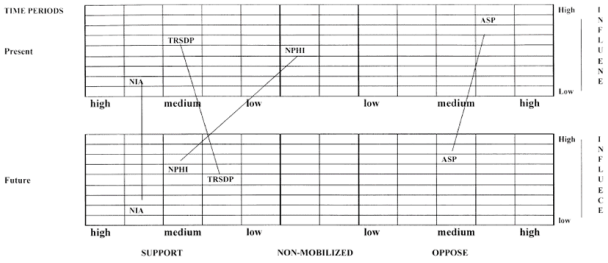
The mapping of stakeholders and key concerns has taken many different forms among research studies in IS/IT and other disciplines. For example, analysis results have been summarized in the form of stakeholder categorizations according to selected characteristics using characteristic-specific measurement scales (Figure 1-A). The focus of these studies has been on the direct comparison of stakeholders, typically in the implicit effort to better understand the position of the stakeholders with respect to a common concern or targeted phenomenon. A graphical depiction of the results has included

plotting the names of the stakeholder groups along two axes that represented the chosen characteristics and indicated the measurements of the scales. Bailur (2007), for example, references a map by Gavin and Pinder (1998) that indicates the characteristics of stakeholder importance and influence, both with scale values of low and high. Chipidza and Leidner (2019) depict geographical reach with a scale of local to global and profit orientation along a scale of non-profit to profit motive. Pouloudi et al. (2016) use engagement (passive/active versus active/vocal) and perceptions (unfavorable, neutral/unaware, and favorable), then take their categorization a step further to discuss generic stakeholder classifications that result from the mapping.

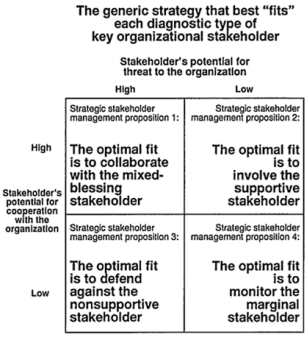
The practices of stakeholder grouping correspond with the concept of "coalition analysis" (Freeman, 1984). A goal of this type of mapping is to determine how individual stakeholders are generally positioned, interact, or may interact with other stakeholders or stakeholder groups based on their inherent characteristics (Bailur, 2007). The two-axis representation is particularly useful to show multiple stakeholders in a single diagram because it helps visualize the similarities and differences of stakeholders with respect to various characteristics and to compare several stakeholders simultaneously. Unfortunately, while the categorization mapping described here can specifically relate stakeholders to one another, it does not relate stakeholders to the key concerns identified. However, it does provide a meaningful first step and can also help determine stakeholder management strategies, as we point out later.



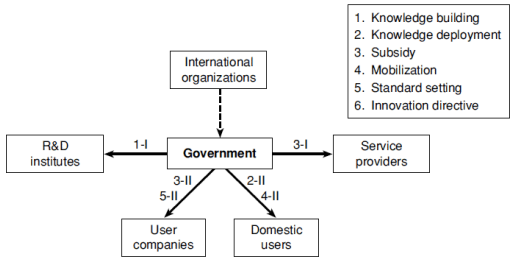
A: 2x2 Categorization of Stakeholders
Chipidza & Leidner (2019), p. 157, Figure 3



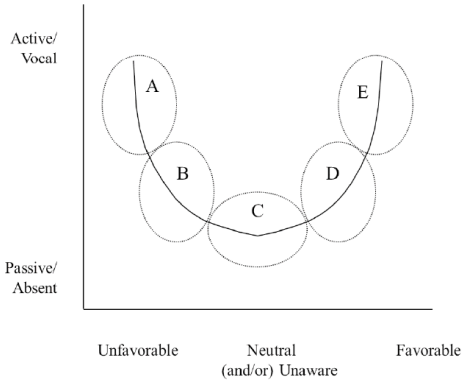
D: Forcefield Matrix
Varvasovszky & Brugha (2000), p. 343, Figure 2



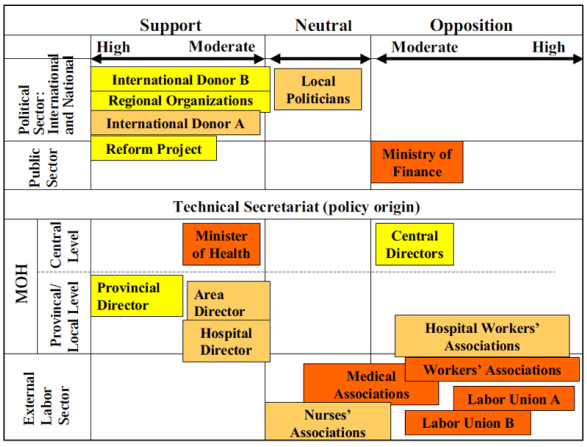
B: 2x2 Typology to Categorize Stakeholders
Blair et al. (1996), p. 9, Figure 1



E: Web of Stakeholders and Strategies
Choudrie et al. (2003), p. 287, Figure 3



C: 2x2 Typology to Categorize Stakeholders
Pouloudi et al. (2016), p. 123, Figure 1



F: Strategy Matrix
Schmeer (2000), p. 2-25, Figure 2.5

Figure 1. Examples of Stakeholder Mappings from Prior Research

Another form of mapping that is concerned with the direct links between stakeholders is presented by researchers who focus on one central stakeholder and organize their analysis in the form of a "web of stakeholders and strategies" (King et al., 1994). The web is depicted graphically in a star-like design with a center stakeholder surrounded by links to other stakeholders and stakeholder groups representing the spokes (Figure 1-E). For example, Papazafeiropoulou & Pouloudi (2000) and Choudrie et al. (2003) present star-like designs to assess how governments can influence the diffusion of new technologies, namely e-commerce and broadband internet, respectively. Both studies focus on the relationships between the government as the central stakeholder and the stakeholder groups deemed relevant to the policy in question. In this mapping approach, the indicated stakeholder connections form the basis for the analysis, identification, and discussion of measures relevant to policy making in a bilateral way between the central stakeholder at the center of the web and the stakeholders indicated as the spokes.

Relationships between the stakeholders that form the spokes of the web are not typically included in the analysis or discussion.

Others relate stakeholders directly to one another by using a dyadic approach that compares pairs of stakeholders with respect to high-level concerns. For example, Someh et al. (2019) summarize the results of their analysis of ethical issues related to big data by identifying and describing "dyadic interactions" between pairs of stakeholder groups and presenting each group's individual key concerns. While Someh et al. (2019) do not provide a graphical representation of their insights, the dyads that result from the analysis are helpful in deepening our understanding of each stakeholder group and the stakeholder concerns with respect to the phenomenon of big data. Someh et al.'s (2019) process of relating stakeholders to other stakeholders in pairs also corresponds rudimentarily with Freeman's (1984) suggestion to investigate possible coalitions and, thus, takes the analysis beyond more simplistic stakeholder categorizations. However, it does not provide for a more systematic analysis of the relationships between multiple stakeholder groups with respect to key concerns.

Outside of IS/IT, guidance for performing stakeholder analysis includes various stakeholder categorizations (Figure 1-B) and mapping the support of stakeholder groups for a proposed strategy (Figure 1-F). For example, Blair et al. (1996) map stakeholders into a 2x2 typology labeled as "diagnostic stakeholder types" to indicate the potential for threat to the organization and potential for cooperation with the organization (both scaled low and high) (Figure 1-B). While key concerns are not discussed in more detail in their healthcare industry-specific study, Blair et al. (1996) apply an instrumental perspective and focus on developing specific strategies for the management of stakeholder groups depending on the stakeholders' general positions regarding the phenomenon in question. Similarly, Schmeer (2000) describes how a strategy matrix could help identify specific stakeholder groups and key methods for interacting with these stakeholders based on the key concerns involved (Figure 1-F). Schmeer (2000) also suggests grouping stakeholders based on similarities, such as the levels of power or knowledge or the position related to a policy (support, oppose, or neutral). Simple tables with rankings are suggested to graphically depict the results. Another method is to create a position map that places stakeholders on scales of their positions grouped by some common factor, such as industry type or power level. All these strategies allow the researcher to uncover potential alliance groups (i.e., coalitions) based on various cluster criteria.

Other researchers focus more on the key concerns instead of the individual stakeholders. For example, Babiuch and Farhar (1994) identify key concerns (referred to as "impacts") and provide several detailed tables that categorize concerns as 1st, 2nd, and 3rd order. Babiuch and Farhar (1994) map key concerns to one another but not in relation to stakeholders.

In the context of an instrumental perspective of stakeholder analysis, a particularly useful consideration is the assessment of the positions that stakeholders hold regarding key concerns related to a phenomenon, such as an IS/IT project or policy. Meaning that while understanding stakeholders and understanding key concerns are two important insights that result from performing stakeholder analysis, greater benefits are revealed when both aspects are analyzed in combination.

In addition, some researchers show how stakeholder positions on key concerns change over time (Pouloudi et al., 2016; Varvasovszky & Brugha, 2000). Varvasovsky and Burgha (2000) provide an interesting and comprehensive approach that combines stakeholder positions and perceived influence on key concerns over time in the form of a "forcefield matrix" (Figure 1-D). The method is complex but fitting to relate stakeholders and key concerns. Unfortunately, resource and time limitations often make it difficult to perform a longitudinal stakeholder analysis that is based on data sources from different time periods. In addition, the key concerns that are relevant at one time may not have existed at a prior time or may be resolved in a future time. The key takeaway from these types of examples is that positioning a stakeholder group with respect to a key concern helps to develop a deep understanding of the different facets of the concern. And again, comparing stakeholder positions regarding key concerns can help in the goal of coalition analysis.

To summarize, IS/IT researchers often stop short of investigating stakeholders and key concerns in combination. While focusing on stakeholder groups or on key concerns can be helpful in developing strategies to increase the benefits of interactions among stakeholders, further insights may result from investigating the interplay of both stakeholders and key concerns. Granted that the purpose of stakeholder analysis (e.g., normative, descriptive, or instrumental) should dictate the research focus, a best practice is to consider stakeholders and key concerns together and across these groupings. Since many times our

purpose in performing a stakeholder analysis is to understand a phenomenon more thoroughly than a previous investigation or theorization, a narrow focus may lead to missed opportunities if both the stakeholders and key concerns are not included.

When preparing the results of a stakeholder analysis, we recommend that researchers build on the list of stakeholders identified in step one (section 3.1) and the list of key concerns identified in step two (section 3.2). Throughout the remainder of this section, we first demonstrate an approach to identify stakeholder coalitions, then address the categorization of stakeholders in preparation for strategic stakeholder management (section 3.4).

As pointed out earlier (section 3.1), Mitchell et al. (1997) describes stakeholders based on the characteristics of power, legitimacy, and urgency. To develop a nuanced understanding of the phenomenon to be investigated and identify possible stakeholder coalitions with sufficient granularity, we suggest building on Mitchell et al.'s (1997) characteristics of power and urgency of stakeholders and stakeholder groups with respect to each key concern. The third characteristic of legitimacy is reintroduced later when we categorize stakeholders in preparation for strategic stakeholder management. The stakeholder characteristics can be scored either dichotomously (e.g., Mitchell et al. (1997) indicates each characteristic as present versus non-present) or continuously (e.g., low to high following scales like those used by Bailur (2007) and Blair et al. (1996)). In addition, we suggest assessing the position of each stakeholder with respect to the key concerns as supportive (S), opposed (O), and non-mobilized/neutral (N), which pertains to the stakeholder's ability and willingness to mobilize their resources (Schmeer, 2000; Varvasovszky & Brugha, 2000).

To identify potential coalitions, we apply a two-step approach. First, we compare stakeholders with respect to each key concern, as depicted in Figure 2: We map three stakeholders (i, j, and k) based on their assessed levels of power (horizontal axis, ranging from low to high) and urgency (vertical axis, ranging from low to high) and indicate each stakeholder's position with respect to a key concern as S (supportive), O (opposed), and N (non-mobilized/neutral). In this approach, the focus is on the relative positions of stakeholders with respect to key concerns, so all stakeholders are mapped onto the same figure, and each key concern is represented by a different figure.

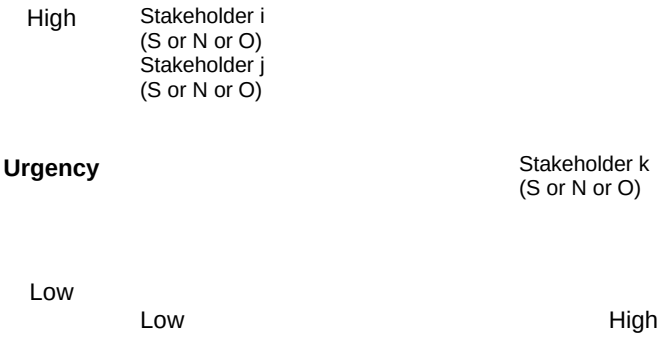


Figure 2. Stakeholder Positions Regarding a Key Concern (Notes: S = Supportive, N = Non-Mobilized/Neutral, O = Opposed)

In step two, we consolidate the results of the initial stakeholder mapping on individual concerns and indicate the positions of all stakeholders on all key concerns at once (Table 7). The benefits from limiting both the number of stakeholders and key concerns to about 7+/-2 higher-level groups and concepts now become particularly obvious.

Possible coalitions between stakeholders pertain to alliances between stakeholders in joint support or opposition of the same key concerns (Blair et al. 1996; Freeman 1984). The more aligned the positions of individual stakeholders are with respect to multiple concerns, the greater the potential for a coalition among those stakeholders. To indicate possible coalitions, Table 7 lists all stakeholders along the rows and columns, meaning the cells indicate all possible stakeholder dyads. Building on the maps that were generated earlier for each concern, we list all concerns where the positions of the respective stakeholders (e.g., i and j) coincide and where coalitions are consequently likely or have already been formed. The table also shows gaps where there are no overlaps at all between pairs of stakeholders.

To indicate the strength or absence of a possible coalition, we suggest a simple count of the overlaps, which we then indicate with shading in the table. The table can subsequently show clusters of concerns or themes for different groups of stakeholders and indicate alignment between stakeholders on multiple concerns. Table 7 shows potential coalitions between stakeholders i and j and between stakeholders i and k, whereby the former is indicated as stronger than the latter based on the number of overlapping positions on concerns (see also Table 12 for a more detailed example). A lack of overlap and likely absence of a coalition is indicated for stakeholders j and k in Table 7.

Table 7. Possible Coalitions Between Stakeholders Regarding Key Concerns

	Stakeholder i	**Stakeholder j**	**Stakeholder k**
Stakeholder i	-	-	-
Stakeholder j	List all key concerns where the positions of stakeholders i and j coincide (=possible coalition)	-	-
Stakeholder k	Indicate the strength of a possible coalition based on the number of overlapping positions	Gaps indicate little or no basis for a coalition	-

In the context of an instrumental perspective of stakeholder analysis, there is value in taking the analysis a step further and categorizing stakeholders in preparation for strategic stakeholder management. In addition to understanding the position of each stakeholder group with respect to the key concerns, managers of projects and policies need to decide how much attention and what kind of attention to devote to each stakeholder (Brugha & Varvasovszky, 2000). For example, Bailur (2007) provides a project-management-focused method for working with stakeholders through the stages of a project, while Blair et al. (1996) provide a more general-purpose method to determine the optimal management strategy for each stakeholder. In the following, we describe two approaches to categorize stakeholders before we discuss implications for IS/IT managers and policy makers in section 3.4. Mitchell et al. (1997) provides a general-purpose stakeholder analysis method that addresses policy-making decisions.

To manage stakeholders strategically, each stakeholder's intrinsic characteristics need to be considered as well as their position with respect to the key concerns or phenomenon at hand. Blair et al. (1996) combines both stakeholder characteristics and general position related to the phenomenon (i.e., organization) when they distinguish between four groups based on a stakeholder's potential for threat to the organization and for cooperation with the organization, each ranging from high to low (Figure 1-B). Stakeholders with a high potential for cooperation and low potential for the threat are labeled as supportive; stakeholders with a high potential for both cooperation and threat are labeled as mixed blessings; stakeholders with a low potential for cooperation and a high potential for the threat are labeled as nonsupportive; and stakeholders with a low potential for both cooperation and threat are labeled as marginal (see also Blair and Whitehead, 1988). Blair et al. (1996) further consider the organization's priorities to reduce the threat from each stakeholder and to enhance each stakeholder's cooperation, which then result in sixteen combinations (Appendix Table A1).

Mitchell et al. (1997) identify eight categories of stakeholders based on the combination of the three stakeholder characteristics power, legitimacy, and urgency, each perceived as present or not present by the organizational managers. The categories are definitive stakeholder, dominant stakeholder, dangerous stakeholder, dormant stakeholder, dependent stakeholder, discretionary stakeholder, demanding stakeholder, and nonstakeholder (Figure 3 and Appendix Table A2), which the authors group into four higher-level categories according to levels of salience: "Potential" stakeholders are perceived as presenting none of the characteristics of power, legitimacy, and urgency (area 8 in Figure 3), low salience "latent" stakeholders present one of the characteristics (areas 1-3), moderately salient "expectant" stakeholders present two (areas 4-6), and highly salient stakeholders present all three characteristics (area 7) (Mitchell et al., (1997).

The specific approaches for stakeholder categorization by Blair et al. (1996) and Mitchell et al. (1997) primarily represent examples upon which to build in the context of an instrumental approach to stakeholder analysis. We acknowledge that the methods of categorization are not universally applicable, so researchers may have to develop their own categorizations that fit their individual research goals.

For a comprehensive stakeholder analysis in the context of IS/IT projects and policies, our recommendation is to apply Mitchell et al.'s (1997) characteristics of power, legitimacy, and urgency to each stakeholder (section 3.1) with respect to each key concern that is associated with the phenomenon

under consideration (section 3.2) and to indicate the stakeholder's level of support versus opposition as we pointed out earlier in the current section. The resulting categories of stakeholders or stakeholder coalitions subsequently form the basis for stakeholder management and theory development, as we discuss next.

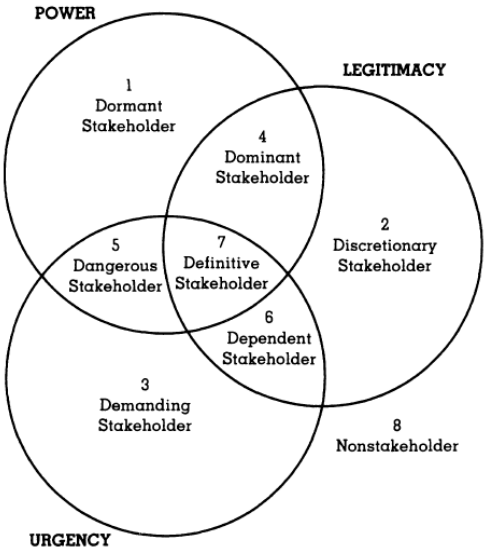


Figure 3 – Stakeholder Typology (Mitchell et al., 1997)

3.4 Implications for Stakeholder Management and Theory Development

3.4.1 Implications for IS/IT Managers and Policy Makers

The practical guidelines that we present can help broaden the applicability of the stakeholder analysis approach that has long been considered relevant for IS/IT (Lyytinen & Hirschheim, 1987) but continues to lack use in the discipline. This section of our recommendations is meant to highlight how the results of a stakeholder analysis can help evaluate the feasibility of policy options, consider longer-term implications, inform concrete policy recommendations, and help facilitate the implementation of specific decisions to address and solve a concern (Brugha & Varvasovszky, 2000; Trauth, 2017). As noted by Brugha and Varvasovsky (2000), a stakeholder analysis may focus on different time dimensions, such as past, present, and future. Analysis that focuses on the past addresses historical contexts, analysis on the present can aid pre-implementation, and planning and analysis for the future can support policy development. In addition, stakeholder analysis can have multiple approaches, including instrumental, normative, and descriptive. An instrumental perspective of stakeholder analysis tends to be application-oriented with the desired outcome, whereas the normative and descriptive perspectives focus more on sense-making.

There are examples of instrumental approaches that use a stakeholder analysis of the past to inform practitioners in the future. For example, the desired outcome of Lyytinen & Hirschheim's (1987) stakeholder analysis is to explain reasons for IS/IT project failures, allow others to learn from the experience, and predict or prevent similar failures. Practical implications result from the insights that IS/IT development is a dynamic process where stakeholders shape the process and potential outcomes. What might be labeled as a successful IS/IT implementation by some stakeholders does not necessarily mean that others or all stakeholders will be satisfied with the results. While one recommendation is to have stakeholders meet and discuss issues in an open environment to help reduce the risk of failure, a mapping process is mentioned but not shown (Lyytinen & Hirschheim, 1987). The guidelines we recommend can be used to supplement these types of examples.

Some IS/IT-related studies that apply a descriptive approach to stakeholder analysis provide insights from the past but stop short of providing concrete management guidelines. Papazafeiropoulou & Pouloudi (2000) and Choudrie et al. (2003) seek to contribute insights about the development and implementation

of stakeholder-specific policies to achieve government-led electronic commerce adoption and broadband diffusion in South Korea, respectively. Someh et al. (2019) conduct a stakeholder analysis to identify ethical issues related to big data analytics in social media. The researchers intend to inform users about their role in big data analytics, encourage social media companies to use big data analytics in a more ethical manner, and shape policies to lessen the misuse of data. These studies do provide insight from the stakeholder analyses conducted; however, they may have been strengthened by including specific policy or strategic recommendations.

We find the frameworks provided by Mitchell et al. (1997) and Blair et al. (1996) helpful in advancing the results of stakeholder analysis and developing strategic implications that can provide management guidelines and inform policy changes.

Based on their widely accepted stakeholder characteristics of power, legitimacy, and urgency, Mitchell et al. (1997) derive eight stakeholder categories that they describe in detail and group into four levels of stakeholder saliency (section 3.3, see also Appendix Table A1). For each level of saliency, high-level management guidance is provided (Mitchell et al., 1997). Definitive, i.e., highly salient, stakeholders have a clear and immediate mandate to be involved in decision-making; they need to be heard and their concerns addressed. Dominant, dangerous, and dependent, i.e., expectant stakeholders anticipate receiving something from the phenomenon and want to be involved in the change. Dormant, discretionary, and demanding, i.e., latent, stakeholders may feel they have an interest in the outcome of any proposed changes but have limited influence on decision-making. Some organizations may allow for limited involvement of dormant stakeholders in decision-making or policy decisions. Nonstakeholders, i.e., potential stakeholders, have no power, legitimacy, or urgency and should be excluded from discussions.

As we point out in section 3.3, Blair et al. (1996) categorize stakeholders based on the general potential for threat and cooperation, as well as the organization's priority to manage and interact with the stakeholder (see also Appendix Table A2). Blair et al. (1996) subsequently lay out four strategies for stakeholder management that optimally fit with each category: Supportive stakeholders should be *involved*, mixed blessing stakeholders should be engaged through *collaboration*, nonsupportive stakeholders should be *defended* against, and marginal stakeholders should be *monitored*. As Blair et al. (1996) further elaborate in some detail, employing a fitting strategy for stakeholder management is expected to contribute significantly to project success, whereas negative consequences should be expected from employing the wrong stakeholder management strategy.

In the following, we combine Mitchell et al.'s (1997) stakeholder characteristics with Blair et al.'s (1996) categorizations and specific stakeholder management recommendations. We suggest assessing stakeholders with respect to the individual key concerns that are related to a phenomenon (e.g., IS/IT project or policy) and applying a stakeholder classification scheme in line with the level of each stakeholder's support (support, opposed, or neutral/non-mobilized) for the concern. This approach leads to 24 categories, which are mapped to Blair's four management strategies (Appendix Table A3). According to Mitchell et al. (1997), stakeholders who are labeled definitive, dominant, dangerous, dormant, and dependent and who support the concern should be considered *supportive* stakeholders. In cases where these same stakeholders oppose the key concern, they should be considered *nonsupportive* stakeholders. Stakeholders who are labeled definitive, dominant, dangerous, dormant, and dependent stakeholders who are neutral/non-mobilized regarding the concern should be considered *mixed blessing* stakeholders. Stakeholders who are labeled discretionary, demanding, and nonstakeholders should be considered *marginal* stakeholders regardless of support level.

Next, we present generic strategies for managing stakeholders that can be used to develop successful policies or manage successful implementation of a project (Table 8). Supportive stakeholders are stakeholders who support a given concern. These stakeholders should be *involved* in the project or policy to achieve success. If a supportive stakeholder is not involved, it represents a missed opportunity to achieve success. Involving supportive stakeholders who have high power, legitimacy, and urgency can increase the chances of success.

Mixed blessing stakeholders are stakeholders who are neutral/non-mobilized regarding a given concern; however, their intrinsic characteristics (power, legitimacy, and urgency) give them the potential to be a threat to the concern or an asset for collaboration. Therefore, the ideal strategy is to collaborate with this group. It is a high risk to involve this stakeholder in the concern; a missed opportunity if this stakeholder is defended against. It is both a missed opportunity and a high risk to only monitor this group (and not allow some collaboration). Collaborating with a mixed blessing stakeholder may involve detailed contracts and

specific duties and expectations from the group to reduce the risk of involvement with this stakeholder group because there is low trust in this stakeholder group (Varvasovszky & Brugha, 2000).

Nonsupportive stakeholders are stakeholders who oppose a given concern. These stakeholders should be defended against. An organization may reduce the need for this group to achieve success in the concern. Involving, collaborating, or simply monitoring of nonsupportive stakeholders is a higher-risk strategy that may lead to the failure of the concern. Nonsupportive stakeholders may have high power, legitimacy, and urgency and may actively campaign against a concern, therefore, they should be managed to reduce their influence. Defending against nonsupportive stakeholders may involve complying with this group's demands at the lowest cost (financial and non-financial) (Blair & Whitehead, 1988) or using public relations and media campaigns to garner support (Blair & Whitehead, 1988). Another strategy to lower nonsupportive stakeholder risk is to involve nonsupportive and supportive stakeholders in other concerns that are supported by both parties (Blair & Whitehead, 1988).

Marginal stakeholders are groups who are not a threat to the concern and do not have significant power, legitimacy, or urgency to impact a given concern. Marginal stakeholders should be monitored; this group is unlikely to influence the outcome of a concern unless they are activated to support or not support a concern due to a change.

Table 8. Generic Stakeholder Management Strategies (by Concern) (Adapted from Blair et al., 1996)

Concern	**Involve**	**Collaborate**	**Defend**	**Monitor**
Supportive	Optimal fit	Missed Opportunity	Missed Opportunity	Missed Opportunity
Mixed Blessing	High risk	Optimal fit	Missed Opportunity	Missed Opportunity and high risk
Nonsupportive	High risk	High risk	Optimal fit	High risk
Marginal	Low potential	Low potential	Low potential	Optimal fit

Optimal fit	Optimal fit between diagnosed position and strategy
Missed Opportunity	Suboptimal fit leading to missed opportunity
Low potential	Suboptimal fit that is a distraction
Missed Opportunity and high risk	Suboptimal fit leading to missed opportunity and high risk
High risk	Suboptimal fit placing concern at risk

In summary, our guidelines for IS/IT stakeholder management and policy implementation include the following steps:

1. Determine 7+/-2 stakeholders or stakeholder groups (section 3.1).
2. Determine 7+/-2 key concerns that are important for the phenomenon at hand (section 3.2).
3. Map stakeholder positions with respect to key concerns (section 3.3):
    a. Determine possible coalitions between stakeholders based on the number of overlapping positions with respect to key concerns.
    b. Assess stakeholders with respect to the individual key concerns that are related to a phenomenon (e.g., IS/IT project or policy) and apply a stakeholder classification scheme in line with the characteristics of stakeholders, such as power, legitimacy, and urgency and level of each stakeholder's support (support, opposed, or neutral/non-mobilized) for the concern.
4. Based on the specific concern and stakeholder categorization, apply one of the generic strategies (involve, collaborate, defend, monitor) to support the concern and phenomenon:
    a. Involve supportive stakeholders.
    b. Collaborate with the mixed blessing stakeholders.
    c. Defend against the nonsupportive stakeholders.
    d. Monitor the marginal stakeholders.

3.4.2 Implications for IS/IT Theory Development

Besides informing various forms of management and policy making, stakeholder analysis can also be applied to support theory development related to a phenomenon. In this context, the insights and guidelines for theory building developed elsewhere largely apply. For example, according to Whetten (1989), there are four important building blocks for theory development, the *what*, *how*, and *why*, along with the *boundary conditions* that express the contextual limits of the theoretical realm under consideration. The *what* focuses on the factors important for the research, such as the constructs and concepts. The *how* focuses on the relationships between the factors. The *why* is the justification for the relationships, including underlying psychological, economic, or social dynamics between the factors, and the *why* explains the relationship. The *boundary conditions* indicate the contexts to which the theory applies. Because stakeholder analysis is based on empirical observations and concerned with complex relationships between stakeholders and concerns, it can inform all four building blocks.

Bhattacherjee (2012) describes four approaches to theory building: grounded theory (based on empirical observations), bottom-up conceptual analysis (using an input → process → output conceptualization), extending the existing theory to a new context, and applying existing theories in a new context. Theories typically contain constructs, propositions, logic, and the boundary conditions and assumptions to which they apply. Stakeholder analysis can also play a role in the context of all the approaches.

For example, some researchers apply an inductive approach and use stakeholder analysis for sensemaking (Looney et al., 2014; Someh et al., 2019) or develop categories and typologies of stakeholders and concerns (Hovav & Gray, 2014; Sæbø & Thapa, 2012). Varvazovsky & Brugha (2000) describe dynamic developments when they assess how stakeholders could change their positions over time using a forcefield approach. Others develop new propositions for future research based on their analysis of stakeholders (Chipidza & Leidner, 2019; Flak & Rose, 2005; Lyytinen & Hirschheim, 1987).

In their study of IS/IT systems and project failures, Lyytinen and Hirschheim (1987) propose a generalized framework for studying the phenomenon and point out five weaknesses in IS/IT development for further study. Complications from affected stakeholder groups and their environments are noted as one concern. While Lyytinen and Hirschheim (1987) do not follow through with theory development or generate a theoretical model or propositions, they call for research in specific areas of their stakeholder typology.

Flak and Rose (2005) adapt Freeman's (1984) stakeholder-based analysis for organizational management to develop propositions that are applicable to e-government. Most notably, they replace the profit motivations of private companies with others, such as focusing on trust and ethics. Chipidza and Leidner (2019) use stakeholder analysis to examine power dynamics and potential stakeholder coalitions for information and communication technology for development (ICT4D) projects. The researchers adapt the post-colonial theory to develop a theoretical framework related to power parity and propositions to guide future research (Chipidza & Leidner, 2019).

Pouloudi et al. (2016) note that their research on stakeholders' perceptions of health IS/IT is not designed to identify successful policy decisions but to broaden the research to investigate power and influence and its effects on an information system. The research shows how stakeholder positions can change over time. The researchers also note how power and coalitions can influence the success of a project.

Bhattacherjee (2012) discuss three phases of functionalist research: exploration, research design, and research execution. Stakeholder analysis is largely centered in the exploration phase, where researchers explore the phenomenon, select the research question, examine existing theories and research results, and identify theories that may help answer the research question. Theories can help identify constructs and relationships between the constructs that are important in answering the research question.

We suggest that researchers who focus on IS/IT theory development follow generally accepted practices and methodologies to theory building, such as the ones described by Whetten (1989), where researchers explore the *what*, *how*, and *why*, along with the *boundary conditions*. Researchers should then determine which approach applies to their research question (grounded theory, bottom-up conceptual analysis, extending existing theories, or applying existing theories in this new context) before developing propositions or hypotheses based on the new conceptualizations that are intended to explain the research question.

In summary, *our guidelines for developing an IS/IT theory* based on the results of stakeholder analysis include the following steps:

1. Determine 7+/-2 stakeholders or stakeholder groups (section 3.1).
2. Determine 7+/-2 key concerns that are important for the phenomenon at hand (section 3.2).
3. Map stakeholder positions with respect to key concerns (section 3.3).
4. Apply generally accepted best practices of theory building:
    a. Determine approach to theory building (Bhattacherjee, 2012), including grounded theory, bottom-up conceptual analysis, extending existing theory in a new context, applying existing theories in a new context.
    b. Develop the model or theory, which includes constructs, relationships, underlying logic (causal relationships), and boundary conditions (Whetten, 1989).

4 Case Study: Stakeholder Analysis of Broadband Availability in Rural North Carolina

We now demonstrate the applicability of the guidelines laid out in the previous sections by conducting a stakeholder analysis of broadband availability in rural North Carolina. According to the Government Accountability Office (GAO), "while service availability for people in rural areas increased from 45.7 % in 2012 to 77.7% in 2018, service in rural areas continues to lag behind urban areas, according to FCC's broadband availability report" (United States Government Accountability Office, 2020). Our case study is concerned with a complicated situation that has implications for citizens and businesses across the state. It received considerable attention in 2020 and 2021 during the COVID-19 pandemic when access to online resources became an important substitute for in-person interaction across the state, including customers and businesses, students and instructors in K-12 and college education; patients and providers of healthcare services; and many other areas of daily life. Considerable financial funds have been provided to increase access, be it by public entities or private companies (e.g., American Rescue Plan, 2021; President Biden's Bipartisan Infrastructure Law, 2021), but the issue continues to be unresolved. Stakeholder analysis is warranted because there are multiple players at different levels with differing interests, making it difficult to fully understand the situation and develop practical or theoretical solutions.

Taking an instrumental perspective to stakeholder analysis, we conduct the following steps: (1) identify stakeholders related to broadband availability in North Carolina; (2) identify stakeholder key concerns; (3) map stakeholder positions in relation to key concerns; and (4) develop management implications and a theory of broadband availability in rural NC.

4.1 Identifying Stakeholders Related to Broadband Availability in North Carolina

We begin by identifying stakeholders and stakeholder groups, i.e., individuals, groups, organizations, or institutions that can affect or be affected by and have an interest in the issue of broadband availability in North Carolina. Our goal is to develop a comprehensive list in support of an instrumental perspective of stakeholder analysis that seeks to contribute to the improvement—and possibly solution—of the issue at hand. For each stakeholder group, we need to determine the form of communication (directly or indirectly) and source of information (primary or secondary). While the collection of information from primary sources (e.g., citizens or telecommunication providers) in direct communication (personal conversation or meeting attendance) is typically preferred over secondary sources, such as information provided by non-stakeholders who are knowledgeable in the area, reported surveys, and news articles, resource- and time-constraints present challenges.

In our case, personal conversations with a local technology provider and with citizens in several rural counties initially alerted us to the issue in the first half of 2020. We then spent about six months gathering information from primary sources in the form of personal conversations, email exchanges, and semi-structured interviews with impacted individuals and groups, as well as the attendance of state government meetings, participation in the administration of a statewide survey, and the interpretation of legislative documents. Secondary sources of information included news and journal articles, blog entries, government reports, and interaction with subject matter experts.

Throughout the process, our research group frequently reviewed the picture that emerged by assessing and re-assessing stakeholder characteristics, such as power, legitimacy, and urgency, noting still open questions, identifying additional sources of information, and taking up opportunities to engage with subject

matter experts. We also started to categorize stakeholders with similar characteristics into groups, which we reviewed and reassessed frequently. In other words, we iterated between data collection, analysis, and theorizing until saturation was reached. We also noted areas of key concern as they emerged, meaning we iterated between steps one and two of stakeholder analysis. Table 9 summarizes our efforts in collecting data from primary sources.

Table 9. Primary Data Sources

Stakeholder group	Forms of communication	Dates	Topics
Local technology provider	Personal conversation	02/2020	Lack of broadband availability in rural NC; investment decisions depend on expected adoption.
Citizens in (rural) Cumberland and Robeson counties	Personal conversations and emails	06-07/2020	Strong motivation but an inability to obtain broadband coverage at affordable prices from major telecom providers impacts personal and work lives.
State government (NC Dept of IT; Broadband Infrastructure Office)	Information meeting	06/2020	Information about NC-BAND grants aimed at counties to support broadband adoption; citizen participants complained about the lack of broadband availability in rural areas (Robeson County).
State government (NC Dept of IT; Broadband Infrastructure Office)	Emails, online meetings	06-12/2020	Administration of survey to collect broadband data from citizens statewide (goal: 300K responses).
Advocacy, broadband planning and consulting	Email	06/2020	Lack of accurate data about broadband availability; caveat about speed tests
Advocacy, broadband planning and consulting	Email, personal conversation, semi-structured interview	06/2020	Insufficient granularity of FCC mapping data (based on census blocks) hinders funding applications and distribution of funds; few providers in rural areas (vs. urban).
Advocacy, broadband planning and consulting	Email	06/2020	Broadband coverage survey data, mapping efforts.
Advocacy, broadband planning and consulting	Personal conversation, semi-structured interview	06/2020	Economic issues for small vs. large ISPs; NC laws that limit local communities from getting involved with broadband projects; availability of mapping data; consulting group offers services to help with grant writing (e.g., Growing Rural Economies with Access to Technology (GREAT) grants); other stakeholders in NC.
State government (NC Dept of IT; Broadband Infrastructure Office)	Semi-structured interview	07/2020	State-initiated efforts to support broadband adoption and inclusion (focus on demand-side); ongoing broadband survey.
State government (NC Dept of IT; Broadband Infrastructure Office)	Email	07/2020	Links to the state grant program and related legislation (e.g., protest data).
State government (Governor's Task Force on Connecting North Carolina)	Public meetings (monthly)	07-08/2020	Status of State-initiated efforts to increase broadband availability.
Local technology provider	Semi-structured interviews	08/2020	The application process for state grants (GREAT) and status; protests from large telecom providers; regional contagion effect; creative partnership arrangements with county governments; legal barriers; technical issues; need to develop innovative technology solutions; economic aspects.
State government (NC Dept of IT; Broadband Infrastructure Office)	Summary data	11/2020	Results of NC state-wide broadband survey.

To collect secondary data and develop deeper insights, we reviewed websites, blogs, podcasts, webinars, government reports, meeting minutes, bills and legislations, and research papers. We utilized purposeful sampling to select "information-rich cases" and conduct an "in-depth study" of the limited resources we

had access to (Patton, 2002). The goal was to identify additional stakeholders and groups, as well as to identify and deepen our awareness of the key concerns (see section 4.2). Table 10 summarizes the results of our efforts to obtain secondary data and provides examples of the findings.

Table 10. Secondary Data Sources with Examples

Type	Examples	Stakeholder Groups	Topics
Blogs and podcasts	CCG Consulting; Institute of Local Self Reliance (ILSR)	Citizen advocacy groups, technology consultants	Technology, industry dynamics, legislative processes, and impacts; local broadband projects
Websites	BroadbandNow.com	Citizens, ISPs (large and small)	Broadband availability data by county
Government reports	FCC Broadband Plan (2015)	Federal government	Federal guidelines and plans
Government-provided data	Form 477 broadband data, results of NC Broadband Survey	Federal government (FCC) State government (NC DIT/BIO)	Broadband coverage by census tract and by county
Meeting minutes	Henderson County commissioners meeting	Municipalities, county government	Broadband-related projects, issues, and plans
Bills and legislations	NC HB 169, AAIA Act	State, federal legislative	Definition of broadband, regulations, activities by private companies vs. local governments
Practitioner articles and Industry reports	AT&T (John Stankey)	Large telecom	Investment incentives, government support for ISPs that are active in rural areas
Research papers	Telecommunications Policy and other academic journals	Various	Broadband-related public policy approaches and results within and outside the US

Our data sampling confirmed the complexity of the field as our list of identified stakeholders steadily increased. While we were intent on identifying the various stakeholders comprehensively, it also became apparent that feasibility required us to limit the number of different groups to consider for further analysis (Miller, 1956). Throughout the sampling process, we therefore continuously assessed and reassessed our list of stakeholders noting similar or divergent characteristics and interests and categorizing the stakeholders that we identified into higher-level groups. The process unfolded in the form of regular discussions among the researchers that were conducted until an agreement was reached.

The primary stakeholder groups that emerged reflect relevant characteristics primarily based on the amount of information available about these characteristics as recurrent themes became apparent. Specifically, we identified the following stakeholder groups: US legislature (e.g., Congress, GAO), the US executive branch (most notably the FCC), the State of NC legislature, the State of NC executive branch (e.g., NCDIT), local government (e.g., counties, cities), large telecom companies (e.g., Spectrum, AT&T) and lobbying groups (e.g., NCTA, USTelecom), small technology providers (e.g., Cloudwyze, ATMC), non-governmental organizations (NGOs) and interest groups (e.g., CCG Consulting, BroadbandNow, ILSR), and citizens.

As recommended in section 3.3, a map that categorizes stakeholders along scales of relevant key characteristics can be a valuable resource that summarizes the various steps in stakeholder analysis. For our purpose of investigating the stakeholders involved with broadband availability in NC, Figure 4 positions the stakeholder groups that we identified along two axes adapted from Chipidza and Leidner (2019) that reflect geographic reach (national, state, local) and profit-motivation (non-profit, profit-motivated).

National	US Legislature The FCC		Large Telecom
State	State of NC Legislature State of NC Executives	NGOs/Interest Groups	
Local	Local Government Citizens		Small Tech Providers
	Non-profit		**Profit-motivated**

Figure 4. Positioning of Stakeholder Groups (Adapted from Chipidza and Leidner, 2019)

4.2 Identifying Key Concerns

When we identified the stakeholders in section 4.1 based on the analysis of primary and secondary data sources, we also took note of the key concerns related to each group of stakeholders. To identify concerns comprehensively, we paid attention to concerns at the different levels of federal, state, municipality, industry, and individual.

Using an iterative approach, we systematically organized and categorized the identified issues into a set of six higher-level concerns that each might be applicable to multiple stakeholder groups. The process is similar to what Glaser and Strauss (1967) termed 'theoretical saturation,' where the evaluator stops when further convergence seems unlikely. To check the validity, we utilized a cross-triangulation process where each evaluator coded the data individually, and findings from each evaluator were discussed and compared. A consensus was reached about the final set of higher-level concerns (Denzin, 1978; Patton, 1999).

Table 11 lists the initial concerns related to broadband availability in rural NC that we identified and the higher-level concerns that we subsequently grouped them under.

Table 11. Stakeholder Concerns Related to Broadband Availability in Rural North Carolina

Initially identified concerns	Descriptions and sample sources	Higher-level concerns
Mandate broadband coverage via Universal Service Obligation (USO)	Classification of broadband access under Title II of the Communications Act] and requiring providers to grant access (like telephony) through USO. A regulation under net neutrality has not reduced infrastructure investments (AT&T Inc. CEO Randall Stephenson, 2015; Kamal, 2017; Sprint CTO Stephen Bye, 2015).	Classification of broadband as Title II of the Communications Act of 1934
Limited federal regulation of Internet service supports investment in broadband networks	"Title II hangs as a sword of Damocles over the broadband industry, generating uncertainty, limiting innovation, and likely reducing capital investment in the sector" (Lyons, 2017).	
Assumption that an entire census block is covered by broadband if at least one address is served	FCC policy allows a single address that is potentially served by broadband access to count for all addresses in a census block and identify areas in need that could be helped with subsidies. "For example, having national, granular broadband deployment data could greatly assist with any future disbursement of high-cost funds or universal service reverse auctions, assist consumers with locating broadband competition in their area, and with other broad public policy goals," the FCC said. The concern is more relevant in sparsely populated (rural) areas (Brodkin, 2017).	Mapping
Broadband maps are used to determine federal funding	The US legislature established laws under Title 47 regarding the use of maps for the disbursement of funds. Under Title 47 USE 642: Broadband maps of the Telecommunications code (47 USC. § 642(c)(2)(B)) (Title 47 - Telecommunications, 2000) states that the maps generated will be used "when making any new award of funding with respect to the deployment of broadband Internet access service intended for use by residential and mobile customers;" In addition 642(c)(4)(A - B) states that the secretary of agriculture and national telecom and information administration will consult the maps when awarding funds for broadband Internet access and the by	

	their respective administrations.	
Federal subsidies are critical to establishing (mobile) coverage in some areas; decisions depend on accurate mapping data	Subsidies are needed to bring “5G broadband service to those rural areas of our country that, absent subsidies, would be unlikely to see the deployment of 5G-capable networks” (FCC, 2020).	
Incorrect reporting of broadband coverage by Internet service providers can provide competitive advantages and tends to occur without sanctions	In 2017, service provider BarrierFree claimed to offer fiber-to-the-home service with downstream speeds of 940 Mbps to the entire New York State and seven other states. According to the advocacy group FreePress, however, BarrierFree greatly over-reported its coverage, which had a substantial impact on the putative change in deployment at the national level (Turner, 2019). Telecom providers can gain a competitive advantage by overstating coverage (GAO, 2020) because an area that is determined to have coverage will make it more difficult for other carriers to obtain support to deploy broadband in locations that are actually underserved. The FCC does not verify the self-reported coverage data by the providers.	
Inaccurate (mobile) coverage maps impede federal funding decisions	In the context of establishing a 5G Fund for Rural America, the FCC determined that the coverage maps submitted by some mobile carriers overstated actual coverage and were not a reliable or accurate data source to determine on-the-ground performance. In conclusion, the report recommended terminating the challenge process (FCC, 2020).	
Regulatory requirements might limit broadband providers’ investment in new technologies	FCC Chairman Ajit Pai has consistently argued that the FCC should reduce requirements imposed upon ISPs, saying that "every dollar spent complying with unnecessary regulations is a dollar that could have been better spent deploying next-generation technologies" (Brodkin, 2017).	
Providing more granular broadband coverage data is an undue economic burden for providers	The FCC expanded the reporting requirement from the census tract to the census block level in 2013; the Internet & Television Association (NCTA) noted that "implementing this new requirement placed considerable new burdens on broadband providers, requiring many companies to devote significant resources to updating their internal records and sorting data in ways that do not serve a business purpose" (Brodkin, 2017).	
Direct congressional appropriation (funding) is required to ensure broadband coverage in a timely manner	Direct congressional appropriation is needed to replace the current mechanism where investment in broadband coverage is at least partly funded through consumers (e.g., an excise tax on phone bills). The current funding mechanism cannot adequately address the concern in a timely manner (Stankey, 2020).	Federal funding mechanisms
Federal Funding should not prescribe specific technology solutions	Pandemic emergency funding should cover both wired and wireless options; wired high-speed coverage is not economical in some rural areas; fixed wireless can help (Stankey, 2020).	
Establish sustainable funding mechanisms	Modernize the regulatory approach to support both private investments and public sector programs; eliminate patchwork solutions (Stankey, 2020).	
Federal funding through auction of mobile bandwidth	Funds generated through the sale of spectrum may be insufficient. “We acknowledge concerns of commenters that contend that funds necessary to deploy 5G-capable networks in rural areas may be significantly higher than our total 5G Fund budget. The Commission’s experience in the CAF Phase II auction demonstrates that competitive bidding can bring costs below projections: The aggregate reserve price of more than 713,000 locations assigned in the auction was $5 billion, compared to total winning bids of $1.5 billion” (FCC, 2020).	
Federal funding through auction of fixed broadband	Very few winning bids in NC resulted from the Connect America Fund Phase II auction. Wilkes wins a gigabit speed auction near Asheville and small parts near Winston-Salem (FCC, 2018).	
Allow and support collaboration of local government with	Reduce current restrictions that prevent local government entities from providing and investing in broadband technology, e.g., with the FIBER NC Act (HB 431), which was opposed by telecom companies and stalled in	State and legal funding barriers

private providers	committee (Chamberlain, 2020; General Assembly of North Carolina, 2019; Jackson, 2020; Leslie, 2019). Examples: County of Wilson had to stop its municipal service when a private company started service (General Assembly of North Carolina, 2017). Nash County approved an unusual public-private investment with Cloudwyze to expend service to at least 100 residential customers and ten commercial customers (Nash County Board of Commissioners, 2019).	
Avoid situations of unfair competition between public and private entities	The industry is concerned that involvement by public entities requires private companies to compete unfairly against government organizations, which can discourage private investment (Leslie, 2019).	
Allow local government to build broadband as long as broadband providers can lease infrastructure	The current NC Broadband Plan recommends lowering the barriers to broadband deployment; the recommendation covers access to local infrastructure and grant opportunities, deployment of dark fiber, infrastructure ownership regulations, policies for digging once, railroad crossings, and pole attachments (NCDIT, 2017).	
	Additionally, barriers to broadband deployment are another issue identified. NC's Broadband Plan includes a recommendation to identify county-held assets (e.g., water towers) that can be used by private firms to increase broadband availability (Broadband Infrastructure Office, 2020). Because of the state-level restrictions (NC Gen. Sta. 153A-274), municipal governments cannot provide dark fiber to service providers, and therefore service providers are not able to provide broadband connection.	
Remove State funding barriers and bureaucratic barriers for municipal broadband	Since 2011, laws like NC Statutes Chapter 160A, Article 16A place a number of requisites on municipal broadband initiatives that make it difficult for public entities to deploy broadband services to residents (Chamberlain, 2020; Jackson, 2020). NC is not alone: in 22 states, it is illegal or cumbersome for cities to build their own broadband networks for residents (Chamberlain, 2020; Rivero, 2020).	
Regulatory barriers protect private providers with limited accountability	Applying HB 396, broadband service in Wilson County that was provided through the City of Wilson was shut down after a retail service entered the market; performance for citizens dropped (Chamberlain, 2020; General Assembly of North Carolina, 2017).	
Protection for incumbent providers, even if they don't fully cover an area	The state allows incumbents to file protests in response to applications, such as for the GREAT grants program. The verification process appears weak and is not transparent (Chatham County NC Board of Commissioners, 2018; *General Assembly of North Carolina*| *Senate Bill 99*| *Session 2017-2018*| *Current Operations Appropriations Act of 2018*, 2018).	
Protection for private providers without explicit requirement to invest and provide service	Since 2011, the "level the playing field act" (*NC Statutes Chapter 160A - Article 16A*, 2015) curtails local community support for broadband Internet. However, despite the protection from competitive threats, providers are still not serving some rural communities (Jackson, 2020).	
Local government interested in investing in fiber technology for lease to private companies	Some municipal governments are interested in developing fiber networks (in particular dark fiber) for lease to private companies. A concern is that providers may have specific requirements for their fiber connections, so fiber is not a one-size-fits-all (Chatham County NC Board of Commissioners, 2018).	Infrastructure investment
Legal restrictions to local infrastructure funding limit measures by local government	NC's Broadband Plan includes a recommendation to identify county-held assets (e.g., water towers) that can be used by private firms to increase broadband availability (Broadband Infrastructure Office, 2020). Because of the state-level restrictions (NC Gen. Sta. 153A-274), local governments cannot provide dark fiber to service providers, making it more difficult for providers to establish broadband connections.	
Creative funding arrangement between county and technology provider	Public-private partnership arrangement between Nash County and Cloudwyze, with the possibility of reimbursement by the state (Nash County Board of Commissioners, 2019).	Local funding of public-private partnerships
Citizens asking local governments to help bring broadband to their home	In Rutherford County, citizens asked the county to support a local non-profit Internet provider, Pangaea, so that greater access could be achieved for residential and business growth. Citizens note that broadband is no longer a luxury; it is necessary for tasks such as	

	completing homework (B. King et al., 2019).	
Concerns about competition between public entities and private companies	The industry is concerned that the public Internet requires private companies to compete against government organizations which is unfair and discourages private investment (Leslie, 2019).	

Therefore, the final set of key concerns affecting broadband availability are Classification of broadband as Title II of the Communications Act of 1934; Mapping; Federal funding mechanisms; State legal and funding Barriers; Infrastructure Investment; Local funding of public-private partnerships.

In the next section, we map the positions of different stakeholder groups related to a sample of two of the key concerns and to each other.

4.3 Mapping Stakeholder Positions in Relation to Sample Key Concerns

For each of the key concerns for increasing broadband availability, we characterized each stakeholder group and mapped it to indicate support, opposition, and neutral/non-mobilized positions. For brevity, we only present our analysis for two of the six concerns that we described in section 4.2: Infrastructure investment and classification of broadband as Title II under the Communications Act of 1934. Figure 5 summarizes the results of the analysis graphically.

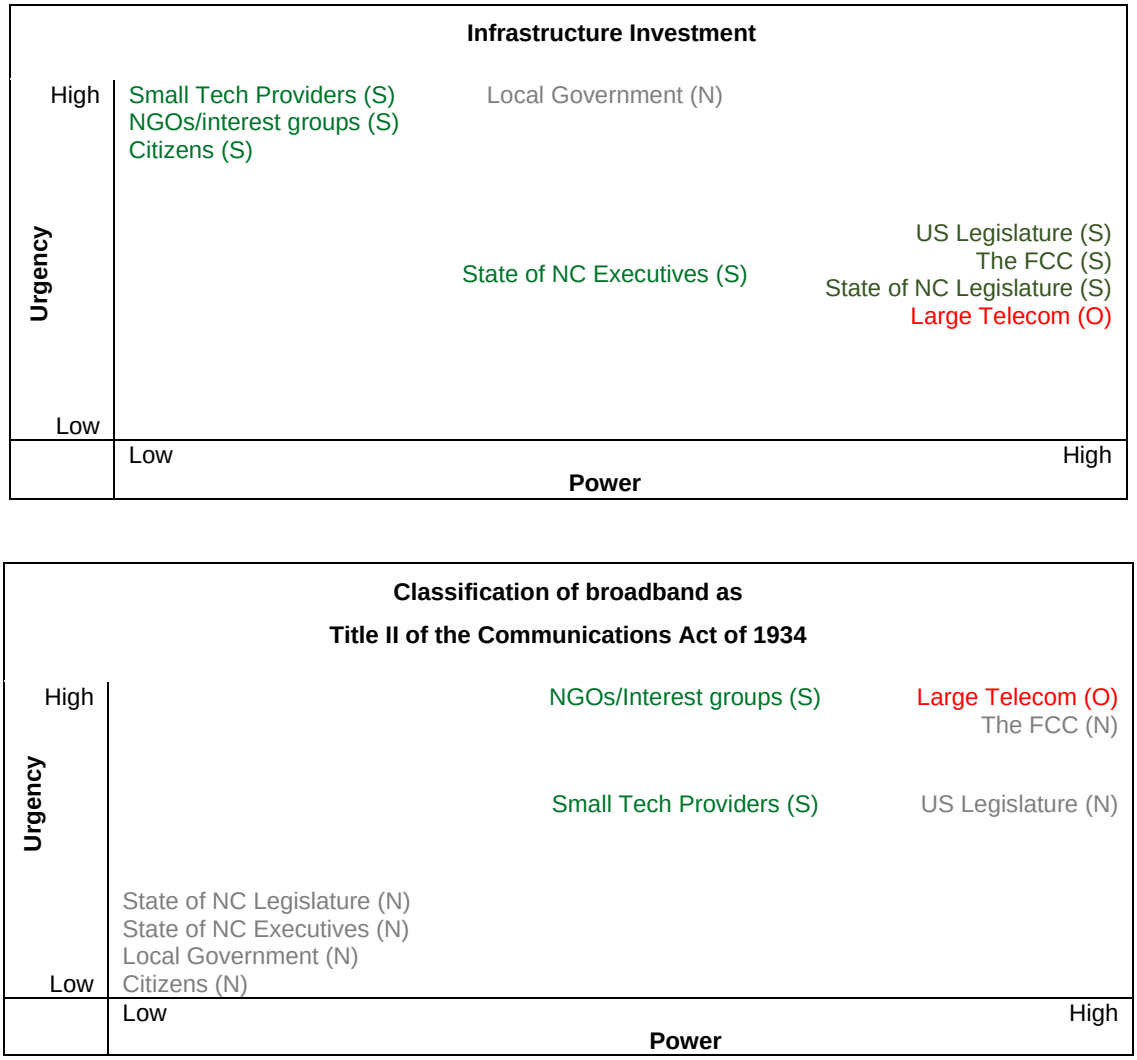


Figure 5. Stakeholder Positions on Sample Key Concerns for Broadband Availability (Notes: S = Supportive, N = Non-Mobilized/Neutral, O = Opposed)

Following the guidelines set out in section 3.3, each map represents one key concern, whereby multiple stakeholders are placed on each individual map. The vertical axes show the levels of stakeholder urgency, while the horizontal axes show the levels of stakeholder power. For each stakeholder, we indicate the position regarding the concern by the letters S, O, and N. Insights from these maps collectively highlight the unique perspective of the large telecom providers that contrasts the perspectives of the other stakeholder groups. The results of our analysis suggest that large telecom providers oppose measures to close the broadband gap. Many of these measures allocate funds to public or private entities that are not part of the established industry. The opposition of the large telecom providers reflects the fact that they are the group that has the most to lose from any new industry configurations.

Using Figure 5 as a guide, we move on to identify possible coalitions between the stakeholder groups based on common interests. The analysis indicates potential for coalitions between local, state, and federal levels of government. Following our mapping guidelines, Table 12 shows these coalitions as well as gaps (highlighted in red) where there are no overlaps between pairs of stakeholders (in Table 12, references to the two key concerns discussed above are bolded, whereas references to the remaining four key concerns are indicated in gray font). The gaps point us to stakeholders that don't appear to have common ground for coalitions. For example, Table 12 indicates no likely coalitions among large telecom providers and small technology companies or citizens. Citizens also don't appear to have a likely coalition with the FCC. The table can provide a useful tool for the assessment of public policy measures that align with one or several of the concerns and stakeholder groups that we identified.

Table 12. Possible Coalitions Between Stakeholders Regarding the Key Concerns of Broadband Availability

	1. US Legislature	2. The FCC	3. State of NC Legislature	4. State of NC Executives	5. Local Government	6. Large Telecom	7. Small Tech Providers	8. NGOs / Interest Groups
2. The FCC	State Legal and Funding Barriers **Infrastructure Investment**		X	X	X	X	X	X
3. State of NC Legislature	Federal Funding Mechanisms State Legal and Funding Barriers **Infrastructure Investment**	State Legal and Funding Barriers **Infrastructure Investment**		X	X	X	X	X
4. State of NC Executives	State Legal and Funding Barriers Local Funding of Public-Private Partnerships	Federal Funding Mechanisms State Legal and Funding Barriers Local Funding of Public-Private Partnerships	Mapping State Legal and Funding Barriers **Infrastructure Investment** Local Funding of Public-Private Partnerships		X	X	X	X
5.Local Government	Federal Funding Mechanisms State Legal and Funding Barriers Local Funding of Public-Private Partnerships	Federal Funding Mechanisms State Legal and Funding Barriers	Mapping Federal Funding Mechanisms State Legal and Funding Barriers **Infrastructure Investment** Local Funding of Public-Private Partnerships	Mapping Federal Funding Mechanisms State Legal and Funding Barriers **Infrastructure Investment** Local Funding of Public-Private Partnerships		X	X	X
6.Large Telecom	**Title II** Mapping Federal Funding Mechanisms **Infrastructure Investment**	**Title II** Mapping **Infrastructure Investment** Local Funding of Public-Private Partnerships	Federal Funding Mechanisms State Legal and Funding Barriers **Infrastructure Investment**	State Legal and Funding Barriers **Infrastructure Investment**	State Legal and Funding Barriers **Infrastructure Investment**		X	X

7. Small Tech Providers	**Title II** Mapping Federal Funding Mechanisms **Infrastructure Investment** Local Funding of Public-Private Partnerships	**Title II** Mapping **Infrastructure Investment** Local Funding of Public-Private Partnerships	Mapping Federal Funding Mechanisms **Infrastructure Investment** Local Funding of Public-Private Partnerships	Mapping **Infrastructure Investment** Local Funding of Public-Private Partnerships	Mapping State Legal and Funding Barriers **Infrastructure Investment** Local Funding of Public-Private Partnerships			x
8.NGOs / Interest Groups	**Title II** Mapping Federal Funding Mechanisms **Infrastructure Investment**	**Title II**	Mapping Federal Funding Mechanisms	Mapping **Infrastructure Investment** Local Funding of Public-Private Partnerships	State Legal and Funding Barriers	**Title II**	**Title II** Mapping State Legal and Funding Barriers	
9. Citizens	Mapping		Mapping **Infrastructure Investment**	Mapping **Infrastructure Investment**	Mapping State Legal and Funding Barriers **Infrastructure Investment** Local Funding of Public-Private Partnerships		Mapping	Mapping Federal Funding Mechanisms State Legal and Funding Barriers Local Funding of Public-Private Partnerships

In section 4.4, we categorize the stakeholder groups according to their levels of power, legitimacy, and urgency for each of the concerns related to increasing broadband availability and according to the level of support for the concern. To derive the categories, each researcher independently labeled the criteria for each concern. An inter-rater reliability score was calculated and analyzed, any disagreements were discussed, and a decision was made for the criteria (e.g., when a stakeholder may have high power for a given area of concern). These categorizations can then help us determine the best strategy for stakeholder management. In addition, this analysis enables us to develop a theory of broadband availability in rural NC.

4.4 Implications

4.4.1 Implications for Policy Makers

Our stakeholder analysis intends to highlight reasons for the lack of broadband availability in rural parts of North Carolina. The results of our analysis can generate policy recommendations that should provide greater access to broadband. Our discussion below includes recommendations regarding the two sample key concerns identified earlier: Infrastructure investment and Title II.

An increase of broadband availability could be accomplished in the short or medium term with greater infrastructure investment. Stakeholders who are generally supportive of an increase in public intervention include the US legislature, the FCC, the State of NC legislature, the State of NC executive branch, local government, small technology providers, NGOs & Interest Groups, and citizens. One stakeholder is opposed to outside intervention, namely the large telecommunication providers. The supportive stakeholders have varying levels of power, legitimacy, and urgency, thus making them stakeholders that are labeled as marginal or mixed blessings. For example, the state of NC executive branch would like to support broadband infrastructure but is relying on maps from the federal government and telecommunication providers (both large and small) to inform the intervention. The state of NC executive branch also has limited resources and is limited in the amount of infrastructure investment it can make through the NC legislature. The executive branch has limited power (due to legislative restrictions) and high legitimacy and urgency and therefore should be involved in new policies to increase broadband accessibility. Citizens have both legitimacy and urgency but have limited power to force telecommunication providers to provide service. The citizens should be involved in new policies to increase broadband accessibility. Large telecommunication providers appear to be nonsupportive of interventions that allow other telecommunication providers (such as small telecommunication providers or local government) to have access to funding. Large telecommunication providers have high power and legitimacy but low urgency to support greater infrastructure investment and oppose outside intervention. A policy recommendation would be to limit reliance on large telecommunication providers to increase access

to lower-value customers in the short term; that is, they should be defended against regarding infrastructure investments. The state legislature would like to see increased broadband partnerships and low-cost solutions and therefore has limited or low urgency. The state legislature has high power and legitimacy in state-level infrastructure investment budgeting. While these lower-cost solutions may succeed in the long run, their short-term impacts are limited. The state legislature should be involved in policy decisions. These classifications and strategy suggestions are summarized in Table 13.

Table 13. Stakeholder Categorizations and Strategies Regarding Infrastructure Investment Concern

Stakeholder	Power		Legitimacy	Urgency	Support Level	Label	Best Strategy
US Legislature	High		High	Low	Support	Supportive	Involve
The FCC	High		High	Low	Support	Supportive	Involve
State of NC Legislature	High		High	Low	Support	Supportive	Involve
State of NC Executives	Low		High	High	Support	Supportive	Involve
Local Government	Low		High	High	Support	Supportive	Involve
Large Telecom	High		High	Low	Oppose	Nonsupportive	Defend
Small Tech Providers	Low		High	High	Support	Supportive	Involve
NGOs/Interest Groups	Low		High	High	Support	Supportive	Involve
Citizens	Low		High	High	Support	Supportive	Involve

Another policy-related intervention involves the US legislature passing a law that classifies broadband Internet as a utility under Title II of the Communications Act of 1934. Such a change would require providers to furnish access to all citizens at comparable rates to their urban counterparts. Classifying broadband service under Title II would allow the FCC to set rates and require providers to furnish telecom services to households in the US at reasonable charges (rate setting) (FCC, 1934). As an alternative, the US legislature could determine that broadband service should be classified under Title II and, through an act of legislation, change the policies of the FCC to direct the agency to address broadband concerns more quickly. We do need to note that our analysis assumes that broadband internet is classified as an information service at the federal level, not a common service. A change in the classification of broadband Internet will substantially change the stakeholder dynamics that we analyzed and likely lead to very different results.

A federal policy that could classify broadband under Title II of the Communications act of 1934 could force broadband providers to invest in broadband access like the FCC classified phone service and required telecommunications providers to provide phone service to rural customers. The US legislature and the FCC have high power, legitimacy, and urgency, support increasing broadband, and should therefore be involved in policies that could reclassify broadband service. The state of NC executive branch, state of NC legislature, and local governments all have limited power, legitimacy, and urgency to reclassify broadband service while they support more federal involvement in the reclassification of the service. State and local governments are marginal groups in this concern and should be monitored in classification decisions. Large telecommunication providers have high power, legitimacy, and urgency to oppose reclassification under Title II of the Act, which means that the recommended strategy for policy decisions is to defend against that stakeholder group. Defending against the stakeholder group of large telecommunication providers essentially means that policymakers should not depend on their support of this potential legislative change. These classifications and strategy suggestions are summarized in Table 14.

Table 14. Stakeholder Categorizations and Strategies Regarding Title II Classification Concern

Stakeholder	Power	Legitimacy	Urgency	Support Level	Label	Best Strategy
US Legislature	High	High	High	Support	Supportive	Involve
The FCC	High	High	High	Support	Supportive	Involve
State of NC Legislature	Low	Low	Low	Support	Marginal	Monitor
State of NC Executives	Low	Low	Low	Support	Marginal	Monitor
Local Government	Low	Low	Low	Support	Marginal	Monitor
Large Telecom	High	High	High	Oppose	Nonsupportive	Defend
Small Tech Providers	Low	High	High	Support	Supportive	Involve
NGOs / Interest Groups	Low	High	High	Support	Supportive	Involve
Citizens	Low	Low	High	Support	Marginal	Monitor

Our stakeholder analysis confirms the notion that the issue of broadband availability exists within a complex and multi-faceted environment that includes many stakeholder groups with varying goals and positions. The results that we presented, even though rudimentary and incomplete, highlight important concerns and possible coalitions between stakeholder groups and indicate starting points for targeted management approaches and policy initiatives to address the issue at hand.

4.4.2 Theory of broadband availability in rural NC

In the previous section, we identified stakeholder groups and key concerns and characterized the positions, levels of power, legitimacy, urgency, and possible coalitions of each stakeholder group with respect to each concern. Based on understanding the issue of broadband availability and the dynamics between the stakeholder groups, we propose a theory of broadband availability in rural NC, as summarized in Figure 6 and Table 15.

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4.4.3 Theory of broadband availability in rural NC

In the previous section, we identified stakeholder groups and key concerns and characterized the positions, levels of power, legitimacy, urgency, and possible coalitions of each stakeholder group with respect to each concern. Based on understanding the issue of broadband availability and the dynamics between the stakeholder groups, we propose a theory of broadband availability in rural NC, as summarized in Figure 6 and Table 15.

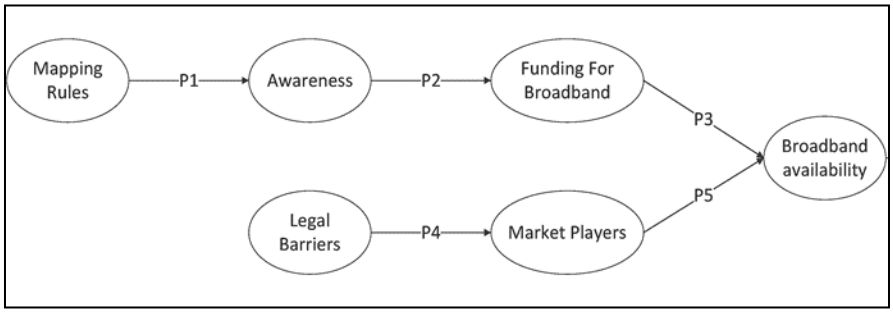

Figure 6. Theoretical Model

Table 15. Theory Propositions

Area	Proposition
Mapping rules and Awareness	P1. Mapping rules to provide more granular and accurate data that correctly identify the number of households with access to broadband Internet in a region will lead to greater awareness about underserved areas.
Awareness and funding for broadband	P2. Greater awareness about underserved areas will lead to more funding for broadband.
Funding for broadband and broadband availability	P3. More funding for broadband will lead to more broadband availability.
Legal and funding barriers and market players	P4. Fewer legal barriers to forming innovative partnerships will lead to an increase in the number of market players that provide broadband service.
Market players and broadband availability	P5. An increase in the number of market players that provide broadband service will lead to an increase in broadband availability.

We used a bottom-up approach to develop our theoretical model where we identified actors, i.e., stakeholders, and concepts based on our research and established relationships between the theoretical concepts. Mapping was noted as a concern by most stakeholders and is used as input to generate awareness of where issues exist and how difficult they may be to solve. To the extent that awareness about underserved areas highlights the need for interventions because the free market cannot solve the problems in the short-term, increased funding becomes likely. With more funding, broadband availability is expected to increase, be it because of additional grants at the local, state, or federal levels or reverse auctions to potential providers that all require commitments to build up infrastructure. Stakeholders also identified several legal barriers to deploying broadband more widely, such as the state prohibition that prevents local governments from providing broadband and infrastructure to their citizens. Telecommunication providers use legal barriers to increase or slow down the development of broadband.

An increase in market players (e.g., telecommunication providers) is suggested to increase competition and lead to greater broadband availability.

According to Gregor (2006), the theory presented in the current section can be categorized as type 3 predictive theory development. Type 3 theories present empirical results and predict outcomes from a set of explanatory factors without detailed explanations of the involved components' underlying causal connections (Dennis, 2019). In other words, the suggested theory that we derived from our stakeholder analysis is not a detailed quantitative model that incorporates all players and elements because the complexity of such a model would be prohibitive. Instead, we suggest following King and Kraemer's (2019) call to broaden IS/IT research with a comprehensive analysis of interactions between policies and stakeholder reactions to policy implications with a systematic approach.

5 Conclusions

In this paper, we introduce specific guidelines to the IS/IT discipline about how to perform stakeholder analysis, which is a method of data collection and analysis that has been developed and discussed elsewhere but has not been commonly used in IS/IT, specifically applying an instrumental perspective. Stakeholder analysis allows us to examine more closely the interplay between IS/IT and the groups that shape decisions related to IS/IT use availability and impacts. Future research can utilize our process to (1) identify stakeholders, (2) identify key concerns related to a topic, and (3) determine the positions of the stakeholders in relation to the concerns. The insights derived from stakeholder analysis can aid in theory-building related to complex and poorly understood phenomena within the IS/IT discipline.

We also demonstrate how our guidelines for stakeholder analysis could be applied in the IS/IT discipline through a case study of broadband availability in rural North Carolina. Based on the application of stakeholder analysis, we develop implications for policy and theory propositions for further research.

Our study originates from the fact that IS/IT and their consequences never exist in a vacuum. The embeddedness of technologies, such as broadband internet, in larger societal systems and their relevance for a range of stakeholders with differing agendas, have been pointed out by colleagues in the IS/IT discipline (Hovorka et al., 2019; Silva, 2007). We follow calls to broaden the perspectives of IS/IT research in our application of stakeholder analysis and demonstrated its usefulness in shedding light on a complex phenomenon that has not yet found a comprehensive solution (Kauffman, 2005). In addition, our guidelines are based on research studies within the IS/IT discipline and augmented by management and policy-related research conducted outside of IS/IT (King & Kraemer, 2019).

We acknowledge, however, that while our guide outlines a process for stakeholder analysis, it cannot provide a deterministic solution to all combinations of the various levels of stakeholder support across multiple concerns about a phenomenon. The goals of each research endeavor and the desired outcomes of the researchers will determine the level of depth a stakeholder analysis needs to apply.

In addition, our method has several limitations: Classifying any stakeholder under the dichotomous rubric of high or low for power, legitimacy, and urgency neglects the nuances of a range of classifications that are more realistic, complex, and likely more problematic. We also do not consider situations where support for a key concern is more granular than our three-point scale of support, opposed, and neutral/non-mobilized, and we do not provide a guide for how to weigh concerns against each other. Also, our suggested approach to managing stakeholder groups in relation to individual key concerns might result in conflict-laden situations that are very difficult or infeasible to resolve.

In all, our approach and its limitations reflect the difficult task of balancing the requirements of a complicated situation with the practical reality of IS/IT management and policy making. Our hope is that despite the shortcomings, IS/IT managers, policymakers, and researchers will utilize and build on the guidelines that we presented to investigate phenomena in a way that yields insights not available from approaches that simplify or neglect the various perspectives of the stakeholders involved.

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Appendix: Stakeholder Categories and Strategies

Table A1. Stakeholder Categories According to Mitchell et al. (1997)

Power	Legitimacy	Urgency	Stakeholder category	Group
High	High	High	Definitive stakeholder	Definitive
High	High	Low	Dominant stakeholder	Expectant
High	Low	High	Dangerous stakeholder	Expectant
High	Low	Low	Dormant stakeholder	Latent
Low	High	High	Dependent stakeholder	Expectant
Low	High	Low	Discretionary stakeholder	Latent
Low	Low	High	Demanding stakeholder	Latent
Low	Low	Low	Nonstakeholder stakeholder	None

Table A2. Stakeholder Categories According to Blair et al. (1996)

Stakeholder Category	Stakeholder potential for threat	Organization's priority on reducing threat	Stakeholder potential for cooperation	Organization's priority on enhancing cooperation
Supportive	Low	Low	High	High
Supportive	Low	High	High	High
Supportive	Low	High	High	Low
Supportive	Low	Low	High	Low
Mixed Blessing	High	Low	High	High
Mixed Blessing	High	High	High	High
Mixed Blessing	High	High	High	Low
Mixed Blessing	High	Low	High	Low
Nonsupportive	High	Low	Low	High
Nonsupportive	High	High	Low	High
Nonsupportive	High	High	Low	Low
Nonsupportive	High	Low	Low	Low
Marginal	Low	Low	Low	High
Marginal	Low	High	Low	High
Marginal	Low	High	Low	Low
Marginal	Low	Low	Low	Low

Table A3. Stakeholder Categories and Suggested Strategies

ID	Stakeholder characteristics			Support level	Mitchell et al. (1997) label	Mitchell et al. (1997) group	Blair et al. (1996) strategy (optimal)	Blair et al. (1996) category
	Power	Legiti-macy	Urgency					
1	High	High	High	Support	Definitive stakeholder	Definitive	Involve	Supportive
2	High	High	Low	Support	Dominant stakeholder	Expectant	Involve	Supportive
3	High	Low	High	Support	Dangerous stakeholder	Expectant	Involve	Supportive

4	High	Low	Low	Support	Dormant stakeholder	Latent	Involve	Supportive
5	Low	High	High	Support	Dependent stakeholder	Expectant	Involve	Supportive
6	Low	High	Low	Support	Discretionary stakeholder	Latent	Monitor	Marginal
7	Low	Low	High	Support	Demanding stakeholder	Latent	Monitor	Marginal
8	Low	Low	Low	Support	Nonstakeholder stakeholder	None	Monitor	Marginal
9	High	High	High	Opposed	Definitive stakeholder	Definitive	Defend	Nonsupportive
10	High	High	Low	Opposed	Dominant stakeholder	Expectant	Defend	Nonsupportive
11	High	Low	High	Opposed	Dangerous stakeholder	Expectant	Defend	Nonsupportive
13	High	Low	Low	Opposed	Dormant stakeholder	Latent	Defend	Nonsupportive
12	Low	High	High	Opposed	Dependent stakeholder	Expectant	Defend	Nonsupportive
14	Low	High	Low	Opposed	Discretionary stakeholder	Latent	Monitor	Marginal
15	Low	Low	High	Opposed	Demanding stakeholder	Latent	Monitor	Marginal
16	Low	Low	Low	Opposed	Nonstakeholder stakeholder	None	Monitor	Marginal
17	High	High	High	Neutral/non-mobilized	Definitive stakeholder	Definitive	Collaborate	Mixed blessing
18	High	High	Low	Neutral/non-mobilized	Dominant stakeholder	Expectant	Collaborate	Mixed blessing
19	High	Low	High	Neutral/non-mobilized	Dangerous stakeholder	Expectant	Collaborate	Mixed blessing
21	High	Low	Low	Neutral/non-mobilized	Dormant stakeholder	Latent	Collaborate	Mixed blessing
20	Low	High	High	Neutral/non-mobilized	Dependent stakeholder	Expectant	Collaborate	Mixed blessing
22	Low	High	Low	Neutral/non-mobilized	Discretionary stakeholder	Latent	Monitor	Marginal
23	Low	Low	High	Neutral/non-mobilized	Demanding stakeholder	Latent	Monitor	Marginal
24	Low	Low	Low	Neutral/non-mobilized	Nonstakeholder stakeholder	None	Monitor	Marginal

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